
***MOJAVE DESERT
AIR QUALITY MANAGEMENT DISTRICT***

Preliminary Determination/Decision - Statement of Basis

*for
Modification to*

FOP Number: 3100069

For:

**Southern California
Gas Company**

Facility:

North Needles Compressor Station

Facility Address:

**4500 Needles Highway
Needles, CA 92363**

Document Date: **05-22-19**

Submittal date to EPA/CARB for review on or before: **05-23-19**

EPA/CARB 45-Day Commenting Period ends: **07-08-19**

Public Notice Posted, on or before: **05-31-19**

30-Day Public Commenting Period ends at COB: **07-01-19**

Permit Issue date: On or about: **07-08-19**

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A. Introduction

1. Application and Setting

Federal Operating Permit (FOP number: 3100069) for Southern California Gas Company (SCG), North Needles Compressor Station, located 4500 Needles Hwy, Needles, CA 92363, just south of Fort Mohave Indian Reservation boundary (on River Road). SCG, North Needles Compressor Station - is a natural gas compression and transmission pipeline facility located near Needles, California.

SCG North Needles is proposing to replace the existing air compressor with a new air compressor. Specifically, the existing 62 horsepower (hp) natural gas fueled internal combustion engine powering an air compressor (District Permit B009211) will be replaced with a new 276 hp natural gas fueled internal combustion engine powering an air compressor. The proposed spark ignition rich-burn turbocharged and aftercooled engine is a Caterpillar model G3406 and will be equipped with a control device, non-selective catalytic reduction (NSCR), and an Air Fuel Ratio Control System.

The Mojave Desert Air Quality Management District (MDAQMD or District) received an application for proposed modification on December 14, 2018.

Initially the applicant had proposed to offset the proposed engine using Simultaneous Emission Reductions (SERs) from the existing engine, however, and due to the existing engines limited actual usage, it was decided to use Emission Reduction Credits instead of SERs. Additionally, SCG wanted to fully offset the new engine and not be constrained to operating hour limitations. The proposed engine will therefore be offset based on 8760 hours per year.

Prior to this agreement, research was conducted by the MDAQMD into which ERCs were available for use for this permitting effort. Within our District Database we maintain information relating to ERCs, including facility names, locations, equipment changes, facility attainment status, etc. It was decided that ERCs from Certificate 0083 are viable for use for this permitting action.

The final decision to use ERCs occurred on April 25, 2019 by mutual agreement between SCG and the MDAQMD through e-mail correspondence.

A copy of this application can be viewed in Appendix A.

Pursuant to District Rule 1301 – *New Source Review Definitions*, SCG, North Needles (SCG-NN), is an existing Major Facility for CO, NO_x, and VOC. The MDAQMD is classified as ‘attainment/unclassified’ by USEPA and CARB for CO, NO₂, SO₂, and PM, and is classified as ‘nonattainment’ by CARB for PM_{2.5}; therefore, pursuant to District Rule 1303 – *New Source Review Requirements*, the proposed equipment is subject to both BACT and Offset requirements for the Nonattainment Air Pollutant/Precursors of NO_x, and VOC.

Also and since this is a new emissions unit located at an existing Major Source Facility, a complete NSR Analysis is required.

SCG-NN, is defined as a federal Major Facility pursuant to District Rule 1201 – *Federal Operating Permit Definitions*. The proposed modifications classifies as a Significant Modification to SCG-NN, Federal Operating Permit (FOP). Pursuant to District Rule 1205 – *Modifications of Federal Operating Permits*, section (B)(2) and District Rule 1302(D)(1)(d), this document serves as the preliminary decision and Statement of Legal and Factual Basis.

2. Description of Project

SCG-NN proposes to permit and operate a new 4-Stroke Rich Burn (4SRB) Natural Gas fired engine, which will eventually replace the existing engine, currently operating with valid District Permit B009211, described as a NATURAL GAS IC ENGINE, AIR COMPRESSOR (Unit 1A) - consisting of: One Waukesha, NG fired 4SRB internal combustion engine Model No. 145GZ and Serial No. 62448, producing 62 bhp with 6 cylinders at 1800 rpm while consuming a maximum of 485 scf/hr. This equipment powers a Joy Compressor Model No. 5 and Serial No. 164927231, rated at 250 psi.

The applicant is not planning to bank the emission reductions from the old engine once the proposed engine is permitted and fully operational.

The proposed engine is described as:

A SPARK-IGNITED (SI) NATURAL GAS IC ENGINE, POWERING AN AIR COMPRESSOR (Unit 1A) consisting of: Year of Manufacture; 2019; 4SRB; Engine is Subject to NSPS 40 CFR Part 60 Subpart JJJJ, BACT and Offset Requirements of District Regulation XIII. Facility is a HAP Area Source. Engine is equipped with the following Control Equipment:

DCL Model 2DC49-6CGS horizontal catalytic converter/silencer

- 18-32 dBA insertion loss
- Mounted on cooler
- (2) DC49 catalytic elements
- Guaranteed Emissions (g/bhp-hr):
 - NO_x: 0.15
 - CO: 0.60
 - VOC: 0.15
- RELi E3 Air Fuel Ratio (AFR) Control System

Pre-Catalyst Emissions (g/bhp-hr):

NO_x: 15.41
CO: 15.41
VOC: 0.18

Exhaust Stack is 13.5 feet high and has a 1.167 foot diameter.

B. Analysis

1. Determination of Emissions
[District Rule 1302(C)(1)]

The owner/operator has proposed to operate the new engine without any hourly restrictions. Therefore, pursuant to District Rule 1302, Procedure, the engines Potential to Emit (PTE) has been calculated based on 24 Hrs/Day X 365 Days/Yr = 8760 Hrs/Yr. NOx, CO and VOC emission levels are based on manufacturer’s guaranteed levels, and SOx and PM are based on AP-42 emission factors for a Spark Ignited, Natural Gas fired, four stroke rich burn (4SRB) engine. Table 1 below summarizes the proposed engine’s emissions.

Table 1: Emission Calculations for Proposed 4SRB Natural Gas Powered Reciprocal Compressor - SCG North Needles

Emissions	Pollutant						
	NOx (gm/bhp-hr)	CO (gm/bhp-hr)	VOC (gm/bhp-hr)	SOx (lb/MMBtu)	PM (lb/MMBtu)	SOx (gm/bhp-hr)	PM (gm/bhp-hr)
Emission Factor ^{1,2}	0.15	0.6	0.15	0.000588	9.91E-03	0.0019785	0.03334
Emissions	NOx	CO	VOC	SOx	PM10	SOx	PM10
Hourly Emissions (Lb/hr)	0.09127	0.36509	0.09127	0.0012039	0.0202894	0.0012039	0.0202894
Yearly Emissions (Lb/Yr)	799.538	3198.152	799.538	10.546	177.735	10.546	177.735
Yearly Emissions (tpy)	0.400	1.599	0.400	0.0053	0.089	0.0053	0.089
Equipment Rating (BHP) =	276						
Maximum Fuel Consumption BTU/bhp-hr, from Manufactureres Spec Sheet	7418						
Calculated MMBTU/hr	2.047368						
MMBTU/Yr	17935						
Maximum Annual Operations (Hours) =	8760						
Grams per pound	453.592						
HHV of Natural Gas Btu/scf	1020						
Calculated fuel consumption using HHV (MMscf/hr)	2.01E-03						
Calculated fuel consumption using HHV (MMscf/yr)	17.583						
1. Emission Factors for NOx, CO, and VOC based on manufacturer's guarantees							
2. Emission Factors for SOx, PM Condensable based on AP-42 Table 3.2-3 (4SRB engines): https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf							

Since the proposed engine is a new emission source, all of the criteria pollutants that the facility is a major source of, shall be fully offset; simultaneous emission reductions will not be utilized, and the owner/operator will not seek to bank the emissions reduction credits from the existing engine once it is replaced. Instead, the owner/operator is proposing to use ERCs.

SCG-NN is an existing Major Source for NOx, CO, and VOC’s, with a PTE that exceeds the major source thresholds for these pollutants. The source is NOT a Major Source for PM, or SOX. Also, and since all PM is from combustion, it is determined that all PM is PM₁₀ and all PM₁₀ is PM_{2.5}.

SCG-NN is proposing to offset the engines NOx, CO, and VOC emissions using ERC’s, which they currently own. The ERCs are documented on Certificate 0083 (see Appendix D for copy) and wholly owned by SCG. These ERCs were originally generated at their SG Blythe Compressor facility due to replacing some of their Internal Combustion Engines during the 2001 time frame.

The SCG Blythe Compressor (SCG BCS) Station Facility is located outside the Federal Ozone nonattainment Area (FONA) as is the SCG North Needles facility. The proposed ERC's are located within same air basin and located in an area with the same ozone attainment status, therefore the ERC's are eligible for use by the SCG North Needles facility to offset the PTE from the proposed engine.

Further, there is no applicable Reasonably Available Control Technology (RACT) for these areas of the Mojave Desert Air Basin, therefore a RACT reduction analysis is not applicable and not required and the ERCs can be used on a pound per pound basis.

2. Determination of Nonattainment NSR Requirements

[District Rule 1302(C)(2)]

a. BACT Evaluation

[District Rule 1302(C)(2)(a)]

Best Available Control Technology (BACT) is required for each new or Modified Permit Unit at a Modified Facility that emits, or has the Potential to Emit, twenty-five (25) tons per year or more of any Nonattainment Air Pollutant or its Precursors (District Rule 1303(A)(3)). SCG-NN, has a facility PTE in excess of twenty five (25) tons per year for the Nonattainment Air Pollutants and Precursors of NO_x, and VOCs; it is a minor source for SO_x and PM₁₀. Since the facility is a major source for NO_x, CO, and VOC, BACT must be applied to all new equipment.

b. The proposed new engine a One new SPARK-IGNITED (SI) NATURAL GAS IC ENGINE, POWERING AN AIR COMPRESSOR (Unit 1A)

BACT for this new engine is determined to be a three-way catalysts/non-selective catalytic reduction for NO_x, CO and VOC emission reductions. This new engine shall be BACT equipped as required by Regulation XIII.

Furthermore, BACT emission levels have been established for this class and category; they are 0.15 g/HP-hr for NO_x, and 0.15 g/HP-hr for VOC's. The manufacturers guaranteed emission rates meet these BACT emission levels.

b. Offsets Evaluation

[District Rule 1302(C)(3)]

Offsets are required for any new or modified Facility which has the Potential to Emit a Regulated Air Pollutant in an amount greater than or equal to the thresholds for the Nonattainment Air Pollutants and their Precursors specified in District Rule 1303 (B)(1). The offset threshold is 100 tons per year for CO, 15 tons per year for PM₁₀, 25 tons per year for NO_x, 25 tons per year for SO_x, and 25 tons per year for VOC (VOC).

The applicant has proposed utilizing NO_x, and VOC ERCs from Certificate 0083. CO will not be offset as the District is in attainment for this air pollutant.

Table 2, below, summarizes the current Certificate ERC Balance and those which will remain once the proposed engine is permitted; accordingly a new Certificate will be issued with the remaining emission balances.

Table 2: ERC Certificate 0083, Class A Emission reduction Credits		
Category	Pollutant - Pounds per Year	
	NOx	VOC
Certificate 0083 ERCs	1,284,361	13,696
Proposed Engine PTE	800	800
Certificate Balance	1,283,561	12,896

Note: CO emissions are not offset as the entire District is attainment for CO.

3. Determination of Requirements for Toxic Air Contaminants [District Rule 1302(C)(5)]

a. New Source Review for Toxic Air Contaminants, District Rule 1320

Pursuant to District Rule 1320 – New Source Review for Toxic Air Contaminants, SCG-NN is subject to both State and Federal Toxic New Source Review, as SCG-NN is a Modified Facility which has the potential to emit Toxic Air Contaminants, and contains Emissions Units which are subject to an Airborne Toxic Control Measure (State T-NSR). SCG-NN does have the potential to emit 10 tons per year of a single Hazardous Air Pollutant (Federal T-NSR) and/or 25 tpy of a combination of HAPs.

Pursuant to the requirements of District Rule 1320, an applicability analysis of state and federal air toxic regulations was conducted for the proposed equipment (State T-NSR and Federal T-NSR, respectively). The State T-NSR and Federal T-NSR analyses are described below:

Section (E)(1)(b) of District Rule 1320 requires that if any ATCM applies to the proposed equipment, the requirements of that ATCM shall be added to the District permit.

This new equipment is NOT subject to any State ATCM.

Pursuant to District Rule 1320, section (E)(2), State T-NSR also requires an Emission Unit Prioritization Score to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels (REL’s) for non-cancer acute factors, and non-cancer chronic factors. Therefore, and pursuant to District Rule 1320 a Prioritization Score (PS) is calculated for this New emissions device based on the proposed potential to emit values. The results for this 1 – Proposed New SPARK-IGNITED (SI)

NATURAL GAS IC ENGINE, POWERING AN AIR COMPRESSOR (Unit 1A): emission unit is provided below:

Table 3 Prioritization Scores from Proposed Engine

	Cancer Priority	Acute Non-cancer Priority	Chronic Non-cancer Priority
New SI 4SRB Engine	1.6421	0.1831	0.1316

Distance to receptor nearest residential receptor is about 343.69 meters, South South-West of the SCG-NN facility.

The Cancer Prioritization Score from the proposed engine, quantified using HARP2, is 1.6421, which by definition is considered an “Intermediate Priority”, and the associated health risk is considered acceptable.

The Acute Non Cancer Priority Score from the proposed engine is 0.1831, which is defined as “Low Priority” and the associated health risk is considered acceptable.

The Chronic Non Cancer Priority Score from the proposed engine is 0.1316, which is defined as “Low Priority” and the associated health risk is considered acceptable.

4. Control of Toxic Air Contaminants from Existing Sources, District Rule 1520

Pursuant to District Rule 1520, the applicant submitted a 2018 Comprehensive Emission Inventory Report (CEIR), which was inputted into the HOTSPOTS ANALYSIS AND REPORTING PROGRAM EMISSION INVENTORY MODULE VERSION 2.1.0, (HARP2) Software program for subsequent analysis and results.

This methodology is consistent with the 2016 CAPCOA Facility Prioritization Guidelines, and is based on a receptor selection of 343.69 meters.

The Table below summarizes the SCG-NN post-modification prioritization scores. As shown, the carcinogenic Prioritization Score is greater than one (1) and less than ten (10), and therefore, SCG NN is categorized as an ‘Intermediate Priority’ facility as defined by District Rule 1320, section (E)(2)(b). Therefore, no Contemporaneous Risk Reduction is required as a result of adding the proposed engine. Nonetheless, the proposed engine will have add-on controls considered to be Toxics Best Available Control Technology, T-BACT, through the use of a 3-Way Catalytic Emission Reduction System.

Table 4 Facility Prioritization Scores, Includes PTE from Proposed Engine

	Cancer Priority	Acute Noncancer Priority	Chronic Noncancer Priority
Proposed Modified Facility	1.6869	0.1831	0.1321

Distance to receptor; nearest residential receptor is about 343.69 meters, South South-West of the SCH-NN facility.

The facility’s highest Cancer Prioritization Score, quantified using HARP2, is 1.687, which by definition, is considered an “Intermediate Priority”, and the associated health risk is considered acceptable.

The facility Acute Non Cancer Priority score is 0.1831, which is defined as “Low Priority” and the associated health risk is considered acceptable.

The facility Chronic Non Cancer Priority score is 0.1321, which is defined as “Low Priority” and the associated health risk is considered acceptable.

5. Federal T-NSR:

Pursuant to section (F)(1) of District Rule 1320, the Modified Facility/Emissions Unit was analyzed to determine if any current, enforceable Maximum Achievable Control Technology (MACT) standards apply to the affect Emission Units

Federal NSPS, 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines is applicable to the proposed engine, which must comply with the emission standards as summarized in Table 1 of Subpart JJJJ as shown below.

For full Regulations, see: <https://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.jjjj>

NSPS, Subpart JJJJ requires that this Stationary Non-Emergency SI Engines, and is in the range $100 \leq HP < 500$, must meet the following emission rate limitations as indicated in Table 1 of Subpart JJJJ as shown below:

Table 1 to Subpart JJJJ of Part 60—NO_x, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^d	NO _x	CO	VOC ^d
Non-Emergency SI Natural Gas ^b and Non-Emergency SI Lean Burn LPG ^b	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
		7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	≤10	387	N/A	N/A	N/A	N/A
			2.0	4.0	1.0	160	540	86

Table 5: Comparison of Emission requirements of Subpart JJJJ and the proposed engine.

Emission Standards		
Pollutant	Subpart JJJJ g/HP-hr	Proposed Emissions g/HP-hr
NO _x	2.0	0.15
CO	4.0	0.60
VOC	1.0	0.15

The emissions from the proposed engine is well below the requirements of subpart JJJJ, therefore, the proposed engine meets the requirements of Subpart JJJJ.

Furthermore, 40 CFR Part 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines is Applicable to the proposed engine.

For full text, see: <https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;rgn=div6;view=text;node=40%3A14.0.1.1.1;idno=40;sid=e94dcfde4a04b27290c445a56e635e58;cc=ecfr>

§63.6580 Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

§63.6590(c), *Stationary RICE subject to Regulations under 40 CFR Part 60*. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. Since the proposed engine meets the requirements of Subpart JJJJ, no further requirements apply for such engines under this part, §63.6590(c)(4), **(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; (Facility is a HAP Major Source)**

Therefore the proposed engine meets the requirements of NESHAP Subpart ZZZZ by meeting the requirements of NSPS Subpart JJJJ.

Pursuant to the requirements in District Rule 1302 B(1)(a)(ii), an analysis of Alternative Siting is not required as the proposed equipment is not a Federal Major Modification as defined in District Rule 1302.

District Rule 1302, Procedure

District Rule 1302(B)(1)(ii), Requirements for Facilities Requiring Offsets; requires the applicant of all new and modified Facilities requiring offsets pursuant to District Rule 1303(B):

1. To provide an alternative siting analysis including an analysis of alternative sites, sizes and production processes pursuant to 42 U.S.C. §7503(a)(5) (Federal Clean Air Act §173(a)(5)). Such analysis shall be functionally equivalent to that required pursuant to Division 13 of the California Public Resources Code (commencing with section 21000).

Since the proposed change is not a Federal Major Modification, the requirements of Rule 1302(B)(1)(a)(ii) a.1 and a.2 do not apply; see discussion below.

2. Provide a statewide compliance certification stating that all Facilities which are under the control of the same person (or persons under common control) in the State of California are in compliance with all applicable emissions limitations and standards under the Federal Clean Air Act and the applicable implementation plan for the air district in which the other Facilities are located.

Since the proposed change is not a Federal Major Modification, the requirements of Rule 1302(B)(1)(a)(ii) a.1 and a.2 do not apply; see discussion below.

3. Provide a District Rule 1310 applicability analysis sufficient to show that the Facility or Modification is or is not a Federal Major Facility or a Federal Major Modification as defined in District Rule 1310(C).

The PTE from the proposed engine is significantly lower than the Federal Major Modification threshold, therefore the proposed modification is NOT a Federal Major Modification and District Rule 1310 is NOT applicable; see Table 6 below for emission threshold and comparison with proposed engine PTE.

4. Demonstrate that the requirements of subsections (B)(1)(a)(ii) a.1 and a.2 shall not apply if the Facility or Modification has been determined to not be a Federal Major Facility or a Federal Major Modification as defined in District Rule 1310(C)(6) and (7) or the Facility has previously applied for and received a valid Plantwide Applicability Limit (PAL) pursuant to the provisions of District Rule 1310(F).

The PTE from the proposed engine is significantly lower than the Federal Major Modification threshold, therefore the proposed modification is NOT a Federal Major Modification and District Rule 1310 is NOT applicable; see Table 6 below for emission threshold and comparison with proposed engine PTE.

Additionally, and since the change is not a Federal Major Modification, the requirements of Rule 1302(B)(1)(a)(ii) a.1 and a.2 do not apply.

District Rule 1310, Table 2, summarizes Federal Significant Emissions Increase Threshold quantities. For full text, see: <http://mdaqmd.ca.gov/home/showdocument?id=486>

District Rule 1310, Table 2

<u>POLLUTANT</u>	<u>EMISSION RATE</u> (Within an attainment or unclassified area)	<u>EMISSION RATE</u> (Within an ozone nonattainment area)	<u>EMISSION RATE</u> (Within a moderate PM ₁₀ nonattainment area)
Carbon Monoxide (CO)	100 tpy	100 tpy	100 tpy
Lead (Pb)	0.6 tpy	0.6 tpy	0.6 tpy
Oxides of Nitrogen (NOx)	40 tpy	40 tpy	40 tpy
PM10	15 tpy	15 tpy	15 tpy
Volatile Organic Compounds (VOC)	40 tpy	40 tpy	40 tpy
Sulfur Dioxide (SO ₂)	40 tpy	40 tpy	40 tpy

SCG-NN is located within a Federal attainment/unclassified area, therefore the Emission Rates of column 1 are applicable. The proposed emission increases are well below the Federal

Significant Emissions Increase Thresholds as shown in the Table below.

Emissions	Pollutant				
	NOx	CO	VOC	SOx	PM 10/2.5
Emission Factor (g/Hp-hr) ^{1,2}	0.15	0.6	0.15	0.000588	9.91E-03
Hourly Emissions (Lb/hr)	0.09127	0.36509	0.09127	0.0012039	0.0202894
Yearly Emissions (Lb/Yr)	799.538	3198.152	799.538	10.546	177.735
Yearly Emissions (tpy)	0.400	1.599	0.400	0.0053	0.089
District Rule 1310 Federal Significant Emissions Increase Threshold quantities (TPY)	40	100	40	40	15
Equipment Rating (BHP) =	276				
Maximum Fuel Consumption BTU/bhp-hr, from Manufactureres Spec Sheet	7418				
Calculated MMBTU/hr	2.047368				
MMBTU/Yr	17935				
Maximum Annual Operations (Hours) =	8760				
Grams per pound	453.592				
HHV of Natural Gas Btu/scf	1020				
Calculated fuel consumption using HHV (MMscf/hr)	2.01E-03				
Calculated fuel consumption using HHV (MMscf/yr)	17.583				
1. Emission Factors for NOx, CO, and VOC based on manufacturer's guarantees					
2. Emission Factors for SOx, PM Condensable based on AP-42 Table 3.2-3 (4SRB engines):					
https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s02.pdf					

6. Determination of Requirements for Prevention of Significant Deterioration [District Rule 1302(C)(6)]

a. PSD Analysis

Rule 1302(B)(1)(a)(i)c requires that any application for an ATC or modification to a Permit to Operate (PTO) includes: "A District Rule 1600 applicability analysis sufficient to determine whether the Facility or Modification is or is not a new PSD Major Source or a PSD Major Modification as defined in District Rule 1600(B) using the procedures set forth in 40 CFR 52.21 (a)(2)."

The SCG-NN is located in an area designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS). Therefore, the SCG-NN is potentially subject to PSD for all criteria pollutants. SCG-NN is an existing PSD Major Source for CO, NOx, and VOCs, since the facility PTE is greater than 250 tpy for these two pollutants, CO and NOx. However, SCG-NN does not have a PSD permit since permitting of most of the emissions units pre-dates PSD regulations.

Emissions from the proposed new engine are compared with PSD Significant Emissions Increases (SEI) thresholds for each PSD regulated pollutant to determine if additional PSD analysis and/or requirements are triggered. This comparison is summarized in Table 7 below.

Table 7, PSD Analysis

Equipment	Proposed District Permit Number	Pollutant Emissions (tons/year)					
		CO	NOX	PM10	PM2.5	SOx	VOC
Caterpillar natural gas engine, turbocharged and aftercooled with NSCR, powering a Reciprocating Compressor	B013454	1.599	0.400	0.089	0.089	0.005	0.400
PSD NEI Threshold		100	40	15	10	40	40
Significant Emissions Increase (SEI)?		NO	NO	NO	NO	NO	NO
NEI: Net Emissions Increase							

The results of the emissions comparison with the appropriate pollutant PSD thresholds is that the modification DOES NOT trigger the PSD Significant Increase Thresholds, therefore no further PSD analysis is required.

b. NAAQS Impact Analysis

District Rule 1302, section (D)(5)(b)(iv) requires that any new or Modified Facility located in an area classified by USEPA as attainment or unclassifiable shall determine if the Facility will cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). The proposed modification, discussed herein, through implementation of BACT, will not contribute to a violation of the NAAQS.

7. Rules and Regulations Applicable to the Proposed Project

District Rules

Rule 201/203 – *Permits to Construct/Permit to Operate*. Any equipment which may cause the issuance of air contaminants must obtain authorization for such construction from the Air Pollution Control Officer. SCG-NN is in compliance with this rule as they appropriately applied for a District permit for all new equipment and maintains District permits for all residing equipment.

Rule 204 – *Permit Conditions*. To assure compliance with all applicable regulations, the Air Pollution Control Officer (Executive Director) may impose written conditions on any permit. The District has imposed permit conditions to ensure SCG-NN complies with all applicable regulations.

Rule 206 – *Posting of Permit to Operate*. Equipment shall not operate unless the entire permit is affixed upon the equipment or kept at a location for which it is issued and will be made available to the District upon request.

Rule 207 – *Altering or Falsifying of Permit*. A person shall not willfully deface, alter, forge, or falsify any issued permit.

Rule 209 – *Transfer and Voiding of Permits*. SCG-NN shall not transfer, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. When equipment which has been granted a permit is altered, changes location, or no longer will be operated, the permit shall become void.

Rule 210 – *Applications*. SCG-NN provided all the required information to correctly address the proposed equipment pursuant to this rule, although there were instances in which additional information were required, in which the thirty (30) day clock was restarted.

Rule 212 – *Standards for Approving Permits*. This rule establishes baseline criteria for approving permits by the District for certain projects. In accordance with these criteria, the proposed modifications and application does not cause issuance of air contaminants in violation of Sections 41700 or 41701 of the State Health and Safety code.

Rule 221 – *Federal Operating Permit Requirement*. SCG-NN is in compliance with this rule, as they currently hold and maintain a Federal Operating Permit.

Rule 301 – *Permit Fees*. The proposed equipment will increase SCG-NN annual permit fees by the applicable amounts described in section (E) of this rule.

Rule 401 – *Visible Emissions*. This rule limits visible emissions opacity to less than 20 percent (or Ringlemann No. 1). In normal operating mode, visible emissions are not expected to exceed 20 percent opacity.

Rule 402 – *Nuisance*. This rule prohibits facility emissions that cause a public nuisance. The proposed modifications and associated equipment is required by permit condition to employ good engineering and operational principles in order to minimize emissions and the possibility of a nuisance.

Rule 404 – *Particulate Matter Concentration*. This rule requires that no person exceed the particulate matter concentration provided in Table 404(a). Since Natural Gas is the only fuel that will be combusted by the proposed engine, the emitted particulate concentration will comply with the requirements of this rule.

Rule 405 – *Solid Particulate Matter – Weight*. This rule requires that no person exceed the particulate matter process weights provided in Table 405(a). Since Natural Gas is the only fuel that will be combusted by the proposed engine, the emitted Solid Particulate Matter will comply with the requirements of this rule; emissions will not exceed the limits in Table 405(a) and the proposed engine will therefore meet the requirements of this rule.

Rule 408 – *Circumvention*. This rule prohibits hidden or secondary rule violations. The proposed modifications as described are not expected to violate Rule 408.

Rule 430 – *Breakdown Provisions*. Any Breakdown which results in a violation to any rule or regulation as defined by Rule 430 shall be properly addressed pursuant to this rule.

Regulation IX:

Rule 900 – *Standards of Performance for New Stationary Sources (NSPS)*. Rule 900 adopts all applicable provisions regarding standards of performance for new stationary sources as set forth in 40 CFR 60. These regulations are periodically updated to reflect actions published in the Federal Register (FR) by the EPA.

40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines applies to the proposed new engine. This regulation limits allowable emissions from the engine, however, BACT emission requirements are lower than those required by this NSPS, and therefore the proposed engine will comply with the requirements of this NSPS.

Regulation X – *National Emission Standards for Hazardous Air Pollutants*. Pursuant to Regulation X, SCG-NN is required to comply with all applicable ATCMs and under state law, a federal National Emission Standards for Hazardous Air Pollutants (NESHAP) becomes the State ATCM, unless the Air Resources Board (ARB) has already adopted an ATCM for the source category and associated hazardous air pollutant(s). In the case of the proposed new equipment, there are no applicable State ATCM's, however, NESHAP Subpart ZZZZ is applicable and since the proposed engine will be in compliance with NSPS Subpart JJJJ, it will be in compliance with Subpart ZZZZ, as clarified in the subpart.

Regulation XII – *Title V Permits*

This regulation contains requirements for sources which must have a FOP. SCG-NN currently has a FOP and is expected to comply with all applicable rules and regulations.

Rule 1201 – *Federal Operating Permit Definitions*.

SCG-NN is defined as a federal Major Facility pursuant to this rule.

Rule 1203 – *Federal Operating Permits*.

The proposed new engine is subject to New Source Review and is being processed pursuant to District Rule 1302, Procedures, which allows for Significant Modifications to be processed concurrent with NSR actions. This procedure conforms to all applicable provisions of District Regulation XII. Further, this permit modification will be noticed similarly to District Rule 1207 requirements and in accordance with District Rule 1302.

This document represents the preliminary determination for the proposed modifications to SCG-NN FOP. This proposed Significant Modification will also be properly noticed pursuant to District Rule 1207, as required.

Rule 1205 – Modifications of Federal Operating Permits.

The proposed new engine classifies as a Significant Permit Modification to SCG-NN Federal Operating Permit (FOP), and subsequently, this permit modification will be issued in accordance with the provisions of District Rule 1302 pursuant to Rule 1203.

Rule 1207 – Notice and Comment.

This NSR permitting action is being noticed concurrent with the Significant Modification of SCG-NN Federal Operating Permit. Notably, this affords the public the right to petition USEPA to reconsider the decision to not object to the permit action.

Rule 1208 – Certification.

SCG-NN included a Certification of Responsible Official as required with the submitted application for the proposed equipment.

Rule 1211 – Greenhouse Gas Provisions of Federal Operating Permits.

SCG-NN is NOT a Major GHG Facility pursuant to Rule 1211.

Regulation XIII – New Source Review

Rule 1302 – Procedure.

This rule applies to all new or Modified Facilities and requires certain requirements to be fulfilled when submitting an application. All applicable requirements of this rule are discussed in this NSR document as part of the Analysis procedure. Certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable District rules and regulations have been addressed. The Authority to Construct (ATC) application package for the proposed equipment includes sufficient documentation to comply with Rule 1302(D)(5)(b)(ii). Permit conditions for the proposed engine will require compliance with Rule 1302(D)(5)(b)(iii).

Rule 1303 – Requirements. This rule requires BACT and offsets for selected facility modifications. The Proposed engine does trigger BACT and offset requirements and will meet BACT requirements. The proposed engine will be equipped with a NSCR catalytic emission reduction system. Additionally, the engines emissions must be fully offset for NOX and VOC, which will be accomplished through use of their wholly owned ERC document with certification number 0083. See previous sections of this document for additional details.

Rule 1304 – Emissions Calculations. The Proposed Emissions from the proposed modifications were calculated pursuant to section (B)(1)(a) of this rule.

Rule 1310 – Federal Major Facilities and Modifications. Emissions from the proposed new engine are determined to NOT be a Federal Major Modification as calculated in accordance with Rule 1310(E)(1)(a) as the Projected Actual Emissions, calculated pursuant to District Rule 1310 (E)(3)(c), will not exceed the Federal Major Modification Thresholds. Calculation methodologies are similar to those required by District Rule 1304(B)(1)(a).

Rule 1320 – New Source Review for Toxic Air Contaminants. Pursuant to the requirements of District Rule 1302, an applicability analysis of State and Federal air toxic regulations was

conducted for the proposed modifications (State T-NSR and Federal T-NSR, respectively) and is discussed in further detail in this document.

Rule 1520 – Control of Toxic Air Contaminants from Existing Sources. This permit action is subject to Rule 1520, as SCG-NN is an existing Major Facility as it has a facility PTE greater than ten (10) tons per year for CO, NO_x, SO₂, PM_{10/2.5}, and VOC, as well as has a PTE to emit a TAC. A facility prioritization analysis was conducted and it was determined that the facility is an Intermittent Priority Facility, and the associated health effects are considered acceptable. See previous sections for additional details.

Regulation XVI, Rule 1600 – Prevention of Significant Deterioration

The purpose of this regulation is to set forth requirements for all new Major PSD Facilities and Major PSD Modifications which emit or have the potential to emit a PSD Air Pollutant pursuant to the requirements of 40 CFR 52.21. The proposed modification does not constitute a new Major PSD Facility or a Major PSD Modification; therefore, PSD does not apply to the proposed project. A detailed discussion of PSD occurs in the above sections of this document.

State Regulations

Regulation XI— Source Specific Standards:

District Rule 1160 —Internal Combustion Engines

This rule does not apply because SCG-NN is not located in a federal ozone non-attainment area.

Regulation XII — Federal Operating Permits

This regulation contains requirements for sources which must have a federal operating permit. The identified changes constitute a significant modification of the Title V permit. Specific requirements of Regulation XII are stipulated as shown below.

Rule 1202 — Applications

This rule designates that official applications will be used as necessary under Regulation XII and outlines the specified information which shall be included on the official application to the Air Pollution Control Officer to determine completeness as well as provides a timeline for that determination. This application includes official District forms. The District has evaluated this permitting action and concluded that the proposed project requires a significant Title V Modification and will be processed as such and in accordance with the procedure specified in the rule.

Rule 1203 — Federal Operating Permits (FOP)

The rule defines the permit operating term, stipulates the process by which FOPs, Significant Modifications to FOPs and Renewals of FOPs shall be issued. This rule further identifies restrictions on issuance, permit contents, operational flexibility, compliance certification, permit shield, and violation of permit conditions. The proposed FOP action is considered a significant permit modification. The District will submit this SOB and Draft Title V FOP to the EPA and CARB and make documents available for public review and comment within the specified comment period in accordance with the procedure outlined in Rule 1203(B)(1).

Rule 1205 — Modifications of Federal Operating Permits

This rule specifies the process by which FOPs are modified. The District will determine if the action constitutes a significant permit modification and will incorporate the changes as required by Regulation XII, as applicable.

Rule 1302 — Procedure

Rule 1302 outlines the procedures for preparing an ATC permit application.

Rule 1303 — Requirements

The BACT and offset requirements of Regulation XIII are addressed in this rule.

The BACT and offset requirements of Regulation XIII are addressed in this rule.

BACT: Any new or modified Permit Unit which emits, or has the Potential to Emit, 25 lbs/day or more of any Nonattainment Air Pollutant shall be equipped with BACT. Plus any new or Modified Facility which emits, or has the Potential to Emit, 25 tpy or more of any Nonattainment Air Pollutant shall be equipped with BACT for each new Permit Unit. BACT will apply to the new engine for NO_x and ROC per Rule 1303 (A)(3) since the facility has a PTE > 25 tpy of these non-attainment pollutants.

Offsets: Based on the emissions analysis presented in earlier in this document, the facility is proposing the use of ERCs to offset the non-attainment pollutants. Rule 1305 describes the techniques for calculating the required offsets, including the use of ERCs.

Rule 1304 — Emissions Calculations

The SCG-NN modification involves new equipment installation of one prime power 4SRB engine. This rule outlines how to account for the associated emission increases.

Rule 1305 — Emissions Offsets

This Rule provides the procedures and formulas to determine the eligibility of, calculate the amount of, and determine the use of Offsets required pursuant to the provisions of District Rule 1303(B). The provisions of this rule have been followed in the netting analysis and a summary of those results are included in this document. Screen shot of that analysis are also provided in the Appendix C of this document. A live Excel spreadsheet is also available for review at the District office upon request.

Rule 1310— Federal Major Facilities and Modifications

This rule sets additional requirements for Federal Major Facilities and Modifications. SCG-NN is an existing major federal source. Nonetheless, the modifications proposed in the SCG-NN project are less than the federal significant emissions increase threshold, thus the project is not a Federal Major Modification, and this rule is not applicable.

Rule 1320 — New Source Review for Toxic Air Contaminants

This rule is applicable to all new, Modified or Relocated Facilities or Permit Units which emit or have the potential to emit any HAP, TAC, or Regulated Toxic Substance. MDAQMD Rule 1320 follows a step-wise process for evaluating applications for compliance with air toxics requirements. The initial steps are outlined below, including applicability of Federal and State T-

NSR, and conducting HRAs, if applicable for each EU. Note: The prioritization score for this facility is quantified as Intermediate Priority and therefore an HRA is no required.

Federal T-NSR

The SCG NN facility is currently considered an Area Source of HAP, and subject to Federal T-NSR. MDAQMD Rule 1320 requires that if a facility is subject to Federal T-NSR, any applicable NESHAP standards will apply. The SCG-NN engine is required to comply with any applicable currently enforceable NESHAP standards, or a case-by-case NESHAP standard as determined by the MDAQMD. One MACT standards is applicable to the new engine, Subpart ZZZZ. The engine will comply with this requirement and NSPS, Subpart JJJJ by being BACT equipped.

State T-NSR Program Analysis (State T-NSR)

This subsection requires the applicant and MDAQMD to identify and include in the permitting analysis any applicable and currently enforceable California Air Toxics Control Measures (ATCM). The proposed natural-gas fired Reciprocating IC Engines are not subject to a California ATCM.

Health Risk Assessment (HRA)

Under the State T-NSR, Rule 1320 requires evaluation of each Emission Unit using prioritization scoring and an HRA if the prioritization score is high. The facility has a prioritization score of greater than 1 and less than 10, and therefore an HRA is not required.

Regulation XIV — Emission Reduction Credit Banking

Rule 1402 established an Emission Reduction Credit Registry by which emission reduction credits can be banked by a facility that has met all the applicable requirements of the rule. Southern California Gas Company previously banked ERCs as documented by Certificate number 0083. A copy of these, Class A Emission Reduction Credits, is shown in Appendix D.

SCG has proposed to use a portion of these credits to offset the proposed new engine.

The MDAQMD has reviewed and approved that request. The remaining portion of the ERCs will be documented with a new Certificate number and the appropriate entries the Registry, which is maintained by the MDAQMD, will also occur.

The emissions, ERC analysis, and ERC balance is shown in greater detail earlier in this document.

Additionally, there is NO adjustment required for these Credits as there is no RACT requirement for this location of the MDAQMD. Therefore, there will be no reduction upon use of the ERCs pursuant to Regulation XIV.

Rule 1520 — Control of Toxic Air Contaminants from Existing Sources

This rule applies on a facility-wide basis requiring public notice and/or risk reduction at elevated levels of health risk for existing facilities based on actual levels of TAC emissions.

2018 emissions inventory resulted in a Prioritization score for Cancer of 1.69. This prioritization score is greater than 1 and less than 10. Therefore the facility is considered an “Intermediate Priority” facility, and the associated health risk is considered acceptable; an HRA is Not Required.

It is further considered that the SCG-NN will employ T-BACT on the proposed engine equipment through the use of NSCR.

Regulation XVI — Prevention of Significant Deterioration (PSD)

This rule is applicable to projects that have emissions of attainment pollutants greater than the new Major PSD Facilities and Major PSD Modifications thresholds. An applicability assessment of PSD has been performed and it is determined that the SCG-NN new engine is not a PSD Major Modification.

8. NSR Preliminary Decision - Conclusion

The District has reviewed the proposed new emission unit application for Southern California Gas North Needles and conducted a succinct written analysis as required by District Rule 1302, section (D)(1)(b) and District Rule 1203, section (B)(1)(a). The District has determined that the proposed equipment and application are in compliance with all applicable District, State, and Federal rules and regulations as proposed and when operated in terms of the permit conditions stated below.

9. Operating Conditions

The following equipment descriptions and operating conditions will be placed on the Authorities to Construct (ATC) for the project and in Part III of SCG-NN FOP. The specific section numbers of the FOP are identified here as well. Note that all new and modified equipment descriptions and permit conditions will be in redline/strikethrough form.

Description: SPARK-IGNITED (SI) NATURAL GAS IC ENGINE, POWERING AN AIR COMPRESSOR (Unit 1A) consisting of: Year of Manufacture; 2019; 4SRB; Engine is Subject to NSPS 40 CFR Part 60 Subpart JJJJ, BACT and Offset Requirements of District Regulation XIII. Facility is a HAP Area Source. Engine is equipped with the following Control Equipment:

Control Device,
DCL Model 2DC49-6CGS horizontal catalytic converter/silencer

- o 18-32 dBA insertion loss
- o Mounted on cooler
- o (2) DC49 catalytic elements
- o Guaranteed Emissions (g/bhp-hr):
NOx: 0.15
CO: 0.60
VOC: 0.15
- RELi E3 Air Fuel Ratio (AFR) Control System
- Pre-Catalyst Emissions (g/bhp-hr):
NOx: 15.41
CO: 15.41

VOC: 0.18

Exhaust Stack is 13.5 feet high and has a 1.167 foot diameter.

Exhaust vents at 1801 Lb/hr and at a temperature of 1004 Degrees F.

Facility elevation is 543 feet above sea level.

One Caterpillar, NG fired internal combustion engine Model No. G3406TA and Serial No. TBD, Four-Stroke Rich Burn, producing 276 bhp with 6 cylinders at 1800 rpm while consuming a maximum of 2.05 MMBtu/hr.

EMISSIONS RATES

Emission Type	Est. Max Load	Unit
CO	0.60	gm/bhp-hr
NOx	0.15	gm/bhp-hr
PM10	0.121	gm/bhp-hr
PM2.5	0.121	gm/bhp-hr
SOx	0.007	gm/bhp-hr
VOC	0.15	gm/bhp-hr

CONDITIONS:

1. Owner/operator must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.

[Derived from 60.4243(b)(2)(i)]

2. This engine shall comply with all applicable rules and regulations including 40 CFR 60, Subpart JJJJ - New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines and the Districts rule and Regulations. In the event of conflict, the more stringent, lowest emissions requirements, shall govern.

[District Rule 1302]

3. The engine shall only be used with a properly maintained and properly functioning RELi E3 Air Fuel Ratio (AFR) system and three-way catalysts/non-selective catalytic reduction (NSCR) device, manufactured by DCL America Inc., Catalyst Model Number 2DC49-6CGS. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and NSCR so as to minimize emissions at all times as required by §60.4243(g).

Note: The emissions of this engine have been offset with Emission Reduction Credits (ERCs) using a portion of Certificate Number 0083. The quantification of this engines emissions and corresponding Offsets are contingent on the proper operation and emissions reductions by these control devices. Therefore and when required, the Owner/Operator shall only replace this

catalyst and AFR with the same manufacturers and model numbers unless otherwise approved by the MDAQMD.

[40 CFR 60.4243(g) and District Rule 1302]

4. A non-resettable four-digit (9,999) hour timer and/or fuel meter shall be installed and maintained on this unit to indicate elapsed engine operating time and/or fuel used. The owner/operator shall log the hours of operation and/or fuel use whenever this engine is operated. This log shall be made available to District, State, or Federal Staff upon request.

[District Rule 1302(C)(2)(a)]

5. This engine shall only be fired on Utility Grade Natural Gas fuel.

[District Rule 431 and 1302]

6. The owner/operator shall maintain an operations log for this unit current and on-site (or at a central location) for a minimum of five (5) years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the following information:

The owner/operator of this stationary SI internal combustion engine that is greater than 25 HP and less than or equal to 500 HP, must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance as required by condition 7 below and as required by §60.4243(b)(2)(i). Pursuant to these requirements the owner/operator shall maintain an operations log for this unit current and on-site (or at a central location) for a minimum of five (5) years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the following information:

A. Maintenance plan, and

B. Dates and description of conducted repairs.

[40 CFR 60.4243(b)(2)(i) and 60.4245(a)(2)]

7. The owner/operator shall conduct an initial performance test within 1 year of engine startup to demonstrate compliance as required by §60.4243. Tests shall be performed in accordance with

40 CFR 60 Subpart JJJJ and the Districts Source Test Protocols. Emission levels shall be no higher than those referenced in condition 8:

- a. Measurements to determine O₂ concentration must be made at the same time as the measurements for NO_X concentration using EPA Method 3, 3A, or 3Bb of 40 CFR part 60, appendix A-2 or ASTM Method D6522-00.
- b. Exhaust flowrate of the stationary internal combustion engine exhaust shall be determined using EPA Method 2 or 2C of 40 CFR part 60, appendix A-1 or Method 19 of 40 CFR part 60, appendix A-7.
- c. Measurements to determine moisture must be made at the same time as the measurement for NO_X concentration using EPA Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D6348-03.
- d. NO_X sampling shall occur at the outlet of the control device using EPA Method 7E of 40 CFR part 60, appendix A-4, ASTM Method D6522-00, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D6348-03. Results of this test consist of the average of three 1-hour or longer runs.
- e. CO shall be sampled at the outlet of the control device using EPA Method 10 of 40 CFR part 60, appendix A4, ASTM Method D6522-00, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D6348-03.
- f. VOC shall be sampled at the outlet of the control device using EPA Methods 25A and 18 of 40 CFR part 60, appendices A-6 and A-7, Method 25A with the use of a hydrocarbon cutter as described in 40 CFR 1065.265, Method 18 of 40 CFR part 60, appendix A-6, Method 320 of 40 CFR part 63, appendix A, or ASTM Method D6348-03.
- g. Sampling port locations and exhaust traverse points shall be made in accordance with Table 2 to Subpart JJJJ of Part 60 - Requirements for Performance Tests.
(See: <https://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.jjjj>)
[District Rule 204, 1302 and Subpart JJJJ]

8. This engine is BACT equipped and the emissions have been offset with ERCs. Therefore, the owner/operators shall ensure that the engines emissions are less than or equal to the following maximum values as required by initial source testing. If, during source testing, the values are higher than the referenced values, the owner/operator shall take the appropriate corrective action

and retest as required until the required emission levels are achieved. Maximum Allowed Emission Levels are:

NO_x: 0.15 g/Hp-hr

VOC: 0.15 g/Hp-hr

CO: 0.60 g/Hp-hr

[District Rule 204, 1302]

9. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.

[District Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A]

C. Title V Permit/FOP – Significant Permit Modification

1. Proposed Changes to FOP

Southern California Gas Company, North Needles, submitted an application for Minor Permit Modification in parallel with the application for District Permit modification; this application was subsequently changed to a Major Permit Modification as the engine will be processed as a new emissions source. The District is processing the proposed FOP changes in accordance with procedures specified in District Rule 1302(D)(1)(d). This preliminary decision also serves as the statement of basis and draft FOP.

2. Title V/FOP – Conclusion

The District has reviewed the application and proposed modifications to SCG NN Federal Operating Permit. The District has determined that the proposed modification is in compliance with all applicable District, State, and Federal rules and regulations as proposed when operated in the terms of the operating conditions given herein.

D. Comment Period and Notifications

1. Public Comment

This preliminary determination will be publicly noticed on or before 05-31-19.

The 30-Day Public Commenting Period that will end at COB on 07-01-19.

Noticing Methods include the following, per District Rule 1207 (A)(1)(a) and District Rule 1302(D)(2) and (3):

- Published in newspapers of general circulation - Riverside Press Enterprise (Riverside County) and the Daily Press (San Bernardino County) on or before 05-31-19.
- Mailed and/or emailed to MDAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in this Appendix) on or before 05-23-19.
- Posted on the MDAQMD Website at the following link:
<http://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry>

2. Notifications

The preliminary determination was submitted via e-mail to EPA and CARB pursuant to District Rule 1207 for a forty-five (45) day review period on or before 05-23-19. The final modified FOP shall be issued on or about 07-01-19.

All correspondence as required by District Rules 1302 and 1207 were forwarded electronically to the following recipients:

Director, Office of Air Division
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
R9airpermits_AV_MD@epa.gov

Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
Permits@arb.ca.gov

Current Field Operations Manager
C/O Alison Wong (Via e-mail)
Southern California Gas Company
P.O. Box 2300, Chatsworth CA 91313

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Appendix A Application



Co/Fac: 31/69
Section/Category: Application
Type: APP-N TSAPP
Date: 12/14/18

Alison Wong
Technical Advisor II
PO Box 2300 SC9314
Chatsworth, CA 91313
Tel: 213.604.4594
AWong2@semprautilities.com

December 14th, 2018

Mojave Desert Air Quality Management District
Attn: Sam Oktay, Air Quality Engineer
14306 Park Avenue
Victorville, CA 92392

Subject: Southern California Gas Company,
North Needles Compressor Station (FID #3100069)

Dear Mr. Oktay:

Southern California Gas Company (SoCalGas) is submitting this application for an Authority to Construct (ATC) and minor Title V Permit modification for the North Needles Compressor Station (Facility ID #3100069).

Proposed Project

The proposed project is to replace the existing air compressor with a new air compressor. Specifically, the existing 62 horsepower (hp) natural gas fueled internal combustion engine powering an air compressor (Permit ID #B009211) will be replaced with a new 276 hp natural gas fueled internal combustion engine powering an air compressor. The proposed spark ignition rich-burn turbocharged and aftercooled engine is a Caterpillar model G3406 and will be equipped with a control device, non-selective catalytic reduction (NSCR).

Regulatory Review

The new spark ignition reciprocating internal combustion engine will satisfy National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ) requirements by complying with the New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines (40 CFR Part 60 Subpart JJJJ) requirements.

Per Rule 1303(A)(3), any new or modified facility which emits, or has the potential to emit, 25 tons per year or more of any nonattainment air pollutant shall be equipped with Best Available Control Technology (BACT) for each new Permit Unit. The proposed emission rates satisfy BACT requirements for new natural gas fired engines.

Per Rule 1303(C)(1)(a), the project does not trigger offsets since the increase in net emissions of each of ROC and NOx does not exceed 25 tons when aggregated with all other increases in emissions from the facility during the past five years.

Proposed Emissions

The proposed emissions have been calculated based on emission guarantees provided by the manufacturer. The proposed criteria pollutant emission limits satisfy BACT and 40 CFR Part 60 Subpart JJJJ requirements. Estimated emissions are summarized in the table below. Detailed emission calculations and assumptions are provided in Appendix D.

Emissions	NOx	CO	VOC	SOx	PM10
Emissions (lb/hr)	0.09	0.37	0.09	0.001	0.05
Emissions (tpy)	0.400	1.599	0.400	0.0050	0.199

The following completed forms are enclosed as Appendix A:

- General Application Form
- Application for Authority to Construct and Permit to Operate
- Title V-Permit Amendment/Modification

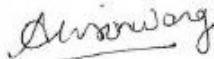
A copy of the current permit (#B009211) is provided as Appendix B.

Manufacturer's literature for the proposed equipment is included as Appendix C.

Please also find enclosed check No. 1862819 in the amount of \$535 for application fee.

Please contact me at 213-604-4534 or awong2@semprautilities.com if you require more information or have any questions.

Sincerely,



Alison Wong
Technical Advisor II-Transmission
Environmental Services

Enclosures

1. Appendix A – MDAQMD Application Forms
2. Appendix B – PTO B009211
3. Appendix C – Manufacturer's Literature
3. Appendix D - Emission Calculations



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
 14306 Park Avenue, Victorville, CA 92392-2310
 (760) 245-1661 Email: Engineering@mdaqmd.ca.gov

www.mdaqmd.ca.gov
Brad Poiriez
 Executive Director

GENERAL APPLICATION FORM

PLEASE TYPE OR PRINT

REMIT \$274.00 WITH THIS DOCUMENT (\$156.00 FOR CHANGE OF OWNER)

Section 1: Owner Information

a. Permit To Be Issued To (company name): SOUTHERN CALIFORNIA GAS COMPANY		b. Federal Tax ID #: 44-011410	
c. Mailing/Billing Address (for above company name) include city, state, and zip code: PO BOX 2300 8C8314, CHATSWORTH, CA 91313			
d. Facility or Business License Name (for equipment location): NORTH NEEDLES COMPRESSOR STATION			
e. Facility Address - Location of Equipment (If same as for company, enter "Same"): 4500 NEEDLES HIGHWAY, NEEDLES, CA, 92363		Equip. Coordinates (lat/long): UTM (Km) 718.729E / 3841.636N	
f. Contact Name: Justin Griffin	Title: Station Maintenance Supervisor	Email Address: jgriffin@scompraulities.com	Phone: 760-243-6661
General Nature of Business: Natural Gas Compression and Transmission			Company NAICS:
Type of Organization (check one): <input type="checkbox"/> Individual Owner <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Utility <input type="checkbox"/> Local Agency <input type="checkbox"/> State Agency <input type="checkbox"/> Federal Agency			

Section 2: Nature of Application

Application is hereby made for the following equipment: Caterpillar natural gas engine, turbocharged and aftercooled (AIR COMPRESSOR)	
Application is for what type of permit: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Modification <input type="checkbox"/> Change of Owner	For modification or change of owner: Current Permit Number
Do you claim Confidentiality of Data? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment Information

Equipment Description (give a brief description of the equipment and/or process): The air compressor is used as a "starter" for the main natural gas compressors for the station's process flow.		
Manufacturer: CATERPILLAR	Model: 3406TA	Serial Number:
Add-on Air Pollution Control Equipment?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Note, most APCE require a separate application)		
If yes: Manufacturer:	Model: 2DC49-6C6	Serial #: CARB EQ#:
Type: (specify): NSCR, 3 WAY		
Stack Data: Exhaust Stack Height from Ground: >13.5 feet Exhaust Stack Diameter: 1.187 feet		
Stack is: <input type="checkbox"/> horizontal <input checked="" type="checkbox"/> vertical <input type="checkbox"/> open <input type="checkbox"/> weather cap		
Vent Data: Exhaust Temp. 1004 °F Maximum Exhaust Rate (CFM): 400		

-For District Use only-

Application Number: MB12701	Invoice Number:	Permit Number: BO13454	Company/Facility Number: 31/69
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Section 4: Emissions Data

Emission Factor Basis (attach any source specified): _____			
<input checked="" type="checkbox"/> Manufacturer <input type="checkbox"/> Source Test <input type="checkbox"/> MDAQMD Default <input type="checkbox"/> USEPA AP-42 <input type="checkbox"/> Other (please specify) _____			
Emissions Data:			
Pollutant	Pre-Control Max. Emissions	Units	Post Control Max. Emissions
NO _x			0.09 lb/hr
NMHC			0.09 lb/hr
CO			0.37 lb/hr
PM ₁₀			0.05 lb/hr
SO _x			0.001 lb/hr
Toxic Pollutants – Please include a list of all toxic air pollutants and their emission rates if known.			

Section 5: Operation Information


Fuel Consumption: 7.4 _____ at Max Rated Load <input type="checkbox"/> gal/hour <input type="checkbox"/> SCF/hour <input checked="" type="checkbox"/> MMBtu/hr	
Typical Load: 80% _____	
Facility Annual Operation by Quarters (percent): <input checked="" type="checkbox"/> Uniform OR _____% Jan-Mar _____% Apr-Jun _____% Jul-Sep _____% Oct-Dec	Expected Operating Hours of Equipment 24 _____ Hrs/Day 7 _____ Days/Wk 52 _____ Wk/Yr Total Annual Hours _____

Section 6: Receptor Information

Distance (Feet) and direction to the property line of closest: 1788 S Residence 1580 S Business >8500' School
Name of Closest School (K-12) _____
<i>If the proposed ICE operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S 542301.6)</i>

*Please note, District Staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
CARLOS GAETA	FIELD OPERATIONS MANAGER		12/11/2018
Name of Responsible Official	Official Title	Signature of Responsible Official	Date Signed
Phone: 760-243-6574		Email: CAGAETA@SEMPRAUTILITIES.COM	

Application Submittal Instructions:

- Submit completed application to Engineering@mdaqmd.ca.gov
 - Pay the corresponding application fee of \$274 per permit for new permit (or \$156 for change of owner) via check or credit card.
 - Payment by check:
 Make check payable to the Mojave Desert AQMD
 Mail the check with a copy of this completed application to:
 Mojave Desert AQMD
 14306 Park Avenue
 Victorville, CA 92392
 - Payment by credit card:
 Pay online at our website: <http://www.mdaqmd.ca.gov/>
 Click "Pay Fees"
 Please note a surcharge applies for all credit card payments.
 - If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov
- Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at Engineering@mdaqmd.ca.gov


MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
 14306 Park Avenue, Victorville, CA 92392-2310
 (760) 245-1661 Facsimile: (760) 245-2022

www.mdaqmd.ca.gov
Eldon Heaston
 Executive Director

APPLICATION FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE

Page 1 of 2; please type or print

REMIT \$261.00 WITH THIS DOCUMENT (\$149.00 FOR CHANGE OF OWNER)

1. Permit To Be Issued To (company name to receive permit): SOUTHERN CALIFORNIA GAS COMPANY		1a. Federal Tax ID No.: 44-011410	
2. Mailing/Billing Address (for above company name): PO BOX 2300 SC9314, CHATSWORTH, CA 91313			
3. Facility or Business License Name (for equipment location): NORTH NEEDLES COMPRESSOR STATION			
4. Facility Address - Location of Equipment (if same as for company, enter "Same"): 4500 NEEDLES HIGHWAY, NEEDLES, CA, 92363		Location UTM or Lat/Long: UTM (Km) 718.729E / 3841.635N	
5. Contact Name/Title: Justin Griffis		Email Address: jgriffis@semprautilities.com	Phone/Fax Nos.: 760-243-6561
6. Application is hereby made for Authority To Construct (ATC) and Permit To Operate (PTO) the following equipment: Caterpillar natural gas engine, turbocharged and aftercooled			
Air Pollution Control Equipment, if any (note that most APCE require a separate application): NSCR, 3 WAY MODEL 2DC49-6CGS			
7. Application is for: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Modification* <input type="checkbox"/> Change of Owner*		For modification or change of owner: *Current Permit Number: _____	
8. Type of Organization (check one): <input type="checkbox"/> Individual Owner <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Utility <input type="checkbox"/> Local Agency <input type="checkbox"/> State Agency <input type="checkbox"/> Federal Agency			
9. General Nature of Business: Natural Gas Compression and Transmission		Principal Product: Natural gas	SIC Code (if known): 4922
10. Distances (feet and direction to closest): _____ Fenceline 1560 S Residence >6500' Business >6500' School			
11. Facility Annual Throughput by Quarters (percent): _____ % 25 % _____ % 25 % Jan-Mar Apr-Jun Jul-Sep Oct-Dec		12. Expected Facility Operating Hours: 7 7 52 8,760 Hrs/Day Days/Wk Wks/Yr Total Hrs/Yr	
13. Do you claim Confidentiality of Data (if yes, state nature of data on reverse in Remarks)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
14. Signature of Responsible Official: 		Official Title: FIELD OPERATIONS MANAGER	
Typed or Printed Name of Responsible Official: Carlos Gaeta		Phone Number: 760-243-6574	Date Signed: 12/11/2018
- For District Use Only -			
Application Number:	Invoice Number:	Permit Number:	Company/Facility Number:

Mojave Desert Air Quality Management District

TITLE V – PERMIT AMENDMENT / MODIFICATION

I. PERMIT ACTION (Check appropriate box)

- ADMINISTRATIVE AMENDMENT
 MINOR MODIFICATION
 SIGNIFICANT MODIFICATION
 OFF-PERMIT CHANGE

1. FACILITY NAME: SOUTHERN CALIFORNIA GAS	
2. FACILITY ID: 00069	
3. TITLE V PERMIT NO: 3100069	
4. TYPE OF ORGANIZATION: <input type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Utility	
5. COMPANY NAME: SOUTHERN CALIFORNIA GAS	
6. COMPANY MAILING/BILLING ADDRESS: STREET/P.O. BOX: PO BOX 2300 SC9314	
CITY: CHATSWORTH STATE: CA 9-DIGIT ZIP CODE: 91313	
7. FACILITY ADDRESS: STREET: 4500 Needles Highway,	PROPOSED DATE OF INSTALLATION:
CITY: NEEDLES STATE: CA 9-DIGIT ZIP CODE: 92363	
8. DISTANCES (FEET AND DIRECTION) TO CLOSEST: FENCELINE: _____ RESIDENCE: 1766 S BUSINESS: 1560' S SCHOOL: >6500'	
9. GENERAL NATURE OF BUSINESS: PUBLIC UTILITY	
10. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary) The proposed modification is to remove the existing natural gas IC engine, air compressor (Permit ID #B009211) and replace with a new unit. The new unit consists of Caterpillar natural gas engine, turbocharged and aftercooled.	
11. PERSON TO CONTACT FOR INFORMATION ON THIS APPLICATION:	
NAME: ALISON WONG	PHONE NUMBER: 213-604-4534
TITLE: TECHNICAL ADVISOR	EMAIL: AWONG2@SEMPRAUTILITIES.COM

Revised: January 8, 2013

14306 Park Avenue, Victorville, CA 92392 | Tel: (760)245-1661

Form 1202-N Title V Modification

II. COMPLIANCE CERTIFICATION (Read each statement carefully and check all for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Carlos Gaeta
 Signature of Responsible Official

12-11-18
 Date

Carlos Gaeta
 Name of Responsible Official (please print)

Field Operations Manager
 Title of Responsible Official (please print)

For AQMD Use Only:

DATE STAMP	DISTRICT PERMIT APPLICATION NO. _____	COMPANY /FACILITY ID: _____
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14306 Park Avenue, Victorville, CA 92392 | Tel: (760)245-1661



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue, Victorville, CA 92382-2310
760.245.1861 – 800.635.4617 – FAX 760.245.2022

PERMIT TO OPERATE

B009211

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

EXPIRES LAST DAY OF: OCTOBER 2018

OWNER OR OPERATOR (Co. #31)

Southern California Gas - MDAQMD
9400 Oakdale Avenue
Chatsworth, CA 91313

EQUIPMENT LOCATION (Fac. #69)

SCG - No Needles Compressor Station
4500 Needles Highway
Needles, CA 92363

Description:

SPARK-IGNITED (SI) NATURAL GAS IC ENGINE, POWERING AN AIR COMPRESSOR (Unit 1A) consisting of: Year of Mfg tbd; four stroke rich burn (4SRB) Engine is subject to RICE NESHAP Requirements of 40 CFR 63 Subpart ZZZZ for engines less than 100 located at a HAP Major Source.

One Waukesha, NG fired internal combustion engine Model No. 145GZ and Serial No. 62448, producing 62 bhp with 6 cylinders at 1800 rpm while consuming a maximum of 485 scf/hr. This equipment powers a Joy Compressor Model No. 5 and Serial No. 164927231, rated at 250 psi.

CONDITIONS:

1. Owner/Operator shall insure this equipment complies with applicable Title V Part II and Part III conditions. [1302(C)(2)(a)]
2. This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit. [40 CFR 63.6805 and 63.6625]
3. A non-resettable four-digit (9,999) hour timer shall be installed and maintained on this unit to indicate elapsed engine operating time. [40 CFR 63.6625(f)]

Fee Schedule: 7 (g)	Rating: 62 device	SIC: 4922	SCC: 20200202	Location/UTM(Km): 718E/386N
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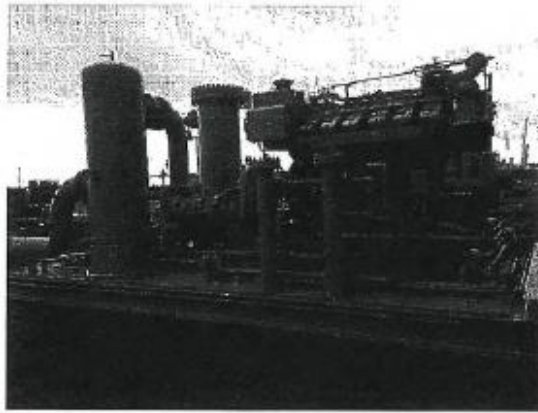
This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 28 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Southern California Gas - MDAQMD
PO Box 2300, SC 9314
Chatsworth, CA 91313-2300

By:
Brad Poiriez
Air Pollution Control Officer

4. The o/o shall maintain a operations log (in electronic or hardcopy format) for this unit current and on-site (or at a central location) for a minimum of five (5) years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below:
- a. Calendar year operation in terms of fuel consumption (in cubic feet or Btus) and total hours.
 - b. Records of each instance in which the emission and operating limitations are not met. [63.6640 (b)]
 - c. Records of the occurrence and duration of each malfunction of operation and the actions taken to correct such malfunction of operation. [40 CFR 63.6655(a)]
 - d. Records of all oil and filter changes, and hose and belt inspections.

5. Effective October 19, 2013, the o/o must meet the following emission and operating limitations, except during periods of startup;
- a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first (source has the option to utilize an oil analysis program pursuant to 40 CFR 63.6625(j) in order to extend the specified oil change requirement.);
 - b. Inspect air cleaner every 1,440 hours of operation or annually, whichever comes first;
 - c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
 - d. Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40CFR 63.6625(h)]
- [40 CFR 63.6603, table 2d]



TECHNICAL DESCRIPTION

UECQ 15418-5A



SCOPE OF WORK

PACKAGED ENGINE DRIVE ROTARY SCREW COMPRESSOR

Complete UEC rotary screw compressor package, with a single compressor and driver mounted on a steel skid and containing necessary on-skid wiring, piping, and controls, as described below. All external power, electrical disconnects, motor starters, cooling water or air, foundations, installation, and other interconnecting requirements shown on submittal drawings are supplied by others.

CONDITIONS OF SERVICE

Location:	California
Elevation (FASL):	495
Service:	Instrument Air
Discharge Pressure:	250 PSIG
Capacity (minimum per compressor):	500 SCFM
Inlet Temperature:	125°F

PERFORMANCE GUARANTEE

Customer responsibility to confirm conditions of service is correct, prior to award of order. Should the conditions vary dramatically from above, design of the equipment may be inefficient or incapable of meeting the required conditions of service.

Package has been designed for design point(s) as provided. No additional points or ranges have been considered beyond shown. It is recommended that the customer provide a design range for the most robust package. Should any additional points be required, please contact your UEC representative.

LeROI rated capacity and power are typically guaranteed to a tolerance of $\pm 5\%$.

PACKAGE STUDIES

The following package studies are typically performed by a 3rd party consulting firm:

- | | |
|---|--------------|
| 1. Torsional analysis | Included |
| 2. Structural / skid analyses (not typical) | Not included |

Torsional study – The outcome of this study will examine the suitability of the driver and coupling, and determine if a flywheel or others charges are required. Typically provided for drivers approximately 500 BHP and larger for rotary screw applications, if not requested by customer.

Structural / skid study – The outcome of this study will examine the suitability of the structural skid supporting the compressor package and determine if additional bracing or alternate beam members are required. Typically not provided for rotary screw compressor packages.

Study Impact – After each study is completed, any required changes will be documented, minimized and submitted to the customer for change order. If customer chooses not to accept recommended changes as a result of performed studies, customer assumes liability for any issues related thereto.

ENGINE

Caterpillar natural gas engine, turbocharged and aftercooled as described below:

Engine Model	G3406
Nominal BHP	276
Operating Speed Range	1400 – 1800
BHP at Site Conditions	276
Power Cylinders	Inline-6
Engine Technology	Rich Burn

- Engine mounted flywheel with 1:1 barring device
- Engine mounted with Rotachock (or equal) mounts

ENGINE OIL SYSTEM

- Pneumatic pre-lube pump
- Simplex oil filter
- *Engine oil day tank, mounted on-skid*

ENGINE WATER SYSTEM

- Engine driven water pumps
- Engine mounted, two stage (JW & SCAC) plate-fin aftercooler
- Jacket and auxiliary water expansion tanks (shipped loose) complete with level gauge and switch mounted on top of cooler with *OSHA approved caged ladder, work platform and handrails* with access to both expansion tanks and catalysts
- *Isolation butterfly valves provided at inlet and outlet of each cooler section (AUX and EJW)*

ENGINE FUEL SYSTEM

- PECO or equal fuel filter complete with level gauges, level switch and manual drain valves
- Fuel gas shut off valve
- Electronically controlled fuel valve
- Fisher fuel gas pressure control valve
- 2"-150#RF manual isolation valve
- Fuel gas cone strainer at skid edge
- Threaded, conventional spring type relief valve
- RELI E3 AFR system installed by others

ENGINE AIR SYSTEM

- One (1) TDI turbine starter
- Supply air pressure provided by customer – to confirm air supply and pressure available

ENGINE INTAKE/EXHAUST SYSTEM

- Engine supplied air cleaner (shipped loose)
- DCL Model 2DC49-6CG5 horizontal catalytic converter / silencer
 - 18-32 dBA insertion loss
 - Mounted on cooler
 - (2) DC49 catalytic elements
 - Guaranteed emissions (g/bhp-hr):
 - NO_x: 0.15
 - CO: 0.60
 - VOC: 0.15
- *Carbon steel exhaust piping between engine and silencer/catalytic converter*
- One (1) vertical and one (1) horizontal flex connector on exhaust piping
- Structural steel support for on-skid intake and exhaust piping, as required (off-skid by others)

ENGINE INSTRUMENTATION

In addition to manufacturer's standard instrumentation, UEC shall supply as follows:

- One (1) vibration transmitter
- Two (2) engine water pressure indicators, one per each AUX and EJW section
- One (1) engine oil pressure indicator
- Two (2) fuel gas pressure indicators, one each upstream and downstream of fuel filter
- Two (2) engine water temperature elements, one per each AUX and EJW section
- Four (4) engine water temperature gauges, upstream and downstream of AUX and EJW cooler

COUPLING AND GUARD

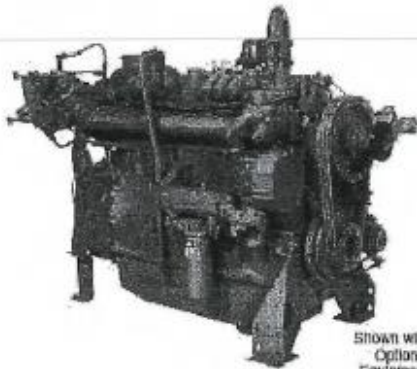
- Rexnord or equal, double-flexing spacer coupling (or equal) with dry type, carbon steel flex pack initially sized for a minimum 1.5 service factor and verified by the torsional analysis
- OSHA compliant full drive guard covering flywheel and coupling, with view port for determining unit rotation and designed for ease of removal



**G3406
Gas Petroleum
Engine**

**160-272 bkW
(215-365 bhp)
1800 rpm**

0.5% O₂ and 2.0% O₂ Ratings



Shown with
Optional
Equipment

CAT® ENGINE SPECIFICATIONS

In-line 6, 4-Stroke-Cycle	
Emissions Settings	0.5% O ₂ and 2.0% O ₂
Bore	137 mm (5.4 in.)
Stroke	165 mm (6.5 in.)
Displacement	14.59 L (891 cu. in.)
Aspiration	Naturally Aspirated or Turbocharged-Aftercooled
Governor and Protection	Woodward PSG
Combustion	Rich Burn
Engine Weight, net dry (approx.)	1390.8 kg (3000 lb)
Power Density	6.7 kg/kW (11 lb/bhp)
Power per Displacement	18.6 bhp/L
Total Cooling System Capacity	37.9 L (10 gal)
Jacket Water	30.3 L (8 gal)
SCAC	7.6 L (2 gal)
Lube Oil System (refill)	75.7 L (20 gal)
Oil Change Interval	750 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 1
Flywheel Teeth	113

FEATURES

- Engine Design**
- Proven reliability and durability
 - Ability to burn a wide spectrum of gaseous fuels
 - Robust diesel strength design prolongs life and lowers owning and operating costs
 - Broad operating speed range

- Emissions**
- Rich burn engine design easily meets emission requirements
 - 0.5% O₂ rating meets U.S. EPA Spark Ignited Stationary NSPS Emissions for 2007/8 and 2010/11 with the use of aftermarket AFRC and TWC

Full Range of Attachments
Large variety of factory-installed engine attachments reduces packaging time

Testing
Every engine is full-load tested to ensure proper engine performance.

Gas Engine Rating Pro
GERP is a PC-based program designed to provide site performance capabilities for Cat® natural gas engines for the gas compression industry. GERP provides engine data for your site's altitude, ambient temperature, fuel, engine coolant heat rejection, performance data, installation drawings, spec sheets, and pump curves.

Product Support Offered Through Global Cat Dealer Network

- More than 2,200 dealer outlets
- Cat factory-trained dealer technicians service every aspect of your petroleum engine
- Cat parts and labor warranty
- Preventive maintenance agreements available for repair-before-failure options
- S⁴O⁵™ program matches your oil and coolant samples against Caterpillar set standards to determine:
 - Internal engine component condition
 - Presence of unwanted fluids
 - Presence of combustion by-products
 - Site-specific oil change interval

- Over 80 Years of Engine Manufacturing Experience**
Over 60 years of natural gas engine production
- Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.
- Cast engine blocks, heads, cylinder liners, and flywheel housings
 - Machine critical components
 - Assemble complete engine

Web Site
For all your petroleum power requirements, visit www.catoffroadgas.cat.com.

Emission Calculations for Proposed Air Compressor (North Needles)

Emission Factors	Pollutant				
	NOx (gr/bhp-hr)	CO (gr/bhp-hr)	VOC (gr/bhp-hr)	SOx (lb/MMBtu)	PM10 (lb/MMBtu)
Emission Factor ^{1,2}	0.15	0.6	0.15	0.000588	0.01941
Emissions	NOx	CO	VOC	SOx	PM10
Emissions (lb/hr)	0.09	0.37	0.09	0.001	0.05
Emissions (tpy)	0.400	1.599	0.400	0.0060	0.199

Equipment Rating (BHP) = 276
 Maximum Hourly Heat Input (MMBtu/hr) = 2.35
 Maximum Annual Operations (Hours) = 8760
 Brake-specific fuel consumption (Btu/bhp-hr) = 8500
 Higher Heating Value (Btu/scf) = 1020

1. Emission Factors for NOx, CO, and VOC based on manufacturer's guarantees
2. Emission Factors for SOx, PM10 based on AP-42 Table 3.2-3 (4SRB engines)

Appendix B Public Notice

Noticing Methods include the following, per District Rule 1302(D)(2) and (3):

- Published in newspapers of general circulation - *Riverside Press Enterprise* (Riverside County) and the *Daily Press* (San Bernardino County) on or before 05-31-19.
- Mailed and/or emailed to MDAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in this Appendix).
- Posted on the MDAQMD Website at the following link, and as shown below:
<http://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry>

NOTICE OF PRELIMINARY DETERMINATION

NOTICE IS HEREBY GIVEN THAT Southern California Gas Company, North Needles Compressor Station, located at 4500 Needles Highway Needles, CA has submitted an application package to the MDAQMD to process and issue a Permit to Construct and Operate for 1 – New Natural Gas Fired Compressor. The associated new engine will be a new emission source at an existing Major Source facility. The applicant has proposed that the engine be permitted without any operational limitations. Therefore, the engines emissions must be fully offset based on a potential operational schedule of 8760 hours per year. Since the engine is to be cited at an existing Major Source, the applicant has proposed that the emissions will be offset through the partial use of Emission Reduction Credits (ERCs) that are wholly owned by the SCG Company documented as Class A Emission Reduction Credits, documented as Certificate Number 0083. These emission credits will be used to offset ALL emissions types for which the facility is a Major Source of, namely NOx and VOCs. Additionally, and since the facility is an existing Major Source for NOX and VOCs, the engine will be equipped with Best Available Control Technology (BACT). As such, the engine shall be equipped with a Non Selective Catalytic Reduction (NSCR) and Air Fuel Controller, in order to achieve the maximum emission reductions for this class and category of device.

Concurrently, the applicant has submitted a Title V Permit modification application for their Federal Operating Permit (3100069) pursuant to the provisions of the Mojave Desert Air Quality Management District (MDAQMD) Regulation XII. The proposed facility changes require the MDAQMD to perform a thorough New Source Review (NSR), pursuant to District regulation XIII.

The MDAQMD has reviewed the proposal, analyzed the emissions and control equipment associated with the new equipment and determined that the modified facility will continue to operate in compliance with all District, State, and Federal requirements once the modification is complete.

The analysis indicates that there will be a net emission increase in NOx, CO, and VOCs. Since the engine is also a source of Toxic Air Contaminants, a Health Risk Analysis was conducted. It

is concluded that the Health Risks associated with the modified facility operations will be acceptable per the 2016 OEHHA Guidelines.

REQUEST FOR COMMENTS: Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed NSR modification, and the associated Federal Operating Permit. If you submit written comments, you may also request a public hearing on the NSR action and proposed modification to the Federal Operating Permit. To be considered, comments, documents and requests for public hearing must be submitted no later than 4:00 P.M. on July 1, 2019, to the MDAQMD, at the address listed below.

PETITION FOR REVIEW: The NSR action and Draft Federal Operating Permit are subject to review and approval by USEPA and the CARB. If USEPA/CARB do not object to the proposed permit and Statement of Legal and Factual Basis, and the MDAQMD has not addressed a public comment in a satisfactory manner, the public may petition USEPA, Region IX, Operation Permits Section at 75 Hawthorne Street, San Francisco, CA 94105 within 60 days after the end of the USEPA review period for USEPA to reconsider its decision not to object to the permit.

AVAILABILITY OF DOCUMENTS: The proposed Federal Operating Permit, as well as the application and other supporting documentation are available for review at the MDAQMD offices, 14306 Park Avenue, Victorville, CA 92392. In addition, these documents are available on the MDAQMD website and can be viewed at following link: <http://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulatedindustry> Please contact Samuel J Oktay, PE, Air Quality Engineer II, at the address above, or (760) 245-1661, extension 1610, or at soktay@mdaqmd.ca.gov with additional questions pertaining to this action and/or corresponding documents. *Traducción en español esta disponible por solicitud. Por favor llame: (760) 245-1661 x1610*

Mr. Larry Trowsdale
mchsi
951 E Skylark Ave
Ridgecrest, CA 93555

Chief, Planning Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Mr. Mike Sword
Planning Div Mgr, Clark Co Dept of Air Q and
4701 Russell Road, Suite 200
Las Vegas, NV 89118

Environmental Manager
Duffield Marine, Inc.
17260 Muskrat Avenue
Adelanto, CA 92301

Mr. Jon Boyer
High Desert Power Project LLC
19000 Perimeter Rd
Victorville, CA 92394

Ms. Carol Kaufman
Metropolitan Water District
700 N Alameda Street, 8th Floor, Rm 106
Los Angeles, CA 90012

Mr. John F. Espinoza
HES Manager, Molycorp Minerals, LLC
HC-1 Box 224
Mountain Pass, CA 92366

Chief, Bureau of Air Quality
NDCNR, Env Prot Div (Air)
901 South Stewart St, Suite 4001
Carson City, NV 89701-5249

Mr. Steve Smith
SB County Transportation Authority
1170 W. Third Street, Second Floor
San Bernardino, CA 92410

Mr. Michael Eichenlaub
Specialty Minerals Inc.
P.O. Box 558
Lucerne Valley, CA 92356-0558

Ms. Janet Laurain
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., St. 1000
South San Francisco, CA 94080-7037

Ms. Desirea Haggard
Environmental Manager, CalPortland-Oro
2025 E Financial Way
Glendale, CA 91741

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Appendix C Emission Calculations

SCG - NN	Prepared by: Samuel J Oktay, PE	Date: 04-30-19					
Table 1: Emission Calculations for Proposed 4SRB Natural Gas Powered Reciprocal Compressor - SCG North Needles							
Emissions	Pollutant						
	NOx (gm/bhp-hr)	CO (gm/bhp-hr)	VOC (gm/bhp-hr)	SOx (lb/MMBtu)	PM (lb/MMBtu)	SOx (gm/bhp-hr)	PM (gm/bhp-hr)
Emission Factor ^{1,2}	0.15	0.6	0.15	0.000588	9.91E-03	0.0019785	0.03334
Emissions	NOx	CO	VOC	SOx	PM10	SOx	PM10
Hourly Emissions (Lb/hr)	0.09127	0.36509	0.09127	0.0012039	0.0202894	0.0012039	0.0202894
Yearly Emissions (Lb/Yr)	799.538	3198.152	799.538	10.546	177.735	10.546	177.735
Yearly Emissions (tpy)	0.400	1.599	0.400	0.0053	0.089	0.0053	0.089
Equipment Rating (BHP) =	276						
Maximum Fuel Consumption BTU/bhp-hr, from Manufacturers Spec Sheet	7418						
Calculated MMBTU/hr	2.047368						
MMBTU/Yr	17935						
Maximum Annual Operations (Hours) =	8760						
Grams per pound	453.592						
HHV of Natural Gas Btu/scf	1020						
Calculated fuel consumption using HHV (MMscf/hr)	2.01E-03						
Calculated fuel consumption using HHV (MMscf/yr)	17.583						

Appendix D: Certificate of Ownership, Class A Emissions Reduction Credits, Front Side

Certificate Number: 0083	Effective Date: December 14, 2010 Expiration Date: N/A
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Certificate of Ownership

This certifies that

Southern California Gas Company

owns the following Class "A" Emission Reduction Credits:

1,284,361 pounds NOx
50,596 pounds CO
13,696 pounds VOC

This Certificate of Ownership is issued pursuant to Regulation XIV of the Mojave Desert Air Quality Management District.

See Reverse for Terms and Conditions.

<u>Method of Reduction</u> <input type="checkbox"/> Shutdown <input checked="" type="checkbox"/> Modification <input type="checkbox"/> Other:		<hr/> Eldon Heaston Executive Office	<hr/> Date
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Appendix D: Certificate of Ownership, Class A Emissions Reduction Credits, Back Side

TERMS AND CONDITIONS

1. This Certificate of Ownership is issued by the Mojave Desert Air Quality Management District pursuant to District Regulation XIV.
2. Name and address of the ERC owner(s) is as follows:

Southern California Gas Company
Mail Location GT23H2
555 W. Fifth Street
Los Angeles, CA 90013-1011
3. This ERC Certificate does not constitute an instrument, security or any other form of property.
4. Ownership of the ERC is held in the same manner as the owner(s) hold title to the source of the ERC. The owner(s) of this ERC as listed herein has the exclusive right to use or authorize the use, transfer, conveyance or otherwise encumber these ERCs subject only to applicable provisions of State and Federal Law or Regulation, and/or District Rules and Regulations. ERCs may be transferred in whole or in part by written conveyance or by operation of law from one person to another in accordance with the provisions contained in District Rule 1402.
5. A voluntary transfer of ownership in whole or in part shall be performed according to the procedures specified in District Rule 1402. Upon transfer of ownership in whole or in part, this Certificate shall be surrendered to the Mojave Desert Air Quality Management District.
6. Any encumbrances against ERCs shall be promptly reported to the Mojave Desert Air Quality Management District Air Pollution Control Officer who may require the surrender of the Certificate pursuant to provisions specified in District Rule 1402.

FOR DISTRICT USE ONLY

Appendix E

Offsets and ERC Certificate 0083 Balance Calculation

Table 2: ERC Certificate 0083, Class A Emission reduction Credits

Category	Pollutant - Pounds per Year	
	NOx	VOC
Certificate 0083 ERCs	1,284,361	13,696
Proposed Engine PTE	800	800
Certificate Balance	1,283,561	12,896

Note: CO emissions are not offset as the entire District is attainment for CO.