

Bay Area Air Quality Management District

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San Francisco, CA 94109
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Permit Evaluation and Statement of Basis for the

Initial

MAJOR FACILITY REVIEW PERMIT

for

**OLS Energy-Agnews, Inc.
Facility #A6044**

Facility Address:

3800 Cisco Way
San Jose, CA 95134-2207

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Application 24392

October 2013

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by 40 CFR 70.2. It is a major facility because it has the “potential to emit” more than 100,000 tons per year of greenhouse gases on a CO₂-equivalent basis.

Major Facility Review Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all “applicable requirements” (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A6044.

OLS Energy-Agnews is currently operating under a synthetic minor operating permit (SMOP) that was issued on January 11, 1996 under application 13738. The SMOP permit condition #13409 is listed in section IV of this document. The SMOP will be canceled after the Title V permit is issued for this facility.

B. Facility Description

OLS Energy-Agnews, Inc. is a natural gas-fired, combined-cycle cogeneration facility with a nominal electrical output of 22.7 MW. It supplies steam to the Agnews Developmental Center, a psychiatric and medical facility and sells electricity to the grid. It has been in commercial operation since 1990.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit

Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons per year of a "regulated air pollutant" (as defined in BAAQMD Rule 2-6-222) or 400 pounds per year of a "hazardous air pollutant" (as defined in BAAQMD Rule 2-6-210).

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that

apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered “significant sources” as defined in BAAQMD Rule 2-6-239.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District or EPA websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

40 CFR Part 72, Acid Rain Program

OLS Energy-Agnews is not subject to the Acid Rain permit provisions of 40 CFR Part 72 because it serves a generator with a nameplate capacity of less than 25 MWe per 40 CFR 72.6(b)(2). The generator served by the gas turbine at this facility has a nominal capacity of 22.7 MWe.

40 CFR Part 64, Compliance Assurance Monitoring

CAM applies to S-1 Gas Turbine for NO_x because its pre-abatement potential to emit NO_x is greater than 100 tons per year, it is subject to NO_x emission limitations, and it utilizes control devices to achieve compliance with those NO_x limits. S-1 utilizes water injection to control the formation of NO_x and selective catalytic reduction to reduce NO_x emissions.

However, S-1 Gas Turbine is exempt from CAM per 40 CFR 64.2(b)(1)(i) as follows:

“(b) *Exemptions* —(1) *Exempt emission limitations or standards*. The requirements of this part shall not apply to any of the following emission limitations or standards:

(i) Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.”

S-1 Gas Turbine is subject to the NO_x emission limitations specified in 40 CFR 60, Subpart GG, “Standards of Performance for Stationary Gas Turbines”. Although this NSPS was originally promulgated before November 15, 1990, it was amended after that date and it includes standards for CEMs that satisfy CAM. Subpart GG specifies performance standards for NO_x and O₂ CEMs in 40 CFR 60.334(b) as follows:

“(b) The owner or operator of any stationary gas turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and which uses water or steam injection to control NO_x emissions may, as an alternative to operating the continuous monitoring system described in paragraph (a) of this section, install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_x and O₂ monitors. As an alternative, a CO₂ monitor may be used to adjust the measured NO_x concentrations to 15 percent O₂ by either converting the CO₂ hourly averages to equivalent O₂ concentrations using Equation F-14a or F-14b in appendix F to part 75 of this chapter and making the adjustments to 15 percent O₂, or by using the CO₂ readings directly to make the adjustments, as described in Method 20. If the option to use a CEMS is chosen, the CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR part 60, appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, *i.e.*, the relative accuracy tests of the CEMS may be performed either:

(i) On a ppm basis (for NO_x) and a percent O₂ basis for oxygen; or

(ii) On a ppm at 15 percent O₂ basis; or

(iii) On a ppm basis (for NO_x) and a percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the NO_x data to 15 percent O₂).

(2) As specified in § 60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour.

(3) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in § 60.13(h).

(i) For each unit operating hour in which a valid hourly average, as described in paragraph (b)(2) of this section, is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of the applicable NO_x emission standard under § 60.332(a), *i.e.* , percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in § 60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂ , a diluent cap value of 19.0 percent O₂ may be used in the emission calculations.

(ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (H_o), minimum ambient temperature (T_a), and minimum combustor inlet absolute pressure (P_o) into the ISO correction equation.

(iii) If the owner or operator has installed a NO_x CEMS to meet the requirements of part 75 of this chapter, and is continuing to meet the ongoing requirements of part 75 of this chapter, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at 40 CFR part 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in § 60.7(c)."

According to the August 1998 EPA document entitled "Technical Guidance Document: Compliance Assurance Monitoring", the CAM exemption for emission limitations specified in NSPSs or NESHAPs promulgated after November 11, 1990 may also apply to regulations originally proposed before that date but modified after that date provided that the regulations include monitoring requirements that satisfy CAM. CEMs that satisfy the NSPS or NESHAP would then qualify as "presumptively acceptable CAM".

Because the NO_x and O₂ emissions from S-1 Gas Turbine are monitored by CEMs that satisfy 40 CFR 60.334(b), they satisfy CAM and therefore meet the intent of the CAM exemption 40 CFR 64.2(b)(1)(i).

CAA Section 112(j)

The facility is not subject to the case-by-case MACT determination requirement in 112(j) of the Clean Air Act because it is not a major facility for hazardous air pollutants (HAPs). The facility's potential to emit for HAPs is shown below. The total combined HAP PTE for this facility is 1.2 tons per year. Therefore, 40 CFR 63, Subpart YYYYY, the NESHAP for Stationary Combustion Turbines does not apply to S-1 Gas Turbine.

Facility HAP Potential to Emit

Hazardous Air Pollutant*	AP-42 Emission Factor** (lb/MM Btu)	Potential to Emit***	
		Pounds/year	Tons/year
1,3-Butadiene	< 4.3 E-07	1	≈ 0
Acetaldehyde	4.0 E-05	93.5	0.05
Acrolein	6.4 E-06	15	0.008
Benzene	1.2 E-05	28	0.014
Ethylbenzene	3.2 E-05	75	0.038
Formaldehyde	7.1 E-04	1,661	0.83
Hexane	1.3 E-06	3	0.0015

Hazardous Air Pollutant*	AP-42 Emission Factor** (lb/MM Btu)	Potential to Emit***	
		Pounds/year	Tons/year
Naphthalene	2.2 E-06	5	0.0026
Polycyclic Aromatic Hydrocarbons	< 2.9 E-05	68	0.034
Propylene Oxide	1.3 E-04	304	0.15
Toluene	6.4 E-05	150	0.075
Xylenes	< 4.3 E-07	1	≈ 0
Total Combined HAP		2,404.5	1.2

*per CAA, Title I, Part A, Section 112(b)(1)

**Table 3.1-3 Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbines

***based upon maximum natural gas firing rate of:

(8,760 hr/yr)(267 MM Btu/hr) = 2,338,920 MM Btu/yr

Accidental Release

Ammonia storage at this facility is subject to 40 CFR 68, Accidental Release, because more than 10,000 pounds of anhydrous (100%) ammonia is stored. The requirement is described in Standard Condition I.K.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division conducted a review of the compliance record for OLS Energy-Agnews. The review covered the period from August 23, 2008 through August 23, 2013. The compliance report is contained in Appendix A of this statement of basis document.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting requirements have been added to the permit.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all “strike-out” language will be deleted and all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 *et seq.*, an order of abatement pursuant to H&SC § 42450 *et seq.*, or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

Conditions have also been deleted due to the following:

- Redundancy in recordkeeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes to permit:

The following Synthetic Minor Operating Permit (SMOP) condition was established on January 11, 1996 under application 13738. It will be revised as shown below. In some cases, the permit conditions existed prior to the creation of the SMOP. These conditions will remain. In accordance with current District policy, the phrase "owner/operator shall" has been added as necessary to change the condition from the "passive" to the "active" voice and improve the enforceability of the condition.

Condition# 13409
For S-1 Combustion Gas Turbine

~~SYNTHETIC MINOR OPERATING PERMIT~~

OLS Energy - Agnews
3530 Zanker Road
San Jose, CA 95134
Plant 6044

~~Application 13738~~

~~Sources:~~

~~S1, Gas Turbine Generator~~

~~OLS Energy—Agnews, Plant 6044, has a synthetic minor operating permit. This operating permit covers all sources existing at this facility as of permit issuance. The sources are listed above.~~

~~Conditions #1-12 establish the federally enforceable permit terms that ensure this plant is classified as a Synthetic Minor Facility under District Regulation 2, Rule 6, Major Facility Review, and ensure it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. Any revision to a condition establishing this plant's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a synthetic minor must under go the procedures specified by Rule 2-6, section 423.~~

~~Conditions #*13 *16 are District conditions that do not establish this facility as a synthetic minor. Each of these conditions is marked by an asterisk. The facility must comply with all conditions, regardless of asterisks, and must comply with all District requirements for new and modified sources regardless of its status as a synthetic minor.~~

~~This operating permit covers all sources existing at the facility as of permit issuance. The sources are listed below:~~

- ~~1. The owner/operator shall fire S-1 Gas T-turbine shall be fired only on natural gas.~~

2. The owner/operator shall not operate S-1 Gas Turbine shall operate no more than 8496 hours per calendar year.
3. The owner/operator shall operate S-1 Gas Turbine so that the concentration of oxides of nitrogen (NO_x) in the gas turbine's exhaust shall not exceed 9 ppmv NO_x, dry, @ 15% O₂, averaged over any 3-hr period, except during a cold start-up which is not to exceed two hours and shut-down not to exceed 1 hour. (basis: BACT)
4. The owner/operator shall operate S-1 Gas Turbine so that the Oxides of Nitrogen (calculated as NO₂) emissions shall not exceed 11.2 lb/hour or 220 lb/day. (basis: BACT)
5. The owner/operator shall operate S-1 Gas Turbine so that the Carbon Monoxide (CO) emissions shall not exceed 520 lb/day. (basis: BACT)
6. The owner/operator shall insure that Tthe water injection and selective catalytic reduction (SCR) systems shall be operated during all periods of gas turbine operation, except during the start-up & shut-down periods provided for in Condition #3. The owner/operator shall insure that Tthe turbine shall not be operated if a malfunction occurs in the water injection or the SCR systems. (basis: BACT)
7. The owner/operator shall ensure that an Oxides of nitrogen (NO_x) monitor and recorder, carbon monoxide (CO) monitor and recorder, and O₂ monitor and recorder, shall will be installed, calibrated and maintained, as required by Regulation 1-520. The owner/operator shall ensure that Tthese records shall be made available to the District upon request. CEM data may be used to determine compliance with the emission limits. (basis: recordkeeping)
- ~~8. Pursuant to NSPS 40 CFR 60 Subpart GG; OLS shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water injected to fuel fired in the turbine.~~
9. The owner/operator shall insure that District- approved records shall be accurately maintained on a daily basis and indicate days and hours of operation and the capacity at which the turbine is being operated. (basis: recordkeeping)
10. The owner/operator shall insure that Mmonthly logs shall be submitted maintained that containing the following information data:
 - a) NO_x maximum three hour average corrected as ~~ppmdv~~ ppmv, dry for each operating day.
 - b) NO_x daily mass emissions in lb/day
 - c) CO daily mass emissions in lb/day(basis: recordkeeping)
11. The owner/operator shall insure that Aall records associated with the above conditions shall be retained by OLS Energy - Agnews, for at least five years, for review by the District and shall be supplied to the District upon request. The recording format shall be subject to the approval of the APCO. (basis: recordkeeping)

12. ~~The owner/operator The facility~~ shall notify the District within 96 hours of determining that the facility has exceeded any applicable emission limit. ~~The following conditions, designated by asterisks, are not part of the necessary conditions for a synthetic minor permit.~~ (basis: Regulation 1-522.7)

*13. The owner/operator shall insure that SO2 emissions from S-1 Gas Turbine shall do not exceed 39 ~~TPY~~ tons per calendar year. Monitoring and recordkeeping for SO2 emissions shall not be required if the turbine is fired only on natural gas. (basis: cumulative increase)

*14. The owner/operator shall insure that Oxides of Nitrogen (measured as NO2) emissions shall from S-1 Gas Turbine do not exceed ~~11.2 lb/hr or 220 lb/day~~ or 39 ~~TPY~~ tons per calendar year. (basis: cumulative increase)

*15. The owner/operator shall insure that Carbon Monoxide (CO) emissions from S-1 Gas Turbine shall do not exceed 95 ~~TPY~~ tons per calendar year. (basis: cumulative increase)

*16. The gas turbine in this project is exempt from PSD because the total NOx and SO2 emissions are ~~conditioned limited by permit~~ (Condition #513 and #714) to less than 40 TPY. Any change in equipment or conditions that increase the plant's potential to emit above the applicable PSD threshold (40 TPY) will require a full PSD review of the source as though construction has not yet commenced on the source. (basis: PSD, 40 CFR Part 52)

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The District has reviewed all monitoring and has determined the existing monitoring is adequate with the following exceptions.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District’s prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring requirements only when it can support a conclusion that existing monitoring is inadequate.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Combustion Gas Turbine	BAAQMD 9-1-301	Ground level concentrations of SO ₂ shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
	BAAQMD 9-1-302	300 ppm (dry)	None
	BAAQMD Condition #13409, part 13	SO ₂ emissions shall not exceed 39 tons per year	None

SO₂ Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This facility does not have equipment that emits SO₂ at high concentrations and therefore is not required to have ground level monitoring by the APCO.

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB, “Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP”, EPA has agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely. Because S-1 Gas Turbine is fired exclusively on natural gas, no monitoring is necessary for this applicable requirement.

BAAQMD Regulation 9-1-302

PG&E Gas Rule 21, Section C specifies that PG&E gas must have a maximum total sulfur content of no more than 1.0 grains of sulfur per 100 scf of natural gas. Because S-1 Gas Turbine is fired exclusively on PG&E natural gas, it will comply with the 9-1-302 limit of 300 ppmv, dry @ 0% O₂ as demonstrated in the following calculation.

The SO₂ emission factor based upon the maximum sulfur content of 1 gr/100 scf is calculated as follows:

$$(1 \text{ gr S}/100 \text{ scf})(2 \text{ lb SO}_2/\text{lb S})(\text{scf}/1022 \text{ BTU})(1 \text{ lb}/7000 \text{ gr})(10^6 \text{ BTU}/\text{MM BTU}) \\ = 2.8 \text{ E-}03 \text{ lb SO}_2/\text{MM BTU}$$

Converting to a concentration:

$$(0.0028 \text{ lb SO}_2/\text{MM BTU})(385.3 \text{ dscf}/\text{lb-mol})(\text{lb-mol}/64.06 \text{ lb SO}_2)(\text{MM BTU}/8600 \text{ dscf}) \\ = 1.95 \text{ ppmv SO}_2, \text{ dry @}0\% \text{ O}_2$$

BAAQMD Condition #13409, part 13

As shown in the stoichiometric calculation below, the maximum annual SO₂ emissions from S-1 Gas Turbine will not exceed 39 tons per year, based upon a worst-case maximum fuel total sulfur content of 1 gr/100 scf of natural gas and the maximum firing rate of 267 MM BTU/hour. Therefore, no additional monitoring is necessary to verify compliance with this emission limit.

$$(0.0028 \text{ lb SO}_2/\text{MM BTU})(267 \text{ MM BTU}/\text{hr})(8,760 \text{ hr}/\text{year}) \\ = 6,549 \text{ lb SO}_2/\text{year} \\ = 3.27 \text{ ton SO}_2/\text{year}$$

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Combustion Gas Turbine	BAAQMD Regulation 6-1-301 and SIP Regulation 6-301	Ringelmann 1.0	None
	BAAQMD Regulation 6-1-310 SIP Regulation 6-310	0.15 gr/dscf	None
	BAAQMD Regulation 6-1-310.3 SIP Regulation 6-310.3	0.15 gr/dscf @ 6% O ₂	None

PM Discussion:

BAAQMD Regulation 6 “Particulate Matter and Visible Emissions”

Visible Emissions

BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. Source 1 Combustion Gas Turbine burns natural gas exclusively. Therefore, per EPA's June 24, 1999 agreement with CAPCOA and ARB titled “Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP”, no monitoring is required to assure compliance with this limit for these sources.

Particulate Weight Limitation

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from “heat transfer operations” to 0.15 gr/dscf @ 6% O₂. These are the “grain loading” standards.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Source 1 Combustion Gas Turbine burns natural gas exclusively. Per EPA's July 2001 agreement with CAPCOA and ARB entitled "Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources", no additional monitoring is required to assure compliance with a grain loading limit of 0.15 gr/dscf @ 6% O₂ for natural gas fired turbines, such as S-1.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not “applicable requirements” as defined by Regulation 2-6-202.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because

other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's "White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program." The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields.

This permit has no streamlining.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

An Inter-office memorandum dated August 20, 2013 from the Director of Compliance and Enforcement to the Director of Engineering, presents a review of the compliance record of OLS Energy-Agnews, Inc. (Site #A6044). The Compliance and Enforcement Division staff has reviewed the records for this facility for the period from August 23, 2008 through August 23, 2013. This review was initiated as part of the District evaluation of an application by OLS for an initial Title V permit. During the period subject to review, activities known to the District include:

- The District issued two Notices of Violation during the review period.
- The District did not receive any alleged complaints.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.
- There were no monitor excesses or equipment breakdowns reported or documented by District staff.

The owner submitted a signed certification statement dated November 29, 2012 that certified that all equipment was operating in compliance.

The District Compliance and Enforcement Division determined that OLS Energy-Agnews was in continuous compliance during the review period and that there is no evidence of ongoing noncompliance issues.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was originally submitted on April 23, 2012. This version is the basis for constructing the proposed initial Title V permit.

APPENDIX A
BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

August 20, 2013

TO: JIM KARAS – DIRECTOR OF ENGINEERING *JK*
FROM: WAYNE KINO – DIRECTOR OF COMPLIANCE & ENFORCEMENT *W. Kino*
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

OLS ENERGY-AGNEWS, INC. SITE # A6044

Background

This review was initiated as part of the District evaluation of an application by OLS Energy-Agnews, Inc. for a new Title V Permit. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a new Title V Permit. The purpose of this review is to assure that any non-compliance problems identified during the prior five-years have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Compliance Review

Compliance records were reviewed for the time period from August 23, 2008 through August 23, 2013. The results of this review are summarized as follows.

1. Violation History

Staff reviewed OLS Energy-Agnews, Inc. Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period OLS Energy-Agnews, Inc. activities known to the District include:

District-issued two Notices of Violations:

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A52002	2-6-307	5/1/2011	1	9 RCAs reported on 7-22-11 under RCA #06A77	Pending Final Disposition

REVIEW OF COMPLIANCE RECORD OF:
OLS Energy- Agnews, Inc. – SITE # A6044
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A52003	1-522.7	5/5/2011	1	9 RCAs reported on 7-22-11 under RCA #06A77	Pending Final Disposition
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2. Complaint History

The District received zero air pollution complaints alleging OLS Energy-Agnews, Inc. as the source.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as “Episode” reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, the District received 6 notifications for RCA’s. Two NOVs were issued as a result of these RCA’s.

The District received 6 notifications for Reportable Compliance Activities (RCA).

RCA	Date Occur	# of Days	Comments	Disposition
05J35	10/17/2008	1	CEMS failed auto-calibration subsequently undergoing manual calibration	No Action (Excess Emission)
05L71	4/7-5/20/2009	43	Water injection flow meter not working correctly	Notice to Comply issued (Inoperative monitor)
05M00	4/22/2009	1	Ammonia SCR System Malfunc. & forced injection valves closed	Breakdown granted
04M01	4/22/2009	1	Equipment failure	Breakdown granted
06A77	5/1/2009 & 5/5/2009	1	9 Episodes (CEM Excess) reported under RCA 06A77	NOV A52002 & A52003 (Pending Final Disposition)
06H56	11/3/2012	1	Problem with operation of steam turbine	No Action (Excess Emission)

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for OLS Energy-Agnews, Inc. over review period.

REVIEW OF COMPLIANCE RECORD OF:
OLS Energy-Agnews, Inc. – SITE # A6044
8/20/2013 Page 3 of 3

Conclusion

Following its review of all available facility and District compliance records from August 23, 2008 through August 23, 2013, the District's Compliance and Enforcement Division has determined that OLS Energy-Agnews, Inc. was in continuous compliance from the for the duration of the review period. OLS Energy-Agnews has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review and analysis of all the violations for the review period, the District has concluded that there is no reason to deny the Title V application.

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAM

Compliance Assurance Monitoring per 40 CFR Part 64

CAPCOA

California Air Pollution Control Officers Association

CEM

Continuous Emission Monitor

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

PTE

Potential to Emit as defined by BAAQMD Regulation 2-6-218

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cu. ft.	=	cubic foot
cfm	=	cubic feet per minute
dscf	=	dry standard cubic foot
dscfm	=	dry standard cubic foot per minute
g	=	gram
gal	=	gallon
gpm	=	gallons per minute
gr	=	grain
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
tpy	=	tons per year
yr	=	year