San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Mr. Wade Broughton
General Mills Operations, Inc.
2000 W Turner Rd
Lod, CA 95242

Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # N-355
Project # N-1140337

Dear Mr. Broughton:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is for the modification of a turbine permit to clarify the ammonia injection monitoring requirements.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

APPLICATION REVIEW

Modification of Turbine to Revise Monitoring Condition

Facility Name: General Mills **Date:** July 1, 2014
Mailing Address: PO Box 6129
Stockton, CA 95206-0129

Contact Name: Wade Broughton
Phone: (209) 334-7090

Processing Staff: James Harader
Project Number: N1140337
Application Number: N-355-21-9
Deemed Complete: May 6, 2014

I. PROPOSAL:

General Mills has applied for Authority to Construct (ATC) permits for the modification of their existing natural gas-fired turbine permit. Currently, permit N-355-21-8 contains the following condition:

Condition #29: *Except during startup and shutdown periods, the ammonia injection rate shall be 2.63 lb/hr, or greater, when the duct burners are on and shall be 2.47 lb/hr, or greater, when the duct burners are off. [District Rules 2201 and 4703]*

The ammonia injection rate ranges in the condition were established at the normal fire rate of the turbine during the initial source test; however, the firing rate of the turbine varies as the ambient conditions vary throughout the year. When the firing rate drops, the permittee must maintain the above ammonia injection rates to comply with the above condition. Operating under such conditions results in an exceedance of the 10 ppmvd @ 15% O_2 ammonia slip rate. Therefore, the condition must be revised take into account the varying operating conditions of the turbine. To address the issue of varying operating conditions that affect the ammonia injection rate, the applicant is proposing to replace the above requirement with the following requirement:

Proposed Condition: *Except during startup and shutdown periods, the ammonia injection rate shall be monitored and maintained at a rate adequate to ensure compliance with the NOx emission limit of this permit. [District Rules 2201 and 4703]*

Pursuant to District FYI 111, changes to monitoring or recordkeeping are not changes in the method of operation of the emission unit even though monitoring/recordkeeping conditions must be changed. Therefore, this proposal to change the monitoring condition is not subject to District Rule 2201 requirements.

General Mills Inc. currently has Title V (TV) permit. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. General Mills Inc. must apply to administratively amend their Title V permit.

II. APPLICABLE RULES:

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 2540 Prevention of Significant Deterioration (6/16/11)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4703 Stationary Gas Turbines (9/20/07)
Rule 4801 Sulfur Compounds (12/17/92)
California Health & Safety Code 41700 (Public Nuisance)
California Health & Safety Code 42301.6 (School Notice)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION:

This facility is located at 2000 W Turner Road in Lodi, CA. No K-12 schools are located within 1,000 feet of this address. Therefore, school noticing requirements per California Health and Safety Code 42301.6 are not triggered.

IV. PROCESS DESCRIPTION:

The natural gas-fired turbine powers a generator that generates up to 3.5 MW of electrical power. Steam from the turbine and the duct burner system are used for other processes on-site.

V. EQUIPMENT LISTING:

Pre-Project Equipment Description:

N-355-21-8: 3.48 MW COGENERATION SYSTEM CONSISTING OF AN ALLISON MODEL 501 KB GAS TURBINE WITH A 16 MMBTU/HR DUCT BURNER SYSTEM ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTRIC MOTOR STARTER

Post-Project Equipment Description:

N-355-21-9: 3.48 MW COGENERATION SYSTEM CONSISTING OF AN ALLISON MODEL 501 KB GAS TURBINE WITH A 16 MMBTU/HR DUCT BURNER SYSTEM ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTRIC MOTOR STARTER

VI. EMISSION CONTROL TECHNOLOGY:

NOx emissions from the turbine and duct burner are controlled using a selective catalytic reduction system. Steady state NOx emissions are limited to 5 ppmvd @ 15% O_2 or less. Ammonia slip from the selective catalytic reduction system is limited to a maximum of 10 ppmvd @ 15% O_2.

VII. CALCULATIONS:

Calculations for District Rule 2201, New Source Review

Calculations are typically performed to demonstrate compliance with District Rule 2201 requirements. As stated earlier in this evaluation, this project is not subject to District Rule 2201 requirements. Therefore, the calculations required to show compliance with District Rule 2201 requirements are not necessary for this project. No further discussion is required.

Calculations for District Rule 2410, Prevention of Significant Deterioration

As discussed later in this evaluation, this project is not a modification as defined in the PSD regulations. Therefore, calculations for District Rule 2410 purposes are not required.

V. COMPLIANCE:

Rule 2201 New and Modified Stationary Source Review Rule

Pursuant to District FYI 111, the modification of record keeping and monitoring provisions is not a District Rule 2201 modification, provided the modification does not lessen the stringency of an emissions limit. The proposal to modify the ammonia rate condition does not lessen the stringency of any emission limits; therefore, this proposal is not subject to District Rule 2201 requirements.

District Rule 2410 Prevention of Significant Deterioration

The intent of this Rule is to incorporate the federal PSD rule requirements of Title 40 Code of Federal Regulations (40 CFR) Part 52.21 into the District's Rules and Regulations by incorporating the federal requirements by reference. The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

Section 4.0 states that an owner or operator must obtain a PSD permit pursuant to this Rule before beginning actual construction of a new major stationary source, a major modification, or a plantwide applicability limitation (PAL) major modification, as defined in 40 CFR 52.21(b).

General Mills Inc. is an existing stationary source. Pursuant to Section 52.21(2)(i), a major modification at an existing stationary source means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

Within this project, General Mills Inc. is proposing modifications to the permit requirements to change the ammonia rate monitoring condition. The proposed change does not require the facility to make any physical changes to their equipment or to make any change to their method of operation. Therefore, the proposed project cannot result in a major modification under PSD and the requirements of this rule are not applicable.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, the proposed modification:

1. Does not violate requirements of any applicable federally enforceable local or federal requirement;
2. Does not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

   a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
   b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Is not a Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Does not seek to consolidate overlapping applicable requirements.

As discussed earlier, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

Rule 4001 New Source Performance Standards

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

This turbine is subject to the requirements of 40 CFR Part 60 Subpart GG. Compliance with Subpart GG requirements was demonstrated in District Project N-1113039. Please refer to the application review for that project for further details.

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

According to §60.4305, this subpart applies to owners or operators of stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005.

§60.14 defines modification as any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies. This project will not result in an increase in the emission rate of any pollutant to which a standard applies; therefore, this project will not trigger a modification. Futhermore, this turbine was constructed prior to February 18, 2005 and has not undergone a modification or reconstruction on or after February 18, 2005. Therefore, Subpart KKKK is not applicable to this turbine.

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity. The following condition will be placed on the permit:

- *{4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)]*

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be included on the permit:

- *No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]*

California Health & Safety Code 41700

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. This project does not result in any changes in emissions or stack parameters that would affect the health risk. Therefore, a risk management review is not required for this project.

Rule 4201 Particulate Matter Concentration

Section 3.0 of this Rule states: A person shall not release or discharge into the atmosphere from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions.

Compliance with District Rule 4201 requirements was demonstrated in District Project N-1113039. Please refer to the application review for that project for further details.

Rule 4703 Stationary Gas Turbines

This turbine is subject to District Rule 4703 requirements.

Compliance with District Rule 4201 requirements was demonstrated in District Project N-1113039. Please refer to the application review for that project for further details.

Rule 4801 Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO_2) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

Compliance with District Rule 4801 requirements was demonstrated in District Project N-1113039. Please refer to the application review for that project for further details.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission units do not trigger Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. RECOMMENDATIONS

Issue Authority to Construct permit N-355-21-9, subject to the requirements listed in the Draft Authority to Construct permit in Appendix I.

X. BILLING INFORMATION

Permit Number	Fee Schedule	Fee Description	Previous Fee Schedule
N-355-21-9	3020-08AC	3480 kW Turbine	3020-08AC

Appendices:

Appendix I: Draft Authority to Construct Permit
Appendix II: Current Permit to Operate

Appendix I

Draft Authority to Construct Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

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PERMIT NO: N-355-21-9

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: GENERAL MILLS OPERATIONS, INC
MAILING ADDRESS: P O BOX 59145
MINNEAPOLIS, MN 55459-0145

LOCATION: WADE BROUGHTON
2000 W TURNER ROAD
LODI, CA 95242

EQUIPMENT DESCRIPTION:
MODIFICATION OF 3.48 MW COGENERATION SYSTEM CONSISTING OF AN ALLISON MODEL 501 KB GAS TURBINE WITH A 16 MMBTU/HR DUCT BURNER SYSTEM ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTRIC MOTOR STARTER: MODIFICATION TO THE NOX MONITORING REQUIREMENTS TO REVISE THE AMMONIA INJECTION RATE REQUIREMENTS

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
4. {2256} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director/ APCO

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Arnaud Marjollet, Director of Permit Services
N-355-21-9 Jun 30 2014 2:03PM -- HARADERJ : Joint Inspection NOT Required

6. Sulfur compound emissions shall not exceed 0.2% by volume, 2,000 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); District Rule 4801, County Rule 407 (San Joaquin)] Federally Enforceable Through Title V Permit

7. Water must be injected directly into the turbine's primary combustion zone at a water-to-fuel ratio of 0.8 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit

8. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: control system operating parameters, elapsed time of operation of the turbine, and the fuel consumption and the ratio of water to fuel being fired in the turbine. [40 CFR 60.334(a) and District Rule 4703, 6.2.2] Federally Enforceable Through Title V Permit

9. Water injection system supply at the inlet to the turbine shall have an operational flow meter. The flow meter shall be equipped with a flow totalizer. [District Rule 2201] Federally Enforceable Through Title V Permit

10. This unit shall be fired exclusively on PUC-quality natural gas as defined in 40 CFR 60.331(u) which has a total sulfur content of less than or equal to 1.0 gr/100 scf. [40 CFR 60.333(b), District Rule 4201, County 407 (San Joaquin)] Federally Enforceable Through Title V Permit

11. Emissions from the gas turbine and duct burner system shall not exceed any of the following limits: 200 ppmvd CO @ 15% O2; 0.0066 lb-PM10/MMBtu; 0.0021 lb-VOC/MMBtu (referenced as methane); and 0.00285 lb-SOx/MMBtu (referenced as SO2). The CO emission limit is based on a 3-hour average. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

12. Ammonia slip (NH3) emissions shall not exceed 10 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Except during startup and shutdown periods, emissions from the gas turbine and duct burner system shall not exceed 5 ppmvd NOx @ 15% O2, based on a 3-hour average. [District Rules 2201 and 4703, and 40 CFR 60.332(c)] Federally Enforceable Through Title V Permit

14. During startup and shutdown periods, emissions from the gas turbine and duct burner system shall not exceed 35 ppmvd NOx @ 15% O2. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

15. The duration of each startup and each shutdown shall not exceed 2 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

16. The total combined duration of startup and shutdowns shall not exceed 3 hours in any one day and shall not exceed 156 hours in any one calendar year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

17. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its SCR operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to non-operational status as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

18. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown periods. [District Rule 4703] Federally Enforceable Through Title V Permit

19. Source testing to demonstrate compliance with the NOx, CO, and NH3 emission limits of the gas turbine system shall be conducted at least once every twelve months. The 3-run tests shall be performed at four evenly spaced load points in the normal operating range of the gas turbine. [40 CFR 60.335(a), (b)(2) and District Rules 1081 and 4703] Federally Enforceable Through Title V Permit

20. {2276} Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60.335(b) and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit

21. The owner or operator shall be required to conform to the sampling facilities, test methods and procedures described in District Rule 1081. [District Rule 1081, 3.0 and 6.0] Federally Enforceable Through Title V Permit

22. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. NOx emissions (referenced as NO2) shall be determined using EPA Method 7E or EPA Method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR Part 60 Subpart GG Section 60.335. [District Rules 1081 and 4703, 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit

24. CO emissions shall be determined using EPA Method 10 or EPA Method 10B. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit

25. Oxygen content of the exhaust gas shall be determined by using EPA Method 3, EPA Method 3A, or EPA Method 20. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

26. Ammonia (NH3) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201 and 4102] Federally Enforceable Through Title V Permit

27. {2277} The HHV and LHV of the fuel combusted shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.332(a) and (b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

28. Performance testing shall be witnessed by authorized District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081, 7.2 and 7.3] Federally Enforceable Through Title V Permit

29. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [District Rule 4703 and 40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

30. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each natural gas fuel source shall be tested weekly to determine compliance with the fuel sulfur content limit. Upon the completion of eight consecutive weekly tests that demonstrate compliance with the fuel sulfur content limit, the sulfur content testing may be conducted on a monthly schedule. If any test shows non-compliance with the fuel sulfur content limit while on a monthly testing schedule, the testing schedule shall return to weekly testing until eight consecutive weeks demonstrate compliance with the fuel sulfur content limit. [District Rule 2201 and and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit

31. If this unit is fired on PUC-regulated natural gas, then the owner or operator shall maintain copies of the natural gas bills on file. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

32. Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201]

33. Except during startup and shutdown periods, the ammonia injection rate shall be monitored and maintained at a rate adequate to ensure compliance with the NOx emission limit of this permit. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

34. If the ammonia injection rate is less than the minimum ammonia injection rate, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than eight hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within eight hours, the permittee shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

35. The permittee shall monitor and record the stack concentration of NOx (as NO2), CO, and O2 weekly using a portable emissions monitor that meets District specifications. If compliance with the NOx and CO emissions is demonstrated for eight consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until eight consecutive weeks show no deviations. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

36. If the NOx and/or CO concentrations, as measured by the permittee with a portable emissions monitor, exceed the permitted emission limits, the permittee shall notify the District and return the NOx and CO concentrations to the permitted emission limits as soon as possible but no longer than eight hours after detection. If the permittee's portable emission monitor readings continue to exceed the permitted emissions limits after eight hours, the permittee shall notify the District within the following one hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

37. Compliance with ammonia emission limit shall be demonstrated utilizing one of the following procedures: 1) The permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. 2) The permittee may utilize a District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O2. The permittee shall submit a detailed calculation protocol or monitoring plan for District Approval prior to operation of the turbine with the SCR system. 3) The permittee may utilize draeger tubes to measure the ammonia in the exhaust stack. If this option is chosen, the ammonia monitoring using draeger tubes shall be conducted when performing portable emission monitoring for NOx, CO, and O2 emissions. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

38. The owner or operator shall submit a report of NOx excess emissions and periods of monitor downtime to the APCO semi-annually, and this report shall be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.334(j)(5)] Federally Enforceable Through Title V Permit

39. NOx excess emissions shall be defined as any unit operating hour for which the average water to fuel injection rate, as measured by the continuous monitoring system, falls below the water to fuel ratio specified in this permit, including during startup and shutdown. NOx excess emissions shall also be defined as any 4-hour rolling unit operating hour in which the average ammonia injection rate falls below the minimum ammonia injection rate(s) specified in this permit, not including startup or shutdown. NOx monitor downtime shall be defined as any operating hour during which the water to fuel ratio or ammonia injection rate is either not recorded or is invalid. [40 CFR 60.334(j)(1)] Federally Enforceable Through Title V Permit

40. The permittee shall maintain records of the duration of each startup and shutdown, the total combined duration of all startup and shutdowns for each operating day, and the total combined duration of all startup and shutdowns for each calendar year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

41. Owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local time start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used. [District Rule 4703, 6.2.6] Federally Enforceable Through Title V Permit

42. The owner or operator of the stationary gas turbine and duct burner system shall maintain records of the following: (1) Water to fuel injection continuous monitoring system measurements, (2) Ammonia injection rate monitoring system measurements, and (3) Periodic NOx, CO, and O2 portable emission monitor measurements. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

43. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

44. The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rules 2520, 13.2 and 4703, 6.2] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of Rule 407 (San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

46. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rules 1081 (as amended 12/16/93), Section 3.0, 6.0, 7.1, 7.2, and 7.3 and 4201 (as amended 12/17/92). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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Appendix II
Current Permit to Operate

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-355-21-8 **EXPIRATION DATE:** 04/30/2016

EQUIPMENT DESCRIPTION:
3.48 MW COGENERATION SYSTEM CONSISTING OF AN ALLISON MODEL 501 KB GAS TURBINE WITH A 16 MMBTU/HR DUCT BURNER SYSTEM ALL SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM, AND AN ELECTRIC MOTOR STARTER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
2. Sulfur compound emissions shall not exceed 0.2% by volume, 2,000 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); District Rule 4801, County Rule 407 (San Joaquin)] Federally Enforceable Through Title V Permit
3. Water must be injected directly into the turbine's primary combustion zone at a water-to-fuel ratio of 0.8 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: control system operating parameters, elapsed time of operation of the turbine, and the fuel consumption and the ratio of water to fuel being fired in the turbine. [40 CFR 60.334(a) and District Rule 4703, 6.2.2] Federally Enforceable Through Title V Permit
5. Water injection system supply at the inlet to the turbine shall have an operational flow meter. The flow meter shall be equipped with a flow totalizer. [District Rule 2201] Federally Enforceable Through Title V Permit
6. This unit shall be fired exclusively on PUC-quality natural gas as defined in 40 CFR 60.331(u) which has a total sulfur content of less than or equal to 1.0 gr/100 scf. [40 CFR 60.333(b), District Rule 4201, County 407 (San Joaquin)] Federally Enforceable Through Title V Permit
7. Emissions from the gas turbine and duct burner system shall not exceed any of the following limits: 200 ppmvd CO @ 15% O2; 0.0066 lb-PM10/MMBtu; 0.0021 lb-VOC/MMBtu (referenced as methane); and 0.00285 lb-SOx/MMBtu (referenced as SO2). The CO emission limit is based on a 3-hour average. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. Ammonia slip (NH3) emissions shall not exceed 10 ppmvd @ 15% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except during startup and shutdown periods, emissions from the gas turbine and duct burner system shall not exceed 5 ppmvd NOx @ 15% O2, based on a 3-hour average. [District Rules 2201 and 4703, and 40 CFR 60.332(c)] Federally Enforceable Through Title V Permit
10. During startup and shutdown periods, emissions from the gas turbine and duct burner system shall not exceed 35 ppmvd NOx @ 15% O2. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
11. The duration of each startup and each shutdown shall not exceed 2 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
12. The total combined duration of startup and shutdowns shall not exceed 3 hours in any one day and shall not exceed 156 hours in any one calendar year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its SCR operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to non-operational status as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
14. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown periods. [District Rule 4703] Federally Enforceable Through Title V Permit
15. Source testing to demonstrate compliance with the NOx, CO, and NH3 emission limits of the gas turbine system shall be conducted at least once every twelve months. The 3-run tests shall be performed at four evenly spaced load points in the normal operating range of the gas turbine. [40 CFR 60.335(a), (b)(2) and District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
16. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [40 CFR 60.335(b) and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit
17. The owner or operator shall be required to conform to the sampling facilities, test methods and procedures described in District Rule 1081. [District Rule 1081, 3.0 and 6.0] Federally Enforceable Through Title V Permit
18. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
19. NOx emissions (referenced as NO2) shall be determined using EPA Method 7E or EPA Method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR Part 60 Subpart GG Section 60.335. [District Rules 1081 and 4703, 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit
20. CO emissions shall be determined using EPA Method 10 or EPA Method 10B. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
21. Oxygen content of the exhaust gas shall be determined by using EPA Method 3, EPA Method 3A, or EPA Method 20. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
22. Ammonia (NH3) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201 and 4102] Federally Enforceable Through Title V Permit
23. The HHV and LHV of the fuel combusted shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.332(a) and (b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
24. Performance testing shall be witnessed by authorized District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081, 7.2 and 7.3] Federally Enforceable Through Title V Permit
25. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [District Rule 4703 and 40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
26. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each natural gas fuel source shall be tested weekly to determine compliance with the fuel sulfur content limit. Upon the completion of eight consecutive weekly tests that demonstrate compliance with the fuel sulfur content limit, the sulfur content testing may be conducted on a monthly schedule. If any test shows non-compliance with the fuel sulfur content limit while on a monthly testing schedule, the testing schedule shall return to weekly testing until eight consecutive weeks demonstrate compliance with the fuel sulfur content limit. [District Rule 2201 and and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
27. If this unit is fired on PUC-regulated natural gas, then the owner or operator shall maintain copies of the natural gas bills on file. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

29. Except during startup and shutdown periods, the ammonia injection rate shall be 2.63 lb/hr, or greater, when the duct burners are on and shall be 2.47 lb/hr, or greater, when the duct burners are off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

30. If the ammonia injection rate is less than the minimum ammonia injection rate, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than eight hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within eight hours, the permittee shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

31. The permittee shall monitor and record the stack concentration of NOx (as NO2), CO, and O2 weekly using a portable emissions monitor that meets District specifications. If compliance with the NOx and CO emissions is demonstrated for eight consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until eight consecutive weeks show no deviations. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

32. If the NOx and/or CO concentrations, as measured by the permittee with a portable emissions monitor, exceed the permitted emission limits, the permittee shall notify the District and return the NOx and CO concentrations to the permitted emission limits as soon as possible but no longer than eight hours after detection. If the permittee's portable emission monitor readings continue to exceed the permitted emissions limits after eight hours, the permittee shall notify the District within the following one hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

33. Compliance with ammonia emission limit shall be demonstrated utilizing one of the following procedures: 1) The permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. 2) The permittee may utilize a District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O2. The permittee shall submit a detailed calculation protocol or monitoring plan for District Approval prior to operation of the turbine with the SCR system. 3) The permittee may utilize draeger tubes to measure the ammonia in the exhaust stack. If this option is chosen, the ammonia monitoring using draeger tubes shall be conducted when performing portable emission monitoring for NOx, CO, and O2 emissions. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

34. The owner or operator shall submit a report of NOx excess emissions and periods of monitor downtime to the APCO semi-annually, and this report shall be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.334(j)(5)] Federally Enforceable Through Title V Permit

35. NOx excess emissions shall be defined as any unit operating hour for which the average water to fuel injection rate, as measured by the continuous monitoring system, falls below the water to fuel ratio specified in this permit, including during startup and shutdown. NOx excess emissions shall also be defined as any 4-hour rolling unit operating hour in which the average ammonia injection rate falls below the minimum ammonia injection rate(s) specified in this permit, not including startup or shutdown. NOx monitor downtime shall be defined as any operating hour during which the water to fuel ratio or ammonia injection rate is either not recorded or is invalid. [40 CFR 60.334(j)(1)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

36. The permittee shall maintain records of the duration of each startup and shutdown, the total combined duration of all startup and shutdowns for each operating day, and the total combined duration of all startup and shutdowns for each calendar year. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

37. Owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local time start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used. [District Rule 4703, 6.2.6] Federally Enforceable Through Title V Permit

38. The owner or operator of the stationary gas turbine and duct burner system shall maintain records of the following: (1) Water to fuel injection continuous monitoring system measurements, (2) Ammonia injection rate monitoring system measurements, and (3) Periodic NOx, CO, and O2 portable emission monitor measurements. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

39. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

40. The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rules 2520, 13.2 and 4703, 6.2] Federally Enforceable Through Title V Permit

41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of Rule 407 (San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

42. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rules 1081 (as amended 12/16/93), Section 3.0, 6.0, 7.1, 7.2, and 7.3 and 4201 (as amended 12/17/92). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit