Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation
and
Statement of Basis
for
RENEWAL
of
MAJOR FACILITY REVIEW PERMIT

for

CRITERION CATALYSTS & TECHNOLOGIES, L.P.
Facility # A0227

Facility Address:
2840 Willow Pass Road
Pittsburg, CA 94565

Mailing Address:
P.O. Box 5159
Pittsburg, CA 94565-0659

Application Engineer: Dharam Singh
Site Engineer: Dharam Singh

Application: 14581

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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 BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit" (as defined by BAAQMD Regulation 2-6-218) more than 100 tons per year of PM_{10}, a regulated air pollutant.

Major Facility 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 A0227.

This facility received its initial Title V permit on November 30, 2001. This application is for a permit renewal. Although the current permit expired on October 31, 2006, it continues in force until the District takes final action on the permit renewal.

The standard sections of the permit have been upgraded to include new standard language used in all Title V permits.

A new source (S514, H2 kiln bypass chute & hopper) will be added to the permit. The evaluation of this source was done via NSR application 7760.

An existing source, S600, was modified by replacing its screener and adding a dust collector. The evaluation of this source and the dust collector was done via NSR application 7774.

The proposed permit shows all changes to the permit in strikeout/underline format.

The following permit applications have been approved since the last Title V permit modification:

Application 7760: H2 kiln bypass chute & hopper (new source; S514, permit condition #9315)
Application 7774: X3-dried extruder, screener, conveyors; and dust collector (modification & new abatement device)

Application 17565: Amendment of permit conditions # 13093 and # 15672 to address excess CO emission events.

B. Facility Description

Criterion Catalysts & Technologies, L.P. is a catalyst manufacturing facility comprised of process equipment such as kilns, mullers, dryers, blenders, pelletizers, extruders, etc.; material handling equipment such as conveyors, screeners, elevators, hoppers, etc.; storage silos; storage tanks; bagging/packaging units; and abatement devices such as baghouses, dust collectors, after burners, oxidation catalyst, and selective catalytic reduction. Emissions from the facility are primarily PM_{10}.

There has been no significant change in emissions due to the modification of the existing source, and addition of new sources after the issuance of the initial permit.

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.

<u>Changes to permit:</u>

The dates of adoption and approval of rules in Standard Condition 1.A have been updated.

The following language was added to Standard Condition I.B.1: "If the permit renewal has not been issued by [ ], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.

The following language was added as Standard Condition I.B.12: "The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307)." The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.

The dates of the reporting periods and reporting deadlines have been added to Standard Conditions I.F and I.G for additional clarity.

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 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., A24). 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 District 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.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

Source, S514, was permitted after the initial Title V permit was issued.

Abatement device, A607, was permitted after the initial Title V permit was issued.

<u>Changes to permit:</u>

New/modified sources and a new abatement device will be added to Section II of the permit.

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 to Operate. 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.

Changes to permit:

Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting or soil-vapor extraction equipment.

Section III has been modified to say that SIP standards are now found on the EPA website and are not included as part of the permit.

Table III has been updated by adding the following rules and standards to conform to current practice:

- SIP Regulation 2, Rule 1, General Requirements
- BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- SIP Regulation 5, Open Burning
- BAAQMD Regulation 8, Rule 2, Miscellaneous Operations
- BAAQMD Regulation 8, Rule 4, Organic Compounds – General Solvent and Surface Coating Operations
- BAAQMD Regulation 8, Rule 15, Organic Compounds – Emulsified and Liquid Asphalts
- BAAQMD Regulation 8, Rule 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products
- BAAQMD Regulation 9 Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
- SIP Regulation 9 Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
- SIP Regulation 12, Rule 4, Miscellaneous Standards of Performance - Sandblasting
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Health and Safety Code Section 44300 et seq., Air Toxics "Hot Spots" Information and Assessment Act of 1987

- California Health and Safety Code Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- 40 CFR Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos

The dates of adoption or approval of the rules and their "federal enforceability" status in Table III have also been updated.

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's or EPA's 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.

Complex Applicability Determinations

CAM

NOx emissions from the kilns, S7 and S413 are abated by the SCR, A58. Each kiln is equipped with a non-resettable totalizing fuel meter for natural gas. The kilns are equipped with a continuous emission monitor (CEM) for NOx. The kilns are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) as per § 64.2(b)(1)(vi) (exempting emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance

determination method) because S7 and S413 are subject to a permit condition (condition #13100, part 8) that requires the use of a CEM for NOx.

Calciner, S606, is equipped with a SCR, A605, to control NOx emissions, a CO Catalyst Oxidizer, A606, to control CO emissions, and with a non-resettable totalizing fuel meter to measure and record natural gas usage. The calciner is equipped with a continuous emission monitor (CEM) for NOx and CO. The calciner is not subject to 40 CFR Part 64, Compliance Assurance Monitoring as per § 64.2(b)(1)(vi) (exempting emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method) because S606 is subject to a permit condition (condition #15672, part 12) that requires the use of CEMs for NOx and CO.

Pre-abatement PTE for PM_{10} from each PM_{10} source at the facility is less than 100 tpy. Therefore they are not subject to CAM as per § 64.2(a) (general applicability).

Changes to permit:
Section IV will be modified to say that SIP standards are now found on the EPA website and are not included as part of the permit.
The table for S600 will be modified.
The table IV-AA will be modified by adding source S514.
SIP Regulation 9 Rule 1 will be added to the source tables wherever applicable.
SIP Regulation 2 Rule 1 will be added to the table IV-Z.
Federally enforceable requirements of Regulation 7 will be corrected.

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 any 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 has conducted a review of compliance since the initial Title V permit was issued in 2001 and has determined that there is no need to

impose a compliance schedule in the renewed Title V permit. The compliance report is contained in Section E of this permit evaluation and statement of basis.

Changes to permit:
No changes will be made to section V of the permit.

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 "strikeout" 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.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

If necessary, a parameter monitoring requirement has been added for each abatement device. Additional monitoring requirements have been added, where appropriate, to assure compliance with the applicable requirements.

Changes to permit:
Permit condition #13093 for S600 will be revised to include condition changes previously approved under District NSR application 14899.
Permit condition #9315 will be revised by including a new source, S514 that was previously permitted under District NSR application 7760.
Permit condition #15672 for S606 will be revised to included condition changes previously approved under District NSR application 17565.

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. 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**.**

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S2 X1 Dryer, S7 X1 Kiln, S109 O4 Kiln, S205 O5 Dryer, S206 O5 Kiln, S407 X2 Dryer, S413 X2 Kiln, S510 H2 Kiln, S604 X3 Dryer, S606 X3 Calciner, S610 Emergency diesel engine-generator set, S611 Emergency diesel engine-generator set	BAAQMD 9-1-301	Ground level concentrations of SO2 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
S2 X1 Dryer, S7 X1 Kiln, S109 O4 Kiln, S205 O5 Dryer, S206 O5 Kiln, S407 X2 Dryer, S413 X2 Kiln, S510 H2 Kiln, S604 X3 Dryer, S606 X3 Calciner	BAAQMD 9-1-311.2	50 lbs/hr	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 significant amounts of SO2 and therefore is not required by the APCO to have ground level monitoring.

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. Therefore, no monitoring is necessary to verify compliance with this requirement for S2, S7, S109, S205, S206, S407, S413, and S606 since they are fired exclusively with natural gas.

S610 and S611, emergency diesel engine-generator sets are expected to comply with Regulation 9-1-301 and 304 since the sulfur content of diesel fuel fired at these sources is limited by permit conditions to 0.05% by weight or less as specified. Per the CAPCOA/ARB/EPA agreement of June 24, 1999 entitled, "Periodic Monitoring Recommendations For Generally Applicable Requirements in SIP", compliance with the diesel fuel sulfur content limit in BAAQMD Regulation 9-1-304 and the permit condition will be assured by certification of the sulfur content by vendor for each fuel delivery.

BAAQMD Regulation 9-1-311.2

All combustion sources at a catalyst manufacturing facility are subject to the sulfur dioxide emission limitation of 50 lb/hr in District Regulation 9-1-311.2. Sources S2, S7, S109, S205, S206, S407, S413, S510, S604, and S606 are subject to the requirements of this regulation.

S510 H2 Kiln is the highest rated (8.6 MMBTU/hr) combustion source among these sources. SO2 emissions from this source are calculated on the basis of the firing rate of 8.6 MMBTU/hr, average gross heating value of 1000 BTU/cu. ft. for natural gas, and emission factor of 0.6 lb/MM cu. ft. taken from AP-42, 7/98, Table 1.4.2.

SO2 emissions = (8.6 MMBTU/hr)(0.6 lb/MM cu.ft.)/(1000 BTU/cu.ft.)
= 0.0052 lb/hr

As shown from the calculations, SO2 emissions from the highest rated combustion source, S510, and each of the other combustion sources listed above are significantly less than 50 lb/hr, therefore no monitoring is necessary to verify compliance with Regulation 9-1-311.2

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
1* (see footnote)	BAAQMD Regulation 6-301	Ringelmann 1.0	None
1* (see footnote)	BAAQMD Regulation 6-310	0.15 gr/dscf	None

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
1* (see footnote)	BAAQMD Regulation 6-310.3	0.15 gr/dscf at 6% O2	None
2* (see footnote)	BAAQMD Regulation 6-311	$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None

1*- S3, S4, S5, S6, S8 thru S11, S19, S107, S109, S201, S205 thru S208, S210, S211, S216, S221, S223 thru S231, S303 thru S310, S408 thru S410, S412, S414 thru S418, S511 thru S513, S515 thru S520, S600, S603

2*- S1 thru S11, S19, S104 thru S107, S109 thru S114, S201, S205 thru S208, S210, S211, S216, S220 thru S231, S303 thru S321, S401, S407 thru S410, S412, S414 thru S418, S504 thru S507, S509 thru S520, S600 thru S604, S606

PM Discussion:

BAAQMD Regulation 6 "Particulate Matter and Visible Emissions"

Visible Emissions, Regulation 6-301

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. Sources S109, S205, and S206 burn natural gas exclusively, therefore, per the 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.

Sources (1*) listed in the table above have no monitoring for 6-301, but are abated by baghouses, therefore visible emissions are not expected and monitoring is not required.

Particulate Weight Limitation, Regulation 6-310

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% O_2. These are the "grain loading" standards.

Sources (2*) listed in the table above have no monitoring for 6-310, but are abated by baghouses with maximum expected grain loading of 0.006 gr/dscf, significantly less than the standard, therefore compliance is expected and monitoring is not required.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Sources S109, S205, and S206 burn natural gas exclusively, therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to verify compliance with this limit for these sources.

General Operations, Regulation 6-311

BAAQMD Regulation 6-311 limits the particulate matter emission rate from any emission point to greater than the rate given in the Table 1 of the regulation for the process weight indicated.

Sources (2*) listed in the table above have no monitoring for 6-311, but are abated by baghouses with low grain loading limits. The mass emission rate is much less than the lowest applicable limit of 1.8 lb/hr as shown below for the highest rated baghouse, therefore compliance is expected and monitoring is not required.

Baghouse, A603 abating S604, X-3 Dryer:
Basis: Exhaust flow rate = 12,000 dscfm; grain loading = 0.006 gr/dscf
PM emission rate = (12000 dscfm)(0.006 gr/dscf)(lb/7000 gr)(60 min/hr)
= 0.62 lb/hr

Changes to permit:
The standard language at the beginning of section VII will be updated.

A note will be added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.

Table VII-AA will be updated by adding a new source, S514.

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.

Changes to Permit:
The table will be updated by adding alternate test methods for Regulation 6-310 and 311, and test methods for Regulation 9-1-302 and 304.

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.

Changes to permit:
None

XI. Glossary

Changes to permit:
None

XII. Appendix A - State Implementation Plan

Changes to permit:
This section has been deleted. The address for the EPA website that lists the current SIP is now found in Sections III and IV.

D. Alternate Operating Scenarios

No alternate operating scenario has been requested for this facility.

E. Compliance Status

The District has reviewed Criterion's compliance history since the initial Title V permit was issued in 2001. Based on this review, the District finds that Criterion is in compliance with all permit requirements, and that there is no need to impose a compliance schedule.

Criterion did experience several relatively minor instances of non-compliance during this period, including (i) several short-term exceedances of the CO emissions limit on its X-3 calciner at various times when Criterion had trouble with the calciner flame going out, which resulted in less than one pound of excess CO emissions in total; (ii) two short-term temperature excursions below the minimum operating temperature requirement on the afterburner on its H2 Kiln in

February and March of 2005 caused by operating errors made by temporary contract workers; and (iii) occasional failures to report indications of non-compliance to the District in a timely manner. All such non-compliance has been corrected, however, and the facility owner has certified that all equipment is operating in compliance with all applicable regulations in its Title V renewal application submitted on April 28, 2006. Furthermore, the District has determined that the violations do not present evidence of a recurring pattern of non-compliance that needs to be addressed by additional permit terms.

Based on this compliance record, the District has determined that past non-compliance by Criterion during the initial permit term was at most intermittent, not on-going, and fully corrected as of the present time. Accordingly, there is no reason to impose a compliance schedule in the renewed Title V permit.

F. Differences between the Application and the Proposed Permit

There is no difference between the application and the proposed permit.

APPENDIX A

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 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx
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

PM_{10}
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.

SO_2
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

TRMP
Toxic Risk Management Plan

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

APPENDIX B

Engineering Evaluations for Applications 7760, 7774, & 17565

ENGINEERING EVALUATION REPORT
CRITERIA CATALYSTS COMPANY, LP
PLANT NUMBER 227
APPLICATION NUMBER 7760

BACKGROUND

Criteria Catalysts Co. (CCC) operates a catalyst manufacturing facility in Pittsburg, CA. CCC has proposed to install a H2 kiln bypass chute with a hopper and a dust hood. The purpose of this equipment is to allow materials in the kiln feed conveyor, S-509, to be packaged off directly without being processed in the H2 kiln, S-510. The dust hood will collect the dust and any ammonia fumes from the hopper and vent to the existing kiln baghouse, A-54, followed by the afterburner, A-56. The daily maximum throughput will be 52 ton/day, same as that for the kiln.

The application covers the following source:

S-514 H2 Kiln Bypass Chute & Hopper w/dusthood, 6”dia.X44’long,
abated by A-54 & A-56.

EMISSION CALCULATIONS

Exhaust from the bypass chute is vented to the kiln baghouse, A-54, which is subjected to a permit condition limiting the air flow rate of 7500 cfm and exhaust grain loading of 0.006 gr/dscf. PM10 emissions were accounted towards plant cumulative increase when the kiln and the baghouse were permitted.

TOXIC COMPOUND EMISSIONS AND RISK SCREEN ANALYSIS

Nickel nitrate and ammonia are the only toxic air compounds (TAC) that could be emitted from the bypass chute. The material contains 10% by wt. (average) nickel nitrate. Nickel nitrate and ammonia emissions will not increase because combined maximum daily throughput from the kiln and the kiln bypass chute will remain at 52 ton/day, and therefore a new health risk analysis for the bypass chute is not required. Since the existing permit condition ID # 9315 for the kiln does not have a condition limiting nickel/nickel compounds concentration in the material, a condition to that effect is now added.

PLANT CUMULATIVE INCREASE

PM10 = 0.0 tpy

STATEMENT OF COMPLIANCE

On the basis of the information submitted, the bypass chute abated by the baghouse will be in compliance with the requirements of Regulation 6 for particulate and visible emissions. The baghouse exhaust grain loading is less than 0.15 gr/dscf.

The project is categorically exempt from CEQA review per Regulation 2-1-312.11. Applicant has submitted an Appendix H form.

The bypass chute, S-514, is not subject to the BACT requirements of the Regulation 2-2-301.

PSD, NSPS, and NESHAPS do not apply.

PERMIT CONDITIONS

Existing permit condition ID #9315 is revised by adding the new source, S-514, maximum daily throughput limit, and nickel and nickel compounds concentration.

RECOMMENDATIONS

I recommend that Criteria Catalyst Company, Inc. be issued an Authority to Construct the source described in the background section of this report.

EXEMPTION

None.

BY:_____
Dharam Singh, AQE II

ENGINEERING EVALUATION REPORT
CRITERIA CATALYSTS COMPANY, LP
PLANT NUMBER 227
APPLICATION NUMBER 7774

BACKGROUND

Criteria Catalysts Co. (CCC) operates a catalyst manufacturing facility in Pittsburg, CA. CCC has proposed to modify the source S-600 by replacing X3 finished product rotex also known as screener. The current model 3242 becomes overloaded because of which the efficiency of fines removal is degraded. The enhanced model 3422A will be capable of handling more of the fines thereby improving the efficiency of fines removal. The daily maximum throughput will remain the same at 36 ton/day. The screener is abated by a dust collector, A-607, which is not currently permitted.

The application covers the following source:

S-600 Modification (X3 Finished Product Rotex, Model 3422A) 36 ton/day max., abated by A-607.
A-607 Dust collector, Unit BH70343STj-131115-8 Turbo Jet, 8000 cfm (max. rated capacity).

EMISSION CALCULATIONS

Exhaust from the dust collector, A-607, are routed to the kiln baghouse, A-604, via calciner, S-606. PM10 emissions were estimated (Application # 18507) based on the maximum exhaust flow rate of 1736 dscfm from the baghouse A-604, a grain loading of 0.006 gr/dscf, and operating schedule of 24 hrs/day and 365 days/yr. These emissions were accounted towards plant cumulative increase.

TOXIC COMPOUND EMISSIONS AND RISK SCREEN ANALYSIS

Nickel nitrate is the only toxic air compound (TAC) that could be emitted from the screener. The material contains 0.84% (average) nickel nitrate. Nickel nitrate emissions were calculated during the evaluation of Application # 18507 and a health risk screening analysis was performed. The result of the analysis required TBACT. An exhaust grain loading of 0.006 gr/dscf was determined as TBACT and included in the permit condition ID # 15672. However, no condition was written to limit nickel nitrate concentration in the feed. A condition to that effect is now added to the permit condition for S-600.

PLANT CUMULATIVE INCREASE

PM10 = 0.0 tpy

STATEMENT OF COMPLIANCE

On the basis of the information submitted, the screener and the dust collector are in compliance with the requirements of Regulation 6 for particulate and visible emissions. The dust collector exhaust grain loading is less than 0.15 gr/dscf.

The project is categorically exempt from CEQA review per Regulation 2-1-312.11. Applicant has submitted an Appendix H form.

The screener, S-600, is not subject to the BACT requirements of the Regulation 2-2-301.

PSD, NSPS, and NESHAPS do not apply.

PERMIT CONDITIONS

Existing permit condition ID #13093 is revised by adding the throughput limit, and nickel and nickel compounds concentration.

RECOMMENDATIONS

I recommend that Criteria Catalyst Company, Inc. be issued an Authority to Construct the modification described in the background section of this report.

EXEMPTION

None.

BY:_____
Dharam Singh, AQE II

ENGINEERING EVALUATION REPORT
CRITERION CATALYSTS & TECHNOLOGIES, LP
PLANT NUMBER 227
APPLICATION NUMBER 17565

BACKGROUND

Criterion Catalysts & Technologies, LP (Criterion) has been operating a catalyst manufacturing plant in Pittsburg, CA. The facility is a Title V facility currently being reviewed for renewal under application # 14581. A copy of the preliminary draft MFR Title V renewal permit was sent to the facility for comments. The District received comments via letter dated 8/2/2007 on permit condition ID# 15672 for source, S606, and on condition ID# 13093 for source, S600, in addition to other comments.

X3 Calciner, S606, is abated by a baghouse (A604), a NOx selective catalyst reduction system (A605), and a CO catalyst oxidizer (A606). On various occasions, the duct burner, which provides the heat required by A606 to convert CO to CO2, has gone out unexpectedly ("CO burner flame outs"). During these flame outs, A606 is not able to effectively abate the CO being emitted from S606. Therefore the feed system is shut down immediately to prevent excess CO emissions. Even though the feed is shut down, the residual CO present in S606 is unable to be abated by A606 due to decreased temperature. In order to comply with NFPA 86 (National Fire Protection Association), the burner cannot be immediately re-lit for several minutes after a flame out to allow any accumulated natural gas to be purged from the system. This additional purge time causes the temperature for A606 to further decrease. The residual CO is recorded by the CEM as an exceedance of permit condition ID# 15672, part 8. After investigating, Criterion determined that the cause of these flame outs was an improperly adjusted flue gas control and flame sensor failures. Even though all components of the X3 Calciner system have been repaired and/or adjusted and are working properly, there is a possibility that in the future the system may experience similar CO burner flame outs. Since there is no feasible mitigation measure for Criterion to implement to oxidize the residual CO contained in S606 when the system shuts down, Criterion is requesting amendment to condition ID# 15672, part 8 to account for flame out episodes. The applicant has proposed that such exceedances of the CO concentration be considered as a violation of the permit condition and shall be reported if such excess emissions of CO during the flame out conditions exceed 2 lb/day. The amendment does not trigger any new regulatory requirements, and the source will continue to comply with the BACT requirements for CO and its emission limit (19,524 lb/yr) of part 9 of the permit condition.

The applicant has also proposed to amend permit condition ID# 13093 for source, S600 (X3 Screener/conveyor). The amendment is to correct the abatement device (A603 replaces A604) and associated flow rate for S600. Criterion has submitted a process flow diagram to explain the correct train for S600.

The proposed changes in the permit conditions are considered administrative in nature.

EMISSIONS CALCULATIONS

CO emissions from S606 will remain limited to 19,524 lb/yr (refer condition #15672, part 9). No change is proposed for this limit.

There is no increase in PM10 emissions due to replacement of A604 by A603 for S600. PM10 emissions from A603 are already accounted in the current cumulative increase for this facility.

PLANT CUMULATIVE INCREASE

CO = 0.0 TPY
PM10 = 0.0 TPY

STATEMENT OF COMPLIANCE

Sources, S600 & S606, continue to comply with their respective regulatory requirements and permit conditions.

PERMIT CONDITIONS

The permit conditions ID# 13093 & 15672 are amended as proposed. The language of the condition ID# 15672 is also updated.

RECOMMENDATIONS

It is recommended that Criterion be issued amended permit conditions ID# 13093 & ID# 15672.

These amendments will also be incorporated in the proposed MFR renewal permit.

BY:_____
Dharam Singh AQE II