Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
Minor Revision
to the
MAJOR FACILITY REVIEW PERMIT

for

Hanson Permanente Cement
Facility #A0017

Facility Address:
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Cupertino, CA 95014

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November 2007

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Application: 16867

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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 Volume 40 of the Code of Federal Regulations (CFR), and Bay Area Air Quality Management District (BAAQMD or District) Regulation 2, Rule 6, Major Facility Review (MFR) 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 a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70. 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 VII of the permit.

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

This facility received its initial Title V permit on November 5, 2003 with an expiration date of October 31, 2008. The main purpose of this modification is to: (1) add an emergency clinker conveyor (S-444, 230 tons per hour, abated by a water spray) as a separate source, having been originally considered part of the clinker transfer area (S-17) and clinker transfer system (S-165), (2) correct the Title V permit to reflect the current updated sources, and (3) incorporate actions taken in response to the following applications:

Application	Revision
15217	S-444 has operated at Hanson Permanente Cement (HPC) since 1981, when the plant was last modernized. HPC has always considered this conveyor as part of its S-17, Clinker Transfer Area and S-165, Clinker Transfer System and did not identify it as a separate source for its Title V permit. After a discussion with the Compliance and Enforcement Division and the Permit Division on 6/12/06, HPC has agreed to identify S-444 as a separate source, independent of S-17 and S-165.
15398	HPC has submitted a change in permit condition for the following sources: **S-173 Kiln Coke System abated by A-175 Dust Collector** **S-174 Precalciner Coke System abated by A-174 Dust Collector** HPC is applying to modify condition 603, part 2 to increase its allowable coke usage from 8 tons per hour to 20 tons per hour. The coke is used as fuel for the S-154 Precalciner Kiln for cement clinker production.

The identified emergency clinker conveyor will result in new emissions of 0.012 tons per year (tpy).

Since the emergency clinker conveyor (S-444) was previously considered part of the clinker transfer area (S-17) and clinker transfer system (S-165), which previously existed at the facility, it is not a new source of emissions. Similarly, the kiln coke system (S-173) and the precalciner coke system (S-174) previously existed at the facility and, therefore, are not new or modified sources of emission.

The criteria pollutant emissions for the kiln coke system (S-173) and the precalciner coke system (S-174) should not increase since the coke and coal have similar emission factors. Permit condition #2786 limits the SO_2 emission from the pre-calciner kiln (S-154) to 481 lb/hr and condition #11780 limits the NO_x emission from S-154 to 1158 lb/hr. HPC monitors these emissions with continuous emission monitors. The following is a summary of the proposed revisions to the permit:

- Add Emergency Clinker Conveyor S-444 to Title V permit
- Update tables and permit conditions to reflect the addition of permitted equipment.
- Revise permit condition to reflect changes approved under application #15398.

This application will modify permit conditions and will, therefore, require a revision of the current MFR permit. The definition of significant revision is discussed below to determine if this application constitutes a significant MFR revision.

- Regulation 2-6-226.1 and 226.2: This application does not involve the incorporation of a change considered to be a major modification, or a modification under NSPS, NESHAPs, or Section 112 of the CAA.
- Regulation 2-6-226.3: This application does not significantly change or relax any applicable monitoring, reporting or recordkeeping condition.
- Regulation 2-6-226.4: This application does not establish or change any limits to avoid applicable requirements.
- Regulation 2-6-226.5: This application does not involve the establishment of or change to a case-by-case emission limit or standard.
- Regulation 2-6-226.7: This application does not involve the incorporation of any requirements promulgated by the EPA.

Since this application does not meet any of the above criteria for a significant revision, this application will be handled as a minor revision to the MFR permit.

Increased Facility Emissions from Proposed New Equipment

Emissions Source	Annual Emissions (tons/year)				
	NOx	CO	POC	PM10	SO_2
S-444 Emergency Clinker Conveyor	0.000	0.000	0.000	0.012[1]	0.000

[1] Permit condition limit of 75,000 tons of cement clinker per year. AP-42 Chapter 11.19.2 (Crushed Stone Processing) for conveyor emission. Assumed: 70% water spray control efficiency, maximum capacity of 230 tons/hour.

B. Facility Description

The Hanson Permanente Cement facility produces Portland cement – a fine gray powder that binds sand and aggregate into concrete. Portland cement is the generic term for the type of hydraulic cement (one that would harden with the addition of water) used in virtually all concrete. Raw materials used in Portland cement manufacturing comprise of calcium, silica, alumina, and iron. Although cement can be formed from a wide variety of materials, one of the most common combinations of raw materials is limestone, clay and sand. At the Hanson Permanente facility, materials containing these minerals are mined in a quarry, ground to a fine powder, and blended in specific proportions needed for the final cement product. The finely ground mixture of raw materials are heated until partially molten (to temperatures of 2550 to 2750°F) in a cement kiln to produce a pellet-shaped, glass-hard material called clinker. The clinker is then ground with gypsum to an extremely fine powder, Portland cement.

The Portland cement manufacturing process at the Permanente facility consists of mining, and handling of raw materials, raw milling and kiln feed preparation, pyroprocessing, coal preparation, clinker cooling, and finish milling. The principal source operations at Permanente consists of:

- Quarry Operations
- Primary Storage Piles
- Tertiary Crushing/Preblending
- Raw Milling
- Homogenizing
- Pyroprocessing
- Clinker Storage/Finish Milling
- Finish Product Storage and Load Out
- Fuel Preparation
- Concrete Aggregate Products (Rock Plant)
- Asphalt Aggregate Products (Mineral Aggregate Plant)

Primary emissions in the manufacturing of Portland cement at the Hanson Permanente Cement facility are combustion emissions, point-type particulate, and fugitive particulate. Plant operation is monitored and controlled by computer. The real-time computer system monitors feed rates and other parameters to optimize combustion control. Combustion emissions are generated in the pyroprocessing operation. Particulate emissions are generated throughout the facility from numerous stationary and mobile-type operations.

Baghouses are installed to recover product and control dust emissions from the kiln, mills, clinker cooler, coal mill, belt conveyor transfer points, bulk unloading stations and at numerous other locations at the facility. Water is sprayed on haul roads and uncovered storage piles to control fugitive dust generation. Facility maintenance activities and practices such as watering of road surfaces and enforcement of the speed limits reduce the quantity of fugitives generated on-site and limit their transport off-site.

C. Permit Content

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

Changes to Permit:
None.

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., S-1).

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

Significant sources are those sources that have a potential to emit of more than 2 tons per year of a "regulated air pollutant," as defined in BAAQMD Regulation 2-6-222, or 400 pounds per year of a "hazardous air pollutant," as defined in BAAQMD Regulation 2-6-210. There are no significant sources.

All abatement (control) devices that control permitted or significant sources are also listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-3). Some equipment, such as the landfill gas fired engine generator sets, are both sources and abatement devices. However, if the primary function of the equipment is something other than abating air pollutants, it will have an "S" number and will be listed in Table II A "Permitted Sources".

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.

The following tables show the current and proposed new throughput limits followed by the basis for change:

Table II A - Permitted Sources
Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits.

S-#	Description	Make or Type	Grandfathered Or NSR Source	Capacity (Column A)	Proposed Capacity (Column B)	Basis	Background
444	Emergency Clinker Conveyor	Custom Design	NSR	N/A	230 tons/hour	See Permit to Operate (Application #15217)	S-444 is identified as a separate source, independent of S-17 and S-165. There is a net emissions increase of 0.012 tons/year

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
444	Water Spray	444	BAAQMD 6-301		Ringlemann 1 for < 3 min/hr Opacity
			BAAQMD 6-310		0.15 gr/dscf

Changes to Permit:

- The source S-444 Emergency Clinker Conveyor will be added to Table II A and Water Spray A-444 will be added to Table II B.

III. Generally Applicable Requirements

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

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

Sources that are exempt from District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1 may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239. This facility does not have any significant sources that do not have District permits.

Changes to Permit:
None

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 and Regulations.
- SIP Rules (if any) are listed following the corresponding District regulations. SIP rules are District regulations that will be 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 is federally enforceable; the non-SIP version is not federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District or EPA websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section VII. 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.

Changes to Permit:

- Previously approved changes to permit condition 603 will be reflected in Table IV – Q for S-173 and S-174.

- Table IV - VV for S-444 will be added to the Title V permit.

The proposed permit minor revision does not trigger any complex applicability determinations.

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."

The facility had complied with the requirements of the previous Schedule of Compliance it has been removed from this permit.

Changes to Permit:
None.

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.

While the District has authority to revise the existing permits, and is doing so here concomitantly with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained.

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.

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 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 to the operations 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 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.

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

Changes to the permit:
Condition #23416 will be added to the permit and condition #603 will be revised as shown below.

For S-444 Emergency Clinker Diversion Conveyor

COND # 23416

1. Visible particulate emissions from S-444 shall not exceed Ringelmann 1.0 or result in fallout on adjacent property in such quantities as to cause a pubic nuisance per Regulation 1-301. (Basis: Regulation 1-301)
2. All of the particulate emissions emitted from the handling of clinker for S-444 shall be abated by water spray system A-444. (Basis: Regulation 2-2-212 Cumulative Increase)
3. The total throughput of clinker processed at S-444 shall not exceed 75,000 tons in any rolling 365 consecutive day period. (Basis: Regulation 2-2-212 Cumulative Increase)
4. The owner/operator of S-444 shall record, on a daily basis, the total throughput of clinker to demonstrate compliance with part 3. These records shall be entered in a District approved log and retained for a period of at least five years from date of entry. These logs shall be kept on site and made available to the District upon request. (Basis: Cumulative Increase)

For S-173 Kiln Coke System abated by A-175 Dust Collector and S-174 Precalciner Coke System abated by A-174 Dust Collector

COND # 603

For S-173 Kiln Coke System and S-174 Precalciner Coke System

1. The pneumatic system from trucks to storage shall not be operated unless it is vented to a dust collection system. The S-173 Kiln Coke System shall be abated by A-175 Dust Collector and the S-174 Precalciner Coke System shall be abated by the A-174 Dust Collector. (Basis: Regulation 2-2-212 Cumulative Increase)

2. The owner/operator of S-173 and S-174 shall not use more than a total of ~~eight (8)~~ twenty (20) tons per hour of petroleum coke combined in the Pre-calciner and Kiln. (Basis: Regulation 2-2-212 Cumulative Increase).

3. The emissions of lead while coke is used shall not exceed 3.2 lbs/day. (Basis: Regulation 2-2-306 Non-Criteria Pollutant Analysis, PSD)

4. The emissions of beryllium while coke is used shall not exceed 0.04 lbs/day. (Basis: Regulation 2-2-306 Non-Criteria Pollutant Analysis, PSD)

5. The emission of hexavalent chromium while coke is used shall not exceed 0.0000284 (2.84E-5) lbs/hr. (Basis: Non-Criteria Pollutant Analysis, Toxics)

6~~5~~. Each shipment of coke shall be sampled for sulfur and trace metal content. The results of this composite analysis shall be submitted to the District once each quarter. (Basis: Regulation 2-1-403).

7. For the first 6 months from issuance of Application #15398, the chromium content shall be sampled each month to verify the range of hexavalent chromium and chromium content in the petroleum coke. (Basis: Toxics)

8. The owner/operator shall test for the hexavalent chromium and total chromium emission as part of its NESHAPS compliance program (Basis: Toxics)

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 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 exceptions below. This Statement of Basis addresses only the changes made in the proposed Significant Revision.

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) the 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) 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 will be appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. When 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 only when it can support a conclusion that existing monitoring is inadequate**.**

Changes to Permit:

- Changes to permit condition 603 will be reflected in Table VII – Q for S-173 and S-174
- Table VII - VV for S-444 will be added to the Title V permit

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.

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

IX. Permit Shield

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in an MFR permit explaining that specific federally enforceable regulations and standards that are not applicable to a source or group of sources, or (2) A provision in an MFR 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, record keeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Changes to Permit:
There are no changes to permit shields proposed in this revision.

D. Alternate Operating Scenarios

No alternate operating scenario has been requested for this facility.

APPENDIX A

GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

ARB
Air Resources Board (same as CARB)

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CEQA
California Environmental Quality Act

CEM
A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NOx concentration) in an exhaust stream.

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.

CH4 or CH_4
Methane

CO
Carbon Monoxide

CO2 or CO_2
Carbon Dioxide

CT
Combustion Zone Temperature

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). Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

E 6
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EG
Emission Guidelines

EO
Executive Order

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 (HAP), 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.

FR
Federal Register

GDF
Gasoline Dispensing Facility

GLM
Ground Level Monitor

H2S or H_2S
Hydrogen Sulfide

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.

Hg
Mercury

HHV
Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

LFG
Landfill gas

LHV
Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60 °F.

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.

MAX or Max.
Maximum

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.

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MSW
Municipal solid waste

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

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

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx or NO_x
Oxides of nitrogen.

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

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria will be 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.)

O2 or O_2
Oxygen

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

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

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10 or 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.

PV or P/V Valve
Pressure/Vacuum Valve

RMP
Risk Management Plan

S
Sulfur

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

SO2 or SO_2
Sulfur dioxide

SSM
Startup, Shutdown, or Malfunction

SSM Plan
A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

TAC
Toxic Air Contaminant (as identified by CARB)

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 Policy

TRS
Total Reduced Sulfur

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

VMT
Vehicle Miles Traveled

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet
g	=	grams

gal	=	gallon
gpm	=	gallons per minute
gr	=	grains (7000 grains = 1 pound)
hp	=	horsepower
hr	=	hour
in=	inches	
kg	=	kilograms
lb=	pound	
lbmol	=	pound-mole
M	=	thousand
m^2	=	square meter
m^3	=	cubic meters
Mg	=	mega-grams (1000 kg)
min	=	minute
mm	=	millimeter
MM	=	million
MMBTU	=	million BTU
MMcf	=	million cubic feet
mm Hg	=	millimeters of mercury (pressure)
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
therms	=	1 therm = 100,000 BTU
yd	=	yard
yd^3	=	cubic yards
yr	=	year

APPENDIX B

Permit Evaluation for Application 15217

24001 Stevens Creek Blvd, Cupertino 94566
Application 15217

BACKGROUND

Hanson Permanente Cement (HPC) has submitted this application for a Permit to Operate for the following source:

S-444 Emergency Clinker Conveyor, 230 tph abated by A-444 Water Spray

S-444 has operated at HPC since 1981, when the plant was last modernized. HPC has always considered this conveyor as part of its S-17, Clinker Transfer Area and S-165, Clinker Transfer System and did not identify it as a separate source for its Title V permit. After a discussion with the Compliance and Enforcement Division and the Permit Division on 6/12/06, HPC has agreed to identify S-444 as a separate source, independent of S-17 and S-165. Since this is not a new source with new emissions, S-444 will be added to HPC's Title V permit when it is renewed or modified.

EMISSIONS SUMMARY

Basis: Permit condition limit of 75,000 tons of cement clinker per year
AP-42 Chapter 11.19.2 (Crushed Stone Processing) for conveyor emission
Assume 70% water spray control efficiency
maximum capacity of 230 tons/hr

(75,000 tons/yr) (0.0011 lb/ton) (1-0.70) = 24.75 lb/yr = 0.012 tpy PM10

(230 tons/hr) (24 hr/day) (0.0011 lb/ton) (1-0.70) = 1.82 lb/highest day PM10

PLANT CUMULATIVE INCREASE (Post 4/5/91):

The cumulative increase including this application is 0.000 (existing) + 0.012 (new) = 0.012 tpy PM10.

TOXIC RISK SCREENING ANALYSIS

The cement clinker dust at S-415 is not expected to contain any chemical that exceeds its toxic risk trigger level listed Table 2-1-316 in Regulation 2-1. A toxic risk screen is not needed for this application.

BACT ANALYSIS

Per Regulation 2-2-301.1, this source does not trigger BACT because, even if operated at 24 hours per day, it emits less than 10.0 pound per day.

OFFSET ANALYSIS

Per Regulation 2-2-303, since the Post 4/5/91 PM-10 Cumulative Increase (0.000 + 0.012 = 0.012 tpy) is less than 1.0 tpy, emission offsets in not required.

STATEMENT OF COMPLIANCE

Because S-444, Emergency Clinker Conveyor is abated by A-444, Water Spray, it is expected to comply with the requirements of Regulations 6-301 (Ringelmann No. 1 limitation) and 6-302 (Opacity).

This project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors and therefore is not discretionary as defined by CEQA (Permit Handbook chapter 11.7).

This project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Reg 2-1-412.

BACT, PSD, NSPS, and NESHAPS are not triggered in this project.

CONDITIONS

For S-444 Emergency Clinker Diversion Conveyor

5. Visible particulate emissions from S-444 shall not exceed Ringelmann 1.0 or result in fallout on adjacent property in such quantities as to cause a pubic nuisance per Regulation 1-301. (Basis: Regulation 1-301)
6. All of the particulate emissions emitted from the handling of clinker for S-444 shall be abated by water spray system A-444. (Basis:Regulation 2-2-212 Cumulative Increase)
7. The total throughput of clinker processed at S-444 shall not exceed 75,000 tons in any rolling 365 consecutive day period. (Basis:Regulation 2-2-212 Cumulative Increase)
8. The owner/operator of S-444 shall record, on a daily basis, the total throughput of clinker to demonstrate compliance with part 3. These records shall be entered in a District approved log and retained for a period of at least five years from date of entry. These logs shall be kept on site and made available to the District upon request. (Basis:Cumulative Increase)
(Cumulative Increase)

RECOMMENDATION

Issue a Permit to Operate for the following equipment:

S-444 Emergency Clinker Conveyor, 230 tph abated by A-444 Water Spray

S-444 and A-444 will be added to the Title V permit in its next renewal or modification permit.

By: _____ ___2-26-07_____

Eric Y. W. Chan
Air Quality Engineer II **Date**

APPENDIX C

Permit Evaluation for Application 15398

Hanson Permanente Cement, Plant #17
24001 Stevens Creek Blvd, Cupertino 94566

Application 15398

BACKGROUND

Hanson Permanente Cement (HPC) has submitted this application for a change in permit condition the following sources:

S-173 Kiln Coke System abated by A-175 Dust Collector
S-174 Precalciner Coke System abated by A-174 Dust Collector

HPC is applying to modify condition 603 part 2 to increase its allowable coke usage from 8 tons per hour to 20 tons per hour. The coke is used as fuel for the S-154 Precalciner Kiln for cement clinker production.

EMISSIONS SUMMARY

The criteria pollutant emissions should not increase since the coke and coal have similar emission factors. Permit condition #2786 limits the SO2 emission from the pre-calciner kiln (S-154) to 481 lb/hr and condition #11780 limits the NOx emission from S-154 to 1158 lb/hr. HPC monitors these emissions with continuous emission monitors.

PLANT CUMULATIVE INCREASE (Post 4/5/91):

The Databank shows the following cumulative increase for this plant.

	tons/year		
	current	new	total
POC	0	0	0
NO_X	0	0	0
SO_X	0.029	0	0.029
CO	0	0	0
NPOC	0	0	0
PM_{10}	0.012	0	0.012

TOXIC RISK SCREENING ANALYSIS

S-154's petroleum coke combustion emission may contain additional toxic metals as described in the 4/23/07 Toxic Risk Screen Memo. If 100% of the chromium emission is in the form of hexavalent chromium, the cancer risk is 1.2 in a million. As long as the hexavalent chromium emission is limited to 2.84E-05 lb/hr or if the hexavalent chromium content of the petroleum coke

is less than 76.6% of the total chromium, the risk would be less than 1 in a million. The chronic hazard index is less than 0.01.

Hanson has submitted a 2001 emission test report for its kiln using petroleum coke. The test results show that the hexavalent chromium only makes up 12% of the total chromium. However, per the attached 6/11/1999 "Total and Hexavalent Chromium Results" for Plant #3243 (GWF Power Systems), the percent hexavalent chromium as total chromium may be as high as 70% in combustion in a power plant using petroleum coke. This is still lower than the 76.6% limit that will raise the risk to above 1 in a million for this project. HPC has scheduled an extensive toxics source testing program later this year for NESHAPs compliance purposes. It will also test for the hexavalent chromium content from S-154 at this time.

HPC has accepted a permit condition (#603) to limit the hexavalent chromium emission to 2.84E-5 lb/hr. HPC has one primary supplier, ConocoPhillips out of Santa Maria. Within the first 6 months of the issuance of this permit condition change, HPC will perform monthly testing of the coke supply six times to verify the range of chromium content in the coke. Thereafter, it will test for the chromium content quarterly.

BACT ANALYSIS

Since the criteria pollutant emission does not increase, per Regulation 2-2-301.1, this source does not trigger BACT.

OFFSET ANALYSIS

HPC does not have any existing POC or NOx cumulative increase and no new increase as a result of this project. Per Regulation 2-2-303, since the Post 4/5/91 PM-10 cumulative increase (0.012 + 0.000 = 0.012 tpy) and SO2 cumulative increase (0.029 + 0.000 = 0.029) are each less than 1.0 tpy, emission offsets in not required.

STATEMENT OF COMPLIANCE

Because S-173 (Kiln Coke System) is abated by A-175 Dust Collector, S-174 (Precalciner Coke System) is abated by A-174 Dust Collector, and S-154 (Precalciner Kiln) is abated by Dust Collectors A-141 and A-142 and by Baghouses A-171 and A-172, they are expected to comply with the requirements of Regulations 6-301 (Ringelmann No. 1 limitation) and 6-302 (Opacity).

This project is considered to be exempt from CEQA (California Environmental Quality Act) review because it has no potential for causing a significant adverse environmental impact per Regulation 2-1-312.11.4. It satisfies the "no net emission increase" provisions of District Regulation 2, Rule 2. Permit Condition 603 will limit the hexavalent chromium emission to 2.84e-5 lb/hr so that the project cancer risk will be less than 1.0 in a million. The chronic cancer risk is less than 0.01, much lower than the 0.20 threshold of Reg 2-1-312.11.4. With the higher coke

usage, it will be more economical for HPC to bring in the coke via railroad trains rather than trucks, thereby reducing the truck diesel emission. Applicant has submitted a CEQA Environmental Information Form for the project. No potential significant impacts were identified.

This project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Reg 2-1-412.

BACT, PSD, NSPS, and NESHAPS are not triggered in this project.

CONDITIONS

COND# 603
For S-173 Kiln Coke System and S-174 Precalciner Coke System

1. ***The pneumatic system from trucks to storage shall not be operated unless it is vented to a dust collection system. The S-173 Kiln Coke System shall be abated by A-175 Dust Collector and the S-174 Precalciner Coke System shall be abated by the A-174 Dust Collector. (Basis: Regulation 2-2-212 Cumulative Increase)***

2. The owner/operator of S-173 and S-174 shall not use more than a total of ~~eight (8)~~ twenty (20) tons per hour of petroleum coke combined in the Pre-calciner and Kiln. (Basis: Regulation 2-2-212 Cumulative Increase).

3. The emissions of lead while coke is used shall not exceed 3.2 lbs/day. (Basis: Regulation 2-2-306 Non-Criteria Pollutant Analysis, PSD)

4. The emissions of beryllium while coke is used shall not exceed 0.04 lbs/day. (Basis: Regulation 2-2-306 Non-Criteria Pollutant Analysis, PSD)

5. The emission of hexavalent chromium while coke is used shall not exceed 0.0000284 (2.84E-5) lbs/hr. (Basis: Non-Criteria Pollutant Analysis, Toxics)

6~~5~~. Each shipment of coke shall be sampled for sulfur and trace metal content. The results of this composite analysis shall be submitted to the District once each quarter. (Basis: Regulation 2-1-403).

7. For the first 6 months from issuance of Application #15398, the chromium content shall be sampled each month to verify the range of hexavalent chromium and chromium content in the petroleum coke. (Basis: Toxics)

8. The owner/operator shall test for the hexavalent chromium and total chromium emission as part of its NESHAPS compliance program (Basis: Toxics)

RECOMMENDATION

Issue a Change in Permit Condition for the following equipment:

S-173 Kiln Coke System abated by A-175 Dust Collector
S-174 Precalciner Coke System abated by A-174 Dust Collector

HPC will submit a separate application to modify its Title V permit to reflect this condition change.

By: _____ ___5-11/07_____

Eric Y. W. Chan
Air Quality Engineer II **Date**