Covered Source Permit Review Summary (Renewal)

Application File No.: 0311-06

Permit No.: 0311-03-C

Applicant: Hawaiian Cement
Concrete and Aggregate Division

Facility Title: Hawaiian Cement
Concrete and Aggregate Division
Halawa Aggregates Processing Facility
99-1100 Halawa Valley Street
Aiea, Hawaii 96701

UTM coordinates: 613,600 meters east; 2,364,100 meters north
NAD 83

Mailing Address: Hawaiian Cement
Concrete and Aggregate Division
99-1300 Halawa Valley Street
Aiea, Hawaii 96701

Responsible Official: Mr. John DeLong
President
Ph. (808) 532-3400

Point of Contact: Mr. Dane Wurlitzer
Environmental Manager
Ph. (808) 673-4226, 532-3407

Application Date: July 6, 2007

Proposed Project:

This is a renewal application for Covered Source Permit No. 0311-03-C which expires on January 2, 2008.

The applicant also proposed to replace the existing upper quarry plant's 50 x 24 Grizzly Feeder, Kolberg-Pioneer KPI, with a 6 x 20 Universal Nico Apron Feeder (S/N FD936) and Deister Feeder (S/N 2000241). No other changes were proposed.

Plant operations:

Quarry Plant
Hawaiian Cement operates an aggregate mining, quarry and crushing facility located at 99-1100 Halawa Valley Street, Aiea, Hawaii. The quarry is located in a watershed area where the soil has a moisture content of 10-20 percent. Basalt rock from the quarry is loosened by drilling and blasting and is then excavated by front-end loaders. The excavated material is loaded into quarry trucks and transported to the upper quarry plant. A front-end loader deposits the rock into a grizzly feeder which serves a 653 tph portable jaw crusher. A 545 kW diesel engine generator provides power to the portable jaw crusher. The primary crushed material is then conveyed some 2500 feet to a 8 x 24 screening tower. The fines passing through that screen is then conveyed to a tripper feed conveyor which can create three stockpiles. Material from these stockpiles are transferred via belt feeders and tunnel conveyors to the existing wash plant.

The larger material coming off the screening tower is conveyed to a secondary surge pile. From this pile the material will go to an apron feeder and then a tunnel conveyor to the horizontal 7 x 20 wash screen. Fines material passing this screen will go directly to the wet plant for further processing. The large material from the screen will pass to a bin and vibrating feeder and then to a 625 tph roller cone crusher. Material exiting the crusher will be conveyed to surge piles pending transfer to the dry plant for final processing.

500 TPH Wet Mill Plant and 600 TPH Dry Mill Plant
The aggregate handling facilities consist of two main process operations; the wet mill plant, and the dry mill plant. The purpose of the wet mill plant is to initially clean and sort quarry rock and to produce aggregate. Oversized material is passed on to the dry mill for grinding and further sizing to produce additional aggregate.

After the wash plant, the material is screened, (SC1) and smaller material is fed to a scrubber. The larger rock material from SC1 is routed by conveyor to surge piles that feed the dry mill plant. At the scrubber, fines are removed and routed to a sump. The larger material from the scrubber goes through a series of screens and conveyors and are placed in aggregate stockpiles based on size.

The large fines (“sand”) from the sumps are dredged by a screw conveyor and are transferred by conveyor to a stockpile. The small fines from the sumps are fed to a hydroseparator and then a clarifier to separate water from the product. The water is routed back to the plant for use. The clarifier fines are mixed with flyash from one of three silos. (The flyash is from AES Barbers Point Energy Generation Facility, which is fired on coal. Based on conversation with onsite personnel this flyash is non-hazardous.) The silos are equipped with a baghouse for use during filling. The flyash/fines mixture is transported to a settlement area of the quarry. The cementious properties of the fly ash results in a mixture which hardens into a solid mass preventing wind blown dust.

Rock from the dry mill surge pile is reclaimed by underground tunnel belt conveyors and discharged to a secondary crusher. The crushed material is discharged onto a belt conveyor which carries material to an elevated surge hopper that feeds one of two identical systems. The secondary crusher and conveyor are completely enclosed.

For brevity the following description for one of the identical systems is presented. The crushed material is routed through a series of belt conveyors and screens and divided by size into

product storage bins. These screens and conveyor belts are located within an enclosed building. The oversized material is discharged to a tertiary crusher for further reduction, and recirculated back to the series of belt conveyors and screens. The quantities of the various size grades of aggregates produced are adjusted as needed to meet market requirements. This is accomplished by adjusting the amount of crushing. From the product storage bins, materials are emptied, when needed, into quarry trucks located below the aggregate bins or transferred to either the concrete batch plant bunkers or to stockpiles for customer loading. All of the crushing and screening equipment at the aggregate processing facility are electrically operated; hence, pollutants associated with fuel combustion are not applicable at this facility. The only significant pollutant emitted is particulate matter (both PM and PM_{10}). Particulate emissions at this facility are primarily fugitive and are generated from process operations such as crushing, screening, and conveying as well as other fugitive sources such as discharging of aggregates onto stockpiles, wind erosion of stockpiles, quarry plant traffic, and loading trucks for delivery of aggregates. Hazardous Air Pollutants (HAPs) have not been quantified because there are no combustion products from the production operations.

Suppression of fugitive dust created during discharging, crushing, transferring of materials between conveyors, and screening of rock is accomplished by water sprays and enclosure of operations within structures.

The applicant proposes to monitor emissions from the facility based on the total product produced using shipping records and annual inventory measurement. A maximum production rate of 1,820,000 tons of product per year (by the wet and dry mill plants combined) is allowed by the permit.

The wet plant maximum capacity is 500 ton per hour. The dry plant maximum capacity is 600 tons per hour. Based on a site visit, typically quarry and wet plant operations are performed from the hours of 7 a.m. to 3 p.m. and the secondary plant is operated from 2 p.m. to 9 p.m. This distribution of hours is primarily to disburse the electrical load of the facility. Hawaiian Cement has applied for approval to operate the Halawa facility for up to 10 hours per day for 7 days per week, 52 weeks per year. The maximum expected daily operating time of 10 hours per day is intended to apply separately to each operation with up to 4 hours of overlap. The total annual operating hours for each plant is 3,640 hours per year.

The Standard Industrial Classification (SIC) Code is 1429 under *Crushed and Broken Stone, Not Elsewhere Classified.*

According to Dane Wurlitzer of Hawaiian Cement, about a 1/4 of the aggregate product from the wet and dry mills go to support the concrete batch plants, the rest is sold as aggregate.

<u>125 CY/hr Concrete Batch Plant No. 1</u>
The loading of the correct amounts of aggregate, sand, cement and water into a drum mixer or mix truck is computer controlled in the following steps:

A load hopper is filled with sand and aggregate from stockpiles by a front end loader. This material is sent through a vibrating wash screen with a water wash and transferred by gravity onto a belt conveyor and then to four ground level storage bunkers. A rotary chute distributes the material into the appropriate bunker. Four other adjacent bunkers are loaded directly by a front end loader.

When needed, the material is fed from the bunkers onto two underground conveyors. As the conveyors lead up from the ground, they are totally enclosed and transfer the material to rotary chutes and then into separate elevated storage bins.

Two silos store the operation's cement, and a center silo stores flyash. These are loaded pneumatically from trucks. Each silo is equipped with its own baghouse.

When a mix truck is ready for a batch, clamshell gates under the appropriate storage bins are opened by an air cylinder. The materials are transferred by gravity into weigh hoppers located below. When the correct amount of each material is achieved, the clamshell gates close. Clamshell gates under the weigh hoppers then open allowing gravity feed of the material onto separate conveyors. When needed, supplementary materials is loaded into an additive hopper and then transferred onto the same main conveyor. This conveyor transfers the material to a flop gate located inside the plant building. The flop gate is used to direct the material to the wet mixing drum or to the dry mix surge bin.

The cement silos load a single weigh hopper by two enclosed screw conveyors leading from the silos. When the correct amount of cement is achieved, the screw conveyors automatically stop. The cement is transferred to the wet or dry side of the operation by separate clamshell gates. On the wet side, the cement is transferred to the mixing drum. On the dry side, it goes to a cement holding bin.

For the dry mix, the holding bins feed, by gravity, into the loading chute of the mix truck. When all the aggregate, sand, and cement have been loaded into the truck, water is added from the facility water tank. A small quantity of liquid quality control (QC) chemicals are also added to the truck. The slurry is mixed on the way to the job site.

For the wet mix, water and the liquid QC chemicals are added to the material already in the mixing drum. After mixing, the wet concrete is loaded directly into a mixing truck. The permit has a production limit of 624,000 tons/year of material from concrete batch plant no. 1 based on an expected 2,496 hrs/yr of operation.

The Standard Industrial Classification (SIC) Code is 3273 under *Ready-Mixed Concrete.*

<u>250 CY/hr Concrete Batch Plant No. 3</u>
The loading of the correct amounts of aggregate, sand, cement and water into a drum mixer or mix truck is computer controlled in the following steps:

A load hopper is filled with sand or aggregate from stockpiles by a front end loader. This material is transferred by gravity onto a belt conveyor and then to an elevated bin with five compartments. A rotary chute at the discharge end of the conveyor distributes the material to the appropriate compartments.

A separate silo stores the operation's cement. This is loaded pneumatically from a truck and is vented through two baghouse units mounted on top of the silo.

When a mix truck is ready for a batch, clamshell gates under the appropriate aggregate storage bin compartment is opened by air cylinders. The material is transferred by gravity into a weigh hopper located below. When the correct amount of each material is achieved, the clamshell gates close. Another clamshell gate under the weigh hopper then opens and the material is

transferred onto a belt conveyor. This conveyor transfers the material to the central mixing drum.

The cement silo loads a single weigh hopper in the same manner. This weigh hopper is enclosed and vented to a baghouse. When the desired weight of cement is achieved, a clamshell gate under the cement weigh hopper opens allowing the cement to flow by gravity to the mixing drum.

Water and liquid QC chemicals are then added to the materials already in the mixing drum. After mixing, the wet concrete is loaded directly into a mixing truck located below. The permit has a production limit of 1,248,000 tons/year of material from concrete batch plant no. 3 based on an expected 2,496 hrs/yr of operation.

The Standard Industrial Classification (SIC) Code is 3273 under *Ready Mixed Concrete.*

Flyash Silos

Concrete batch plant no. 1 has an additional flyash silo with its own baghouse for dust control and is connected to the existing flyash silo for transfer of material.

Concrete batch plant no. 3 also has a flyash silo and flyash weigh hopper. Both devices are controlled by a single baghouse unit.

Specialty Products Plant
Used to provide special product mixes on an infrequent basis. The permit has an operational limitation of 2,080 hrs/yr.

The Standard Industrial Classification (SIC) Code is 3273 under *Ready Mixed Concrete.*

Portable Soil Screener
Used to screen soil and rock on an infrequent basis. Powered by a 43 hp diesel engine.

The permit has an operational limitation of 850 hrs/yr. The portable soil screener will be moving between the Halawa quarry site and Hawaiian Cement at Campbell Industrial Park on a frequent basis.

The Standard Industrial Classification (SIC) Code is 1442 under *Construction Sand and Gravel.*

Existing Equipment:

Quarry Plant

50 x 24 grizzly feeder - Kolberg-Pioneer KPI, S/N 40474 (to be deleted),
653 tph portable jaw crusher - Kolberg-Pioneer 4450, S/N 40474,
8 x 24 screening tower - Deister XHM-3824, S/N 890182,
7 x 20 wash screen, horizontal - Deister TFM3P-3720, S/N 980405,
625 tph roller cone crusher - JCI Kodiak 400, S/N 40232,
2500 overland conveyors,
545 kW diesel engine generator - Caterpillar 3412C, S/N BPG00416,

Wet Mill Plant

Super Scrubber, SCR1
Manufacturer: unknown
Maximum design capacity: 250 tph
Fuel type: electrically driven, no fuel needed
Raw materials: crushed rock

Hydroseparator, SP1
Manufacturer: not specified
Size: 10- 10 inch cyclones
Maximum design capacity: 2500 gpm
Fuel type: electrically driven, no fuel needed
Raw materials: crushed rock

Hydroseparator, SP2
Manufacturer: not specified
Size: 1- 30 inch cyclones
Maximum design capacity: 2500 gpm
Fuel type: electrically driven, no fuel needed
Raw materials: crushed rock

Wet Mill Clarifier, CL1
Manufacturer: not specified
Maximum design capacity: 2500 gpm
Fuel type: electrically driven, no fuel needed
Raw materials: fines from crushed rock

Various Screens and Conveyors

Flyash Handling System located at Wet Mill Clarifier

Three Flyash Storage Silos, FSS1, FSS2, FSS3
Manufacturer: not specified
Maximum design capacity: 1700 cf, each
Fuel type: electrically driven, no fuel needed
Production capacity: up to 75,000 tons per year
Raw materials: flyash

Three Baghouses, serving the storage silos during loading
Manufacturer: Con-E-Co, Model 30-250

Maximum design capacity: 500 acfm, each
Fuel type: electrically driven, no fuel needed
Raw materials: fines from flyash

Dry Mill Plant

Crusher CR1, completely enclosed
Manufacturer: Symons, 7 foot standard cone crusher
Maximum design capacity: 600 tph
Fuel type: electrically driven, no fuel needed
Raw materials: aggregate

Surge Hopper, SH1
Manufacturer: Unknown
Maximum design capacity: 900 tph
Fuel type: electrically driven, no fuel needed
Raw materials: aggregate

Crusher CR2
Manufacturer: Symons, 7 foot short head crusher
Maximum design capacity: 150 tph
Fuel type: electrically driven, no fuel needed
Raw materials: aggregate

Crusher CR3
Manufacturer: Spokane vertical shaft impact crusher
Maximum design capacity: 150 tph
Fuel type: electrically driven, no fuel needed
Raw materials: aggregate

Crusher CR4
Manufacturer: Nordberg 54 inch gyradisc crusher
Maximum design capacity: 150 tph
Fuel type: electrically driven, no fuel needed
Raw materials: aggregate

Various Screens and Conveyors

125 CY/hr Concrete Batch Plant No. 1

Cement silo no. 1 with baghouse; maximum design capacity: 31.3 tph
Cement silo no. 2 with baghouse; maximum design capacity: 31.3 tph
Cement weigh hopper with baghouse
Mixing drum with dust collector; maximum design capacity: 250 tph
Cement holding bin with baghouse
Flyash silo with baghouse; maximum design capacity: 50 tph
Flyash silo with baghouse, maximum design capacity: 150 tph
Flyash weigh hopper
Aggregate/sand hopper
Vibrating wash screen
Storage bunkers
Aggregate/sand storage bin no. 1

Aggregate/sand storage bin no. 2
(2) aggregate/sand weigh hoppers
Aggregate/sand holding bin
Additive hopper
Various conveyors

250 CY/hr Concrete Batch Plant No. 3

Cement silo with two baghouses; maximum design capacity: 50 tph
Cement weigh hopper and Mixing drum with baghouse; maximum design capacity: 500 tph
Aggregate/sand hopper
Aggregate/sand storage bin
Aggregate/sand weigh hopper
Various conveyors
Flyash silo and flyash weigh hopper with baghouse,: maximum design capacity: 150 tons

Specialty Products Plant

Cement holding bin and Specialty product weigh hopper with baghouse; maximum design capacity: 120 tph
(2) screw conveyors
Aggregate weigh hopper
Sand weigh hopper
Conveyor

Portable Soil Screener

Read Screen-All, Model RD-150A, Serial no. 369-388; Maximum design capacity: 320 CY/hr

Air Pollution Controls:

1. The diesel engine generator has the following air pollution controls:

   a. SO_2 control is achieved by the use of diesel fuel no. 2 with a sulfur content not exceeding 0.5% by weight.

   b. NO_x control for the diesel engine generator is achieved by turbocharging and aftercooling as well as proper maintenance and operation of the diesel engine within its design specifications. This engine complies with EPA Tier 1 emission standards.

   c. CO and VOC control on the diesel engine generator is achieved by proper maintenance and operation of the equipment within design specifications to assure maximum oxidation of the hydrocarbon fuel to CO_2 and H_2O. The diesel engine generator complies with EPA Tier 1 emission standards.

   d. PM control is achieved by use of low sulfur diesel fuel with an inherently low ash content and proper maintenance and operation of the fuel fired equipment within

design specifications to assure complete combustion and conversion of carbon compounds to gaseous CO_2. The diesel engine generator complies with EPA Tier 1 emission standards.

2. Suppression of fugitive dust created during discharging, crushing, transferring of materials between conveyors, and screening of rock is accomplished by water sprays, baghouses, and enclosure of operations within structures. Fugitive dust emissions from the facility are controlled using the following measures:

   a. Water Sprays: Fugitive dust control for the stone processing equipment is accomplished by the application of water at critical locations and times to assure an adequate moisture content of the material being processed or conveyed. Water sprays are used to suppress particulate matter created at transfer points which are not enclosed, stockpiles and unpaved roads (water truck). Aggregate and sand that is damp from washing (wet screening operations) was assumed to have a 100 percent control efficiency.

   b. Baghouses: Baghouses are used to control particulate matter during the filling of silos, hoppers, holding bins and mixing drums. The estimated control efficiency used to calculate emissions from these filling operations was 99 percent. The proposed new flyash silos at the existing batch plants will be equipped with baghouse units which will ensure a high level of particulate matter control.

   c Enclosures: Equipment which is underground or completely enclosed was assumed to have a control efficiency of 100 percent. Partially enclosed or shrouded equipment was assumed to have a control efficiency of 70 percent.

Site Inspection:

The Department of Health performed a site inspection of the facility on 9/5/07 at 9:00 am to verify that no changes were made to the facility since the issuance of the previous permit modification. Dane Wurlitzer of Hawaiian Cement gave myself and Crystal Peltier of the Clean Air Branch the facility tour. The upper quarry plant was inspected since this plant was not in operation since the last site visitation to the facility. Hawaiian Cement clarified that they did not perform any other changes to the facility since the previous permit modification.

Applicable Requirements:

Hawaii Administrative Rules (HAR).

Chapter 11-59 Ambient Air Quality Standards
Chapter 11-60.1 Air Pollution Control
- Subchapter 1 General Requirements
- Subchapter 2 General Prohibitions
  - 11-60.1-31 Applicability
  - 11-60.1-32 Visible Emissions
  - 11-60.1-33 Fugitive Dust
  - 11-60.1-38 Sulfur Oxides from Fuel Combustion
- Subchapter 5 Covered Sources
- Subchapter 6 Fees for Covered Sources, Non-Covered Sources & Agricultural Burning

11-60.1-111 Definitions
11-60.1-112 General Fee Provisions for Covered Sources
11-60.1-113 Application Fees for Covered Sources
11-60.1-114 Annual Fees for Covered Sources
11-60.1-115 Basis of Annual Fees for Covered Sources
Subchapter 8 Standards of Performance for Stationary Sources
Subchapter 10 Field Citations

Federal Requirements

40 CFR Part 60 - Standards of Performance for New Stationary Sources (NSPS)
Subpart A - General Provisions
Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants (applicable to the wet mill plant, quarry plant's 653 tph portable jaw crusher, 625 tph roller cone crusher, 8 x 24 screening tower, 7 x 20 wash screen, and 2500 ft of conveyors). Per 40 CFR §60.672(d), the proposed 6 x 20 Universal Nico Apron Feeder and Diester Feeder are exempt from the requirements of NSPS Subpart OOO.

Non-applicable Requirements:

Hawaii Administrative Rules (HAR)

Chapter 11-60.1 Air Pollution Control
Subchapter 7 Prevention of Significant Deterioration
Subchapter 9 Hazardous Air Pollutant Sources

Federal Requirements
40 CFR Part 52.21 - Prevention of Significant Deterioration of Air Quality
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPS)
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technologies (MACT) Standards)

Best Available Control Technology (BACT):

A Best Available Control Technology (BACT) analysis is required for new covered sources or significant modifications to covered sources that have the potential to emit or a net emissions increase above significant levels as defined in HAR §11-60.1-1. A BACT analysis is not applicable since there are no proposed significant modifications to this existing source for this renewal application.

Consolidated Emissions Reporting Rule (CERR):

40 CFR Part 51, Subpart A - Emission Inventory Reporting Requirements, determines CER based on the emissions of criteria air pollutants from Type B point sources (as defined in 40 CFR Part 51, Subpart A), that emit at the CER triggering levels as shown in the table below.

Pollutant	Type B CER Triggering Levels [1] (tpy)	Pollutant	In-house Total Facility Triggering Levels [2] (tpy)	Total Facility Emissions [2] (tpy)
NO_x	≥100	NO_x	≥25	36.03
SO_2	≥100	SO_2	≥25	8.80
CO	≥1000	CO	≥250	16.11
$PM_{10}/PM_{2.5}$	≥100/100	PM/PM_{10}	≥25/25	PM = 92.32 PM_{10} = 31.97
VOC	≥100	VOC	≥25	0.68
		HAPS	≥5	3.70 E-03

[1]Based on actual emissions
[2]Based on potential emissions

This facility does not emit at the CER triggering levels. Therefore, CER requirements are not applicable.

Although CER for the facility is not triggered, the Clean Air Branch requests annual emissions reporting from those facilities that have facility-wide emissions of a single air pollutant exceeding in-house triggering levels. Since the total emissions of NO_x and PM/PM_{10} within the facility is greater than 25 tons per year, annual emissions reporting for the facility will be required for in-house recordkeeping purposes.

Compliance Assurance Monitoring (CAM):

40 CFR Part 64

Applicability of the CAM Rule is determined on a pollutant specific basis for each affected emission unit. Each determination is based upon a series of evaluation criteria. In order for a source to be subject to CAM, each source must:

- Be located at a major source per Title V of the Clean Air Act Amendments of 1990;
- Be subject to federally enforceable applicable requirements;
- Have pre-control device potential emissions that exceed applicable major source thresholds;
- Be fitted with an “active” air pollution control device; and
- Not be subject to certain regulations that specifically exempt it from CAM.

Emission units are any part or activity of a stationary source that emits or has the potential to emit any air pollutant.

In the summary for Application File No. 0311-03, it was incorrectly stated that “CAM is not currently applicable to this facility, but CAM is applicable at the first permit renewal.” For clarification, CAM is not applicable to this facility because, per EPA, watersprays used at the transfer points are not to be considered as active air pollution control devices, since they are passive air pollution control devices. Also, the silos with baghouses do not have emission limits.

Synthetic Minor Source:

Applicable, this facility is a synthetic minor source.

Insignificant Activities:

The facility includes the following insignificant activity per HAR §11-60.1-82(f)(2):

1. One (1) 43 hp diesel engine for portable soil screener.

Alternate Operating Scenarios:

Hawaiian Cement did not propose any alternative operating scenarios.

Project Emissions:

Emissions – Stone Quarrying and Concrete Batching Equipment

Equipment	Hours of Operation	PM (lb/hr)	PM (tpy)	PM_{10} (lb/hr)	PM_{10} (tpy)
Quarry Plant [1]	3,640 hrs/yr	3.18	5.78	1.17	2.12
Wet Mill Plant [1]	3,640 hrs/yr	0.31	0.57	0.10	0.19
Dry Mill Plant [1]	2,237 hrs/yr	1.44	1.18	0.52	0.43
Concrete Batch Plant No. 1 [2]	2,496 hrs/yr	2.81	3.50	1.29	1.61
Concrete Batch Plant No. 3 [2]	2,496 hrs/yr	9.67	12.06	4.64	5.78
Specialty Products Plant [2]	2,080 hrs/yr	23.67	24.62	6.04	6.28
Portable Soil Screener [1]	850 hrs/yr	74.9	31.82	18.0	7.64
Storage Piles (55) [3]	1,820,000 [4]		6.49		3.07
Baghouses (15) [2]		4.91	6.30	2.67	2.81
TOTAL			92.32		29.93

[1]Emission Factors based on AP-42, Table 11.19.2-2 (8/04)
[2]Emission Factors based on AP-42, Table 11.12-2 (10/01)
[3]Emission Factors based on AP-42, Sec. 13.2.4 (10/95)
[4]tons/yr

Emissions - 545 kW Diesel Engine Generator

Pollutant	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Potential Emissions [3] (tpy)	Controlled Emissions [4] (tpy)
NO_x		12.01 [2]	52.60	36.03
SO_2	0.505 [1,5]	2.93 [6]	12.83	8.80
CO		5.37 [2]	23.52	16.11
PM		0.68 [2]	2.98	2.04
PM_{10}		0.68 [2]	2.98	2.04
VOC		0.22 [2]	0.96	0.68
Benzene	7.76 E-04 [1]	4.51 E-03 [6]	1.98 E-02	1.35 E-02
Toluene	2.81 E-04 [1]	1.63 E-03 [6]	7.14 E-03	4.90 E-03
Xylenes	1.93 E-04 [1]	1.12 E-03 [6]	4.91 E-03	3.36 E-03
Formaldehyde	7.89 E-05 [1]	4.58 E-04 [6]	2.01 E-03	1.38 E-03
Acetaldehyde	2.52 E-05 [1]	1.46 E-04 [6]	6.39 E-04	4.39 E-04
Acrolein	7.88 E-06 [1]	4.58 E-05 [6]	2.01 E-04	1.37 E-04
Total PAH	2.12 E-04 [1]	1.23 E-03 [6]	5.39 E-03	3.70 E-03

[1]Based on AP-42, 10/96, Tables 3.4-1, 3.4-3 and 3.4-4
[2]Based on manufacturer's data
[3]Based on 8760 hrs/yr
[4]Based on a proposed limit of 6000 hrs/yr
[5]Based on an emission factor of 1.01S, S=0.5
[6]Based on 140,000 Btu/gal and 41.5 gal/hr feed rate, lb/hr = lb/MMBtu x 140,000 Btu/gal x 41.5 gal/hr x 1 MMBtu/ 1 E06 Btu

Total Emissions - Facility

Pollutant	545 kW Diesel Engine Generator (tpy)	Stone Quarrying and Concrete Batching Equipment (tpy)	Total Emissions (tpy)
NO_x	36.03		36.03
CO	16.11		16.11
SO_2	8.80		8.80
PM	2.04	92.32	94.36
PM_{10}	2.04	29.93	31.97
VOC	0.68		0.68
Total HAPS	3.70 E-03		3.70 E-03

Ambient Air Quality Assessment:

An ambient air quality impact analysis was not performed for this renewal application since there were no changes proposed to the diesel engine generator. Also, since the Department of Health air modeling guidance generally exempts an ambient air quality impact analysis for fugitive dust sources and intermittent dust sources, an ambient air quality impact analysis was not performed for the changes made to the equipment at the upper quarry plant.

Significant Permit Conditions:

Attachment IIA for the Aggregate Processing Facility was revised with the following changes:

a. Added the following to the quarry plant's equipment list:
   i. 6 x 20 Universal Nico Apron Feeder
   ii. Diester Feeder

b. Removed the following from the quarry plant's equipment list:
   50 x 24 Grizzly Feeder, Kolberg-Pioneer KPI, S/N 404074

Conclusion and Recommendations:

Recommend issuing a renewal to Covered Source Permit (CSP) No. 0311-03-C, which would supersede the existing Covered Source Permit (CSP) No. 0311-03-C, issued on January 3, 2003, in its entirety. The covered source permit would incorporate the changes requested in the renewal application and be subject to the significant permit conditions noted above. A 30-day public comment period and 45-day EPA review period are also required.

Reviewer: Darin Lum
Date: 11/07