PROPOSED

PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT NO. 0242-01-CT
Application for Minor Modification No. 0242-13

Company: Goodfellow Brothers, Inc.

Mailing Address: P.O. Box 220
Kihei, Hawaii 96753

Facility: 780 TPH Stone Processing Plant with 1 MW/1.36 MW Diesel Engine Generator and 400 TPH Mobile Stone Processing Plant with Integral Diesel Engines

Location: Various Temporary Sites, State of Hawaii

Initial Location: Maui Business Park, Kahului, Maui (Proposed 881 TPH Screen)

SIC Code: 1429 (Crushed and Broken Stone, Not Elsewhere Classified)

Responsible Official: Ms. Amy Sands
Crusher Administrator
(808) 879-8868

Contact: Mr. J. W. Morrow
Environmental Management Consultant
1481 South King Street, Suite 548
Honolulu, Hawaii 96814
(808) 942-9096

Equipment:

1. This permit encompasses the following equipment and associated appurtenances:

    a. 780 TPH Jaw Crusher, Nordberg model no. C140B, serial no. 34395: equipment no. K-76;
    b. 780 TPH Jaw Crusher, Nordberg model no. C140, serial no. 34997: equipment no. K-185 ;
    c. 700 TPH Cone Crusher, Nordberg model no. HP400, serial no. 123622: equipment no. K-153;
    d. 700 TPH Cone Crusher, Raptor model no. XL400, serial no. XL400-0019, with 440 TPH Screen, JCI model no. 6202-32LP, serial no. 5072014: equipment no. K-182;
    e. 500 TPH Cone Crusher, Omnicone model no. 1560, serial no. 1560-253: equipment no. K-26;
    f. 500 TPH Cone Crusher, Omnicone model no. 1560, serial no. 304-300034: equipment no. K-130;
    g. 500 TPH Cone Crusher, Omnicone model no. 1560, serial no. 1560-175-SA, with 440 TPH Screen, JCI model no. 6202-32LP, serial no. 5072007: equipment no. K-187;
    h. 400 TPH Screen Trailer, JCI model no. 6203-32LP, serial no. P060378: equipment

no. K-165;

i. 264 TPH Screen, Cedarapids 4'x12', serial no. 1426: equipment no. K-23;

j. 1 MW Diesel Engine Generator, Gen Set model no. 3512, serial no. 24Z08717, with a minimum stack height of 17 feet: equipment no. LP-130;

k. 1 MW Diesel Engine Generator, Gen Set model no. 3512, serial no. 24Z08458, with a minimum stack height of 17 feet: equipment no. LP-121;

l. 1.36 MW Diesel Engine Generator, Caterpillar model no. XQ1500, serial no. BNR00315, with Caterpillar diesel engine, model no 3512, serial no. 1GZ-02594, manufactured on April 29, 2005, with a stack height of 15.9 feet: equipment no. LP-140;

m. 400 TPH Mobile Jaw Crusher, Nordberg model no. LT105, serial no. 72742, with 300 hp Caterpillar diesel engine, model no. C-9 DITA, serial no. CLJ07165, with a minimum stack height of 11.9 feet: equipment no. K-148;

n. 400 TPH Mobile Jaw Crusher, Nordberg model no. LT105, serial no. 72816, with 300 hp Caterpillar diesel engine, model no. C-9 DITA, serial no. CLJ07851, with a minimum stack height of 9.9 feet: equipment no. K-149;

o. 400 TPH Mobile Jaw Crusher, Nordberg model no. LT105, serial no. 72839, with 300 hp Caterpillar diesel engine, model no. C-9 DITA, serial no. CLJ07329, with a minimum stack height of 10.9 feet: equipment no. K-150;

p. 400 TPH Mobile Jaw Crusher, Nordberg model no. LT105, serial no. 73316, with 300 hp Caterpillar diesel engine, model no. C-9 DITA, serial no. MBD00692, with a minimum stack height of 10.9 feet: equipment no. K-164;

q. 400 TPH Mobile Jaw Crusher, Nordberg model no. LT105, serial no. 73599, with 300 hp Caterpillar diesel engine, model no. C-9 DITA, serial no. MBD02002, with a minimum stack height of 16.8 feet: equipment no. K-183;

r. 450 TPH Mobile Cone Crusher, Nordberg model no. LT300HP, serial no. 72814, with 525 hp Caterpillar diesel engine, model no. C-15 DITA, serial no. BEM04965, with a minimum stack height of 16.8 feet: equipment no. K-152;

s. 450 TPH Mobile Cone Crusher, Nordberg model no. LT300HP, serial no. 73549, with 525 hp Caterpillar diesel engine, model no. C-15 DITA, serial no. JRE02480, with a minimum stack height of 16.8 feet: equipment no. K-184;

t. 450 TPH Mobile Cone Crusher, Nordberg model no. LT300HP, serial no. 74093, with 525 hp Caterpillar diesel engine, model no. C-15 DITA, serial no. JRE05064, with a minimum stack height of 16.8 feet: equipment no. K-204;

u. 661 TPH Mobile Screen, Powerscreen model no. Chieftain 2100, serial no. 12401468, with exempt 100 hp Deutz diesel engine model no. BF4M2012, serial no. 10167853: equipment no. K-167;

v. 661 TPH Mobile Screen, Powerscreen model no. Chieftain 2100, serial no. 12402701, with exempt 100 hp Deutz diesel engine model no. BF4M2012, serial no. 10275425: equipment no. K-176;

w. 661 TPH Mobile Screen, Powerscreen model no. Chieftain 2100, serial no. 12402611, with exempt 100 hp Deutz diesel engine model no. BF4M2012, serial no. 10268684: equipment no. K-178;

x. Radial Stacker, Powerscreen model no. M95, serial no. 7436022, with exempt 85 hp Cummings diesel engine, model no. B3.3, serial no. 68027604: equipment no. K-156;

y. Radial Stacker, Powerscreen model no. M95, serial no. 7436039, with exempt 78 hp Deutz diesel engine, model no. BF 4L 2011, serial no. 01030480: equipment no. K-168;

z. Radial Stacker, Powerscreen model no. M95, serial no. 7436090, with exempt 78 hp Deutz diesel engine, model no. BF 4L 2011, serial no. 01030485: equipment no. K-169;

aa. Radial Stacker, Powerscreen model no. M95, serial no. 7436079, with exempt 78 hp Deutz diesel engine, model no. BF 4L 2011, serial no. 01037492: equipment no. K-170;
bb. Radial Stacker, Powerscreen model no. M95, serial no. 7436130, with exempt 85 hp Cummings diesel engine, model no. B3.3, serial no. 68057534: equipment no. K-175
cc. 881 TPH Mobile Screen, Powerscreen model no. Warrior 2400, serial no. PID00126CDGB11897, with 225 hp Caterpillar diesel engine, model no. C6.6, serial no. 66614805: equipment no. K-210;
dd. 881 TPH Mobile Screen, Powerscreen model no. Warrior 2400, serial no. TBD, with 202 hp Caterpillar diesel engine, model no. C7.1, serial no. TBD: equipment no. K-213;
ee. Various conveyors; and
ff. Various water sprays.

BACKGROUND

Goodfellow Brothers, Inc. (GBI) owns and operates a variety of crushers, screens, and conveyors for stone processing activities. The equipment is used to crush basalt and other materials for construction purposes. Materials are batch-dropped into a primary crusher, forwarded via conveyors to either a stockpile or to a secondary and possibly a tertiary crusher. The stockpiles either remain throughout the duration of the project or are moved by front-end loaders.

The equipment is deployed to various locations and may be erected in several different configurations depending on the project requirements. The current permit covers most of GBI's equipment inventory of crushers, screen trailers, and diesel engine generators. The permitted inventory of equipment also includes crushers with integrated diesel engines. To allow operational flexibility, the permit lists the maximum quantity and type of equipment allowed at a site, which allows GBI to use any or all of the equipment listed. The maximum number of temporary stone processing plant locations GBI is permitted to operate simultaneously with the State of Hawaii is 25.

<u>Proposed Project</u>
GBI has submitted an application for minor modification to add a second 881 TPH mobile screen to its permit. The existing permit limits the number of specific types of equipment allowed at each temporary site and limits the operating hours at each site. The exiting permit allows two 881 TPH or smaller screens to operate at each “Mobile Stone Processing Plant” site. There will be no increase in emissions due to the proposed 881 TPH mobile screen with 202 hp diesel engine. The 202 hp diesel engine is a Tier 4 engine, with emissions less than the emissions of exiting equipment.

The proposed modification meets the criteria for minor modification as defined in HAR §11-60.1-81. There are no increases in emissions due to the proposed 881 TPH mobile screen with 202 hp diesel engine. There are also no changes to existing monitoring, reporting, or recordkeeping requirements.

The 420 TPH Mobile Screen, equipment no. K-155, will be removed from the permit. The K-155 has left the Hawaiian Islands and will no longer be operated here. With the removal of K-155 and the addition of the proposed 881 TPH mobile screen (equipment no. K-213), the allowable equipment for each stone processing plant will be modified as follows:

a. Non-Mobile/Mobile Stone Processing Plant

   i. One (1) 780 TPH primary jaw crusher, equipment nos. K-76 and K-185;
   ii. One (1) 500 TPH secondary cone crusher, equipment nos. K-26, K-130, and K-187;
   iii. One (1) 700 TPH tertiary cone crusher, equipment nos. K-153 and K-182;
   iv. One (1) 450 TPH or smaller mobile tertiary cone crusher, equipment nos. K-152, K-184, and K-204;
   v. One (1) 881 TPH or smaller mobile screen, equipment nos. K-167, K-176, K-178, K-210, and K-213;
   vi. Three (3) 440 TPH or smaller screens, equipment nos. K-23, K-165, K-182 (integral with crusher), and K-187 (integral with crusher);
   vii. One (1) 1.36 MW or smaller diesel engine generator, equipment nos. LP-121, LP-130, and LP-140;
   viii. Six (6) storage piles; and
   ix. Various conveyors and stackers.

b. Mobile Stone Processing Plant

   i. Two (2) 400 TPH or smaller mobile primary/secondary jaw crushers, equipment nos. K-148, K-149, K-150, K-164, and K-183;
   ii. Two (2) 450 TPH or smaller mobile secondary cone crushers, equipment nos. K-152, K-184, and K-204;
   iii. Two (2) 881 TPH or smaller mobile screens, equipment nos. K-167, K-176, K-178, K-210, and K-213;
   iv. Six (6) storage piles; and
   v. Various conveyors and stackers.

The non-mobile/mobile plant will be limited to 1,600 hours at any one location in any rolling twelve-month (12-month) period. The mobile plant will be limited to 1,800 hours at any one (1) location in any rolling twelve-month (12-month) period. The operating hour limitations are needed for the stone processing plants to remain a non-major source.

There are no other proposed changes to existing equipment in the design or operation of the facility.

APPLICABLE REQUIREMENTS

Hawaii Administrative Rules (HAR)
Title 11 Chapter 59, Ambient Air Quality Standards
Title 11 Chapter 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, Noncovered Sources, and 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
11-60.1-161, New Source Performance Standards
Subchapter 9, Hazardous Air Pollutant Sources
Subchapter 10, Field Citations

Standard of Performance for New Stationary Sources (NSPS), 40 CFR Part 60
Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the stone processing plant because the maximum capacity of the facility is greater than 150 tons/hour, and the plants were manufactured after August 31, 1983.

The proposed and existing 881 TPH Mobile Screens were manufactured in 2011/2012. Equipment that commence construction, modification, or reconstruction on or after April 22, 2008, have more stringent fugitive emission opacity limits. The remaining permitted equipment were all manufactured prior to April 22, 2008.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not applicable to the diesel engines and diesel engine generators because the engines are considered nonroad engines as defined in 40 CFR §1068.30. Subpart IIII applies to stationary internal combustion engines that are not nonroad engines.

National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61
This source is not subject to NESHAP as there are no standards in 40 CFR Part 61 applicable to this facility.

National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) (Maximum Achievable Control Technology (MACT)), 40 CFR Part 63
Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) is not applicable to the diesel engines and diesel engine generators because the engines are considered nonroad engines as defined in 40 CFR §1068.30. Subpart ZZZZ applies to stationary internal combustion engines that are not nonroad engines.

Prevention of Significant Deterioration (PSD), 40 CFR Part 52, §52.21
This source is not subject to PSD requirements because it is not a major stationary source as defined in 40 CFR §52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

Compliance Assurance Monitoring (CAM), 40 CFR 64
This source is not subject to CAM because the facility is not a major source. The purpose of CAM is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 Code of Federal Regulations, Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are 100% of the major source level; and (5) not otherwise be exempt from CAM.

Consolidated Emissions Reporting Rule (CERR), 40 CFR Part 51, Subpart A
CERR is not applicable because emissions from the facility do not exceed CERR thresholds.
DOH In-house Annual Emissions Reporting
The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding in-house reporting levels and for all covered sources. Annual emissions reporting will be required because this facility is a covered source.

Best Available Control Technology (BACT)
This source is not subject to BACT analysis because there is no increase in potential emissions due to the modification. BACT analysis is required for new sources or modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, §11-60.1-1.

Synthetic Minor Source
A synthetic minor source is a facility that is potentially major, as defined in HAR, §11-60.1-1, but is made non-major through federally enforceable permit conditions. This facility is a synthetic minor source because potential emissions for NO_X exceed major source thresholds when the facility is operated without limitations for 8,760 hours/year.

Greenhouse Gas Tailoring Rule
Title V permitting for greenhouse gas (GHG) emissions is not applicable because the potential to emit of CO_2 equivalent (CO_2e) emissions are less than 100,000 tons per year. Total GHG emissions on a CO_2e basis using the global warming potential (GWP) of the GHG are shown in the tables below.

Non-Mobile/Mobile Stone Processing Plant with 1.36 MW diesel engine generator:

GHG	GWP	GHG Mass-Based Emissions (TPY)	CO_2e Based Emissions (TPY)
Carbon Dioxide (CO_2)	1	2311	2311
Total Emissions:			2311

Mobile Stone Processing Plant:

GHG	GWP	GHG Mass-Based Emissions (TPY)	CO_2e Based Emissions (TPY)
Carbon Dioxide (CO_2)	1	2176	2176
Total Emissions:			2176

INSIGNIFICANT ACTIVITIES / EXEMPTIONS

The diesel engines on the 661 TPH mobile screens and radial stackers are considered insignificant activities in accordance with HAR §11-60.1-82(f)(2) because the heat input capacities are less than one (1) MMBtu/hr.

ALTERNATIVE OPERATING SCENARIOS

Diesel Engine and Diesel Engine Generator
The permittee may replace each diesel engine or diesel engine generator with a temporary replacement unit of similar size with equal or lesser emissions if any repair reasonably warrants

the removal of the diesel engine or diesel engine generator from its site (i.e., equipment failure, engine overhaul, or any major equipment problems requiring maintenance for efficient operation).

AIR POLLUTION CONTROLS

The crushing and screening plants are equipped with water spray systems to control fugitive dust. Water trucks/water sprays will be used as necessary to minimize fugitive dust from plant operations, material transfer points, stockpiles, and plant roads.

PROJECT EMISSIONS

Non-Mobile/Mobile Stone Processing Plant
Emissions were based on the "maximum case" plant configuration consisting of the following equipment:

1. One (1) 780 TPH primary jaw crusher (Nordberg C140);
2. One (1) 500 TPH secondary cone crusher (Omnicone 1560);
3. One (1) 700 TPH tertiary cone crusher (Nordberg HP400 or Raptor XL400);
4. One (1) 450 TPH mobile tertiary cone crusher (Nordberg LT300HP) with 525 hp diesel engine (CAT C-15);
5. One (1) 881 TPH mobile screen (Warrior 2400) with 225 hp diesel engine (CAT C6.6);
6. Three (3) 440 TPH screens; and
7. One (1) 1.36 MW or 1 MW diesel engine generator.

Water sprays will be used to control fugitive emissions. Emissions were based on emissions factors from AP-42 and manufacture's data. Operating hours for the Non-Mobile/Mobile Stone Processing Plant will be limited to 1,600 hours in any rolling twelve-month (12-month) period.

With 1 MW diesel engine generator:

Non-Mobile/Mobile Stone Processing Plant (1,600 hr/yr)							
Pollutant	1 MW CAT 3512	525 hp CAT C-15	225 hp CAT C-6.6	Process	Stockpiles	Unpaved Roads	Total
CO	7.77	0.57	1.03				9.4
NO_X	29.25	5.76	1.15				36.2
SO_2	4.62	1.46	0.69				6.8
PM	0.64	0.64	0.06	5.00	2.51	2.91	11.8
PM-10	0.52	0.64	0.06	1.81	1.19	0.71	4.9
PM-2.5	0.51	0.64	0.06	0.25	0.18	0.07	1.7
TOC	0.82	0.07	0.04				0.9
HAPs	0.014	0.011	0.005				0.03

With 1.36 MW diesel engine generator:

Non-Mobile/Mobile Stone Processing Plant (1,600 hr/yr)							
Pollutant	1.36 MW CAT 3512	525 hp CAT C-15	225 hp CAT C-6.6	Process	Stockpiles	Unpaved Roads	Total
CO	2.18	0.57	1.03				3.8
NO_X	27.18	5.76	1.15				34.1
SO_2	5.41	1.46	0.69				7.6
PM	0.26	0.64	0.06	5.00	2.51	2.91	11.4
PM-10	0.25	0.64	0.06	1.81	1.19	0.71	4.7
PM-2.5	0.24	0.64	0.06	0.25	0.18	0.07	1.4
TOC	1.26	0.07	0.04				1.4
HAPs	0.016	0.011	0.005				0.03

Total facility emissions of the Non-Mobile/Mobile Stone Processing Plant are summarized in the table below.

Total Facility Emissions and Trigger Levels (TPY)							
Pollutant	Emissions w/ 1 MW DEG (1,600 / 8,760)		Emissions w/ 1.36MW DEG (1,600 / 8,760)		BACT Significant Level	CERR Threshold	DOH Level
CO	9.4	51.3	3.8	20.7	100	1000	250
NO_X	36.2	198.0	34.1	186.7	40	100	25
SO_2	6.8	37.0	7.6	41.4	40	100	25
PM	11.8	64.4	11.4	62.3	25	-	25
PM-10	4.9	27.0	4.7	25.5	15	250 / 100	25
PM-2.5	1.7	9.4	1.4	7.9	-	250 / 100	-
VOC	0.9	5.1	1.4	7.5	40	250 / 100	25
HAPs	0.03	0.16	0.03	0.18	-	-	5

<u>Mobile Stone Processing Plant</u>

Emissions were based on the "maximum case" plant configuration consisting of the following equipment:

1. Two (2) 400 TPH mobile jaw crushers (Nordberg LT105) with 300 hp diesel engines (CAT C-9);
2. Two (2) 450 TPH mobile secondary cone crushers (Nordberg LT300HP) with 525 hp diesel engines (CAT C-15); and
3. Two (2) 881 TPH mobile screens (Warrior 2400) with 225 hp diesel engines (CAT C6.6).

For emissions, it was assumed both 881 TPH mobile screens have 225 hp diesel engines. Water sprays will be used to control fugitive emissions. Emissions were based on emissions factors from AP-42 and manufacture's data. Operating hours for the Mobile Stone Processing Plant will be limited to 1,800 hours in any rolling twelve-month (12-month) period.

Mobile Stone Processing Plant (1,800 hr/yr)							
Pollutant	Two (2) 300 hp CAT C-9	Two (2) 525 hp CAT C-15	Two (2) 225 hp CAT C6.6	Process	Stockpiles	Unpaved Roads	Total
CO	1.13	1.28	2.32				4.7
NO_X	7.11	12.96	2.59				22.7
SO_2	1.91	3.28	1.55				6.7
PM	0.11	1.44	0.13	3.61	2.57	2.97	10.8
PM-10	0.11	1.44	0.13	1.39	1.21	0.73	5.0
PM-2.5	0.11	1.44	0.13	0.23	0.18	0.07	2.2
TOC	0.27	0.16	0.09				0.5
HAPs	0.014	0.025	0.012				0.05

Total facility emissions of the Mobile Stone Processing Plant are summarized in the table below.

Total Facility Emissions and Trigger Levels (TPY)					
Pollutant	Emissions (With Limits)	Emissions (No Limits)	BACT Significant Level	CERR Threshold	DOH Level
CO	4.7	23.0	100	1000	250
NO_X	22.7	110.3	40	100	25
SO_2	6.7	32.8	40	100	25
PM	10.8	52.7	25	-	25
PM-10	5.0	24.4	15	100	25
PM-2.5	2.2	10.6	-	100	-
VOC	0.5	2.5	40	100	25
HAPs	0.05	0.25	-	-	5

AIR QUALITY ASSESSMENT

An ambient air quality impact assessment (AAQIA) was conducted for the proposed 202 hp Caterpillar C7.1 diesel engine to demonstrate compliance with State and National ambient air quality standards. The AERMOD modeling system using Lakes Environmental AERMOD View, Version 7.3.0, was used for the modeling analysis.

Terrain
USGS National Elevation Dataset from the USGS Seamless Data Warehouse. Resolution is 1/3 arc-second (about 10 meters).

Meteorological data
Meteorological data from Kahului Airport (2005 – 2009) was used for the analysis. Five (5) years of meteorological data was used for the 1-hr NO_2 and 1-hr SO_2 standards, and year 2009 data was used for the other standards.

Receptor Grid
Receptor grid spacing was set at 30 meters.

Dispersion Coefficient
Rural dispersion coefficient was selected.

Building Downwash
EPA's Building Profile Input Program (BPIP-PRIME) was used to evaluate downwash effects of nearby structures.

Ozone Limiting Method
The ozone limiting method was used for the NO_X to NO_2 conversion. The in-stack NO_2/NO_X ratio of 20% for diesel engines was used for the model. The hourly ozone background concentrations obtained from the Sand Island, Oahu, air monitoring station for the years 2005 through 2009.

Emission Rates and Stack Parameters
The short term emission rates and stack parameters used in the analysis are shown in the table below.

Source	Emission Rates (g/s)					Stack Parameters			
	CO	NO_X	PM-10	PM-2.5	SO_2	Height (m)	Diameter (m)	Flow Rate (m^3/s)	Temp (°K)
202 hp Engine	0.0063	0.0774	3.8e-5	3.8e-5	0.1031	4.27	0.089	0.44	665

Results
The annual concentrations assume no hourly limit for the diesel engine. The table below shows the predicted ambient air quality impacts from the diesel engines should comply with State and National ambient air quality standards.

Predicted Ambient Air Quality Impacts							
Air Pollutant	Averaging Time	Impact[1] ($\mu g/m^3$)	Background[2] ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	SAAQS ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Compared to SAAQS
CO	1-hr	8.6	1832	1840.6	10000	40000	18.4%
	8-hr	5.9	1145	1150.9	5000	10000	23.0%
NO_2	1-hr	98.8	62	160.8	-	188	85.6%
	Annual	22.7	5.6	28.3	70	100	40.4%
PM-10	24-hr	2.7e-2	59	59.0	150	150	39.4%
	Annual	1.3e-2	15.5	15.5	50	-	31.0%
PM-2.5	24-hr	2.7e-2	15	15.0	-	35	42.9%
	Annual	1.3e-2	4.9	4.9	-	15	32.8%
SO_2	1-hr	138.2	55	193.2	-	196	98.6%
	3-hr	125.7	31	156.7	1300	1300	12.1%
	24-hr	75.1	10	85.1	365	365	23.3%
	Annual	36.3	3	39.3	80	80	49.1%

1. All 1st high concentrations.
2. Background concentrations (2010 Hawaii Air Quality Data) from Kapolei. PM-2.5 (24-hr) is the 98th percentile averaged over three (3) years. PM-2.5 (annual) is the annual mean averaged over three (3) years.

SIGNIFICANT PERMIT CONDITIONS

1. Allowable Temporary Stone Processing Plants

   The permittee shall not operate more than twenty-five (25) temporary stone processing plants simultaneously within the State of Hawaii at any time. Each temporary stone processing plant shall not operate at or adjacent to another temporary stone processing plant owned or operated by the permittee unless an ambient air quality impact assessment for the proposed location is submitted to and approved by the Department of Health.

2. Allowable Equipment/Storage Piles

   For each temporary stone processing plant location, the maximum amount of equipment/storage piles shall be as follows:

   a. Non-Mobile/Mobile Stone Processing Plant

      i. One (1) 780 TPH primary jaw crusher, equipment nos. K-76 and K-185;
      ii. One (1) 500 TPH secondary cone crusher, equipment nos. K-26, K-130, and K-187;
      iii. One (1) 700 TPH tertiary cone crusher, equipment nos. K-153 and K-182;
      iv. One (1) 450 TPH or smaller mobile tertiary cone crusher, equipment nos. K-152, K-184, and K-204;
      v. One (1) 881 TPH or smaller mobile screen, equipment nos. K-167, K-176, K-178, K-210, and K-213;
      vi. Three (3) 440 TPH or smaller screens, equipment nos. K-23, K-165, K-182 (integral with crusher), and K-187 (integral with crusher);
      vii. One (1) 1.36 MW or smaller diesel engine generator, equipment nos. LP-121, LP-130, and LP-140;
      viii. Six (6) storage piles; and
      ix. Various conveyors and stackers.

   b. Mobile Stone Processing Plant

      i. Two (2) 400 TPH or smaller mobile primary/secondary jaw crushers, equipment nos. K-148, K-149, K-150, K-164, and K-183;
      ii. Two (2) 450 TPH or smaller mobile secondary cone crushers, equipment nos. K-152, K-184, and K-204;
      iii. Two (2) 881 TPH or smaller mobile screens, equipment nos. K-167, K-176, K-178, K-210, and K-213;
      iv. Six (6) storage piles; and
      v. Various conveyors and stackers.

3. Operating Hours

   The total operating hours of each temporary stone processing plant shall not exceed the following limits:

a. Non-Mobile/Mobile Stone Processing Plant

The total operating hours for each temporary "Non-Mobile/Mobile Stone Processing Plant" as defined in Attachment II, Special Condition No. C.2.a, shall not exceed 1,600 hours at any one (1) location in any rolling twelve-month (12-month) period.

b. Mobile Stone Processing Plant

The total operating hours for each temporary "Mobile Stone Processing Plant" as defined in Attachment II, Special Condition No. C.2.b, shall not exceed 1,800 hours at any one (1) location in any rolling twelve-month (12-month) period.

The temporary stone processing plant shall be considered in operation when any crusher, screen, conveyor, and/or diesel engine covered under this permit is operating.

4. Emission Limit, Each Location

For each location, the total emissions from the equipment and activities covered by this permit shall not exceed the threshold limits for a "major source" as defined in HAR §11-60.1-1.

5. Fugitive Emission Limits

a. The permittee shall not cause to be discharged into the atmosphere from any crusher, fugitive emissions which exhibit greater than fifteen (15) percent opacity.
b. Except as specified in Attachment II, Special Condition No. C.5.c, the permittee shall not cause to be discharged into the atmosphere from any transfer point on the belt conveyors, screening operation, or from any other affected facility, fugitive emissions which exhibit greater than ten (10) percent opacity.
c. The permittee shall not cause to be discharged into the atmosphere from the 881 TPH mobile screen (equipment nos. K-210 and K-213), fugitive emissions which exhibit greater than seven (7) percent opacity.

6. Fuel Limits

The diesel engines shall be fired only on fuel oil no. 2 with a maximum sulfur content not to exceed 0.5% by weight.

CONCLUSION

Potential emissions were based on the worst case scenarios of the Non-Mobile/Mobile Stone Processing Plants and Mobile Stone Processing Plants. Water sprays will be used to control fugitive emissions. The ambient air quality impact assessment of the proposed 881 TPH screen with 202 hp diesel engine demonstrates compliance with State and National Ambient Air Quality Standards. Recommend issuance of the temporary covered source permit subject to the incorporation of the significant permit conditions and 45-day Environmental Protection Agency review period.

Mark Saewong
March 20, 2012