

PROPOSED

**PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT NO. 0242-01-CT
Application for Minor Modification No. 0242-14**

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: Waimanalo Gulch Landfill, Kapolei, Oahu (Proposed 400 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
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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, with 440 TPH Screen, JCI model no. 6202-32LP, serial no. 122928: 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;

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- 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 Cummins 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;

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- 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 Cummins 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. PID00126ADGC34511, with 202 hp Caterpillar diesel engine, model no. C7.1, serial no. 77000465: 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 are 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 are 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 within the State of Hawaii is 25.

Proposed Project

GBI has submitted an application for minor modification to add a 440 TPH screen to the chassis of the existing 500 TPH cone crusher, equipment no. K-26. The final configuration will be identical to equipment no. K-187. 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 existing permit allows three 440 TPH or smaller screens to operate at each "Non-Mobile/Mobile Stone Processing Plant" site. There will be no increase in emissions due to the proposed 440 TPH screen.

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 440 TPH screen. There are also no changes to existing monitoring, reporting, or recordkeeping requirements.

The 450 TPH Mobile Cone Crusher, equipment no. K-152, and 661 TPH Mobile Screen, equipment no. K-178, will be removed from the permit, which have left the Hawaiian Islands and will no longer be operated here.

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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 plants because the maximum capacities of the plants are greater than 150 tons/hour, and the plants were manufactured after August 31, 1983.

The two existing 881 TPH Mobile Screens and the proposed 440 TPH JCI Screen (serial no. 122928) 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.

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National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61

This source is not subject to NESHAPs because there are no standards in 40 CFR Part 61 applicable to this facility.

NESHAPs for Source Categories (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.

Air Emissions Reporting Requirements (AERR), 40 CFR Part 51, Subpart A

AERR is not applicable because potential emissions from the facility do not exceed AERR 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 net 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 NO_x emissions 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 CO₂ equivalent (CO₂e) emissions are less than 100,000 tons per year. Total GHG emissions on a CO₂e basis using the global warming potential (GWP) of the GHG are shown in the table below.

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

GHG	GWP	GHG Mass-Based Emissions (TPY)	CO ₂ e 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 ₂ e 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 of each diesel engine is less than one (1) MMBtu/hr.

ALTERNATIVE OPERATING SCENARIOS

Diesel Engines and Diesel Engine Generators

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

There will be no changes in emissions due to the proposed 440 TPH screen.

Total facility emissions of the Non-Mobile/Mobile Stone Processing Plant are summarized in the table below, referenced from review no. 0242-13.

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Total Facility Emissions and Trigger Levels (TPY)							
Pollutant	Emissions w/ 1 MW DEG (1,600 / 8,760 hr/yr)		Emissions w/ 1.36MW DEG (1,600 / 8,760 hr/yr)		BACT Significant Level	CERR Threshold	DOH Level
	CO	9.4	51.3	3.8			
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	100	25
PM-2.5	1.7	9.4	1.4	7.9	-	100	-
VOC	0.9	5.1	1.4	7.5	40	100	25
HAPs	0.03	0.16	0.03	0.18	-	-	5

Total facility emissions of the Mobile Stone Processing Plant are summarized in the table below, referenced from review no. 0242-13.

Total Facility Emissions and Trigger Levels (TPY)					
Pollutant	Emissions (With Limits)	Emissions (No Limits)	BACT Significant Level	AERR 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 analysis (AAQIA) is not required for the proposed 440 TPH screen because emissions are fugitive in nature. The Department of Health air modeling guidance generally does not require an ambient air quality impact analysis for fugitive emissions.

SIGNIFICANT PERMIT CONDITIONS

The updated permit conditions consist of the following (additions are underlined and deletions are struck-through):

1. Revise Attachment II, Special Condition No. A.1.

See Equipment list.

Reason: Add the proposed 440 TPH screen to the equipment list, which will be attached to the cone crusher, equipment no. K-26. Remove equipment nos. K-152 and K-178 which have left the Hawaiian Islands and will no longer be operated here.

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2. Revise Attachment II, Special Condition No. C.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-26 (integral with crusher), 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.

Reason: Update the allowable equipment at each plant location.

3. Revise Attachment II, Special Condition No. C.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 screens (equipment nos. K-210 and K-213) and 440 TPH screen (equipment no. K-26), fugitive emissions which exhibit greater than seven (7) percent opacity.

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- d. The permittee shall not cause or permit fugitive dust to become airborne without taking reasonable precautions and shall not cause or permit the discharge of visible emissions of fugitive dust beyond the lot line of the property boundary on which the emissions originate.

Reason: The crushers, screens, and conveyors are subject to 40 CFR 60, Subpart OOO.

All other permit conditions of CSP No. 0242-01-CT, issued on July 10, 2012, shall not be affected and shall remain valid.

CONCLUSION

Goodfellow Brothers, Inc. has submitted an application for a minor modification to add a 440 TPH screen to the chassis of the existing 500 TPH cone crusher, equipment no. K-26. There will be no increase in emissions. Recommend issuance of the covered source permit subject to the incorporation of the significant permit conditions and forty five-day (45-day) Environmental Protection Agency review period.

Mark Saewong
June 5, 2013