

**PERMIT APPLICATION REVIEW
TEMPORARY COVERED SOURCE PERMIT No. 0512-02-CT
Renewal Application No. 0512-03**

Company: Castle & Cooke Resorts, LLC

Mailing Address: P.O. Box 630310
Lanai City, Hawaii 96763

Facility: 460 TPH Mobile Crushing Plant with 310 HP Diesel Engine

Location: Various Temporary Sites, State of Hawaii

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

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Equipment:

460 TPH Komatsu mobile crusher, model no. BR500JG-1A, with:

1. 43" x 13.9" vibrating grizzly feeder;
2. 42" x 30" k-series crusher, model no. FS4230SA, serial no. 1209;
3. Various conveyors;
4. Water spray system; and
5. 310 hp (228 kW) Komatsu diesel engine, model no. SA6D125E-2, serial no. 00082830.

BACKGROUND

Castle & Cooke Resorts, LLC has submitted an application to renew its temporary covered source permit. There are no proposed changes for this renewal in the design or operation of the facility.

The 460 TPH jaw crusher is powered by a 310 hp diesel engine fired on fuel oil No. 2 with less than 0.5% sulfur by weight. Fugitive emissions from the crushing plant will be controlled by water sprays, as necessary, at the grizzly feeder, crusher, and transfer points. There will be no hourly or production limitations for the crushing plant or diesel engine.

Process

Raw material such as broken stone, rock, and soil are dropped into the vibrating grizzly feeder and passed to the jaw crusher. The crushed material drops onto a conveyor belt where it is transferred to the stockpile.

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

1. Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to the 460 TPH jaw crushing plant because the maximum capacity of the crusher is greater than 150 tons/hour and it was manufactured after August 31, 1983.
2. Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not applicable to the diesel engine because the engine was constructed before July 11, 2005.

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

This source is not subject to NESHAPS as no hazardous air pollutants are emitted at significant levels and there are no NESHAPS requirements in 40 CFR Part 61.

National Emission Standards for Hazardous Air Pollutants 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 engine because the diesel engine is classified as an existing source (constructed before June 12, 2006). An existing compression ignition (CI) stationary RICE does not have to meet the requirements of this subpart and of subpart A of this part.

Prevention of Significant Deterioration (PSD)

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 since 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)

This source is not subject to CERR since 40 CFR Part 51, Subpart A - Emissions Inventory Reporting Requirements, determines CERR based on facility wide emissions of each air pollutant at the CERR triggering levels. The emissions do not exceed respective CERR threshold levels. As such, emissions data will not be required to be inputted into the National Emissions Inventory (NEI) database.

DOH Annual Emissions Reporting

The Clean Air Branch requests annual emissions reporting from those facilities that have facility wide emissions exceeding the DOH reporting level(s) and for all covered sources. Internal annual emissions reporting will be required because this is a covered source.

Best Available Control Technology (BACT)

This source is not subject to BACT analysis because this is an existing source with no proposed modifications. BACT analysis is required for new sources or significant modifications to sources that have the potential to emit or increase emissions above significant levels considering any limitations as defined in HAR, Section 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 not a synthetic minor source because potential emissions do not exceed major source thresholds when the facility is operated at its maximum capacity continuously for 8,760 hours per year.

INSIGNIFICANT ACTIVITIES / EXEMPTIONS

There are no insignificant activities for this facility.

ALTERNATIVE OPERATING SCENERIOS

Diesel Engines

The permittee may replace the 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 generator from its site (i.e., equipment failure, engine overhaul, or any major equipment problems requiring maintenance for efficient operation).

AIR POLLUTION CONTROLS

Water Spray System

The crushing plant is equipped with a water spray system with sprinkler nozzles located at the jaw crusher and transfer points to control fugitive emissions.

PROJECT EMISSIONS

Emission calculations are attached to this review. The following are the emissions due to the crushing plant and diesel engine.

460 TPH Jaw Crushing Plant

Emission rates were based on the maximum capacity of the jaw crushing plant to process 460 TPH of material. There will be no hourly or production limitations for the crushing plant. The plant consists of a jaw crusher with a vibrating grizzly feeder and various conveyor belts. The crusher is equipped with water spray bars to control PM emissions. The controlled emissions factors from AP-42 Section 11.19.2 (08/04) - Crushed Stone Processing and Pulverized Mineral Processing were used to calculate emissions. Emissions are summarized below.

460 TPH Crushed Stone Processing	
Pollutant	Emissions (TPY) [8,760 hr/yr]
PM	3.327
PM-10	1.398
PM-2.5	0.290

310 hp (228 kW) Diesel Engine

The diesel engine is fired on fuel oil No. 2 with less than 0.5% sulfur by weight, with a maximum fuel consumption of 16.2 gallons/hour. Emissions were based on emission factors from AP-42 Section 3.4 (10/96) - Gasoline and Diesel Industrial Engines. The mass balance method was used to determine SO₂ emissions.

310 hp Diesel Engine		
Pollutant	Emissions (lb/hr)	Emissions (TPY) [8,760 hr/yr]
CO	0.201	0.881
NO _x	3.770	16.512
SO ₂	1.149	5.032
PM	0.065	0.286
PM-10	0.065	0.286
PM-2.5	0.065	0.286
TOC	0.151	0.660
HAPs	0.0086	0.0377

Storage Piles

Emissions were based on emission factors from AP-42 Section 13.2.4 (11/06) - Aggregate Handling and Storage Piles.

Storage Piles	
Pollutant	Emissions (TPY) [8,760 hr/yr]
PM	14.360
PM-10	6.792
PM-2.5	1.028

Total Emissions

Total facility emissions are summarized in the table below.

Total Facility Emissions and Trigger Levels (TPY)				
Pollutant	Emissions [8,760 hr/yr]	BACT Significant Level	CERR Triggering Level (Type A sources / Type B sources)	DOH Level
CO	0.88	100	2,500 / 1000	250
NO _x	16.51	40	2,500 / 100	25
SO ₂	5.03	40	2,500 / 100	25
PM	17.97	25	-	25
PM-10	8.48	15	250 / 100	25
PM-2.5	1.60	-	250 / 100	-
VOC/TOC	0.66	40	250 / 100	25
HAPs	0.04	-	-	5

AIR QUALITY ASSESSMENT

An ambient air quality assessment (AAQA) is generally required for new sources or modified sources with emission increases. An ambient air quality assessment is not required for this permit renewal because there are no changes or modifications proposed.

SIGNIFICANT PERMIT CONDITIONS

There are no new significant permit conditions.

CONCLUSION

Actual emissions should be lower than estimated because the crushing plant will not be operating at its maximum capacity for 8,760 hours per year. Recommend issuance of the temporary covered source permit subject to the 30-day public comment period and 45-day Environmental Protection Agency review period.

Mark Saewong
July 28, 2009