

PROPOSED

Minor Modification to a Temporary Covered Source Permit Review Summary

Application File No.: 0381-05

Permit No.: 0381-02-CT

Applicant: TRI-L Construction, Inc.

Facility: 231.5 TPH Stone Quarrying and Processing Plant and Portable
Screening Plant
#10 Manawainui Bridge
Hoolehua, Molokai
UTM Coordinates: 701400 m E, 2336850 m N

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Application Date: Received on June 15, 2011

Proposed Project:

SIC Code: 1411 (Dimension Stone)

This is an application for a minor modification of Temporary Covered Source Permit No. 0381-02-CT. The minor modification proposes to add a cone crusher, screen and five (5) conveyors to the existing 231.5 TPH stone quarry and processing plant.

The applicant currently operates a 231.5 TPH stone quarrying and processing plant and a portable screening plant at #10 Manunawai Bridge, Hoolehua, Molokai. The applicant processes basalt rock by loading the material into the jaw crusher. A portion of the material is transported via conveyor belt to a stockpile. The remainder of the material travels on conveyor belts to the impact crusher and 3-deck screen. From the screen, material is transported to stockpiles. The portable screening plant is not connected to the stone quarrying and processing plant. No crusher is associated with the portable screening plant.

Operations are typically conducted for eight (8) hours per day, five (5) days per week. The 231.5 TPH portable stone processing plant with 252 HP diesel engine and the 1085 HP diesel engine generator is limited to 1,400 hours of operation per year. Monitoring of the hourly limitation is achieved through the use of non-resetting hour meters on the 252 HP diesel engine and 1085 HP diesel engine generator.

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The proposed modification fits the definition of a minor modification because:

1. The modification will not cause an exceedance of any of the operational or emission limits in Section C of Attachment II of the CSP.
2. The modification will not result in or increase the emissions of any air pollutant not limited by the CSP to levels equal to or above any of the levels in paragraphs (2)(A) through (D) of the minor modification definition in HAR §11-60.1-81. Potential emissions were calculated using maximum allowable operating production levels, and AP-42 emission factors. Potential increases due to the new equipment are shown in Table 2 in the Project Emissions Section. The new equipment will have the potential to increase controlled emissions of particulate matter (PM) by 0.317 tpy, PM₁₀ by 0.118 tpy, and PM_{2.5} by 0.015 tpy. These values are less than the 2 tpy increase specified in paragraph (2)(D) in the definition of a “minor modification” in §11-60.1-81.
3. The modification will not cause a violation of any applicable requirement.
4. The modification will not involve any significant changes to existing monitoring requirements or any relaxation or significant change to existing reporting or recordkeeping requirements in the existing CSP.
5. The modification will not require or change a case-by-case determination of an emission limitation or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis.
6. The modification does not seek to establish or change a permit term or condition such as a synthetic minor emissions cap or alternative emission limit as described in paragraphs (6)(A) or (B) of the minor modification definition in HAR §11-60.1-81.
7. Is not a modification pursuant to any provision of Title I of the Clean Air Act.

The application fee for a minor modification of a temporary covered source permit of \$200.00 was received and processed.

New Equipment Description:

Description	Model Number	Serial Number	Date of Manufacture	Capacity	Power
One (1) Eljay RC 54 Cone Crusher	1200	41C0386	3/86	125 TPH, 200 HP	existing 1085 HP DEG
One (1) Cedarapids Screen	M4814E	28034- 28012	9/66		existing 1085 HP DEG
Five (5) belt conveyors			unknown		existing 1085 HP DEG

Air Pollution Controls:

The water sprays (70% efficiency) locations were revised and will control fugitive emissions at the following transfer points of the operation:

1. At the feeder;
2. Transfer point from conveyor #9 to stockpile;
3. Transfer point from conveyor #1 to conveyor #2;
4. Transfer point from screen to conveyor #5;
5. Transfer point from conveyor #5 to stockpile;
6. Transfer point from conveyor #6 to stockpile;
7. Transfer point from screen to conveyor #6 or #8 (whichever is in use);
8. Transfer point from conveyor #11 to stockpile;
9. Transfer point from conveyor #12 to stockpile;
10. Transfer point from conveyor #13 to conveyor #14;
11. At the feeder to the portable screening plant.

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, 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
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

The plant's proposed tertiary crusher and conveyors are subject to NSPS, Subpart OOO since they were manufactured after August 31, 1983 (manufactured March 1986) and the capacity of the primary crusher is greater than 150 TPH (capacity: 231.5 TPH).

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40 CFR Part 63 – National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technologies (MACT) Standards)
Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. A stationary RICE located at an area source of HAP emissions is existing if commenced construction of the stationary RICE before 6/12/2006. Existing stationary compression ignition RICE located at an area source of HAP emissions must comply with applicable emission limitations and operating limitations no later than 5/3/2013.

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)

Prevention of Significant Deterioration (PSD):

PSD review applies to new major stationary sources and major modifications to these types of sources. This source is not a major stationary source, therefore, a PSD review is not required.

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 this modification is not a significant modification.

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Consolidated Emissions Reporting Rule (CERR):

40 CFR Part 51, Subpart A - Emission Inventory Reporting Requirements, determines CER applicability 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 (tpy)
NO _x	≥ 100	NO _x	≥ 25	21.73
SO ₂	≥ 100	SO ₂	≥ 25	2.96
CO	≥ 1000	CO	≥ 250	5.51
PM ₁₀ /PM _{2.5}	≥ 100/100	PM/PM ₁₀	≥ 25/25	PM =74.55 PM ₁₀ = 23.57
VOC	≥ 100	VOC	≥ 25	0.88
		HAPS	≥ 5	0.0302

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 for all covered sources and from those facilities that have facility-wide emissions of a single air pollutant exceeding in-house triggering levels. Annual emissions reporting is required for this facility for in-house recordkeeping purposes because it is a covered source and facility-wide emissions of PM/PM₁₀ exceed 25 tons per year.

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 applicability 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 of activity of a stationary source that emits or has the potential to emit any air pollutant.

The potential emissions from the facility are below major source levels. Compliance Assurance Monitoring (CAM) is not applicable to this facility and only periodic monitoring is required.

Insignificant Activities:

No additional insignificant activities are proposed.

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Alternative Operating Scenarios:

No alternative operating scenarios are proposed.

Synthetic Minor Source:

A synthetic minor source is a facility that is potentially major (as defined in HAR Section 11-60.1-1), but is made non-major through federally enforceable permit conditions. This facility is a synthetic minor based on potential emissions of particulate matter and NO_x greater than “major” levels when the stone quarrying and processing plant is operated at the maximum capacity for 8,760 hours per year. Operating permit limits make the facility non-major.

Project Emissions:

Table 1 - Emission Factors for New Equipment

Operation	PM, lb/ton	PM ₁₀ , lb/ton	PM _{2.5} , lb/ton
Tertiary Crushing (controlled) Eljay RC 54	0.0012	0.00054	0.0001
Screening (controlled) Cedarapids M4814E screen	0.0022	0.00074	0.00005
Conveyor Transfer Point (controlled) Conveyors 10, 11, 12, 13 and 14	0.00014	0.000046	0.000013

Table 2 - Emission Changes Due to New Equipment

Emission Source	PM (lb/hr)	PM (tpy)	PM ₁₀ (lb/hr)	PM ₁₀ (tpy)	PM _{2.5} (lb/hr)	PM _{2.5} (tpy)
Tertiary Crusher (controlled)	0.150	0.105	0.068	0.047	0.013	0.009
Screening (controlled)	0.275	0.193	0.093	0.065	0.006	0.004
Conveyor Transfer Point (controlled)	0.028	0.020	0.009	0.006	0.003	0.002
TOTAL	0.453	0.317	0.169	0.118	0.021	0.015

Notes:

- AP-42 “controlled” emission factors were used for crushing, screening, and conveying, per AP-42 Table 11.19.2-2, Note b.
- Emissions for new tertiary crusher (Eljay RC 54) and Cedarapids M4814E screen were calculated using rated capacity of 125 TPH, (Figure 9-6, Eljay Rollercone Classic Owner/Operator Manual, Form 21280, Cedarapids Company, March 1997).
- There were no changes on primary crushing, secondary crushing, truck unloading, truck loading, storage piles, and unpaved roads, hence, emission increases for these activities are zero.
- Based on a throughput of 125 tph for the Eljay crusher and Cedarapids screen, 50 tph for Conveyors 10, 11,12 and 25 tph for Conveyors 13 and 14.
- Based on operations of 1400 hrs/yr.

Air Quality Assessment:

An ambient air quality impact analysis was not performed for this minor modification application since the Department of Health’s air modeling guidance generally exempts an ambient air quality impact analysis for fugitive dust sources.

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Significant Permit Conditions:

1. Revised Attachment II, Special Condition No. A.1 by adding the following to the equipment description list:
 - One (1) 200 HP Eljay RC 54 cone crusher (model no. 1200, serial no. 41C0386);
 - One (1) Cedarapids screen (model no. M4814E, serial no. 28034-28012); and
 - Five (5) belt conveyors.

2. Revised Attachment II, Special Condition No. C.3.a such that water spray bars shall be installed, maintained, and utilized as needed during operation of the stone quarrying and processing plant and the portable screening plant to minimize fugitive dust at the following material drop off points:
 - Transfer point from screen to conveyor #6 or conveyor #8 (whichever is in use);
 - Transfer point from conveyor #11 to stockpile;
 - Transfer point from conveyor #12 to stockpile; and
 - Transfer point from conveyor #13 to #14.

Conclusions and Recommendations:

Issuance of a minor modification to Temporary Covered Source Permit No. 0381-02-CT is recommended based on the review of information provided by the applicant and subject to the significant permit conditions noted above, and a 45-day EPA review period. This Temporary Covered Source Permit shall supersede CSP No. 0381-02-CT issued on September 23, 2008 in its entirety.

Reviewer: Darin Lum
Date: 11/2011