

## PROPOSED

### COVERED SOURCE PERMIT RENEWAL REVIEW COVERED SOURCE PERMIT No. 0244-01-C RENEWAL APPLICATION No. 0244-06

**Applicant::** Tileco, Inc.

**Responsible Official:** Dennis I. Sakamoto  
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**Location/Mailing Address:** 91-209 Hanua St  
Campbell Industrial Park  
Kapolei, Oahu 96707

**UTM Coordinates (NAD 83)** 2,356,458 meters North  
593,247 meters East  
Zone 4

**SIC Code** 3271

#### **Proposed Project:**

The subject application is for the renewal of CSP No. 0244-01-C. In addition to the permit renewal, the applicant seeks a permit modification to add a hopper and conveyor to feed chips to the Canica tertiary crusher on an as needed basis. The hopper is loaded with a front end loader.

#### **Permitted Equipment:**

- Stone Processing Plant
  1. One (1) 384 TPH, 24" x 36" Lippman primary jaw crusher, Grizzly King Extra Heavy Duty;
  2. One (1) 200 TPH Northwest Crusher Technologies secondary impact crusher, model 6;
  3. One (1) 50 TPH Canica tertiary crusher, model 45VSI;
  4. One (1) 443 TPH, 5' x 16' 3-deck Thunderbird vibrating screen, model 5163.3;
  5. One (1) Dustvent cyclone with after filter baghouse, model 35D-20 servicing stone processing equipment;
  6. Various conveyors; and
  7. Water spray system.
  
- Sand Plants (subcategory of Stone Processing Plant)
  1. One (1) 159 TPH, 3' x 10' 2-deck Thunderbird wet screen, model 3102.25-08;
  2. One (1) 99 TPH, 4' x 12' 2-deck Thunderbird wet screen, model 4122.4-12-D0072;
  3. One (1) 94 TPH Pioneer twin roll crusher, model 2416;
  4. One (1) 18 x 25 Eagle washer;

## PROPOSED

5. One (1) 125 TPH Ortner sandwasher, model 3000;
  6. One (1) Alar Auto-Vac dewatering system
  7. Various conveyors; and
  8. Water spray system.
- Concrete Block Plant I
    1. Two (2) Columbia concrete mixers, model 81, 30 yd<sup>3</sup>/hr each;
    2. One (1) Columbia block machine, model 16HF,
    3. One (1) Columbia block machine, model 1600,
    4. One (1) cement silo and scales;
    5. One (1) Griffin Environmental model 54-KS baghouse servicing cement silo; and
    6. Breathing bags servicing concrete mixers and cement scales.
  - Concrete Block Plant II
    1. One (1) Columbia concrete mixer, model 108, 4 yd<sup>3</sup>/hr;
    2. One (1) Haarp Model 2250L concrete mixer, 2 yd<sup>3</sup>/hr;
    3. Two (2) Columbia block machines; model 1600;
    4. Two (2) cement silos and scales;
    5. Two (2) Griffin Environmental model 36-IS baghouses servicing cement silos; and
    6. Breathing bags servicing concrete mixers and cement scales

### **Proposed Process:**

The process is initiated by transferring fine and coarse aggregate via front end loader to aggregate bins. The material is then transferred by belt conveyors to aggregate scales and to the two mixers. Cement is conveyed from the silos first to batching scales and then to the mixers. Water is then added to trim the final mix prior to sending the batch to the block making machine. The mixer is totally enclosed to receive aggregates and cement, minimizing emissions. An automated color metering system is also attached to each mixer to produce various colored blocks as needed. Power for plant operations is supplied by the local power grid. The facility also includes some paved and unpaved roadways and a paved yard area.

### **Air Pollution Controls**

Air pollution control at the facility consists of baghouses and watersprays. The collection efficiency of the baghouses is assumed to be 99.9%. The control efficiency of the watersprays is assumed to be 70%.

Water spray bars are used on the feed material stockpile, radial stacker to fine material stockpile, conveyor to coarse material stockpile, at the material storage area, along a portion of the property fence-line and at the vehicular entrance to the facility. Dust screens are also utilized along parts of the fence-line to prevent fugitive dust from crossing the property lines. A water truck is also employed on site to control fugitive dust emissions generated by stockpiles and vehicle traffic. The paved yard is swept on a daily basis.

### **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

## PROPOSED

- 11-60.1-37 Process Industries
- 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
- Subchapter 8 Standards of Performance for Stationary Sources
  - 11.60.1-161(25) Standards of Performance for Non-metallic Mineral Processing Plants
- Subchapter 10 – Field Citations

### New Source Performance Standards (NSPS):

There are currently no federal regulations for concrete batch plants. The 384 TPH stone processing plant and the sand plants, except for the Lippman crusher and Pioneer twin roller crusher, are subject to the provisions of the following federal regulations:

- a. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions; and
- b. 40 CFR Part 60, Standards of Performance for New Stationary Sources, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

### Non-Applicable Requirements:

#### Prevention of Significant Deterioration (PSD):

PSD applies to major stationary sources located in an attainment area which emit or have the potential to emit 250 TPY (100 TPY for named source categories) of any regulated air pollutant, with the exception of carbon dioxide, or to such sources making a major modification involving a significant net emissions increase (e.g., 15 tons per year PM<sub>10</sub> [HAR 11-60.1-1]). PSD regulations do not apply because the facility emissions will not change as a result of the permit renewal, and the amount of carbon dioxide emissions is less than the major source levels established in the greenhouse gas regulations.

#### **Net Increase in Facility-Wide PM<sub>10</sub> Emissions**

Description	PM <sub>10</sub> Emissions(TPY)
Addition of hopper and conveyor	0.34
Significant Level	15

#### Best Available Control Technology:

A Best Available Control Technology (BACT) analysis is required for new sources or modifications to existing sources that would result in a net significant increase as defined in HAR, Section 11.60.1-1. The modification proposed by the applicant does not exceed significant levels, and other than the proposed modification, no changes to the permit have been proposed by the applicant. Therefore, a BACT determination for this facility is not required for the permit renewal and modification.

#### National Emission Standards for Hazardous Air Pollutants (NESHAPs):

The facility is not subject to any NESHAP regulation since there are no applicable standards in 40 CFR Part 61.

## PROPOSED

### Maximum Available Control Technology (MACT) Standards:

MACT is not required because the facility is not a major source or an area source of hazardous air pollutants subject to standards pursuant to 40 CFR Part 63.

### Compliance Assurance Monitoring (CAM):

Applicability of the CAM Rule (40 CFR Part 64) 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.

The facility is not a major covered source, and therefore is not subject to CAM. However, periodic monitoring/inspection will be required to ensure that the active control devices, i.e., Dustvent cyclone with baghouse, cement silo baghouse, concrete mixer and cement scale breathing bags, and water sprays, are working properly.

### Annual Emissions Reporting:

#### Consolidated Emissions Reporting Rule (CERR):

40 CFR Part 51, Subpart A - Emission Inventory Reporting Requirements, determines CER based on facility wide emissions of each air pollutant at the CER triggering levels shown in the following table. The facility does not have any emissions that exceed the CER triggering levels. Therefore, CER requirements do not apply to this facility (See following table)

#### In House Emissions Reporting:

Although CERR 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. The total combined facility emissions prior to the addition of the hopper and conveyor exceeded the in-house triggering level for PM (76.060 TPY) and for PM<sub>10</sub> (31.75 TPY). The addition of the hopper and conveyor increases PM and PM<sub>10</sub> emissions by 0.84 and 0.34 tons per year, respectively, and does not cause triggering of additional reporting levels. Therefore, annual emissions reporting will continue to be required for PM and PM<sub>10</sub>.

### **Maximum Emissions vs. Significant Levels, CER, and "In-house" Thresholds (TPY)**

Pollutant	Annual Emissions (TPY)	Significant Levels (TPY)	CERR Triggering Levels (TPY)		"In-house" Reporting Levels (TPY)
			1-Year Cycle (Type A Sources)	3-year Cycle (Type B Sources)	
NO <sub>x</sub>	5.76	40	≥ 250	≥ 100	≥ 25
CO	0.78	100	≥ 2500	≥ 1000	≥ 250
SO <sub>2</sub>	0.55	40	≥ 2500	≥ 100	≥ 25
PM <sub>10</sub>	32.09	15	≥ 250	≥ 100	≥ 25
PM	76.90	25			≥ 25
VOC	0.21	40	≥ 250	≥ 100	≥ 25

**PROPOSED**

Pollutant	Annual Emissions (TPY)	Significant Levels (TPY)	CERR Triggering Levels (TPY)		"In-house" Reporting Levels (TPY)
			1-Year Cycle (Type A Sources)	3-year Cycle (Type B Sources)	
HAPs	4.17E-04	--	--	--	≥ 5

**Insignificant Activities/Exemptions:**

Insignificant activities identified in the renewal application are:

Equipment	Qty.	Heat Input Capacity	Exemption Basis	Comment
Johnson CurePak SP 5000 steam generator	3	4.9 MMBtu/hr each when fired with LPG	HAR 11-60.1-82(f)(3)(B)	Steam generator with a heat input capacity of less than 5 MMBtu, fired exclusively with liquefied petroleum gas
LPG steam generator	1	3.5 MMBtu/hr		
Low sulfur diesel fuel tank	1	2,000 gal	HAR 11-60.1-82(f)(1)	Storage tank less than 40,000 gallons storing volatile organic compounds
High sulfur diesel fuel tank	1	1,000 gal		
Unleaded Gasoline tank	1	1,000 gal		
LPG fuel tank	2	2,000 gal		

**Alternate Operating Scenarios:**

The application proposes an alternate operating scenario when the not all the raw material is recirculated to produce 3/16 minus sand. The material not recirculated is rerouted to coarse conveyor and be moved to the coarse material stockpile. However, no justification was provided with regards to how often this scenario is utilized, and how the annual emissions will change as a result of this scenario. Therefore, the proposed alternate operating scenario is not approved, and thus there are no approved alternate operating scenarios for the facility.

**Project Emissions:**

To determine the emissions from the facility, emission factors from AP-42, Chapter 11.12, Table 11.12-2, (10/01) were used. Storage pile emission factors were obtained from AP-42, Chapter 13.2.4, Aggregate Handling and storage piles (11/06).

For lack of information in the application, it was assumed that the conveyor and hopper will operate at the existing maximum capacity of the tertiary crusher. The increase in emissions of the tertiary crusher due to the increase in throughput will also be addressed. Emissions will consist entirely of PM and PM<sub>10</sub>. NO emission factors are available for PM<sub>25</sub>.

Tileco Modification/Renewal – PM Emissions

Source	Emission Factor (lb/T)	Process Input (TPH)	Uncontrolled Emissions (TPY)
Hopper to conveyor	0.003	56	0.7358
Conveyor to tertiary crusher	0.003	56	0.7358
Tertiary crushing	0.0054	56	1.32
Total (uncontrolled)			2.7916
Control Efficiency			70%
Total (controlled)			0.8375

## PROPOSED

Tileco Modification/Renewal – PM<sub>10</sub> Emissions

Source	Emission Factor (lb/T)	Process Input (TPH)	Uncontrolled Emissions (TPY)
Hopper to conveyor	0.0011	56	0.2698
Conveyor to tertiary crusher	0.0011	56	0.2698
Tertiary crushing	0.0024	56	0.5887
Total (uncontrolled)			1.1283
Control Efficiency			70%
Total (controlled)			0.3385

The addition of the hopper and conveyor will increase PM emissions by 0.84 tons per year, and PM<sub>10</sub> emissions by 0.34 tons per year.

The emissions from the existing Covered Source Permit, issued on March 18, 2005 are displayed in the following table:

**Annual Air Pollution Estimates<sup>1</sup>**

Pollutant	LPG-fired Boilers (5.0 & 3.6 MMBtu/hr) (Exempt)	Rock Crushing & Screening	Concrete Batching	Stockpile	Vehicle Travel on Unpaved Roads	TOTAL EMISSIONS (TPY)
NO <sub>x</sub>	5.76	--	--	--	--	<b>5.76</b>
CO	0.78	--	--	--	--	<b>0.78</b>
SO <sub>2</sub>	0.55	--	--	--	--	<b>0.55</b>
PM <sub>25</sub>	0.07	3.17	1.42	4.76	0.38	<b>9.79</b>
PM <sub>10</sub>	0.16	8.03	4.34	15.18	2.45	<b>30.17</b>
PM	0.16	21.11	9.45	32.05	10.02	<b>72.80</b>
VOC	0.21	--	--	--	--	<b>0.21</b>
HAPs	--	--	4.13E-04	--	--	<b>4.13E-04</b>

<sup>1</sup> Obtained from January 31, 2005 application review

The CSP issued on March 18, 2005 was amended on March 14, 2008 to allow for the installation of a dewatering system and concrete block plants. The emissions from the modification are:

Tileco Annual Air Pollution Estimates

Pollutant	Batch Plant	Storage Piles	Silo Filling	Total
PM <sub>10</sub>	1.21	0.37	0.00	1.58
PM	2.52	0.75	0.00	3.26
<b>HAPS</b>				
Arsenic	0.00	0.00	9.01E-08	9.01E-08
Beryllium	0.00	0.00	1.03E-08	1.03E-08
Cadmium	0.00	0.00	1.03E-08	1.03E-08
Chromium	0.00	0.00	6.16E-07	6.16E-07
Lead	0.00	0.00	2.32E-07	2.32E-07
Manganese	0.00	0.00	2.49E-06	2.49E-06
Nickel	0.00	0.00	8.88E-07	8.88E-07
			Total HAPs	4.33E-06

<sup>2</sup> Obtained from December 17, 2007 application review

## PROPOSED

The emissions for the entire facility are:

Pollutant	March 18, 2005 Permit Issuance	March 14, 2008 Modification	Proposed Modification	TOTAL EMISSIONS (TPY)
NO <sub>x</sub>	5.76	0.00	0.00	<b>5.76</b>
CO	0.78	0.00	0.00	<b>0.78</b>
SO <sub>2</sub>	0.55	0.00	0.00	<b>0.55</b>
PM <sub>25</sub>	9.79	0.49	0.00	<b>10.28</b>
PM <sub>10</sub>	30.17	1.58	0.34	<b>32.09</b>
PM	72.80	3.26	0.84	<b>76.90</b>
VOC	0.21	0.00	0.00	<b>0.21</b>
HAPs	4.13E-04	4.33E-06	0.00E+00	<b>4.17E-04</b>

### **Synthetic Minor Applicability:**

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 based on potential emissions that are less than major source levels when the facility is operated at its maximum capacity (8,760 hours) on an annual basis. The addition of hopper and conveyor will not cause major source levels to be exceeded.

### **Air Quality Assessment:**

Emissions from the permitted equipment at facility consist of fugitive emissions or emissions from the baghouses. Since both fugitive and baghouse emissions are not steady-state emission points, an ambient air quality analysis is not required for the facility.

### **Conclusion:**

Recommend renewal and modification of existing covered source permit.

Kevin Kihara  
February 4, 2013