

**PROPOSED**

**TEMPORARY COVERED SOURCE PERMIT (CSP) APPLICATION REVIEW**  
**Temporary CSP No. 0549-01-CT**  
**Renewal Application No. 0549-01**

**Applicant:** Keauhou Kona Construction Corporation (KKCC)  
**Facility:** 325 and 380 TPH Portable Crushing and Processing Plants  
**Located at:** Various Temporary Sites, State of Hawaii

**Mailing**

**Address:** P.O. Box 9007  
Kailua-Kona, HI 96754

**Equipment:** 325 TPH and 380 TPH portable crushing and processing plants encompassing the following equipment and associated appurtenances:

- 
- a. 200-325 TPH Minyu jaw crusher (30" x 42"), model no. MS-4230, identification no. 027 with El-Jay vibratory feeder (46" x 16');
  - b. 340-380 TPH Kue Ken primary jaw crusher, model no. 4236 (42" x 36") with stepped vibrating grizzly feeder (approx. 42" x 16');
  - c. 210 TPH Telsmith cone crusher, model no. 48 S TEL, identification no. H-1631;
  - d. 270-380 TPH Cedarapids cone crusher, model no. 1313, identification no. 23JO791;
  - e. El-Jay two-deck screen;
  - f. Cedarapids three-deck screen, model no. FSG616332 (6' x 16'), identification no. 34G0689;
  - g. 275 hp Caterpillar diesel engine, model no. 3306T, serial no. 7JB05489, servicing the 340-380 TPH Kue Ken primary jaw crusher with associated conveyors and feeder;
  - h. 360 kW Detroit diesel engine, model no. 8V92TA, identification no. 8VF4593 (diesel engine), 4178-5104769 (generator);
  - i. 505 hp Cummins diesel engine, model no. KTA1150G, identification no. 31118276 (generator);
  - j. 587 hp Caterpillar diesel engine, model no. 3406C, identification no. 9DRO3773 (generator);
  - k. Various conveyors; and
  - l. Water spray system(s).

**Responsible Official:** Mr. William C. Degele  
**Title:** Civil Operations Manager  
**Address:** P.O. 9007  
Kailua-Kona 96754  
**Phone:** (808) 325-0199, Ext. 113

**Contact:** Mr. Dean Hellickson  
**Title:** Plant Manager  
**Address:** P.O. 9007  
Kailua-Kona 96754  
**Phone:** (808) 960-1666

## PROPOSED

**Contact:** Mr. Fred Peyer  
**Title:** Consultant  
**Address:** 94-515 Ukee Street  
Waipahu, HI 96797  
**Phone:** (808) 671-8383  
**Fax:** (808) 671-7979  
**Cell:** (808) 479-4945

### 1. Background.

1.1 KKCC submitted a renewal application on September 25, 2002 for their 325 TPH rock crushing plant operating under CSP No. 0293-01-CT. The application was assigned No. 0293-02 and has been superseded by a second renewal application received on October 14, 2003 to consolidate equipment from two of their permits. The second application has been assigned No. 0549-01. The Standard Industrial Classification Code for this facility is 1429 (Crushed and Broken Stone, Not Elsewhere Classified). For the permit renewal under application No. 0549-01, KKCC requested that:

- a. Equipment from temporary CSP Nos. 0293-01-CT (325 TPH plant) and 0504-01-CT (380 TPH plant) be consolidated into one permit;
- b. A 587 hp Caterpillar diesel engine be added to plant operation;
- c. Any one of the primary crushers can operate with either of the secondary crushers;
- d. Any one of the three diesel engines (360 kW Detroit, 587 hp Caterpillar, and 505 hp Cummins) can operate with either of the two primary crushers;
- e. Both primary crushers, one secondary crusher, and three diesel engines can operate simultaneously at each temporary location; and
- f. The stone processing equipment and diesel engines be limited to 2,500 hr/yr operation. The existing limits for the 325 TPH and 380 TPH plants are 2,000 hr/yr and 2,080 hr/yr operation, respectively.

1.2 Per conversation with Mr. Hellickson from KKCC, there are a total of four conveyors for each plant (one conveyor for the primary operations and three conveyors for the secondary operations). It was also indicated that the 325 TPH primary crushing plant is about 10 feet wide x 16 feet high x 48 feet long.

**2. Applicable Requirements.**

2.1 See permit application review Nos. 0293-01, 0504-01, and 0504-02 for applicability to Hawaii Administrative Rules (HAR).

2.2 See permit application review Nos. 0293-01, 0504-01, and 0504-02 for applicability to federal regulations.

2.3 The facility will be placed into the Compliance Data System (CDS) because the portable rock crushing plants are covered sources.

2.4 The facility is not a major stationary source for hazardous air pollutants (HAPs) and is not subject to National Emissions Standards for Hazardous Air Pollutants (NESHAPS) or Maximum Achievable Control Technology (MACT) requirements under 40 CFR, Parts 61 and 63.

2.5 The purpose of Compliance Assurance Monitoring (CAM) is to provide reasonable assurance that compliance is being achieved with large emission units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 CFR, 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 precontrol emissions that are greater than the major source level; and (5) not otherwise be exempt from CAM. CAM is not applicable to equipment at this facility because this facility is not a major source.

2.6 Prevention of Significant Deterioration (PSD) review applies to new major stationary sources and major modifications to these types of sources. This facility is not a major source for any single air pollutant. As such, PSD review is not required.

2.7.1 A Best Available Control Technology (BACT) analysis is required for NO<sub>x</sub> from the diesel engines because the net emissions increase of this pollutant exceeds significant levels as defined in HAR, Section 11-60.1-1 (see table below).

<b>EMISSIONS</b>				
Pollutant	Potential Emission for Modification (TPY) <sup>a</sup>	2001/2002 Calendar Year Actual Average Emissions (TPY)	Net Increase (TPY)	Significant Level (TPY)
PM	22.6	2.3	20.3	25
PM-10	10.8	no data	10.8	15
NO <sub>x</sub>	55.3	4.8	50.5	40
SO <sub>2</sub>	6.4	0.4	6.0	40
CO	12.0	1.0	11.0	100
VOCs	4.4	0.4	4.0	40

# PROPOSED

- a: Modification is to add a 380 TPH plant and three diesel engines (275 hp, 505 hp, and 587 hp) to the 325 TPH plant with one diesel engine (360 kW). Emissions for modification are the sum of those for the 380 TPH plant from Paragraphs 6.5 and 6.6 plus those for the additional diesel engines added that are listed in Paragraphs 6.1, 6.3, and 6.4. There is also an increase in emissions from the change of operating hours for the 325 TPH plant from 2,000 hr/yr to 2,500 hr/yr that was also incorporated into the potential to emit for the modification. Emissions from vehicle travel were not incorporated into the potential emissions for the modification.

2.7.2 For the BACT analysis, the applicant proposes the following for the diesel engine generators to control NO<sub>x</sub> emissions:

- a. Use of low sulfur fuel oil No. 2;
- b. Proper maintenance and operation; and
- c. Turbo charging (as indicated by the applicant's consultant, the 587 hp diesel engine is equipped with a turbo charger, however, the engine is not after cooled).

2.8 The facility is a synthetic minor source because limits have been imposed to restrict the facility from exceeding major source levels for NO<sub>x</sub> and PM if operated at 8,760 hr/yr with proposed controls for PM. Note that all fugitive PM emissions are considered for the major source determination because the facility is subject to NSPS.

2.9 Annual emissions reporting is required because this facility is a covered source.

2.10 The Consolidated Emissions Reporting Rule (CERR) is not applicable because emissions from the facility (for CERR applicability, the facility is a point source) are less than reporting levels pursuant to 40 CFR 51, Subpart A (see table below).

Pollutant	Facility Emissions (TPY)	CERR Triggering Levels (TPY)	
		1 year cycle (type A sources)	3 year cycle (type B sources)
PM-10	19.7	≥ 250	≥ 100
SO <sub>2</sub>	7.8	≥ 2,500	≥ 100
NO <sub>x</sub>	66.9	≥ 2,500	≥ 100
VOC	5.4	≥ 250	≥ 100
CO	14.5	≥ 2,500	≥ 1,000

### **3. Insignificant Activities and Exemptions.**

3.1 There were no reported insignificant activities or exemptions.

### **4. Alternate Operating Scenarios.**

4.1 There were no proposed alternate operating scenarios.

**5. Air Pollution Controls.**

5.1 Fugitive dust from the portable crushing and processing plants will be controlled by a water spray system and water spray truck at each temporary location. The applicant’s consultant provided a diagram for the water spray system that identified the following:

- a. Water spray bar/nozzle at conveyor transfer below primary crusher;
- b. Water spray bar/nozzle at conveyor transfer to cone crusher;
- c. Water spray bar/nozzle below cone crusher;
- d. Water spray bar/nozzle at conveyor transfer from screener; and
- e. Hand-held sprayer at the operator platform of the grizzly feeder.

**6. Project Emissions.**

6.1 The applicant’s consultant used emission factors taken from AP-42, Section 3.3 (10/96), “Gasoline and Industrial Engines” to determine emissions from the 275 hp diesel engine that is mounted to the chassis of the 380 TPH primary plant. A worst-case fuel consumption of 15.1 gal/hr was used for the calculations. PM-10 emissions were also assumed to equal PM emissions. Emission rates were based on 2,500 hr/yr operation, a 19,300 Btu/lb fuel heating value, and a fuel density of 7.1 lb/gal for diesel. Emissions, adjusted as applicable, are summarized below:

<b>275 hp Diesel Engine Emissions</b>				
Pollutant	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)/(g/s)	Emission Rate (TPY) [2,500 hr/yr]	Emission Rate (TPY) [8,760 hr/yr]
NO <sub>x</sub>	4.41	9.125/1.152	11.4	40.0
CO	0.95	1.966/0.248	2.5	8.6
SO <sub>2</sub>	<sup>a</sup> mass balance	1.071/0.135	1.3	4.7
PM	0.31	0.641/0.081	0.8	2.8
PM-10	0.31	0.641/0.081	0.8	2.8
TOC	0.36	-----	0.9	3.3
HAPs	various (0.006)	-----	0.016	0.056

a: Based on mass balance as follows:  
 $S/SO_2 = 32.06/64.06$   
 $(15.1 \text{ gal/hr})(7.1 \text{ lb diesel/gal})(0.005 \text{ sulfur}) = 0.536 \text{ lb sulfur/hr}$   
 $SO_2 = (0.536)(64.06/32.06) = \mathbf{1.071 \text{ lb/hr}}$   
 $(1.071 \text{ lb/hr})(\text{kg}/2.2 \text{ lb})(1,000\text{g}/\text{kg})(\text{hr}/3,600 \text{ s}) = \mathbf{0.135 \text{ g/s}}$   
 $(1.071 \text{ lb/hr})(2,500 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb}) = \mathbf{1.339 \text{ TPY}}$

# PROPOSED

6.2 The applicant's consultant used emission factors taken from AP-42, Section 3.3 (10/96), "Gasoline and Industrial Engines" to determine emissions from the 360 kW diesel engine generator. A worst-case fuel consumption of 19.25 gal/hr was used for the calculations. PM-10 emissions were also assumed to equal PM emissions. Emission rates were based on 2,500 hr/yr operation, a 19,300 Btu/lb fuel heating value, and a fuel density of 7.1 lb/gal for diesel. Emissions, adjusted as applicable, are summarized below:

360 kW Diesel Engine Emissions					
Pollutant	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)/(g/s)	Emission Rate (TPY)		Emission Rate (TPY) [8,760 hr/yr]
			2,500 hr/yr	500 hr/yr	
NO <sub>x</sub>	4.41	11.633/1.469	14.5	2.9	51.0
CO	0.95	2.506/0.316	3.1	0.6	11.0
SO <sub>2</sub>	<sup>a</sup> mass balance	1.365/0.172	1.7	0.3	6.0
PM	0.31	0.818/0.103	1.0	0.2	3.6
PM-10	0.31	0.818/0.103	1.0	0.2	3.6
TOC	0.36	-----	1.2	0.2	4.2
HAPs	various (0.006)	-----	0.020	-----	0.069

a: Based on mass balance as follows:  
 $S/SO_2 = 32.06/64.06$   
 $(19.25 \text{ gal/hr})(7.1 \text{ lb diesel/gal})(0.005 \text{ sulfur}) = 0.683 \text{ lb sulfur/hr}$   
 $SO_2 = (0.683)(64.06/32.06) = \mathbf{1.365 \text{ lb/hr}}$   
 $(1.365 \text{ lb/hr})(\text{kg}/2.2 \text{ lb})(1,000\text{g}/\text{kg})(\text{hr}/3,600 \text{ s}) = \mathbf{0.172 \text{ g/s}}$   
 $(1.365 \text{ lb/hr})(2,500 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb}) = \mathbf{1.706 \text{ TPY}}$

6.3 The applicant's consultant used emission factors taken from AP-42, Section 3.3 (10/96), "Gasoline and Industrial Engines" to determine emissions from the 505 hp diesel engine. A worst-case fuel consumption of 25 gal/hr was used for the calculations. PM-10 emissions were also assumed to equal PM emissions. Emission rates were based on 2,500 hr/yr operation, a 19,300 Btu/lb fuel heating value, and a fuel density of 7.1 lb/gal for diesel. Emissions, adjusted as applicable, are summarized below:

505 hp Diesel Engine Emissions				
Pollutant	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)/(g/s)	Emission Rate (TPY)	Emission Rate (TPY)
			[2,500 hr/yr]	[8,760 hr/yr]
NO <sub>x</sub>	4.41	15.108/1.908	18.9	66.2
CO	0.95	3.254/0.411	4.1	14.3
SO <sub>2</sub>	<sup>a</sup> mass balance	1.758/0.222	2.2	7.7
PM	0.31	1.062/0.134	1.3	4.6
PM-10	0.31	1.062/0.134	1.3	4.6
TOC	0.36	-----	1.5	5.4
HAPs	various (0.006)	-----	0.026	0.090

a: Based on mass balance as follows:  
 $S/SO_2 = 32.06/64.06$   
 $(25 \text{ gal/hr})(7.1 \text{ lb diesel/gal})(0.005 \text{ sulfur}) = 0.888 \text{ lb sulfur/hr}$   
 $SO_2 = (0.888)(64.06/32.06) = \mathbf{1.758 \text{ lb/hr}}$   
 $(1.758 \text{ lb/hr})(\text{kg}/2.2 \text{ lb})(1,000\text{g}/\text{kg})(\text{hr}/3,600 \text{ s}) = \mathbf{0.222 \text{ g/s}}$   
 $(1.758 \text{ lb/hr})(2,500 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb}) = \mathbf{2.1975 \text{ TPY}}$

## PROPOSED

6.4 The applicant's consultant used emission factors taken from AP-42, Section 3.3 (10/96), "Gasoline and Industrial Engines" to determine emissions from the 587 hp diesel engine generator. Worst-case fuel consumption of 29.2 gal/hr was used for the calculations. PM-10 emissions were also assumed to equal PM emissions. Emission rates were based on 2,500 hr/yr operation, a 19,300 Btu/lb fuel heating value, and a fuel density of 7.1 lb/gal for diesel. Emissions, adjusted as applicable, are summarized below:

<b>587 hp Diesel Engine Emissions</b>				
Pollutant	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)/(g/s)	Emission Rate (TPY) [2,500 hr/yr]	Emission Rate (TPY) [8,760 hr/yr]
NO <sub>x</sub>	4.41	17.645/2.228	22.1	77.3
CO	0.95	3.801/0.480	4.8	16.8
SO <sub>2</sub>	<sup>a</sup> mass balance	2.072/0.262	2.6	9.1
PM	0.31	1.240/0.157	1.6	5.4
PM-10	0.31	1.240/0.157	1.6	5.4
TOC	0.36	-----	1.8	6.3
HAPs	various (0.006)	-----	0.030	0.105

- a: Based on mass balance as follows:  
 $S/SO_2 = 32.06/64.06$   
 $(29.2 \text{ gal/hr})(7.1 \text{ lb diesel/gal})(0.005 \text{ sulfur}) = 1.037 \text{ lb sulfur/hr}$   
 $SO_2 = (1.037)(64.06/32.06) = \mathbf{2.072 \text{ lb/hr}}$   
 $(2.072 \text{ lb/hr})(\text{kg}/2.2 \text{ lb})(1,000\text{g}/\text{kg})(\text{hr}/3,600 \text{ s}) = \mathbf{0.262 \text{ g/s}}$   
 $(2.072 \text{ lb/hr})(2,500 \text{ hr/yr}) (\text{ton}/2,000 \text{ lb}) = \mathbf{2.590 \text{ TPY}}$

## PROPOSED

6.5 The applicant’s consultant used emission factors taken from AP-42, Section 11.19.2 (1/95) “Crushed Stone Processing” to predict fugitive dust emissions from the 325 TPH and 380 TPH portable crushing and processing plants. Emission factors were selected from the uncontrolled category and a 70% control efficiency was used to account for the wet suppression measures proposed by the applicant. Emissions, shown in Enclosure (1), were based on the maximum rated equipment capacities and 2,500 hr/yr operation. Emissions for the plant, adjusted as applicable, are summarized below:

<b>325 TPH and 380 TPH Plant Emissions</b>				
Pollutant	Emission Rate (TPY) [2,500 hr/yr with controls]		Emission Rate (TPY) [8,760 hr/yr with controls]	
	325 TPH Plant	380 TPH Plant	325 TPH Plant	380 TPH Plant
<sup>a</sup> PM	10.1	12.0	35.4	42.0
<sup>a</sup> PM-10	3.4	4.1	11.9	14.4

a: Emissions from the 325 TPH plant for 500 hr/yr operation are 0.6 TPY PM-10 and 2.0 TPY PM.

6.6 Emissions from active stockpiles were determined by the applicant’s consultant using AP-42, Section 13.2.4 (1/95), “Aggregate Handling and Storage Piles”. Emissions were based on a total aggregate production from 325 TPH and 380 TPH plants of 812,500 TPY and 950,000 TPY respectively. Emission factors were determined from the following data: 10.9 mph average wind speed (data from Hilo, Honolulu, Kahului, and Lihue), K value for PM-10 of 0.35, K value for PM of 0.74, and 0.7% moisture content for aggregate. A 70% control efficiency was assumed for the storage piles for using a water truck. Emissions, adjusted as applicable, are summarized below.

<b>Stockpile Emissions</b>					
Pollutant	Emission Factor (lb/ton)	Emission Rate (TPY) [with controls at 2,500 hr/yr]		Emission Rate (TPY) [with controls at 8,760 hr/yr]	
		325 TPH Plant	380 TPH Plant	325 TPH Plant	380 TPH Plant
PM	0.0284	3.5	4.0	12.3	14.0
PM-10	0.0134	1.6	1.9	5.6	6.7

a: Emissions from the 325 TPH plant for 500 hr/yr operation are 0.3 TPY PM-10 and 0.7 TPY PM.

**PROPOSED**

6.7 Emissions from vehicle travel on unpaved roads were calculated by the applicant’s consultant using emission factor determined from equation for vehicles traveling on unpaved surfaces at industrial sites. The equation was obtained from AP-42, Section 13.2.2 (12/03) “Unpaved Roads”. The Equation (1a) emission factor was extrapolated to annual average uncontrolled conditions using Equation (2). Emission rates were based on the following assumptions:

- a. A distance of 15,476 and 18,095 vehicle miles traveled per year for the 325 TPH and 380 TPH primary crushing plants, respectively, based on 2,500 hr/yr operation, a truck capacity of 21 tons, and a 0.4 mile two-way travel distance;
- b. A k (constant) for PM and PM-10 of 4.9 and 1.5, respectively based on data for industrial roads;
- c. An a (constant) for PM and PM-10 of 0.7 and 0.9, respectively based on data for industrial roads;
- d. A b (constant) for PM and PM-10 of 0.45 based on data for industrial roads;
- e. An s (silt content of road) value of 3.9% based on information from AP-42, Section 13.2.2 - Unpaved Roads Related Information ([www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html](http://www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html));
- f. A W (mean vehicle weight) value of 26.5 tons;
- g. A p (# of days with 0.1" of rain/year) value of 172 based on available data between years 1956 and 2003 from Opihihale 2, Hawaii ([www.wrcc.dri.edu/cgi-bin/cliGCStP.pl?hiopih](http://www.wrcc.dri.edu/cgi-bin/cliGCStP.pl?hiopih));
- h. A 70% control efficiency was applied to account for dust control from water trucks; and
- i. Vehicle travel emissions are listed as follows:

<b>Vehicle Travel Emissions</b>					
Pollutant	Emission Factor (lb/VMT)	Emission Rate (TPY) [with controls at 2,500 hr/yr]		Emission Rate (TPY) [with controls at 8,760 hr/yr]	
		325 TPH Plant	380 TPH Plant	325 TPH Plant	380 TPH Plant
PM	3.142	7.3	8.5	25.6	29.8
PM-10	0.769	1.8	2.1	6.3	7.4

6.8 Facility-wide emissions are listed as follows:

<b>Facility-Wide Emissions</b>		
Pollutant	Potential Emission (TPY) [Proposed controls at 2,500 hr/yr]	Potential Emission (TPY) [Proposed controls at 8,760 hr/yr]
CO	14.5	50.8
NO <sub>x</sub>	66.9	234.4
SO <sub>2</sub>	7.8	27.3
PM	50.1	175.6
PM-10	19.7	69.0
VOC	5.4	18.9
HAPs	0.092	0.322

**7. Air Quality Assessment.**

7.1 The applicant’s consultant conducted an air modeling assessment using BEE-Line’s Screen 3 modeling program for the new 587 hp diesel engine that has not been permitted yet. For the assessment, it was assumed that pollutant emissions from existing engines are part of the background concentrations. The air modeling assessment indicated compliance with the air standards.

7.2 The Department modeled all diesel engines (275 hp, 360 kW, 505 hp, 587 hp diesel engines) together using BEE-Line’s BEEST (ISCST3) program. For the air modeling assessment, the following was assumed:

- a. Rural dispersion parameters;
- b. Simple and complex terrain effects;
- c. Terrain elevation data using the Kiholo topographic quadrant zone 5 from file 0030.DEM for terrain data in NAD27 format;
- d. Terrain special grid with 25 meter spacing;
- e. Sources located at approximate center of a 1,000 x 1,000 square meter grid area;
- f. UTM coordinates for source and other equipment in NAD83 converted to NAD27 using Corpcon for Windows;

## PROPOSED

- g. Equipment and source location arbitrarily selected in vicinity of location proposed for source; and
- h. EPA building profile input program (BPIP) applied to evaluate the effects of down wash from the screen/cone plant, 325 TPH primary plant, and 380 TPH primary plant.

7.3 The following background concentrations were used for the assessment:

- a. SO<sub>2</sub> - collected in 2002 from the Kona monitoring station;
- b. PM<sub>10</sub> - collected in 2002 from the Hilo monitoring station; and
- c. NO<sub>2</sub> and CO - collected in 2002 from the new Kapolei monitoring station.

7.4 The table below presents the potential emission rates and stack parameters used in the air modeling assessment.

### SOURCE EMISSION RATES AND STACK PARAMETERS FOR AIR MODELING

SOURCE		EMISSION RATES				STACK PARAMETERS			
Equipment	Stack No.	SO <sub>2</sub> (g/s)	NO <sub>x</sub> (g/s)	CO (g/s)	PM <sub>10</sub> (g/s)	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
275 hp Diesel Engine	1	0.135	1.152	0.248	0.081	6.0	937	69.222	0.127
360 kW Diesel Engine	2	0.172	1.469	0.316	0.103	4.0	656	127	0.120
505 hp Diesel Engine	3	0.222	1.908	0.411	0.134	6.0	777	78.134	0.152
587 hp Diesel Engine	4	0.262	2.228	0.480	0.157	5.0	845.8	126.8	0.127

7.5 The predicted concentrations in the following table assumed 2,500 hr/yr operation and the maximum g/s emission rates. Based on these assumptions, the emissions impact from the diesel engines will comply with state and federal ambient air quality standards.

**PROPOSED**

**PREDICTED AMBIENT AIR QUALITY IMPACTS**

AIR POLLUTANT	AVERAGING TIME	IMPACT (ug/m <sup>3</sup> )	BACKGROUND (ug/m <sup>3</sup> )	TOTAL IMPACT (ug/m <sup>3</sup> )	AIR STANDARD (ug/m <sup>3</sup> )	PERCENT STANDARD
Sulfur Dioxide	3-Hour	1113	50	1,163	1,300	89
	24-Hour	331	19	350	365	96
	Annual	5	8	13	80	16
Nitrogen Dioxide	Annual	40	9	49	70	70
Carbon Monoxide	1-Hour	2,322	2,052	4,374	10,000	44
	8-Hour	1,510	1,938	3,448	5,000	69
PM-10	<sup>a</sup> 24-Hour	101	23	124	150	83
	Annual	3	10	13	50	26

a: Second highest high concentration used and limiting concentration not exceeded more than once in a calendar year as required by HAR §11-59-4.

**8. Significant Permit Conditions.**

8.1 The total operating hours of the portable rock crushing plants and diesel engines shall not exceed 2,500 hours operation in any rolling twelve (12) month period.

8.2. The permittee shall install, operate, and maintain a non-resetting hour meter on each diesel engine and the 325 TPH primary crushing plant for the continuous and permanent recording of the number of hours operated.

Reasons for 8.1 and 8.2: These conditions were incorporated into the permit to limit the facility's operation to 2,500 hr/yr. A 2,500 hr/yr operation limit was requested by the permittee to replace the original permit restriction. The 380 TPH plant's hourly operation is monitored by the 275 hp diesel engine that is built into the plant to provide power. The 325 TPH primary plant can be powered with electricity from any of the three remaining diesel engine generators. The 325 TPH plant does not have a dedicated engine. Therefore, the 325 TPH plant requires an hour meter. The hours of operation of the secondary crushing and screening depend on those for the primary plants because the secondary plants will only operate when the primary plants are running.

8.3 Change the permit to allow provisions for the permittee to interchange equipment.

Reason for 8.3: Change per applicant's request. Equipment for each temporary site will be identified during change of location requests.

**9. Conclusion.**

9.1 Actual emissions from the portable rock crushing plants should be lower than estimated because potential emissions were based on operation of the plants at maximum capacity. Plant operation is not expected to reach maximum capacity for extended periods of time. A water spray system and a water spray truck will be used by the applicant at each temporary site to control fugitive dust. Hour limits on the diesel engines should ensure compliance with state and federal ambient air quality standards. Recommend issuance of the permit subject to the incorporation of the significant permit conditions, the 30-day public comment period, and 45-day EPA review period. When issued, this permit will supersede permit Nos. 0293-01-CT and 0504-01-CT.

Mike Madsen 1-23-2004