

**PERMIT APPLICATION REVIEW  
Temporary Covered Source Permit (CSP) No. 0542-01-CT  
Application No. 0542-02**

**Applicant:** Jas. W. Glover, Ltd.

**Facility:** 300 TPH Portable Asphalt Plant

**SIC Code:** 2951 (asphalt paving mixtures & blocks)

**Located at:** U.S. Army Pohakuloa Training Area Quarry, Island of Hawaii

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**I. Background**

Jas. W. Glover, Ltd. (Glover) plans to move its existing asphalt plant located on the island of Hawaii from the Waimea Quarry to the U.S. Army Pohakuloa Training Area Quarry - an area surrounded by grasslands with no structures in the near vicinity. The company's upcoming project, scheduled to begin in October 2006 and last 2-1/2 years, involves production of asphalt concrete for the paving of Saddle Road.

Federal contract requirements for this project require production of lime-enhanced asphalt concrete. The lime is added to create better bonding between the asphalt and aggregate which increases the life of the resulting asphalt concrete.

For this reason, Glover has applied for a modification proposing the addition of a 300 TPH portable lime feeder system, consisting of a pug mill and silo with baghouse. An application for a significant modification dated April 2006, along with a check for the \$500 processing fee, was received by the Department of Health (Department) on April 28, 2006.

## PROPOSED

The system's 350 barrel silo will be pneumatically filled with lime. A baghouse (operating passively without exhaust fan) controls PM emissions during this operation. The lime will be weighed in weigh pod located under the silo, and an auger will convey the lime to a pug mill where it will be combined with aggregate and water to form a mixture with a moisture content of approximately 4%. The mixture then enters the drum dryer where liquid asphalt will be added.

Most of the lime feeder system (including the weigh pod, auger, and pug mill) is enclosed, and the baghouse stack is the only new PM emission point. Since potential emissions from this modification result in emissions less than five tons per year of carbon monoxide and less than two tons per year of each regulated air pollutant, other than carbon monoxide, this modification is considered minor in accordance with the definition of "minor modification" in Hawaii Administrative Rules, Chapter 60.1, Section 11-60.1-81.

Other than addition of the lime feeder system, the only other permit changes will be deletion of the permitted RAP crusher which was never purchased or installed, and an updating of location change requirements.

### II. Equipment Description

<b>Table 1: Equipment Description</b>					
<b>Description</b>	<b>Manuf.</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Capacity</b>	<b>Date</b>
drum mixer	CMI Corp.	PTD-300	145	300 TPH	2003
burner	Hauck	Eco-Star II			2003
baghouse for drum mixer	CMI Corp.	RA318P	RA318PTD0233	53,400 acfm	2003
DEG	Cummins	QST30-G2	37208737	1085 bhp	2003
hot oil heater	CMI Corp.	CEI-2000	CO3 - 056	2.82 MMBTUH	2003
4' x 10' scalping screen	CMI Corp.	PC-30X47	337		2003
10' x 14' aggregate bin	CMI Corp.	PAB-432	233		2003
lime feeder system:					
3,500 gal. tank & pugmill	CMI Corp.	PMS303530	117	300 TPH	2006
portable self-erect silo	CMI Corp.	MFS-350PSE	108	350 barrels	2006
baghouse	CMI Corp.	PJ-159			2006

**III. Air Pollution Controls**

A baghouse is used to control PM emissions while the silo is being filled with lime. Table 2 provides information on the facility's air pollution controls.

<b>Table 2: Air Pollution Controls</b>		
<b>Emission Source</b>	<b>Control Measure</b>	<b>Control Efficiency</b>
Asphalt drum mixer	baghouse	99%
Aggregate processing	water spray	70%
Unpaved roads	water	70%
Lime feeder silo	baghouse	99%

**IV. Applicable Requirements**

1. Hawaii Administrative Rules (HAR), Title 11

Chapter 59, Ambient Air Quality Standards

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 10 - Field Citations

2. PSD Requirements

PSD requirements do not apply because the facility is not a major stationary source and is not proposing any modifications to trigger a major modification as defined in 40 CFR 52.21 and HAR Title 11, Chapter 60.1, Subchapter 7.

3. NSPS Requirements

40 CFR 60 - Standards of Performance for New Stationary Sources:

Subpart A - General Provisions

Subpart I - Standards of Performance for Hot Mix Asphalt Facilities

Subparts A and I apply to the asphalt plant because the facility was constructed after June 11, 1973.

4. NESHAP Requirements

These requirements do not apply because no standard covering the facility's operation or equipment has been promulgated under 40 CFR 61 and 63.

5. MACT Requirements

These requirements do not apply because the facility is not a major source of hazardous air pollutants and the facility does not belong to a source category or subcategory for which a standard has been promulgated under 40 CFR 63.

6. BACT Requirements

A BACT review is required for new or modified sources resulting in a *significant* net emissions increase as defined in HAR §11-60.1-1. Since the PM and PM-10 emission increases do not exceed the significant levels of 25 and 15 tpy, respectively, a BACT analysis is not required.

7. CAM Requirements (40 CFR 64)

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 controls to meet an emissions limit or standard. CAM applies if the emissions unit:

1. is located at a major source;
2. is subject to an emissions limit or standard;
3. uses a control device to achieve compliance;
4. has potential pre-control emissions that are 100% of the major source level; AND
5. is not otherwise exempt from CAM.

Since the facility is not a major source, CAM does not apply.

8. CER/DOH Requirements

Consolidated Emissions Reporting Requirements (CERR) apply if facility emissions equal or exceed levels provided in 40 CFR 51, Subpart A, Appendix A. CERR do not apply because facility emissions, including those due to the lime feeder system, are below the CERR levels.

9. Major Source Applicability

This facility is not a major source because potential emissions of each pollutant, considering controls and operational limits, are below major source levels.

10. Synthetic Minor

A synthetic minor 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. The facility is a synthetic minor of CO, NOx and PM because without operational limits, emissions of each of these pollutants would equal or exceed 100 tpy.

**V. Insignificant Activities**

<b>Table 3: Insignificant Activities</b>	
<b>Description</b>	<b>HAR Reference</b>
1 - 8,000 gallon diesel fuel tank	11-60.1-82(f)(1) Any storage tank, reservoir, or other container of capacity equal to or less than 40,000 gallons storing volatile organic compounds, except those storage tanks, reservoirs, or other containers subject to any standard or other requirement pursuant to Sections 111 and 112 of the Act.
1 - 45 kW Stamford DEG, serial no. C950572202	11-60.1-82(f)(2) Other than smoke house generators and gasoline fired industrial equipment, fuel burning equipment with a heat input capacity less than one million BTU per hour, or a combination of fuel burning equipment operated simultaneously as a single unit having a total combined heat input capacity of less than one million BTU per hour.

**VI. Alternative Operating Scenarios**

The asphalt plant will be operated with or without the portable lime feeder depending on asphalt concrete requirements for each project.

In the event that the permitted DEG becomes temporarily inoperable, the applicant requests that installation and operation of a DEG of equal or smaller size, be allowed until the permitted DEG is repaired and operational.

**VII. Project Emissions**

The addition of a lime feeder system results in an additional emission point source from the silo baghouse. The rest of the system is enclosed. Table 4 shows silo baghouse emissions which were determined using emission factors for controlled cement unloading to elevated storage silo, since factors for loading of lime are not available. Table 5 shows total facility emissions.

<b>Table 4: Emissions from Loading Lime into Silo with Baghouse</b>						
<b>Pollutant</b>	<b>AP-42 Table</b>	<b>EF</b>	<b>EF Units</b>	<b>Process Rate</b>	<b>Units</b>	<b>Emissions (TPY)</b>
PM	11.12-2	9.90E-04	lb/ton	2,628,000	tpy	1.30
PM-10	11.12-2	3.40E-04	lb/ton	2,628,000	tpy	0.45
PM-2.5	B.2.2	2.97E-04	lb/ton	2,628,000	tpy	0.39
Notes:						
1. For PM-2.5, use 30% of PM emission factor per AP-42, Appendix B, pg. B.2-14.						
2. Process Rate = 300 ton/hr * 8,760 hr/yr = 2,628,000 ton/yr						

<b>Table 5: Facility-Wide Emissions</b>					
	<b>Total, excluding Lime Feeder</b>		<b>Lime feeder</b>	<b>Total</b>	
	<b>8,760 hr/yr</b>	<b>3,000 hr/yr</b>	<b>8,760 hr/yr</b>	<b>8,760 hr/yr</b>	<b>3,000 hr/yr</b>
CO	178.8	61.2		178.8	61.2
NOx	140.0	48.0		140.0	48.0
PM	139.9	47.9	1.3	141.2	49.2
PM-10	59.9	20.5	0.4	60.3	21.0
PM-2.5	59.9	20.5	0.4	60.3	20.9
SO2	98.8	33.9		98.8	33.9
VOC	65.1	22.3		65.1	22.3
Pb	0.0	0.0		0.0	0.0
HAPs	3.1	1.1		3.1	1.1

Notes:

1. Total facility emissions, excluding those from the lime feeder were taken from page 7 of the previous application review dated 12/19/03.
2. Total PM-2.5 facility emissions, excluding those from the lime feeder were set equal to PM-10 emissions and will be recalculated during the next permit renewal.

**VIII. Air Quality Assessment**

An Ambient Air Quality Impact Assessment is generally done for new or modified sources. The only additional emission point is the baghouse servicing the silo during loading of lime. Since this process occurs on an intermittent basis, a modeling analysis was not performed.

**IX. Significant Permit Conditions**

1. The baghouse for the lime silo shall be operated at all times during the silo loading of lime and shall be maintained in good operating condition.

Purpose: Emission calculations are based on the assumption that PM emissions are controlled using the baghouse.

**X. Conclusion**

Emission calculations for the lime feeder system are based on the system operating at its maximum capacity of 300 TPH continuously for 8,760 hr/yr. Actual emissions should be less than calculated since the actual production rate should be less than the maximum capacity and the system will not be operated continuously throughout the year.

Issuance of an amended covered source permit is recommended based on the review of the applicant's information and subject to significant permit conditions and EPA review.

April Matsumura  
August 23, 2006