STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Old Castle Lawn & Garden, Inc.
d/b/a Jolly Gardener Products, Inc.
Androscoggin County
Poland Spring, Maine
A-964-71-C-A (SM)

Departmental
Findings of Fact and Order
Air Emission License
Amendment #2

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Old Castle Lawn & Garden, Inc. d/b/a Jolly Gardener Products, Inc. (Jolly Gardener Products) has submitted an amendment to their air emission license. The facility produces wood mulch by shredding green and waste wood products into a variety of garden mulches. The facility also composts and packages amended soils for bulk and retail distribution.

Jolly Gardener Products was issued Air Emission License A-964-71-A-N on December 27, 2007, permitting the operation of electrical generation equipment associated with the facility's grinders, conveyors, loaders, and screens. The license was subsequently amended on March 30, 2010 (A-964-71-B-A) to replace two of the screen engines and to add a third screen.

Jolly Gardener Products has submitted an amendment to re-license a generator (CEC Screen Engine) that was replaced in the previous amendment. Two other engines included in the amendment application are considered insignificant activities (below the threshold of 0.5 MMBtu/hr). In addition, the Barber Green Conveyor with associated engine is to be removed from the license.

The equipment addressed in this license is located at 481 Springwater Road, Poland Spring, Maine.

B. Emission Equipment

For clarity, the licensed fuel burning equipment at the facility is included in the following table, with a notation for the unit being added in this amendment:

Generator Equipment
(associated engines on process equipment)

Equipment	Maximum Capacity (MMBtu/hr)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Comments
CBI Grinder Engine	7.0	51	ULS Diesel, 0.0015%	Licensed in A-964-71-A-N
Hogzilla Grinder Engine	6.2	45	ULS Diesel, 0.0015%	Licensed in A-964-71-A-N
Barber Green Conveyor Engine	*1.2*	*9*	*ULS Diesel, 0.0015%*	*To be removed*
Prentice Log Loader Engine	1.2	9	ULS Diesel, 0.0015%	Licensed in A-964-71-A-N
Phoenix 3300 Screen Engine	1.0	7.5	ULS Diesel, 0.0015%	Replaced Retech Screen in Amendment #1
Warrior 1800 Screen Engine	0.7	4.8	ULS Diesel, 0.0015%	Replaced CEC Screen in Amendment #1
CBI Pre-Screener Engine	1.1	8.0	ULS Diesel, 0.0015%	Added in Amendment #1
CEC Screen Engine	**0.8**	**6**	**ULS Diesel, 0.0015%**	**To be re-licensed**

Jolly Gardener Products operates additional fuel burning equipment below the insignificant activities thresholds; therefore, these units are not required to be licensed, including a waste oil furnace and other miscellaneous small heaters and small engines. Jolly Gardener Products also operates mobile equipment not required to be licensed, such as front-end loaders, excavators, a compost turner, and the Bantam crane. The units are mentioned for completeness only.

C. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases are determined by subtracting the current licensed emissions preceding

the modification from the maximum future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Sig. Level
PM	3.4	3.6	+0.2	100
PM_{10}	3.4	3.6	+0.2	100
SO_2	0.2	0.2	-	100
NO_X	69.6	66.5	+3.1	100
CO	13.2	12.5	+0.7	100
VOC	4.9	4.7	+0.2	50
CO_2e	4895	5114	+219	100,000

This modification is determined to be a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended).

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

Before proceeding with the control requirements for each unit, a general description is provided.

Equipment Description

Jolly Gardener Products manufactures garden mulch and amended soils from wood waste and other raw materials. The facility operates several pieces of equipment powered by on-board diesel engines to process the material. All of the equipment listed on the license is trailer mounted and portable. The units are routinely moved around the yard depending on the type of product being

produced and the physical space available for storage piles. Processing of the material can include any combination of the following: grinding, screening, conveying, dyeing, composting, mixing, and bagging.

B. Federal Engine Requirements

In air emission license amendment A-964-71-B-A (issued March 30, 2010), it was determined that the two new engines added to the license were subject to EPA's New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. This implies that the units were considered stationary at the time of licensing; however, this finding wasn't implicitly written.

The additional existing units at the facility, including the CEC Screen Engine addressed in this amendment, are older units and may be subject to 40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. 40 CFR Part 63, Subpart ZZZZ is applicable to stationary reciprocating internal combustion engines (RICE) per § 63.6585(a): "a stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition."

The definition of non-road engine in 40 CFR Part 1068.30 states that a non-road engine is an internal combustion engine that meets certain criteria, including: (1)(iii) "By itself or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform." 40 CFR Part 1068.30 further states that an engine is not a non-road engine if: (2)(iii) " The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. See §1068.31 for provisions that apply if the engine is removed from the location.

On December 5, 2008, the U.S. Environmental Protection Agency's (EPA) George T. Czerniak, Chief of the Air Enforcement and Compliance Assurance Branch, sent an applicability determination to the Minnesota Pollution Control Agency regarding a RICE unit at the Hibbing Taconite Company's Hibbing, Minnesota facility. The generator was used to move electric rope shovels, electric power drills, and the electrically powered tailings basin dragline around the mine. In the permit application, the Hibbing Taconite Company asserted that the engine qualifies as a non-road engine, because the generator is regularly moved throughout the facility, approximately once every seven days. EPA's applicability determination stated that the diesel engine used at the Hibbing Taconite Company is not subject to the requirements of 40 C.F.R. Part 63, Subpart ZZZZ since: "the engine is regularly moved through the facility. The engine is not stationary at one location for a period of more than 12 month. In fact, the engine is moved at least once every seven days. Therefore, the Hibbing Taconite Company's diesel engine is classified as a non-road engine."

Based on EPA's applicability determination for the Minnesota facility, it can be reasoned that the CEC Screen Engine at the Jolly Gardener Products facility may not be subject to 40 C.F.R. Part 63, Subpart ZZZZ since it is portable and is moved to various locations within the facility over the course of a year.

C. CEC Screen Engine

Jolly Gardener Products has submitted an amendment to add the previously licensed CEC Screen Diesel Engine generator which was removed from the license in amendment A-964-71-B-A when three other generators were added. The CEC screen engine was manufactured in 2003, included in the facility's initial air emissions license issued in 2007, and removed from the air emission license in 2010 after a fire occurred at the facility. However, the CEC Screen Engine should have remained licensed. The engine has a maximum heat input capacity of 0.8 MMBtu/hr and fires ultra low sulfur diesel (0.0015% sulfur) at a maximum firing rate of 6 gal/hour.

BACT/BPT Findings

The BACT/BPT emission limits for the CEC Screen Engine were based on the following:

Diesel

PM/PM_{10} – 0.31 lb/MMBtu from AP-42 Table 3.3-1 (dated 10/96)
SO_2 –based on firing 0.0015% sulfur, 0.0015 lb/MMBtu;
NO_X – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
VOC – 0.36 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96);
Opacity – Visible emissions from the diesel engine shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period.

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
CEC Screen Engine (0.8 MMBtu/hr) Diesel	0.25	0.25	0.0012	3.53	0.76	0.29

The engine shall be limited to 3200 hours of operation a year, based on a 12 month rolling total. Jolly Gardener Products shall keep records of the hours of operation for the unit.

D. Annual Emissions

1. Total Annual Emissions
Jolly Gardener Products shall be restricted to the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on each of the engines operating 3200 hours/year:

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	**PM_{10}**	**SO_2**	**NO_X**	**CO**	**VOC**
CBI Grinder Engine	1.3	1.3	0.1	20.8	3.5	1.0
CBI Pre-Screener Engine	0.2	0.2	--	7.8	1.7	0.6
Hogzilla Grinder Engine	1.2	1.2	0.1	17.9	3.0	0.9
Prentice Log Loader Engine	0.2	0.2	--	2.4	0.5	0.7
Phoenix 3300 Screen Engine	0.2	0.2	--	7.3	1.6	0.6
Warrior 1800 Screen Engine	0.1	0.1	--	4.7	1.0	0.4
CEC Screen Engine	0.4	0.4	--	5.6	1.2	0.5
Total TPY	**3.6**	**3.6**	**0.2**	**66.5**	**12.5**	**4.7**

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011 through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. "Greenhouse gases" as defined in 06-096 CMR 100 (as amended) means the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Greenhouse gases (GHG) for purposes of licensing are calculated and reported as carbon dioxide equivalents (CO_2 e).

Based on the facility's annual hours of operation limit for each engine (3200 hrs/yr), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, Jolly Gardener Products is below the major source threshold of 100,000 tons of CO_2 e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor modification shall be determined on a case-by case basis. Modeling is not required if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

Pollutant	Tons/Year
PM	25
PM_{10}	25
SO_2	50
NO_x	100
CO	250

Based on the total facility licensed emissions, Jolly Gardener Products is below the emissions level required for modeling.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-964-71-C-A subject to the conditions found in Air Emission License A-964-71-A-N and amendment A-964-71-B-A and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

The following shall replace condition (16) in Air Emission License A-964-71-A-N, as amended in A-964-71-B-A:

(16) **Engines**

A. Jolly Gardener Products shall limit the Jolly Gardener Products engines to 3,200 hr/yr of operation (each) based on a 12 month rolling total. An hour meter shall be maintained and operated on each Jolly Gardener Products engine. [06-096 CMR 115, BACT]

B. The Jolly Gardener Products engines shall only fire ultra low sulfur diesel fuel (15 ppm, 0.0015% sulfur). Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BACT]

C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
CBI Grinder Engine	PM	0.12	06-096 CMR 103, Section 2(B)(1)(a)
Hogzilla Grinder Engine	PM	0.12	06-096 CMR 103, Section 2(B)(1)(a)

D. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
CBI Grinder Engine	0.84	0.84	13.01	2.20	0.63
CBI Pre-Screener Engine	0.13	0.13	4.85	1.05	0.39
Hogzilla Grinder Engine	0.74	0.74	11.19	1.9	0.56
Prentice Log Loader Engine	0.15	0.15	1.53	0.28	0.43
Phoenix 3300 Screen Engine	0.12	0.12	4.54	0.98	0.36
Warrior 1800 Screen Engine	0.08	0.08	2.91	0.63	0.23
CEC Screen Engine	0.25	0.25	3.53	0.76	0.29

E. Visible emissions from the Jolly Gardener Product engines shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period [06-096 CMR 101]

F. Phoenix 3300 Screen Engine and the Warrior 1800 Screen Engine

1. The Phoenix 3300 Screen Engine and the Warrior 1800 Screen Engine shall be operated and maintained in accordance with the manufacturer's written instructions. Jolly Gardener Product shall not change settings that are not approved in writing by the manufacturer. [40 CFR 60.4211(a)]

2. The Phoenix 3300 Screen and the Warrior 1800 Screen Engine are subject to PM, CO, and NO_x + VOC emission requirements set forth in 40 CFR 60, Subpart IIII. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer that each engine class meets the appropriate Tier standards. [40 CFR 60, Subpart IIII]

DONE AND DATED IN AUGUSTA, MAINE THIS 14th DAY OF June, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Loyzim for
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-964-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 7, 2011
Date of application acceptance: December 8, 2011

Date filed with the Board of Environmental Protection:

Filed
JUN 14 2012
State of Maine
Board of Environmental Protection

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.