MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY AIR QUALITY DIVISION

February 23, 2023

PERMIT TO INSTALL 32-23

> ISSUED TO High Life Farms

LOCATED AT 624 Brady Street Chesaning, Michigan 48616

IN THE COUNTY OF Saginaw

STATE REGISTRATION NUMBER B8873

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:				
November 22, 2022				
DATE PERMIT TO INSTALL APPROVED:	SIGNATURE:			
February 23, 2023				
DATE PERMIT VOIDED:	SIGNATURE:			
DATE PERMIT REVOKED:	SIGNATURE:			

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD Air Quality Division

BACT Best Available Control Technology

CAA Clean Air Act

CAM Compliance Assurance Monitoring
CEMS Continuous Emission Monitoring System

CFR Code of Federal Regulations

COMS Continuous Opacity Monitoring System

Department/department/EGLE Michigan Department of Environment, Great Lakes, and Energy

EU Emission Unit FG Flexible Group

GACS Gallons of Applied Coating Solids

GC General Condition
GHGs Greenhouse Gases

HVLP High Volume Low Pressure*

ID Identification

IRSLInitial Risk Screening LevelITSLInitial Threshold Screening LevelLAERLowest Achievable Emission RateMACTMaximum Achievable Control TechnologyMAERSMichigan Air Emissions Reporting System

MAP Malfunction Abatement Plan MSDS Material Safety Data Sheet

NA Not Applicable

NAAQS National Ambient Air Quality Standards

NESHAP National Emission Standard for Hazardous Air Pollutants

NSPS New Source Performance Standards

NSR New Source Review
PS Performance Specification

PSD Prevention of Significant Deterioration

PTE Permanent Total Enclosure

PTI Permit to Install

RACT Reasonable Available Control Technology

ROP Renewable Operating Permit

SC Special Condition

SCR Selective Catalytic Reduction
SNCR Selective Non-Catalytic Reduction

SRN State Registration Number

TBD To Be Determined

TEQ Toxicity Equivalence Quotient

USEPA/EPA United States Environmental Protection Agency

VE Visible Emissions

^{*}For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm Actual cubic feet per minute

BTU British Thermal Unit °C Degrees Celsius CO Carbon Monoxide

CO₂e Carbon Dioxide Equivalent dscf Dry standard cubic foot dscm Dry standard cubic meter pegrees Fahrenheit

gr Grains

HAP Hazardous Air Pollutant

Hg Mercury hr Hour

HP Horsepower Hydrogen Sulfide

kW Kilowatt

lb Pound

m Meter

mg Milligram

mm Millimeter

MM Million

MW Megawatts

NMOC Non-Methane Organic Compounds

NO_x Oxides of Nitrogen

ng Nanogram

PM Particulate Matter

PM10 Particulate Matter equal to or less than 10 microns in diameter PM2.5 Particulate Matter equal to or less than 2.5 microns in diameter

pph Pounds per hour ppm Parts per million

ppmv Parts per million by volume
ppmw Parts per million by weight
psia Pounds per square inch absolute

psig Pounds per square inch absolut Pounds per square inch gauge

scf Standard cubic feet

 $\begin{array}{ccc} \text{sec} & \text{Seconds} \\ \text{SO}_2 & \text{Sulfur Dioxide} \end{array}$

TAC Toxic Air Contaminant

Temp Temperature THC Total Hydrocarbons

tpy Tons per year µg Microgram

µm Micrometer or Micron
VOC Volatile Organic Compounds

yr Year

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GENERAL CONDITIONS

- 1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. (R 336.1201(1))
- 2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. (R 336.1201(4))
- 3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. (R 336.1201(6)(b))
- 4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. (R 336.1201(8), Section 5510 of Act 451, PA 1994)
- 5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. (R 336.1219)
- 6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. (R 336.1901)
- 7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). (R 336.1912)
- 8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
- 9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

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- 11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). (R 336.1301)
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
- 12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). (R 336.1370)
- 13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. (R 336.2001)

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUEXTRACT1	One butane/propane cannabis oil extraction process	2021	FGEXTRACT
EUEXTRACT2	One ethanol/heptane cannabis extraction process and associated ancillary equipment	2020	FGEXTRACT
EUENGINE1	One 600 kW (910 bhp) diesel-fired emergency generator	2018	FGENGINES
EUENGINE2	One 600 kW (910 bhp) diesel-fired emergency generator	2020	FGENGINES

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGEXTRACT	Two solvent based cannabis extraction units	EUEXTRACT1, EUEXTRACT2
FGENGINES	Two diesel-fired emergency generators	EUENGINE1, EUENGINE2

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FGEXTRACT FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two solvent based cannabis extraction units.

Emission Unit: EUEXTRACT1, EUEXTRACT2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	29.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGEXTRACT	SC VI.2	R 336.1225, R 336.1702(a)

II. MATERIAL LIMIT(S)

	Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1.	Butane/propan e consumption	21,900 lbs/yr ^A	12-month rolling time period as determined at the end of each calendar month	EUEXTRACT1	SC VI.2	R 336.1225, R 336.1702(a)
2.	Ethanol and denatured ethanol consumption (extraction unit)	28,126 lbs/yr ^A	12-month rolling time period as determined at the end of each calendar month	EUEXTRACT2	SC VI.2	R 336.1225, R 336.1702(a)
3.	Heptane consumption	6,991 lbs/yr ^A	12-month rolling time period as determined at the end of each calendar month	EUEXTRACT2	SC VI.2	R 336.1225, R 336.1702(a)

This material limit is based upon the material consumption (i.e., loss) calculated as required by SC VI.2 and Appendix A, referring to the amount of material used during a period minus the amount recovered or reclaimed. The limit does not reflect material throughput to avoid double counting (i.e., solvent that is recovered and reused).

- 4. The permittee shall only use butane or propane in EUEXTRACT1. (R 336.1225, R 336.1702(a))
- 5. The permittee shall only use ethanol or heptane in EUEXTRACT2. (R 336.1225, R 336.1702(a))

III. PROCESS/OPERATIONAL RESTRICTION(S)

- 1. The permittee shall not operate FGEXTRACT unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including a description of the items or conditions that shall be inspected at the extraction systems, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) Identification of the major replacement parts that shall be maintained in inventory for quick replacement.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. (R 336.1225, R 336.1702(a), R 336.1911)

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install, operate and maintain the extraction processes within FGEXTRACT according to the manufacturer specification or site specific operating parameters as specified in the approved MAP required by SC III.1. (R 336.1225, R 336.1702(a))

V. <u>TESTING/SAMPLING</u>

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- 1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205, R 336.1225, R 336.1702(a))
- 2. The permittee shall keep the following information on a monthly basis for each extraction process within FGEXTRACT:
 - a) Volume or weight of each solvent used in EUEXTRACT1 & EUEXTRACT2.
 - b) VOC content of each solvent as supplied on Safety data sheets (SDS).
 - c) VOC mass emission calculations using the method shown in Appendix A to determine the monthly emission rate in tons per calendar month. The permittee may submit a request to use an alternative method for calculating the VOC mass emissions to the AQD District Supervisor, as allowed in Appendix A.
 - d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility and make them available to the Department upon request. (R 336.1205, R 336.1225, R 336.1702(a))

VII. REPORTING

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FGENGINES FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two diesel-fired emergency generators

Emission Unit: EUENGINE1, EUENGINE2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

		Time Period / Operating		Monitoring /	Underlying Applicable
Pollutant	Limit	Scenario	Equipment	Testing Method	Requirements
1. NMHC+NO _x	6.4 g/kW-hr	Hourly ^A	Each engine within FGENGINES	SC V.1 SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202
					(a)(2), Table 2 of Appendix I to Part 1039
2. CO	3.5 g/kW-hr	Hourly ^A	Each engine within FGENGINES	SC V.1 SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202 (a)(2), Table 2 of Appendix I to Part 1039
3. PM	0.20 g/kW-hr	Hourly ^A	Each engine within FGENGINES	SC V.1 SC VI.2	40 CFR 60.4205(b), 40 CFR 60.4202 (a)(2), Table 2 of Appendix I to Part 1039

g/kW-hr = grams per kilowatt-hour

AThese emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel in each engine in FGENGINES with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. (40 CFR 60.4207(b), 40 CFR 1090.305)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each engine in FGENGINES for more than 500 hours per year based on a 12-month rolling time period as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. (R 336.1702(a), 40 CFR 52.21(c) & (d))

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2. The permittee may operate each engine in FGENGINES for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. (40 CFR 60.4211(f)(2))

- 3. The permittee may operate each engine in FGENGINES up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted as part of the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))
- 4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine in FGENGINES:
 - a) Operate and maintain the certified engine and control device according to the manufacturer's emissionrelated written instructions,
 - b) Change only those emission-related settings that are permitted by the manufacturer, and
 - c) Meet the requirements as specified in 40 CFR 1068, as they apply to the engine.

If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine. (40 CFR 60.4211(a) & (c))

5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for each engine in FGENGINES and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4211(q)(3))

IV. DESIGN/EQUIPMENT PARAMETER(S)

- 1. The permittee shall equip and maintain each engine in FGENGINES with non-resettable hour meter to track the operating hours. (R 336.1225, 40 CFR 60.4209)
- 2. The nameplate capacity of each engine in FGENGINES shall not exceed 600 kW (910 bhp). (R 336.1225, R 336.1702(a), 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 1039, 40 CFR 1042)

V. <u>TESTING/SAMPLING</u>

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- 1. If each engine in FGENGINES is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
 - a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
 - b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212 (less than 30 liters).
 - c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

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No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (40 CFR 60.4211(g)(3), 40 CFR 60.4212)

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- 1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1225, 40 CFR 52.21 (c) & (d), 40 CFR Part 60, Subpart IIII)
- 2. The permittee shall keep, in a satisfactory manner, the following records for each engine in FGENGINES:
 - a) For each certified engine: The permittee shall keep records of the manufacturer certification documentation.
 - b) For each uncertified engine: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. (40 CFR 60.4211)

- 3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for each engine in FGENGINES:
 - a) For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.
 - b) For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. (40 CFR 60.4211)

- 4. The permittee shall monitor and record, the total hours of operation for each engine in FGENGINES on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for engine in FGENGINES, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FGENGINES, including what classified the operation as emergency and how many hours are spent for non-emergency operation. (40 CFR 60.4211, 40 CFR 60.4214)
- 5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FGENGINES, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. (40 CFR 60.4207(b), 40 CFR 1090.305)

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and IIII, as they apply to each engine in FGENGINES. (40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590(c))

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2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to each engine in FGENGINES. (40 CFR Part 63, Subparts A & ZZZZ, 40 CFR 63.6585)

APPENDIX A

Calculating VOC emissions

The permittee shall demonstrate compliance with the emission limits in this permit by keeping track of the solvent usage in the extraction process. Then completing a mass balance assuming the entire solvent contents in the products are emitted. The calculation can be done using the following equation or an alternative method can be submitted to the AQD District Supervisor.

$$VOC_{emissions} = (Product_{consumption}) * (VOC \%)$$

Where:

 $Product_{consumption} = [Beginning\ Inventory] + [New\ Purchases] - [End\ Inventory]$

VOC % is in weight percent (i.e. *VOC's* weight percent in the product)