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
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan 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
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	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 gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
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

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.

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
EURAWMATREC	Raw Material Receiving: The raw material, wet granulated blast furnace slag with an average moisture content of eight (8) percent, is transported to the facility via covered side-dump trucks. The side-dump trucks are unloaded into a surface feeder and conveyed to the top of the Wet Slag Building via an enclosed elevator. From the elevator, the material is sent through a magnetic separator and transferred to the wet slag bin via conveyors. The raw material unloading station is enclosed on three sides, with openings at either end for the trucks to pull in and out. Since the receiving area is not fully enclosed, fugitive dust may be generated during unloading.	TBD	FGCEMENTPLANT
EUWETSLAGPROC	Wet Slag Processing: From the magnetic separator the wet slag enters the Wet Slag Building and is transferred into the wet slag bin into one of two (2) weigh feeders. From there the material can be sent to the slag dryer or sent directly to the slag grinding mill building. The conveyors and transfer points within the Wet Slag Building are covered/enclosed except for one conveyor transfer point. Fugitive dust from that transfer point will be released inside the building and then to the atmosphere via the building's general ventilation.	TBD	FGCEMENTPLANT
EUSLAGDRYER	Slag Dryer: From the Wet Slag Building, the slag is dried in a 21.6 MMBtu/hr. natural gas fired dryer. The dryer is equipped with a low NOx burner and particulate emissions are controlled by a bag filter. Upon exiting the slag dryer there is one conveyor transfer point which is outdoors and not fully enclosed. There will be fugitive dust from that transfer point.	TBD	FGCEMENTPLANT

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUDRYSLAGPROC	Dry Slag Processing: After the slag is dried at the slag dryer, the material is transferred to the dry slag building and is sent through an elevator, another magnetic separator, and a weigh feeder. All particulate matter emissions within this building are controlled via two bag filters. After exiting the Dry Slag Building there is one conveyor transfer point which is outdoors and not fully enclosed. There will be fugitive dust from that transfer point.	TBD	FGCEMENTPLANT
EUGRINDINGMILL	Grinding Mill Processing: Material from the dry slag building (or the wet slag conveyor) is conveyed to the Grinding Mill Building where it enters the ball mill and is ground to the appropriate size. Emissions from the ball mill are controlled via a bag filter. From the ball mill, the ground material is sent through a magnetic separator, High Efficiency separator, air slide conveyors, and an elevator. All process equipment in this building is vented to one of four bag filters.	TBD	FGCEMENTPLANT
EUMATERIALLOADOUT	Material Loadout: The processed material is sent to the four (4) finished product storage silos (Silos 1-4), where the final product can be loaded into trucks and transported offsite. In addition to the four finished product silos there are an additional four (4) silos (Silos 5-8) which are owned and operated by Levy and used to store cement products. These silos are loaded via truck. Particulate matter emissions from the eight (8) silos are controlled via two bag filters. Silos 1,2,5 and 6 share a bag filter and Silos 3, 4, 7, and 8 share a bag filter. All eight (8) silos share the same product loadout equipment which is controlled via an additional bag filter. It was assumed that the capture efficiency of the product loadout bag filter is 99%, with 1% emitted as fugitive dust. The eight (8) silos, truck loadout equipment, and three (3) bag filters are currently present on the site (from past operations) and will be utilized for the new facility.	TBD	FGCEMENTPLANT

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
FGCEMENTPLANT	Green Circle Cement grinding plant produces ground granulated blast furnace slag (GGBFS) consisting of a series of operations such as raw material receiving, wet slag processing, slag dryer, dry slag processing, grinding mill, and material loadout. Fugitive dust emissions are controlled by bag filters and water sprays.	EURAWMATREC, WEWETSLAGPROC, EUSLAGDRYER, EUDRYSLAGPROC, EUGRINDINGMILL, EUMATERIALLOADOUT

FGCEMENTPLANT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Green Circle Cement grinding plant produces ground granulated blast furnace slag (GGBFS) consisting of a series of operations such as raw material receiving, wet slag processing, slag dryer, dry slag processing, grinding mill, and material loadout.

Emission Unit: EURAWMATREC, WEWETSLAGPROC, EUSLAGDRYER, EUDRYSLAGPROC, EUGRINDINGMILL, EUMATERIALLOADOUT

POLLUTION CONTROL EQUIPMENT

11 bag filter systems, fugitive dust emissions will be control per Fugitive Dust Control Plan (Appendix A).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.013 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-541-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
2. PM	0.459 pph	Hourly	SV-541-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205
3. PM10	0.006 pph	Hourly	SV-541-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
4. PM2.5	0.006 pph	Hourly	SV-541-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
5. PM	0.010 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-561-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
6. PM	0.988 pph	Hourly	SV-561-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205
7. PM10	0.013 pph	Hourly	SV-561-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
8. PM2.5	0.013 pph	Hourly	SV-561-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
9. PM	0.010 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-561-BF2 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
10. PM	0.529 pph	Hourly	SV-561-BF2 of FGCEMENTPLANT	SC V.1	R 336.1205
11. PM10	0.318 pph	Hourly	SV-561-BF2 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
12. PM2.5	0.127 pph	Hourly	SV-561-BF2 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
13. PM	0.012 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-561-BF3 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
14. PM	0.132 pph	Hourly	SV-561-BF3 of FGCEMENTPLANT	SC V.1	R 336.1205
15. PM10	0.080 pph	Hourly	SV-561-BF3 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
16. PM2.5	0.032 pph	Hourly	SV-561-BF3 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
17. PM	0.011 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-591-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
18. PM	0.026 pph	Hourly	SV-591-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205
19. PM10	0.016 pph	Hourly	SV-591-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
20. PM2.5	0.006 pph	Hourly	SV-591-BF1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
21. PM	0.014 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-DC1 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
22. PM	0.270 pph	Hourly	SV-DC1 of FGCEMENTPLANT	SC V.1	R 336.1205
23. PM10	0.162 pph	Hourly	SV-DC1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
24. PM2.5	0.065 pph	Hourly	SV-DC1 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
25. PM	0.014 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-DC2 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
26. PM	0.270 pph	Hourly	SV-DC2 of FGCEMENTPLANT	SC V.1	R 336.1205
27. PM10	0.162 pph	Hourly	SV-DC2 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
28. PM2.5	0.065 pph	Hourly	SV-DC2 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
29. PM	0.015 lbs./ 1000 lbs. of exhaust gas	Hourly	SV-DC3 of FGCEMENTPLANT	SC V.1	R 336.1205, Act 51 324.5524, R 336.1331(1)(c)
30. PM	0.194 pph	Hourly	SV-DC3 of FGCEMENTPLANT	SC V.1	R 336.1205
31. PM10	0.117 pph	Hourly	SV-DC3 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)
32. PM2.5	0.047 pph	Hourly	SV-DC3 of FGCEMENTPLANT	SC V.1	R 336.1205, 40 CFR 52.21(c) and (d)

33. Visible emissions from all exterior drop points and transfer points in FGCEMENTPLANT shall not exceed a three-minute average of twenty (20) percent opacity. **(R 336.1205, R 336.1301, Act 451 324.5524, Act 451 324.5525, 40 CFR 52.21 (c) & (d))**

34. Visible emissions from all wheel loaders and all truck traffic, shall not exceed a three-minute average of five (5) percent opacity. **(R 336.1205, R 336.1301, Act 451 324.5524, Act 451 324.5525, 40 CFR 52.21 (c) & (d))**

35. Visible emissions from each of the storage silos, shall not exceed a three-minute average of twenty (20) percent opacity. **(R 336.1205, R 336.1301, Act 451 324.5524, Act 451 324.5525, 40 CFR 52.21 (c) & (d))**

36. Visible emissions from any other fugitive dust source in FGCEMENTPLANT shall not exceed a three-minute average of twenty (20) percent opacity. **(R 336.1205, R 336.1301, Act 451 324.5524, Act 451 324.5525, 40 CFR 52.21 (c) & (d))**

37. Visible emissions from each bag filter system of FGCEMENTPLANT shall not exceed a three-minute average of five (5) percent opacity. **(R 336.1225, R 336.1301, R 336.1331, Act 451 324.5524, Act 451 324.5525, 40 CFR 52.21 (c) and (d))**.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Slag processed	315,000 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month	FGCEMENTPLANT	SC VI.1	R 336.1205, 40 CFR 52.21 (c) & (d)
2. Final product leaving the facility	250,000 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month	FGCEMENTPLANT	SC VI.1	R 336.1205, 40 CFR 52.21 (c) & (d)

3. The permittee shall not process any asbestos tailing or asbestos containing waste materials in FGCEMENTPLANT pursuant to the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61 Subpart M. **(40 CFR Part 61 Subpart M)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGCEMENTPLANT unless a Fugitive Dust Control Plan (FDCP) for fugitive dust for all plant roadways, the plant yard, all material storage silos, and all material handling operations, as specified in Appendix A, has been implemented and is maintained. The permittee shall amend the FDCP within 45 days upon request from the District Supervisor. The permittee shall submit the FDCP and any amendments to the FDCP to the AQD District Supervisor for review and approval. The permittee may also propose revisions to the FDCP by submitting a request to the AQD District Supervisor. If the AQD does not notify the permittee within 90 days of submittal, the FDCP or amended FDCP shall be considered approved. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**

2. The permittee shall not operate FGCEMENTPLANT unless a malfunction abatement plan (MAP) for as described in Rule 911(2) for 11 bag filter systems and a dryer equipped with a low-NOx burner, has been submitted within 60 days after initial startup, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
   a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, 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 and air-cleaning device 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) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   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 336.1205, R 336.1224, R 336.1225, R 336.1331, R 336.1910, R 336.1911, 40 CFR 52.21 (c) and (d))**.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any portion of FGCEMENTPLANT unless its associated 11 bag filters systems are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each bag filter system includes, but is not limited to, operating according to the MAP specified in SC III.2. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21 (c) and (d))**

2. The permittee shall not operate any portion of FGCEMENTPLANT unless a gauge, which measures the pressure drop across each bag filter and sounds an alarm when the pressure drop exceeds the range specified in the MAP, is installed, calibrated, maintained and operated in a satisfactory manner. Satisfactory operation of each bag filter system includes, but is not limited to, operating according to the MAP specified in SC III.2. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21 (c) and (d))**

3. The permittee shall not operate a slag dryer portion of FGCEMENTPLANT unless the low NOx burner system is maintained and operated in a satisfactory manner. Satisfactory operation of a slag dryer includes, but is not limited to, operating according to the MAP specified in SC III.2. **(R 336.1301, R 336.1910, Act 451 324.5524(4), 40 CFR 52.21 (c) & (d))**

V. TESTING/SAMPLING

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

1. At the request of the AQD District Supervisor, the permittee shall evaluate visible emissions from FGCEMENTPLANT, at the owner's expense. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 45 days following the last date of the evaluation. **(R 336.1301, 40 CFR 52.21 (c) & (d), R 336.2001, R 336.2003, R 336.2004)**

2. At the request of the AQD District Supervisor, the permittee shall sample the slag processed, in FGCEMENTPLANT, and have it analyzed for arsenic, barium, beryllium, cadmium, chromium, hexavalent chromium, lead, manganese, mercury, nickel, and selenium, at the owner's expense. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. 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 tests. **(R 336.1205, R.336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004)**

3. Within 180 days from commencement of trial operation of FGCEMENTPLANT, the permittee shall verify the PM, PM10, and PM2.5 emission rates from a representative bag filter system associated with FGCEMENTPLANT. After completion of the initial verification, the permittee shall verify the PM, PM10, and PM2.5 emission rates from one or more bag filter systems associated with FGCEMENTPLANT, upon request from AQD District Supervisor. All testing shall be conducted at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the Test Method Table below.

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. 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. **(R 336.1205, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a satisfactory manner, monthly records of the amount of slag processed in FGCEMENTPLANT and amount of final product left from FGCEMENTPLANT. By the last day of each month, the permittee shall calculate the amount of slag processed and amount of final product left during the preceding 12-month rolling time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1303, R 336.1910, 40 CFR 52.21 (c) and (d))**

2. The permittee shall maintain a current listing of the chemical composition of the slag processed, including the weight percent of each component. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[1] **(R 336.1224, R 336.1225)**

3. The permittee shall keep records of all watering/dust suppressant applications for the site roadways, plant yard and stockpiles as required by Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d), MCL 324.5524)**

4. The permittee shall perform a non-certified visible emission observation of the fugitive dust sources at least once per calendar day, excluding non-operating days. If visible emissions are observed, a formal visible emissions observation shall be conducted pursuant to test method 9D as specified in Section 5524 with the modifications specified in Section 5525 of act 451. The permittee shall initiate corrective action upon observation of visible emissions and shall keep a written or electronic record of each required observation and any corrective actions taken. **(R 336.1301, Act 451 324.5525, 40 CFR 52.21 (c) & (d))**

5. The permittee shall monitor each bag filter system to verify it is operating properly, by taking daily visible emission readings of each associated stack of FGCEMENTPLANT, during which the FGCEMENTPLANT operates. If visible emissions are observed, a formal visible emissions observation shall be conducted pursuant to test method 9D as specified in Section 5524 with the modifications specified in Section 5525 of act 451. Please note that multiple stacks must be observed simultaneously. If any visible emissions (other than uncombined water vapor) are observed in excess of applicable allowed permit limits, the permittee shall immediately inspect the appropriate fabric filter and perform any required maintenance according to the MAP specified in SC III.3. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1303, R 336.1910, Act 451 324.5525, 40 CFR 52.21 (c) and (d))**

6. The permittee shall keep, in a satisfactory manner, records of all visible emission readings for each bag filter system of FGCEMENTPLANT. At a minimum, records shall include the date, time, name of observer/reader, whether the reader is certified, and status of visible emissions. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1303, R 336.1910, 40 CFR 52.21 (c) and (d))**

7. The permittee shall keep, in a satisfactory manner, records of daily pressure drop reading, a minimum of once per calendar day during which the FGCEMENTPLANT operates for each bag filter system to verify it is operating properly. At a minimum, records shall include the date, time, and pressure drop reading. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301, R 336.1303, R 336.1910, 40 CFR 52.21 (c) and (d))**

VII. REPORTING

1. Within 30-days after the completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or authorized agent per Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGCEMENTPLANT. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-541-BF1 (Dryer Dedusting Bag House)	37.8	157.5	R 336.1225, 40 CFR 52.21(c) and (d)
2. SV-561-BF1 (Mill Vent Bag Filter)	55.1	110.7	R 336.1225, 40 CFR 52.21(c) and (d)
3. SV-561-BF2 (Separator Vent Bag Filter)	41.3	88.3	R 336.1225, 40 CFR 52.21(c) and (d)
4. SV-561-BF3 (Mill Auxiliary Equipment Vent Bag Filter)	20.5	102.3	R 336.1225, 40 CFR 52.21(c) and (d)
5. SV-591-BF1 (Dedusting Bag Filter Product Air Slide)	9.1	72.7	R 336.1225, 40 CFR 52.21(c) and (d)
6. SV-DC-1 (Silo Dust Collector 1)	17.3	89.0	R 336.1225, 40 CFR 52.21(c) and (d)
7. SV-DC-2 (Silo Dust Collector 2)	17.3	89.0	R 336.1225, 40 CFR 52.21(c) and (d)
8. SV-DC-3 (Product Loadout Dust Collector 3)	13.9	88.5	R 336.1225, 40 CFR 52.21(c) and (d)

The exhaust gases from the stacks listed in the table below shall only be discharged inside the building:

Stack & Vent ID	Underlying Applicable Requirements
9. SV-541-BF2 (Dedusting Bag Filter for Dry Slag Bin)	R 336.1225, 40 CFR 52.21(c) and (d)
10. SV-541-BF3 (Dedusting Bag Filter for Reject Iron Bin)	R 336.1225, 40 CFR 52.21(c) and (d)
11. SV-561-BF4 (Dedusting Bag Filter for Reject Iron Bin - Mill Bldg.)	R 336.1225, 40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A

Fugitive Dust Control Plan (FDCP) for Fugitive Dust

Fugitive Dust Control Plan

Green Circle Cement Grinding Plant

8941 West Jefferson Avenue, Detroit, Michigan

May 2023

Fugitive Dust Control Plan

Green Circle Cement Grinding Plant

May 2023

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1 Introduction

This fugitive dust plan has been developed for Edw. C. Levy Co. and the proposed new facility (Green Circle Cement Grinding Plant) located at 8941 West Jefferson Avenue, Detroit, MI. The facility will occupy approximately 5.4 acres of the 8941 West Jefferson Property. The proposed Green Circle Cement Grinding Plant will produce green cement, ground blast furnace slag (GGBFS), which is a replacement for Portland cement. The purpose of this plan is to describe the methods used to control fugitive dust emission in accordance with Michigan Compiled Laws (MCL) 324.5524, *fugitive dust sources or emissions.*

2 Applicability – MCL 324.5524(1)

The provisions of MCL 324.5524 apply to fugitive dust sources at the facility because the Green Circle Cement Grinding Plant meets the standard industrial classification (SIC) code outline in MCL 324.5524 and is located in an area listed in table 36 of R 336.1371 of the Michigan administrative code. The facility SIC major group code is 32, *Stone, Clay, Glass, and Concrete Products*. The North American Industry Classification System (NAICS) code for the facility is 327992 *Ground or Treated Mineral and Earth Manufacturing.*

3 Fugitive Dust Opacity Limits – MCL 324.5524(2)

In accordance with MCL 324.5524, the facility shall not cause or allow the emission of fugitive dust from any road, lot, or storage pile, including any material handling activity at a storage pile, that has an opacity greater than 5%. The facility also shall not cause or allow the emission of fugitive dust from any other fugitive dust source that has an opacity greater than 20%.

The facility does not have any storage piles and will comply with the 5% opacity limits for roads and other material handling activities. Specific controls implemented to control fugitive dust emissions are discussed in the following sections.

4 Fugitive Dust Controls

4.1 Stockpiles – MCL 324.5524(3)(a)(i)-(ii)

MCL 324.5524(3)(a)(i)-(ii) prescribes fugitive dust controls to be implemented for specific sources to limit fugitive dust from stockpiles.
The facility does not have any stockpiles; therefore, the requirements are not applicable.

4.2 Roadways – MCL 324.5524(3)(a)(iii)

MCL 324.5524(3)(a)(iii) states that all traffic pattern roads and parking facilities shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned in accordance with MCL 324.5524(4). Also, all areas treated with water, oils, or chemical dust suppressant shall have the treatment applied in accordance with requirements outlined in MCL 324.5524(4).
The roads and parking areas at the facility are paved. The facility also implements roadway cleaning and water dust suppression as needed.

4.3 Unloading and Transporting– MCL 324.5524(3)(a)(iv)

MCL 324.5524(3)(a)(iv) states that all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying, or other equivalent methods.

Final product is collected by the pollution control equipment and into storage silos and bulk pneumatic trucks through enclosed pneumatic conveyance systems that are controlled by bag filters, as shown in attachment 1.

4.4 Materials Handling – MCL 324.5524(3)(a)(v)

MCL 324.5524(3)(a)(v) states that crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyor bagging operations, storage bins, and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding, or be treated by an equivalent method in accordance with an operating program required under subsection.

The raw material, wet granulated blast furnace slag with an average moisture content of eight (8) percent, will be transported to the facility via covered side-dump trucks. The side-dump trucks will be unloaded into a surface feeder and conveyed to the top of the Wet Slag Building via an enclosed elevator. The raw material unloading station is enclosed on three sides, with openings at either end for the trucks to pull in and out. Since the receiving area is not fully enclosed, a small amount of fugitive dust may be generated during unloading. However, since the raw material has a high moisture content fugitive dust emissions are minimal.

After raw material loading, the material is processed through the wet slag building, slag dryer, dry slag building and the grinding mill building. All operations are enclosed, located inside a building and/ or controlled by bag filters. The drop distance at each transfer point throughout the plant shall be reduced to the minimum the equipment can achieve. Also, spilled material under conveyors will be cleaned up on an ongoing basis.

5 Particulate Control Equipment – MCL 324.5524(3)(b)

If particulate collection equipment is operated, emissions from such equipment shall not exceed 0.03 grains per dry standard cubic foot (0.07 grams per cubic meter).

The facility operates eleven bag filters to control fugitive dust emissions from various operations. The outlet dust loading for all bag filters is less than 0.01 grams per cubic meter. Locations of the bag filters are shown in Attachment 1.

6 Transport of High Silt Content Materials – MCL 324.5524(3)(c)

Per MCL 324.5524(3)(c) a person shall not cause or allow the operation of a vehicle for the transporting of bulk materials with a silt content of more than 1% without employing 1 or more of the following control methods:

(i) The use of completely enclosed trucks, tarps, or other covers for bulk materials with a silt content of 20% or more by weight.

(ii) The use of tarps, chemical dust suppressants, or water in sufficient quantity to maintain the surface in a wet condition for bulk materials with a silt content of more than 5% but less than 20%.

(iii) Loading trucks so that no part of the load making contact with any sideboard, side panel, or rear part of the load comes within 6 inches of the top part of the enclosure for bulk materials with a silt content of more than 1% but not more than 5%.

The vehicles used to transport raw materials are tarped. The final products are transported in completely enclosed bulk pneumatic tanker trucks.

7 Vehicle Transport of Materials – MCL 324.5524(3)(d)

All vehicles for transporting bulk materials off-site will be maintained in such a way as to prevent leakage or spillage and shall comply with the requirements of section 720 of the Michigan vehicle code, Act No. 300 of the Public Acts of 1949, being section 257.720 of the Michigan Compiled Laws, and with R 28.1457 of the Michigan administrative code.

8 Vehicle Transport of Materials – MCL 324.5524(3)(e)

Not applicable to the facility as the facility does not transport sand, gravel, stones, peat, or topsoil.

9 Vehicle Transport of Materials – MCL 324.5524(3)(f)

Per MCL 324.5524(3)(f), fly ash which has been thoroughly wetted and has the property of forming a stable crust upon drying is not subject to subdivision (c)(i) and (ii), as outlined in Section 6 of this fugitive dust plan.

If brought to the site, fly ash will be transported in accordance with Section 6 in completely enclosed bulk pneumatic tanker trucks.

10 Vehicle Transport of Materials – MCL 324.5524(3)(g)

MCL 324.5524(3)(g) states that provisions of subdivision (c) do not apply to the transportation of iron or steel slag if the vehicles do not leave the facility and the slag has a temperature of 200 degrees Fahrenheit or greater.

This section is not applicable, as the iron or steel slag is leaving the facility of generation. The facility will comply with subdivision (c) as described in the previous sections of this plan.

11 Operating Program – MCL 324.5524(4)

This fugitive dust plan (operating program) has been prepared in accordance with the requirements outlined in MCL 324.5524. The program has been designed to significantly reduce the fugitive dust emissions to the lowest level that a particular source can achieve by the application of control technology that is reasonably available, considering technological and economic feasibility.

12 Operating Program Contents – MCL 324.5524(5)

Reference	Requirement	Compliance Statement
MCL 324.5524(5)(a)	Name and Address - Facility	Green Circle Cement Grinding Plant – 8941 West Jefferson, Detroit, MI 48209
MCL 324.5524(5)(b)	Name and Address - Owner	Edw. C. Levy Co. – 9300 Dix Avenue, Dearborn, MI, 48209

Reference	Requirement	Compliance Statement
MCL 324.5524(5)(c)	Facility Map Including storage piles, conveyor loading operations, traffic patterns.	See Attachment 1.
MCL 324.5524(5)(d)	Location of pollution control equipment.	See Attachment 1.
MCL 324.5524(5)(e)	Best management practices.	See Section 13 of this fugitive dust plan.
MCL 324.5524(5)(f)	Test procedure for waste or recycled oils used for dust control.	Not applicable.
MCL 324.5524(5)(g)	Frequency of application, application rates, and dilution rates if applicable, of dust suppressants by location of materials.	Although all roads at the facility are paved, the facility will use water as dust suppression to control fugitive dust emission generated from equipment and vehicles. Roads are sprayed with water and swept on an as needed basis.
MCL 324.5524(5)(h)	The frequency of cleaning paved traffic pattern roads and parking facilities.	Sweeping and water application as needed.
MCL 324.5524(5)(i)	Additional information.	Not applicable.

13 Best Management Practices – MCL 324.5524(5)(e)

Material Processing and Conveying
Whenever materials are loaded or unloaded by conveyor, transfer points and drop heights are minimized to the maximum extent practicable to control fugitive dust emissions.

Traffic Management
Truck speeds on-site are restricted to 10 miles per hour (mph) and communicated to employees and visitors by signage near the facility entrance. Vehicles used to transport material will be covered or enclosed and maintained per Section 7 of this fugitive dust plan.

Dust Suppression
Although all roads at the facility are paved, the facility may use water as dust suppression to control fugitive dust emission generated from equipment and vehicles. Roads are sprayed and swept on an as needed basis.

14 Operating Program Submittal – MCL 324.5524(6)

This fugitive dust plan (operating program) is being submitted as part of a Permit-to-Install application through the department of Environment, Great Lakes, and Energy (EGLE).

15 Operating Program Amendments – MCL 324.5524(7)

This fugitive dust plan (operating program) will be amended and resubmitted to EGLE in the event of operational changes resulting in any significant change in the fugitive dust source or fugitive dust emissions.

16 Alternate Provisions – MCL 324.5524(8)-(9)

This facility is not requesting to establish alternative provisions per MCL 324.5524(8)-(9)

Figure 1: Site Layout Map