

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP) SIGNIFICANT MODIFICATION and
ENHANCED NEW SOURCE REVIEW (ENSR)
OFFICE OF AIR MANAGEMENT**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 1-800-451-6027

**Ferro Corporation, Filled and Reinforced Division
5001 O'Hara Drive
Evansville, Indiana 47711**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the facilities listed in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F163-5612-00120	
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Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:	

TABLE OF CONTENTS		
Section	Description	Page No.
	COVER PAGE	1
	TABLE OF CONTENTS	2
A	SOURCE SUMMARY	4
A.1	General Information	
A.2	Emission Units and Pollution Control Summary	
A.3	Insignificant Activities	
A.4	FESOP Applicability [326 IAC 2-8-2]	
B	GENERAL CONDITIONS	6
B.1	General Requirements [IC13-15] [IC 13-17]	6
B.2	Definitions [326 IAC 2-8-1]	6
B.3	Permit Term [326 IAC 2-8-4(2)]	6
B.4	Enforceability [326 IAC 2-8-6]	6
B.5	Termination of Right to Operate [326 IAC 2-8-9]	6
B.6	Severability [326 IAC 2-8-4(4)]	6
B.7	Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]	6
B.8	Duty to Supplement & Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)]	6
B.9	Compliance Order Issuance [326 IAC 2-8-5(b)]	7
B.10	Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]	7
B.11	Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)]	7
B.12	Annual Compliance Certification [326 IAC 2-8-5(a)(1)]	8
B.13	Preventive Maintenance Plan [326 IAC 2-8-4(9)] [326 IAC 1-6-3]	9
B.14	Emergency Provision [326 IAC 2-8-12]	9
B.15	Deviations from Permit Requirements and/or Conditions [326 IAC 2-8-4(3)(C)(ii)]	11
B.16	Permit Modification, Reopening, Revocation, and Reissuance or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8(a)] [326 IAC 2-8-8(b)] [326 IAC 2-8-8(c)]	11
B.17	Permit Renewal [326 IAC 2-8-3(h)]	12
B.18	Administrative Permit Amendment [326 IAC 2-8-10]	12
B.19	Minor Permit Modification [326 IAC 2-8-11(a)] [326 IAC 2-8-11(b)]	13
B.20	Significant Permit Modification [326 IAC 2-8-11(d)]	13
B.21	Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-8-11(b)(2)]	14
B.22	Operational Flexibility [326 IAC 2-8-15]	14
B.23	Construction Permit Requirement [326 IAC 2-1]	15
B.24	Inspection and Entry [326 IAC 2-8-5(a)(2)]	15
B.25	Annual Fee Payment [326 IAC 2-8-4(6)] [326 IAC 2-8-16]	16

TABLE OF CONTENTS		
Section	Description	Page No.
C	SOURCE OPERATION CONDITIONS	
C.1	Overall Source Limit [326 IAC2-8-4(1)]	17
C.2	Opacity	17
C.3	Open Burning	17
C.4	Fugitive Dust Emissions	17
C.5	Operation of Equipment [326 IAC 2-8-5(a)(4)]	17
Testing [326 IAC 2-8-4(3)]		
C.6	Performance Testing	18
Compliance Monitoring [326 IAC 2-8-5(a)(1)]		
		18
C.7	Compliance Monitoring	18
C.8	Maintenance Monitoring Equipment [326 IAC 1-6]	18
C.9	Monitoring Methods [326 IAC 3]	19
C.10	Pressure Gauge Specifications	19
Corrective Actions [326 IAC 2-8-5(1)]		
C.11	Failure to Take Corrective Actions	19
C.12	Actions Related to Noncompliance by a Stack Test	19
C.13	Monitoring Data Availability	20
C.14	General Record Keeping Requirements	20
C.15	General Reporting Requirements [326 IAC 2-8-4(3)(C)]	21
C.16	Incineration	21

D.1	<p>(1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:</p> <ul style="list-style-type: none"> (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4; (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1; (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and (d) One (1) regrinder. <p>(2) Building 2, which is capable of processing 12,533 pounds of raw materials per hour (lb/hr). This building consists of the following:</p> <ul style="list-style-type: none"> (a) Raw material handling; which include one (1) truck unloading system; (b) Six (6) blenders C03, C20, C22, C23, C24, and C45. These blenders are capable of blending 12,533 pounds of raw materials per hour; (c) Six (6) extruders C03, C20, C22, C23, C24, and C45. These extruders are capable of extruding 12,533 pounds of raw materials per hour. The PM emissions from the raw materials handling, blending and extruding are controlled by baghouses EX29. <p>Each extrusion line consists of a dedicated blender, material handling, extruder and pelletizing. The source utilizes different types of plastic in the process as follows: Polyethylenes, Polypropylenes, ABS, EVA, Nylons, and Polystyrenes.</p>	23
Construction Conditions		
D.1.1	General Construction Conditions	22
D.1.2	Effective Date of the Permit [IC13-15-5-3]	22
D.1.3	Revocation of Permits [326 IAC 2-1-9(b)]	22
D.1.4	Permit Review Rules [326 IAC 2]	23
D.1.5	First Time Operation Permit [326 IAC 2-1-4]	23
D.1.6	General Opeartion Conditions	23
D.1.7	Transfer of Permits [326 IAC 2-1-6]	23
D.1.8	Permit Revocation [326 IAC 2-1-9]	23a
D.1.9	Availability of Permit [326 IAC 2-1-3(l)]	23a
Operation Conditions		
D.1.10	Particulate Matter Less Than Ten Microns (PM10)	23a
D.1.11	Particulate Matter (PM)	23a
D.1.12	Volatile Organic Compounds (VOC)	23a
Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]		
D.1.13	Pressure Drop Readings	23a
D.1.14	Visible Emissions Notations	23b
Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]		
D.1.15	Compliance Stack Tests	23b
D.1.16	Preventive Maintenance Plan	23b
D.1.17	Record Keeping Requirements	23b

	Total Number of Permit Original Pages	26
	Total Additional Pages Due to the Modification	7
	FORMS	
	Certification Form	24
	Deviation Forms (2)	25, 26
	Total Number of Forms	3
	Technical Support Document to the FESOP	7
	Addendum to the FESOP Technical Support Document	4
	TSD to the First FESOP Minor Modification	3
	Addendum to the TSD of the First FESOP Minor Modification	3
	TSD to the First Significant Modification/ENSR	9
	Addendum to the TSD of the First Significant Modification/ENSR	4
	TSD to the Second Significant FESOP Modification	15

These activities include twenty (20) pellets silos, two (2) weigh hoppers, pellet conveyor elevators, pellet conveyor augers and cooling towers.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

- B.1 General Requirements [IC 13-15] [IC 13-17] (Prior to July 1, 1996: IC 13-7 and IC 13-1-1)
The permittee shall comply with the provisions of IC 13-15 (Permits Generally), IC 13-17 (Air Pollution Control) and the rules promulgated thereunder.
- B.2 Definitions [326 IAC 2-8-1]
Terms in this permit shall have the meaning assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11 (prior to July 1, 1996, IC 13-7-2, IC 13-1-1-2), 326 IAC 1-2, and 326 IAC 2-7 shall prevail.
- B.3 Permit Term [326 IAC 2-8-4(2)]
This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-5-5-3 (prior to July 1, 1996, IC 13-7-10-2.5), of the permit.
- B.4 Enforceability [326 IAC 2-8-6]
(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, and Evansville Environmental Protection Agency (EEPA).

(b) Unless otherwise stated, terms and conditions of this permit, including any provisions to limit the source's potential to emit, are enforceable by the United States Environmental Protection Agency (U.S. EPA) and citizens under the Clean Air Act.
- B.5 Termination of Right to Operate [326 IAC 2-8-9]
The expiration of this permit terminates the Permittee's right to operate unless a timely and complete renewal application has been submitted consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-7.
- B.6 Severability [326 IAC 2-8-4(4)]
(a) The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(b) Indiana rules from 326 IAC quoted in conditions in this permit are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard.
- B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]
This permit does not convey any property rights of any sort or any exclusive privilege.
- B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)]
(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015

Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

- (b) The Permittee shall also provide additional information as requested by IDEM, OAM, and EEPA to determine the compliance status of the source in accordance with 326 IAC 2-8-5(a).
- (c) The Permittee shall furnish to IDEM, OAM, and EEPA within a reasonable time, any information that the IDEM, OAM and EEPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
- (d) Upon written request, the Permittee shall also furnish to IDEM, OAM, and EEPA copies of records required to be kept by this permit. For information claimed to be confidential, the Permittee shall furnish such records directly to both the U.S. EPA and IDEM, OAM, and EEPA along with a claim of confidentiality.

Such confidentiality claims shall meet the requirements of 40 CFR Part 2, Subpart B (when submitting to U.S. EPA) and 326 IAC 17 (when submitting to IDEM, OAM, and EEPA).

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAM may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

- (1) enforcement action;
- (2) permit termination, revocation and reissuance or modification; and
- (3) denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)]

Any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

A responsible official is defined at 326 IAC 2-7-1(33).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually certify that the source has complied with the terms and conditions contained in this permit, including emission limitations, standards, and work practices. The certification shall be submitted July 1 to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) This annual compliance certification report required by this permit shall be timely if:
- (1) Delivered by U.S. mail and postmarked on or before the date it is due; or
 - (2) Delivered by any other method if it is received and stamped by IDEM, OAM, and EEPA on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The identification of each term and condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period; and
 - (5) Such other facts as IDEM, OAM, may require to determine the compliance status of the source.

B.13 Preventive Maintenance Plan [326 IAC 2-8-4(9)] [326 IAC 1-6-3]

- (a) The Permittee shall prepare, maintain and implement operation and Preventive Maintenance Plans as necessary including the following information on each:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

- (3) Corrective actions that will be implemented in the event an inspection indicates an out of specification situation;
 - (4) A time schedule for taking such corrective actions including a schedule for devising additional corrective actions for situations that may not have been predicted; and
 - (5) Identification and quantification of the replacement parts which will be maintained in inventory for quick replacement.
- (b) Preventive Maintenance Plans shall be submitted to IDEM, OAM, and EEPA upon request and shall be subject to review and approval by IDEM, OAM, and EEPA.

B.14 Emergency Provision [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided as follows:
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements of this permit;
 - (4) The Permittee notified IDEM, OAM, and EEPA within four (4) daytime business hours after the beginning of the emergency occurrence by telephone or facsimile;

Telephone No.: 1-800-451-6027 (ask for Office of Air Management) or,
Telephone No.: 317-233-5674
Facsimile No.: 317-233-5967

Telephone No.: 812-426-5597 (Evansville EPA)
Facsimile No.: 812-426-5651

- (5) The Permittee submitted written notice or by facsimile of the emergency to:

Indiana Department of Environmental Management,
Compliance Branch, Office of Air Management,
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard

Evansville, Indiana 47708-9998

within two (2) working days of the time when emission limitations were exceeded due to the emergency. The notice shall fulfill the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes any emergency or upset provision contained in 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAM, and EEPA may require that the preventive maintenance plan required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAM, and EEPA by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) the Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in clause (B) above.

- B.15 Deviations from Permit Requirements and/or Conditions [326 IAC 2-8-4(3)(C)(ii)]
Deviations from requirements, (for emergencies see Condition B.14 - Emergency Provision) the probable cause of such deviations, and any corrective actions or preventive measures taken shall be reported to:

Indiana Department of Environmental Management,
Compliance Branch, Office of Air Management,
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

within ten (10) calendar days from the date of the discovery of the deviation.

Written notification shall be submitted on the attached Deviation Occurrence Reporting Forms.

- B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8(a)]
[326 IAC 2-8-8(b)] [326 IAC 2-8-8(c)]
- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)]
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 (prior to July 1, 1996, in IC 13-7-10-5) or if the commissioner determines any of the following:
- (1) That it contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAM, and EEPA to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practical. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAM, and EEPA at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, and EEPA may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAM, and EEPA and shall include, at minimum, the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(20).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management,
Permits Branch, Office of Air Management,
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

- (b) Timely Submittal of Permit Renewal [326 IAC 2-5-3]
- (1) The Permittee has a duty to submit a timely and complete permit renewal application. A timely renewal application is one that is:
- (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) Delivered by U. S. mail and postmarked on or before the date it is due; or
 - (C) Delivered by any other method if it received and stamped by IDEM, OAM, on or before the date it is due.
- (2) If IDEM, OAM and EEPA fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.
- (c) Right to Operate After Application of Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAM and EEPA takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAM, any additional information identified as needed to process the application.

B.18 Administrative Permit Amendment [326 IAC 2-8-10]

- (a) An administrative permit amendment is a FESOP revision that makes changes of the type specified under 326 IAC 2-8-10(a).
- (b) An administrative permit amendment may be made by IDEM, OAM, and EEPA consistent with the procedures specified under 326 IAC 2-8-10(b).
- (c) The Permittee may implement the changes addressed in the request for an

administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Minor Permit Modification [326 IAC 2-8-11(a)] [326 IAC 2-8-11(b)(1) and (2)]

- (a) A permit modification is any revision to this permit that cannot be accomplished as an administrative permit amendment under 326 IAC 2-8-10.
- (b) Minor permit modification procedures shall follow the procedures specified under 326 IAC 2-8-11(b)(1)(A) through (F).
- (c) An application requesting the use of minor modification procedures shall meet the requirements of 326 IAC 2-8-3(c) and shall include the information required in 326 IAC 2-8-11(b)(3)(A) through (D).
- (d) The Permittee may make the change proposed in its minor permit modification application immediately after it files such application unless the change is subject to the construction permit requirements of 326 IAC 2-1, 326 IAC 2-2, or 326 IAC 2-3. After the Permittee makes the change allowed under minor permit modification procedures, and until IDEM, OAM takes any of the actions specified in 326 IAC 2-8-11(b)(5), the Permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this period, the Permittee need not comply with the existing permit terms and conditions it seeks to modify. If the Permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it. [326 IAC 2-8-11(b)(6)]

B.20 Significant Permit Modification [326 IAC 2-8-11(d)]

- (a) Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments.
- (b) Any significant change in existing monitoring permit terms or conditions and every relaxation of reporting or record keeping permit terms or conditions of this permit shall be considered significant.
- (c) Nothing in 326 IAC 2-8-11(d) shall be construed to preclude the Permittee from making changes consistent with 326 IAC 2-8 that would render existing permit compliance terms and conditions irrelevant.
- (d) Significant modifications of this permit shall meet all requirements of 326 IAC 2-8, including those for application, public participation, and review by the U.S. EPA, as they apply to permit issuance and renewal.

B.21 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-8-11(b)(2)]
Notwithstanding 326 IAC 2-8-11(b)(1)(D)(I) and 326 IAC 2-8-11(c)(1), minor permit modification procedures may be used for modifications of this permit involving the use of economic incentives, marketable FESOP's, emissions trading, and other similar approaches to the extent that such minor permit modification procedures are explicitly provided for in the applicable implementation plan (SIP) or in applicable requirements promulgated by the U.S. EPA.

B.22 Operational Flexibility [326 IAC 2-8-15]

- (a) The Permittee may make any change or changes at the source that are described in 326

IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- (3) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015,

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (4) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review. Such records shall consist of all information required to be submitted to IDEM, OAM, and EEPa in the notices specified in 326 IAC 2-8-15(b)(1), (c)(1), and (d).
- (b) For each such change, the required written notification shall include the following:
- (1) A brief description of the change within the source;
 - (2) The date on which the change will occur;
 - (3) Any change in emissions; and
 - (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33).

- (c) Emission trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints in section (a) of this condition and those in 326 IAC 2-8-15(c).

- (d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7) and subject to the constraints in section (a) of this condition and those in 326 IAC 2-8-15(d)

B.23 Construction Permit Requirement [326 IAC 2-1]

Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM, and EEPA)

B.24 Inspection and Entry [326 IAC 2-8-5(a)(2)]

Upon presentation of IDEM and EEPA identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, EEPA, and U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit;

- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of demonstrating compliance with this permit or applicable requirements; and

- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of demonstrating compliance with this permit or applicable requirements.
[326 IAC 2-8-5(a)(4)]

B.25 Annual Fee Payment [326 IAC 2-8-4(6)] [326 IAC 2-8-16]

- (a) The Permittee shall pay annual fees to IDEM, OAM, and EEPA consistent with the fee schedule established in 326 IAC 2-8-16.

- (b) Failure to pay may result in administrative enforcement action, revocation of this permit, referral to the Office of Attorney General for collection, or other appropriate measures.

- (c) The Permittee shall pay the annual fee within thirty (30) calendar days of receipt of a billing by IDEM, OAM, and EEPA or in a time period that is consistent with the payment schedule issued by IDEM, OAM, and EEPA.

- (d) If the Permittee does not receive a bill from IDEM, OAM, and EEPA thirty (30) calendar days before due date, the Permittee shall call the following telephone numbers: 1-800-451-6027 or 317-233-0179 (ask for OAM, Data Support Section), to determine the appropriate permit fee.

The applicable fee is due April 1 of each year.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations [326 IAC 2-8-4(1)]

- C.1 Overall Source Limit (326 IAC 2-8).
Pursuant to 326 IAC 2-8, emissions of any regulated pollutant from the entire source shall not exceed 99 tons per 365 days. Emissions shall include those from all emission points at the source including those that are insignificant as defined in 326 IAC 2-7-1 (20). The source shall be allowed to add insignificant activities not already listed in this permit, as long as the total emissions from the source do not exceed the above specified limits. In the event that any condition or combination of conditions in Section D of this permit differs from the above, the most restrictive limit will prevail.
- C.2 Opacity
Pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
- (a) Visible emissions shall not exceed an average of 30% opacity in 24 consecutive readings.
 - (b) Visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.
- C.3 Open Burning
The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. 326 IAC 4-1-3(a)(2)(A) and (B) are not a federally enforceable condition.
- C.4 Fugitive Dust Emissions
The Permittee shall be in violation of 326 IAC 6-4 if any of the criteria specified in 326 IAC 6-4-2 (1) through (4) are violated. 326 IAC 6-4-2(4) is not a federally enforceable condition.
- C.5 Operation of Equipment [326 IAC 2-8-5(a)(4)]
- (a) All equipment that potentially might emit pollutants into the ambient air shall be properly operated and maintained.
 - (b) Unless otherwise stated in this permit, all air pollution control equipment listed in this permit shall be operated at all times that the emission unit(s) vented to the control equipment is in operation.
 - (c) The permittee shall perform all necessary maintenance and make all necessary attempts to keep all air pollution control equipment in proper operating condition at all times.

Testing [326 IAC 2-8-4(3)]

C.6 Performance Testing

Compliance testing shall be conducted for PM and PM10 from baghouses EX1, EX2, EX3, EX4, and EX29. the Permittee shall perform the tests specified in this permit to demonstrate compliance with the applicable rule or permit condition. All testing shall be performed according to the provisions of 326 IAC 3-2.1 (Source Sampling Procedures) and by methods in the approved test protocol. The test protocol shall be submitted to:

Indiana Department of Environmental Management,
Compliance Data Section, Office of Air Management,
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

at least thirty-five (35) days before the intended test date.[326 IAC 3-2.1-2

Compliance Monitoring [326 IAC 2-8-5(a)(1)]

C.7 Compliance Monitoring [326 IAC 2-8-4(3)]

Compliance with applicable requirements shall be documented in accordance with the provisions of 326 IAC 2-8-4(3). The Permittee shall be responsible for installing any necessary equipment and initiating any additional monitoring no less than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee shall notify:

Indiana Department of Environmental Management,
Compliance Data Section, Office of Air Management,
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King, Jr. Boulevard
Evansville, Indiana 47708-9998

in writing, with full justification of the reasons for inability to meet this date and a schedule which it expects to meet. If a denial of the request is not received before the monitoring is fully implemented, the schedule shall be deemed approved.

The notification that shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33).

C.8 Maintenance of Monitoring Equipment [326 IAC 1-6]

The Permittee shall perform all necessary maintenance and make all necessary attempts to keep all required monitoring equipment in proper operating condition at all times. In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of

the breakdown and efforts made to correct the problem.

The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. Preventive maintenance plans of the monitors shall be implemented. In addition prompt correction, as indicated, shall be initiated within the time frames specified, whenever the parameters monitored fall outside of the indicated values.

C.9 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the requirements of this permit shall be performed, whenever applicable according to the provisions of 326 IAC 3, or 40 CFR Part 60, Appendix A, as appropriate, unless some other method is specified in this permit.

C.10 Pressure Gauge Specifications

Whenever a condition in this permit requires the taking of pressure drop across any part of the unit or its control device the gauge employed shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within $\pm 2\%$ of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.

Corrective Actions [326 IAC 2-8-4(1)] [326 IAC 2-8-5(1)]

C.11 Failure to Take Corrective Action

For each unit for which parametric monitoring is required, appropriate corrective actions as described in the Preventive Maintenance Plan shall be taken when indicated by monitoring information. Failure to take corrective action following an excursion of a surrogate monitoring parameter within the indicated time may constitute a violation of the permit unless the corrective action set forth in the Plan would be unreasonable.

After investigating the reason for the excursion, the permittee may be excused from taking further corrective action for any of the following reasons:

- (a) Providing that prompt action was taken to correct the monitoring equipment, that the monitoring equipment malfunctioned, giving a false reading; or
- (b) The permittee has determined that the parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied; or
- (c) An automatic measurement was taken when the process was not operating; or
- (d) The permittee determines that the process has already returned to operating within "normal" parameters and no corrective action is required.

Records shall be kept of all instances in which the action values were not met and of all corrective actions taken. In the event of an "emergency" as defined in 326 IAC 2-7-16 the provisions of that rule requiring prompt corrective action to mitigate emissions shall prevail.

C.12 Actions Related to Noncompliance Demonstrated by a Stack Test

Whenever the results of the stack test performed in conformance with Condition C.6 - Performance Testing, of this permit exceed the level specified in any condition of this permit, appropriate corrective

actions shall be submitted to IDEM-OAM and EEPA within 30 (thirty) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are not

acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

Should IDEM, OAM and EEPA request a second test to demonstrate compliance it shall be performed within 120 days of the request. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of the permit to operate the affected facility.

C.13 Monitoring Data Availability

All observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions. Records shall be kept of the times that the equipment is not operating. If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality. If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded. At its discretion, IDEM and EEPA may excuse such failure providing adequate justification is documented and such failures do not exceed 5% of the operating time in any quarter. Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason.

C.14 General Record Keeping Requirements

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location and available within one hour upon verbal request of an IDEM, OAM and EEPA representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two years providing they are made available within thirty (30) days after written request.
- (b) Records of required monitoring information shall include:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include:
 - (1) Copies of all reports required by this permit.;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;

- (3) All calibration and maintenance records;
- (4) All preventive maintenance and corrective actions that were implemented. Such records shall briefly describe what was done and indicate who did it;
- (5) Relevant work purchases orders;
- (6) Quality assurance and quality control procedures;
- (7) Operator's standard operating procedures;
- (8) Manufacturer's specifications or their equivalent; and
- (9) Equipment "troubleshooting" guidance.

C.15 General Reporting Requirements [326 IAC 2-8-4(3)(C)]

- (a) To affirm that the source has met all the requirements stated in this permit the source shall submit a semi-annual Compliance Report. Any deviation from the requirements and the date(s) of each deviation must be reported.
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015, and

Evansville EPA
101 N.W. Martin Luther King Jr. Boulevard
Evansville, Indiana 47708-9998
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period.
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

- (2) An emergency as defined in 326 IAC 2-7-1(12); or
- (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
- (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.16 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

D.1.4 Permit Review Rules [326 IAC 2]

Notwithstanding Construction Condition No.D.1.5, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

D.1.5 First Time Operation Permit [326 IAC 2-1-4]

This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

Operation Conditions

D.1.6 General Operation Conditions

- (a) The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- (b) The Permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC13-17) and the rules promulgated thereunder.

D.1.7 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of this custom compounder of purchased resins is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

D.1.8 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit
- (d) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

D.1.9 Availability of Permit [326 IAC 2-1-3(l)]

Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of the source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Operation Conditions

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.1.10 Particulate Matter less than ten microns (PM10)

Pursuant to 326 IAC 2-8, the PM10 emissions from the extrusion lines in Buildings 1 and 2 shall be limited 99 tons per twelve-month period, rolled on a monthly basis. Compliance with this condition will make 326 IAC 2-7, Part 70 Rules requirement not applicable.

D.1.11 Particulate Matter (PM)

Pursuant to 326 IAC 6-3 the PM emissions from the following facilities shall be limited as follows:

Facilities	Baghouse ID	PM Allowable Emissions (lb/hr)
Building 1: Blenders C04, C06, C15, C16, C18, C31, C32, and C51	EX1	23.8
Building 1: Extruders C04, C06, C15, C16, C18, C31, C32, and C51	EX2	23.7
Building 1: Rail Unloading	EX3	12.4
Building 1: Rail Unloading	EX4	12.4
Building 2: Raw Material Handling-Truck Unloading; Blenders C03, C20, C22, C23, C24 and C45; Extruders C03, C20, C22, C23, C24 and C45	EX29	14.0
TOTAL		86.3

D.1.12 Volatile Organic Compounds (VOC)

Any change or modification which may increase the potential volatile organic compound emissions to 25 tons per year or more from each extruder line in this permit must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.1.13 Pressure Drop Readings

The Permittee shall take readings of the total static pressure drop ranges across all baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 (C04, C06, C15, C16, C18, C31, C32, C51, C03, C20, C22, C23, C24 and C45) are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop range across the baghouses EX1, EX2, and EX29 shall be maintained at 0.8 to 6.0 inches of water or ranges established during the most recent stack test. Baghouses EX3, and EX4, shall be maintained at a pressure drop range of 0.5 to 2.0 inches of water across the baghouses, or ranges established during the most recent stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this level for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and EEPA and shall be calibrated at least once every six (6) months.

D.1.14 Visible Emissions Notations

Weekly visible emission notations of the truck unloading, blenders, extruding and regrinding stack exhaust in Buildings 1 and 2 shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, 80% of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for the pollution control devices or baghouses shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.15 Compliance Stack Tests

Pursuant to the requirements of 326 IAC 2-1-4, compliance testing shall be conducted from baghouses EX1, EX2, EX3, and EX4 to establish each pressure drop range that corresponds to the PM and PM10 limit in D.1.10. One identical baghouse with EX29 shall be stack tested and the pressure drop range established shall be considered to represent both baghouses. This stack tests shall be performed within twenty-four months after the original FESOP permit issue date, December 1, 1998. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner. The Office of Air Management (OAM and EEPA) shall be notified of the actual test date at least two (2) weeks prior to the date, a test protocol shall be submitted to the OAM, Compliance Data Section, and EEPA 35 days in advance of the test, and all test reports must be received by the OAM within 45 days of completion of the testing, pursuant to that rule.

D.1.16 Preventive Maintenance Plan

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for these facilities.

D.1.17 Record Keeping Requirements

- (a) To document compliance with Condition D.1.14, the Permittee shall maintain records of weekly visible emission notations of the materials handling, blending and extruding stack exhaust in Buildings 1 and 2.

- (b) To document compliance with Condition D.1.13, the Permittee shall maintain the following:
 - (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.

 - (2) Documentation of all response steps implemented, per event .

 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

 - (4) Quality Assurance/Quality Control (QA/QC) procedures.

 - (5) Operator standard operating procedures (SOP).

 - (6) Manufacturer's specifications or its equivalent.

 - (7) Equipment "troubleshooting" contingency plan.

 - (8) Documentation of the dates vents are redirected.

State Form 47738 (5-96)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

Evansville Environmental Protection Agency

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Ferro Corporation, Filled and Reinforced Division
Source Address: 5001 O'Hara Drive, Evansville, Indiana 47711
FESOP No.: F163-5612-00120

**This certification shall be included when submitting monitoring, testing reports/results
or other documents as required by this permit.**

Please check what document is being certified:

- 9 Deviation Occurrence Reporting Form (For Control Equipment Monitoring)
- 9 Deviation Occurrence Reporting Form (For Material Usage, Quality, Etc.)
- 9 Relocation Notification
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Other (specify) _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

State Form 47739 (5-96)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT
 COMPLIANCE DATA SECTION**

Evansville Environmental Protection Agency

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 DEVIATION OCCURRENCE REPORT
 (For Control Equipment Monitoring Only)**

Source Name: Ferro Corporation, Filled and Reinforced Division
 Source Address: 5001 O'Hara Drive, Evansville, Indiana 47711
 FESOP No.: F163-5612-00120

A separate copy of this report must be submitted for **each** monitoring device on all control equipment listed in this permit. Attach a signed certification to complete this report.

Stack/Vent ID:	
Control Equipment: (ex: thermal oxidizer, scrubber, baghouses)	
Type of Parameter Monitored: (ex: temperature, pressure drop, efficiency)	
<input type="checkbox"/> Continuously	<input type="checkbox"/> Periodically, at a frequency of:
Parameter Operating Restrictions/Range: (ex: 1,400°F, 2-4 psi pressure drop)	
Report Covers From: (date: month/day/yr)	To:
<input type="checkbox"/> No Deviations from the Parameter Restriction/Range Occurred During the Monitoring Period. Complete Records Maintained at the Facility Verify Compliance with this Condition.	
<input type="checkbox"/> Summary of Deviations from the Parameter Restriction/Range During the Monitoring Period are Identified Below. Complete Records Maintained at the Facility.	

	For Parameter Recorded Continuously	For Parameter Recorded Periodically	
Total Unit Operating Time			
Total Time of Deviations (Identify All Deviations)			
Percent of Time Indicating Deviations ($\frac{2}{1} \times 100$)			
Date of Deviation	Start/Stop Time of Deviation (Continuous Monitoring Only)	Actual Value Recorded	Reason for Deviation & Corrective Action Taken

State Form 47741 (5-96)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

Evansville Environmental Protection Agency

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
DEVIATION OCCURRENCE REPORT**

Source Name: Ferro Corporation, Filled and Reinforced Division
Source Address: 5001 O'Hara Drive, Evansville, Indiana 47711
FESOP No.: F163-5612-00120

A separate copy of this report must be submitted for **each** material type, quantity usage and operation limitation (except control equipment monitoring) listed in this permit .
Attach a signed certification to complete this report.

Stack/Vent ID:

Equipment/Operation:

Parameter Subject to Material Type, Quantity Usage or Operation Limitations Specified in the Permit:
(ex: 2500 lb/day, 300 hours/yr, 5000 gallons/month)

Determination Period for this Parameter:
(ex: 365-day rolling sum, fixed monthly rate)

9 Permit Has No Rate Limitations for this Parameter.

Content Restriction for this Parameter:
(ex: maximum of 40% VOC in inks, 0.5% sulfur content)

Demonstration Method for this Parameter:
(ex: MSDS, Supplier, material sampling & analysis)

9 Permit Has No Content Limitations for this Parameter.

Comments:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

Evansville Environmental Protection Agency

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
SEMI-ANNUAL COMPLIANCE MONITORING REPORT**

Source Name: Ferro Corporation, Filled and Reinforced Division
Source Address: 5001 O'Hara Drive, Evansville, Indiana 47711
FESOP No.: F163-5612-00120

Months: _____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (eg. Permit Condition D.1.10, D.1.12)	Number of Deviations	Date of each Deviation

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management

Office of Air Management

and

Evansville EPA

Technical Support Document for Second Significant Permit Modification of the Federally Enforceable State Operating Permit (FESOP)

Source Background and Description

Source Name:	Ferro Corporation, Filled and Reinforced Division	
Source Location:	5001 O'Hara Drive, Evansville, Indiana 47711	
County:	Vanderburgh	
Permit No.:	F163-5612-00120	Issued: December 11, 1996
as modified:	MMF163-8206	Issued: August 12, 1997 and
	SMF/ENSR 163-9562-00120	Issued: August 24, 1998
Modification No.:	SMF/ENSR 163-10422-00120	
SIC Code:	3087	
Permit Reviewer:	Aida P. De Guzman	

History

On December 11, 1996, Ferro Corporation, Filled and Reinforced Division was issued a FESOP, which was modified under the First Minor Modification MMF163-8206 issued on August 12, 1997. On August 24, 1998, the source was issued the First Significant Modification to the issued FESOP due to the construction of the following new equipment, removal and movement of some equipment within buildings 1 and 2, and the changes in the product formulations:

- (a) One (1) new extruder, designated as C24, and a dedicated blender C24, which will be constructed in building no. 2. Its construction and the changes in the product formulations will enable to increase the extrusion capability of Building no. 2, which include the existing permitted extruders from 24,202 pounds per hour (lb/hr) to 27,697 lb/hr raw materials. The increase of 3,495 lb/hr of raw materials will be handled by the new extruder, C24, and its dedicated blender, C24;

New dust collection system, designated as EX29, to control the particulate matter (PM emissions from the extruders in Building no. 2;
- (b) The removal of the permitted extruder C19 from Building no. 1. No reinstallation of this line is currently planned; and
- (c) The removal of blender C31 from Building no. 2 and it will be installed in Building no. 1. This change and the changes in the product formulations will enable to increase the capability of Building no. 1, which includes the existing permitted extruders from 10,760 pounds per hour (lb/hr) to 12,533.33 lb/hr.

The increase of 1,773 lb/hr of raw materials is dedicated to extruder, C31 and its dedicated blender C31.

On September 11, 1998, Ferro Corporation made a petition for an administrative review and a request for stay of effectiveness to their issued First Significant FESOP Modification with Enhanced New Source Review SMF/ENSR 163-9562-00120. The following are the issues/comments raised by the source in the petition. Source's comments are italicized and IDEM, OAM's changes are bolded and deletion are strike-through for emphasis:

(1) *Comment:*
Ferro Corporation believed that the VOC testing requirements in Conditions D.1.11 and D.1.14 to verify the emission factor of 33.4 microgram of VOC per gram of polypropylene resin mixture (µg/g) that was used in the emissions calculation is too burdensome. Ferro Corporation is willing to accept a default average emission factor of 1 lb/ton in order that IDEM will waive the VOC testing requirements in the permit.

(1) **Response:**
 IDEM, OAM has deleted the VOC stack testing requirements in Condition D.1.11 and D.1.14 in the issued FESOP which will verify the validity of the VOC emission factor of 33.4 µg/g used in the FESOP. The default 1lb/ton average emission factor was utilized instead in the following VOC emission calculations:

Building 1:
maximum capacity = 27,467 lb/hr, 25% is filler

Extruder Lines ID	Maximum Capacity (lb/hr)	VOC Emissions (ton/yr)
C04	1,867	4.1
C06	4,000	8.8
C15	1,600	3.5
C16	3,067	6.7
C18	800	1.8
C31	3,067	6.7
C32	3,067	6.7
C51	10,000	21.9
TOTAL		60.2

Methodology:
VOC Emissions = Throughput, lb/hr * ton/2000 lb * 1 lb lb/ton * ton/2000 lb * 8760 hr/yr

Building 2:
maximum capacity = 12,533 lb/hr, 28% is filler

Extruder Lines ID	Maximum Capacity (lb/hr)	VOC Emissions (ton/yr)
C03	528	1.2
C20	432	0.94
C22	1,080	2.4
C23	2,160	4.7
C24	2,160	4.7
C45	648	1.4
TOTAL		15.3

- (2) *Comment:*
 Ferro Corporation based on customer specifications require the use of other types of plastics other than polypropylene. The following are the other types of plastic the source utilizes:

Plastic Type	1997 Maximum Usage (lb/yr)	1998 Maximum Usage (lb/yr)
ABS	N/A	2,000
EVA	17,000	28,000
HDPE	1,000	15,000
LDPE	193,000	184,000
NYLON	395,000	166,000
GPP	390,000	480,000
HIPP	585,000	592,000
POLYETHYLENE		
POLYSTYRENE		

- (2) *Response:*
 IDEM, OAM acknowledges the above mentioned types of plastic as being used by the source. This additional information from the source will not impact the issued FESOP, since the emission calculations were based on the worst case plastic, which is the polyethylene.

However, they will be mentioned in the FESOP Section A.2 and D.1 as the other types of plastic being utilized in the process as follows:

A.2 Emission Units and Pollution Control Summary

The stationary source consists of the following emission units and pollution control devices:

- (1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
 - (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
 - (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;
 - (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
 - (d) One (1) regrinder.

- (2) Building 2, which is capable of processing 12,533 pounds of raw materials per hour (lb/hr). This building consists of the following:
 - (a) Raw material handling; which include one (1) truck unloading systems;
 - (b) Six (6) blenders C03, C20, C22, C23, C24, and C45. These blenders are capable of blending 12,533 pounds of raw materials per hour;
 - (c) Six (6) extruders C03, C20, C22, C23, C24, and C45. These extruders are capable of extruding 12,533 pounds of raw materials per hour. The PM emissions from the raw materials handling, blending and extruding are controlled by baghouses EX29.

Each extrusion line consists of a dedicated blender, material handling, and extruder pelletizing. **The source utilizes different types of plastic in the process as follows: POLYETHYLENE, ABS, EVA, HDPE, LDPE, NYLON, GPP, and HIPP.**

- (3) *Comment:*
Section (b) of Condition C.15 General Reporting Requirements in the issued FESOP omitted Evansville EPA as an agency to also receive any report required by the FESOP.

- (3) *Response:*
IDEM, OAM inadvertently omitted Evansville EPA in Section (b) of Condition C.15 Reporting Requirements. It will be added in this modification.

(4) Comment:
Ferro Corporation wants a clarification on what constitutes a “deviation” in Section (e) Condition C.15 of the issued FESOP.

(4) Response:
Section (e) of Condition C.15 states that the source has to report instances of “deviations”. A reportable deviation is an exceedance of the permit emission limitations that are specified in Section C.1, D.1.10, D.1.12, and D1.13, or a failure to comply with all the requirements of a rule.

(5) Comment:
Section (g) of Condition C.15 of the issued FESOP is incomplete.

(5) Response:
Section (g) of Condition C.15 of the issued FESOP was fixed in this modification as follows:

C.15 (g) The first report shall cover the period commencing on the date of issuance of this permit and **ending on the last day of the reporting period.**

(6) Comment:
Section (d) of Condition D.1.8 of the issued FESOP should be deleted. 326 IAC 1-5 (Episode Alert Levels) is applicable only to major sources, and Ferro Corporation is a synthetic minor source.

(6) Response:
326 IAC 1-5 (Episode Alert Levels) applies to source with “potential to emit” (PTE) one hundred (100) tons per year, or more of any pollutant. Since, Ferro has a PTE of less than 100 tons per year, this rule should not apply.

Section (d) of Condition D.1.8 of the issued FESOP was deleted in this modification, and subsequent sections were numbered accordingly.

(7) Comment:
IDEM, OAM should inform Ferro Corporation of the due date for the Semi Annual Compliance Monitoring Report, which is only required for Conditions D.1.10 (PM/PM10 limits) and D.1.2 (Pressure Drop Readings).

(7) Response:
Condition C.15 Section (d) of the issued FESOP states “Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period”.

Based on Section (d) of Condition C.15 stated above, the Semi Annual Compliance Monitoring Report will then be submitted within thirty (30) days after six (6) months from December 11, 1998 (FESOP issuance date). The conditions mentioned in column 1 of this report under Compliance Monitoring Requirement are just a few conditions mentioned as a reportable deviations in this report form. Section C.1 which limits any pollutant emissions to 99 tons per year is also reportable in this form (see also response no.4).

- (8) Comment:
The Compliance Monitoring in the Addendum to the Technical Support Document of FESOP modification SMF/ENSR 163-9562, item (2) required daily Visible Emissions Notations. The FESOP required weekly.
- (8) Response:
This TSD reiterates that the Visible Emissions Notations required is **weekly**, as what is in the FESOP. This concern was already addressed in the TSD Addendum of the issued First Significant FESOP Modification.
- (9) Comment:
On page 1 of 9, in the original Technical Support Document of the First Significant Permit Modification of the FESOP, under History:
The increased throughput result not only from the installation of C-31 in Building 1 and Building 2, but also from changes in product formulations (the more filler in a compound, the faster rate it can be processed through the extruder).
- (9) Response:
The TSD in the First Significant FESOP Modification will be revised to reflect your comment as follows:

History

On December 11, 1996, Ferro Corporation, Filled and Reinforced Division was issued a FESOP, which was modified under the First Minor Modification MMF163-8206 issued on August 12, 1997. On August 24, 1998, the source was issued the First Significant Modification to the issued FESOP due to the construction of the following new equipment, removal and movement of some equipment within buildings 1 and 2, **and the changes in the product formulations:**

- (a) One (1) new extruder, designated as C24, and a dedicated blender C24, which will be constructed in building no. 2. Its construction **and the changes in the product formulations** will enable to increase the extrusion capability of Building no. 2, which include the existing permitted extruders from 24,202 pounds per hour (lb/hr) to 27,697 lb/hr raw materials. The increase of 3,495 lb/hr of raw materials will be handled by the new extruder, C24, and its dedicated blender, C24.
- New dust collection system, designated as EX29, to control the particulate matter (PM emissions from the extruders in Building no. 2,
- (b) *** (means no changes)
- (c) The removal of blender C31 from Building no. 2 and it will be installed in Building no. 1. This changes **and the changes in the product formulations** will enable to increase the capability of Building no. 1, which includes the existing permitted extruders from 10,760 pounds per hour (lb/hr) to 12,533.33 lb/hr. The increase of 1,773 lb/hr of raw materials is dedicated to extruder, C31 and its dedicated blender C31.

Changes Proposed for the Technical Support Document for the First Significant FESOP Modification/ENSR

The relaxation of the VOC testing requirement in the FESOP, to verify the validity of the emission factor of **33.4 microgram of VOC per gram of polypropylene resin mixture ($\mu\text{g/g}$)**, will result in a Second Significant Modification of the issued FESOP and it will be modified as follows (changes are bolded and strike-through):

Recommendation

The staff recommends to the Commissioner that the modification be approved.

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

On September 11, 1998, Ferro Corporation made a petition for an administrative review.

Emissions Calculations

~~The new equipment construction, and the increase in the source's raw materials throughput, will result in an increase in potential PM and PM10 emissions. The new extruder and blender G24 will handle the additional throughput. Therefore, the PM and PM10 is only determine for these equipment.~~

~~Also, the issued FESOP will be modified based on the new information (Emission Factor) on VOC emissions for the plastic industry. No VOC emissions were calculated from the source in the issued FESOP, because there was no known emission factor for plastic operation. In light of this new information on VOC emission factor, calculations for VOC emissions will be determined for the whole source.~~

~~**VOC Emissions:**~~

~~The new information (Emission Factor) EPA 600/2-78-004c, dated March 1978 indicated that 48 gram of VOC is emitted/kilogram of plastic extruded from plastic industry. This emission factor applies to any type of raw material the source is using. On May 12, 1998, I called Dennis Beauregard of the USEPA, Office of Air Quality and Standards, Emissions Inventory, Research Triangle Park, regarding the validity of this factor, since it's in placed since 1978, and yet it was not incorporated in the AP-42. He said Wisconsin, Dept. of Natural Resources' developed VOC emission factors through stack testing of sources, and the value are in the middle and more the truth between the Battelle and the emission factor from EPA 600/2-78-004c. However, all the plastics tested by this state are for polyethylene sheet extruding and none for polypropylene.~~

~~**Society of Plastic Industry (SPI)/Battelle Laboratories' Emission Factor:**~~

~~Battelle Laboratories was commissioned by the Society of Plastic Industry (SPI) to develop Emission Factor through sampling and analysis for plastic extrusion. Battelle Corporation ran tests and samples for different types of raw materials used by the plastic industry. One of the emission factors developed by Battelle was for Polypropylene, which Ferro Corporation utilizes as their main raw material. The emission factor is for reactor grade homopolymer polypropylene which is a representative of Ferro Corporation's operation except for the following:~~

- ~~(a) The reactor grade homopolymer polypropylene Ferro Corporation is processing has Melt Flow Rate (MFR) of 1 to 8, as compared with the Battelle sample run has a MFR of 3 to 7. This difference would not significantly impact processing procedures.~~
 - ~~(b) The temperature from this sample, where the emission factor was developed was 490°F. Ferro Corporation's process temperature are cooler averaging from 450-475 °F. Emission rates are correlated with the die head temperature of the extruding device. The higher the temperature, the greater the VOC emissions.~~
 - ~~(c) Ferro's two stage extruders are equipped with vacuum pumps to collect water vapor and volatiles. The vacuum system discharges into a water stream the Battelle extruder in the test was not equipped with a vacuum pump.~~
 - ~~(d) Ferro Corporation's extrusion process, the molten strands of polypropylene exit at the die head at a length of 12 inches to 24 inches and are immersed in a cooling water bath. The only opportunity to emit any VOC is the time between the die head and the water bath. During Battelle test, the extrudate was collected in a stainless steel container from which the vapors were collected, for analysis.~~
- ~~Compliance Data Section has reviewed the sampling and testing done by Battelle Laboratories, and agreed that the testing was done in accordance with IDEM's sampling and testing procedures, and the emission factor of 33.4 microgram of VOC per gram of polypropylene resin mixture (µg/g) developed will be utilized in Ferro's VOC emissions calculations. However, a stack test will be required to verify this VOC emission factor.~~

~~**Sourcewide VOC Potential Emissions:**~~

- ~~(1) Building 1 Maximum design capacity = 27,466.67 pounds per hour (lb/hr)
 $27,466.7 \text{ lb/hr} * \text{ton}/2000 \text{ lb} * 33.4 \text{ Fg/g} * \text{gr}/1 \times 10^6 * \text{gr}/1 \times 10^6 * 0.002 \text{ lb/gr} * 8760 \text{ hr/yr}$
 $* \text{ton}/2000 \text{ lb} = 4.0 \text{ ton/yr}$~~
- ~~(2) Building 2 Maximum design capacity = 12,533.33 lb/hr
 $12,533.33 \text{ lb/hr} * \text{ton}/2000 \text{ lb} * 33.4 \text{ Fg/g} * \text{gr}/1 \times 10^6 * \text{gr}/1 \times 10^6 * 0.002 \text{ lb/gr} * 8760 \text{ hr/yr}$
 $* \text{ton}/2000 \text{ lb} = 1.8 \text{ ton/yr}$~~
- ~~(3) Total VOC Emissions = 4.0 ton/yr + 1.8 ton/yr
= 5.8 ton/yr~~

~~**Modification PM and PM10 Potential Emissions:**~~

- ~~The PM and PM10 emission calculation will be based from the OSHA test done:~~
- ~~PM and PM10 concentration = 0.005 gram/cu meter~~
- ~~Air Flow for Extruder & Blender G24 = 32,600 cu ft/min~~
- ~~G24 PM/PM10 Emissions After Control = $0.005 \text{ gr/cu meter} * 32,600 \text{ cu ft/min} * \text{cu meter}/35.3 \text{ cu ft} * 60 \text{ min/hr} * \text{lb}/7000 \text{ gr} * 8760 \text{ hr/yr} * \text{ton}/2000 \text{ lb}$
= 0.17 ton/yr~~
- ~~G24 PM/PM10 Emissions Before Control = 0.17 ton/yr
(1-.999)~~

= 173 ton/yr

Building 1:
maximum capacity = 27,467 lb/hr, 25% is filler

Extruder Lines ID	Maximum Capacity (lb/hr)	VOC Emissions (ton/yr)
C04	1,867	4.1
C06	4,000	8.8
C15	1,600	3.5
C16	3,067	6.7
C18	800	1.8
C31	3,067	6.7
C32	3,067	6.7
C51	10,000	21.9
TOTAL		60.2

Methodology:

VOC Emissions = Throughput, lb/hr * ton/2000 lb * 1 lb lb/ton * ton/2000 lb * 8760 hr/yr

Building 2:
maximum capacity = 12,533 lb/hr, 28% is filler

Extruder Lines ID	Maximum Capacity (lb/hr)	VOC Emissions (ton/yr)
C03	528	1.2
C20	432	0.94
C22	1,080	2.4
C23	2,160	4.7
C24	2,160	4.7
C45	648	1.4
TOTAL		15.3

Potential Emissions

Pursuant to 326 IAC 1-2-55, Potential Emissions are defined as “emissions of any one (1) pollutant which would be emitted from a facility, if that facility were operated without the use of pollution control equipment unless such control equipment is necessary for the facility to produce its normal product or is integral to the normal operation of the facility.

The VOC potential emissions will be revised since the VOC emission factor has been changed from 33.4 microgram of VOC per gram of polypropylene resin mixture (µg/g) to 1 lb/ton

Pollutant	Potential Emissions from the Modification (tons/year)	Sourcewide Potential Emissions (ton/yr)
PM	173	2,256
PM-10	173	2,256
SO ₂	0.0	0.0
VOC	5.8	6.9 75.5
CO	0.0	0.0
NO _x	0.0	0.0

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

The source had requested that their PTE stays the same (99 tons of PM10 per year) as what was in the issued FESOP.

Federal Rule Applicability

There are no changes in the Federal rule applicability from the original FESOP.

State Rule Applicability

326 IAC 6-3 state rule applicability is revised to establish individual PM allowable for each baghouse, for practicality enforceability reason.

- (1) 326 IAC 6-3: Particulate Matter Emissions Limitation
 The plastic extrusion lines at the two (2) plants/buildings are subject to this rule which mandates an allowable PM emissions, using the following equation:

$$E = 4.1 P^{0.67}$$

Building 1:

Baghouse EX1 - Controls the emissions from eight (8) Blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders have a total process weight rate of 27,697.2 lb/hr

$$\begin{aligned} P &= 27,697 \text{ lb/hr} \\ &= 13.8 \text{ ton/hr} \end{aligned}$$

$$\begin{aligned} E &= 4.10 (13.8)^{0.67} \\ &= 23.8 \text{ lb/hr} \end{aligned}$$

Baghouse EX2 - Controls the emissions from eight (8) Extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders have a total process weight rate of 27,466.7 lb/hr

$$P = 27,466.7 \text{ lb/hr} \\ = 13.7 \text{ ton/hr}$$

$$E = 4.10 (13.7)^{0.67} \\ = 23.7 \text{ lb/hr}$$

Baghouse EX3 - Controls the emissions from Rail Unloading with process weight rate of 10,385.9 lb/hr.

$$P = 10,385.9 \text{ lb/hr} \\ = 5.2 \text{ ton/hr}$$

$$E = 4.10 (5.2)^{0.67} \\ = 12.4 \text{ lb/hr}$$

Baghouse EX4 - Controls the emissions from Rail Unloading with process weight rate of 10,385.9 lb/hr

$$P = 10,385.9 \text{ lb/hr} \\ = 5.2 \text{ ton/hr}$$

$$E = 4.10 (5.2)^{0.67} \\ = 12.4 \text{ lb/hr}$$

Building 2:

Baghouse EX29 - Controls the emissions from the Raw Material Handling-Truck Unloading; Blenders C03, C20, C22, C23, C24 and C45; Extruders C03, C20, C22, C23, C24 and C45, with a process weight rate of 12,533 lb/hr.

$$P = 12,533 \text{ lb/hr} \\ = 6.3 \text{ ton/hr}$$

$$E = 4.10 (6.3)^{0.67} \\ = 14.0 \text{ lb/hr}$$

~~Both building~~ **These facilities will be** are in compliance with these PM allowable emissions, **since their emissions after control are less than the PM allowables are controlled by baghouses.**

~~Total PM allowable emissions = 23.7 lb/hr + 14.1 lb/hr~~

~~= 37.8 lb/hr, which is equivalent to 165.5 tons/yr, since this PM allowable emissions exceed 100 tons per year, it will be truncated to 22.6 pounds per hour.~~

This section is revised to incorporate the changes in the VOC emissions, due to the new VOC emission factor.

- (2) **326 IAC 8-1-6: (General Reduction Requirements)**
Each extruder line has a potential VOC emissions less than 25 tons per year (see calculations on pages 9 and 10 of this TSD modification). Therefore, this rule does not apply to these extruder lines.
- (3) **326 IAC 2-1-3.4 (New Sources Toxics Control)**
The source or the proposed new equipment are not subject to this rule because of the following reasons:
- (a) The proposed Extruder C24 and its dedicated Blender C24 are part of one line that is being modified and they are not an independent line by themselves that can produce an intermediate or a final product.
- This is true as well with the Blender C31 that it being moved to Building no. 1.
- (b) No single HAP (Formaldehyde is emitted at 0.17 ton/yr) or combined HAPs (emitted at 0.36 ton/yr) are emitted at a major level.

Conclusion

The modifications of this source will be subject to the conditions of the attached proposed **Second Significant Modification to FESOP SMF163-10422-00120**.

Proposed Changes to the FESOP

Using the 1 lb/ton in the calculations of the VOC emissions from the extruder lines will result in the Second Significant Modification to the issued FESOP (changes are bolded and deletion are strike-through for emphasis):

1. *Page 4 of 26, Section A.2 Emissions and Pollution Control Summary, is revised to incorporate the different types of plastic used in the process, and should read as follows:*

A.2 Emission Units and Pollution Control Summary

The stationary source consists of the following emission units and pollution control devices:

- (1) Building 1, which is capable of processing 27,697 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Raw materials handling; which includes two (2) rail unloading systems, which are controlled by baghouses EX 3 and EX 4;
- (b) Eight (8) blenders C04, C06, C15, C16, C18, C31, C32, and C51. These blenders are capable of blending 27,697 pounds of raw materials per hour. All blenders are controlled by baghouse EX 1;

- (c) Eight (8) extruders C04, C06, C15, C16, C18, C31, C32, and C51. These extruders are capable of extruding 27,697 pounds of raw materials per hour. These extruders are controlled by baghouse EX 2; and
 - (d) One (1) regrinder.
- (2) Building 2, which is capable of processing 12,533 pounds of raw materials per hour (lb/hr). This building consists of the following:
- (a) Raw material handling; which include one (1) truck unloading systems;
 - (b) Six (6) blenders C03, C20, C22, C23, C24, and C45. These blenders are capable of blending 12,533 pounds of raw materials per hour;
 - (c) Six (6) extruders C03, C20, C22, C23, C24, and C45. These extruders are capable of extruding 12,533 pounds of raw materials per hour. The PM emissions from the raw materials handling, blending and extruding are controlled by baghouses EX29.

Each extrusion line consists of a dedicated blender, material handling, and extruder pelletizing. **The source utilizes different types of plastic in the process as follows: POLYETHYLENE, ABS, EVA, HDPE, LDPE, NYLON, GPP, and HIPP.**

Section D project description table will also be revised to reflect the different types of plastic the source is using in the process.

IDEM, OAM made the following changes in the PM/PM10 limit set forth in Condition D.1.10.

1. Condition D.1.10 of the issued FESOP is deleted and be revised as follows:

~~D.1.10 Particulate Matter (PM) or Particulate Matter less than ten microns PM10
Pursuant to 326 IAC 2-8, the PM or the PM10 emissions from the extrusion lines in Buildings 1 and 2 shall be limited to 22.0 pounds per hour (and 0.6 pound per hour, for insignificant activities) 99 tons per twelve-month period, rolled on a monthly basis. Compliance with this condition will make 326 IAC 2-3, Emission Offset and 326 IAC 2-7, Part 70 Rules requirement not applicable. Compliance with this condition and condition D.1.3 will also satisfy the requirements under 326 IAC 6-3~~

2. The following condition is added in the FESOP and be numbered D.1.11:

D.1.11 Particulate Matter (PM)
Pursuant to 326 IAC 6-3 the PM emissions from the following facilities shall be limited as follows:

Facilities	Baghouse ID	PM Allowable Emissions (lb/hr)
Building 1: Blenders C04, C06, C15, C16, C18, C31, C32, and C51	EX1	23.8
Building 1: Extruders C04, C06, C15, C16, C18, C31, C32, and C51	EX2	23.7
Building 1: Rail Unloading	EX3	12.4
Building 1: Rail Unloading	EX4	12.4
Building 2: Raw Material Handling- Truck Unloading; Blenders C03, C20, C22, C23, C24 and C45; Extruders C03, C20, C22, C23, C24 and C45	EX29	14.0
TOTAL		86.3

Subsequent Conditions in the issued FESOP are renumbered accordingly.

- Using 1 lb/ton in the calculations of the VOC emissions from the extruders will result in the modification of Condition D.1.11 of the issued FESOP. This condition is modified as follows and renumbered D.1.12:

D.1.12 Volatile Organic Compounds (VOC)
Any change or modification which may increase the potential volatile organic compound emissions to 25 tons per year or more from each extruder line in this permit must be approved by the Office of Air Management (OAM) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.
~~In the event the stack test demonstrates that VOC emissions from each extruding line in Buildings 1 and 2 are at 25 tons per year or greater approval shall be obtained from the Office of Air Management (OAM) prior to continuing operation above the 25 tons per year.~~

- Using 1 lb/ton in the calculations of the VOC emissions from the extruders will result in the deletion of the VOC stack testing requirement in Condition D1.14 Compliance Stack Tests of the issued FESOP. This condition is modified as follows and renumbered D.1.15:

D.1.15

Compliance Stack Tests

Pursuant to the requirements of 326 IAC 2-1-4, compliance testing shall be conducted from baghouses EX1, EX2, EX3, and EX4 to establish each pressure drop range that corresponds to the PM and PM10 limit in D.1.10. One identical baghouse with EX29 shall be stack tested and the pressure drop range established shall be considered to represent both baghouses. This stack tests shall be performed within twenty-four months after the original FESOP permit issue date, December 11, 1998. ~~Compliance stack test shall also be conducted for VOC to verify emission factor used in the calculation. The VOC compliance tests shall be made within twelve months from the date of issuance of this modification.~~ These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner. The Office of Air Management (OAM and EEPA) shall be notified of the actual test date at least two (2) weeks prior to the date, a test protocol shall be submitted to the OAM, Compliance Data Section, and EEPA 35 days in advance of the test, and all test reports must be received by the OAM within 45 days of completion of the testing, pursuant to that rule.

Indiana Department of Environmental Management
Office of Air Management
 and
Evansville EPA

Addendum to the
 Technical Support Document for Federally Enforceable State Operating Permit (FESOP)
 Significant Modification and Enhanced New Source Review (ENSR)

Source Name:	Ferro Corporation, Filled and Reinforced Division		
Source Location:	5001 O'Hara Drive, Evansville, Indiana 47711		
County:	Vanderburgh		
Permit No.:	F163-5612-00120	Issued:	December 11, 1996
as modified:	MMF163-8206	Issued:	August 12, 1997 and
	SMF/ENSR 163-9562-00120	Issued:	August 24, 1998
Modification No.:	SMF/ENSR 163-10422-00120		
SIC Code:	3087		
Permit Reviewer:	Aida De Guzman		

On January 15, 1999 the Office of Air Management (OAM) had a notice published in the Evansville Courier, Evansville, Indiana, stating that Ferro Corporation, Filled and Reinforced Division had applied for a FESOP Significant Source Modification and Enhanced New Source Review (ENSR), to construct new equipment, remove and move some equipment within buildings 1 and 2, and change the product formulations. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 22, 1999, Ferro Corporation had submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded and deletion are struck through for emphasis):

Comment 1: On the Table of Contents, page 3a of 26 of the permit, Section D.1, the last paragraph should state as follows:

D.1 Each extrusion line consists of a dedicated blender, material handling, ~~and~~ extruder **and** pelletizing. The source utilizes different types of plastic in the process as follows: Polyethylenes, **Polypropylenes**, ABS, EVA, ~~HDPE, LDPE~~, Nylons, ~~GPP~~, and ~~HPP~~ **Polystyrenes**.

Response 1: Table of Contents, page 3a of 26 of the permit, Section D.1, the last paragraph, including Page 22 of 26, project description table were revised to reflect your comments.

Comment 2: The Responsible Official last name on Page 4 of 26 of the permit was misspelled.

Response 2: The Responsible Official's last name was corrected as follows:

Responsible Official: Stephen Ketchum

Comment 3: On Section D.1.13, Page 23b of 26 of the permit, for Pressure Drop Reading. This condition requires the source to maintain and take readings of the total static pressure drop ranges across all baghouses at a pressure drop ranges established during the most recent stack test. Please indicate the pressure drop ranges using the ranges specified by the manufacturer, which were verified during the stack tests.

Response 3: Condition D.1.13 was revised as follows:

D.1.13 Pressure Drop Readings

The Permittee shall take readings of the total static pressure drop ranges across all baghouses, at least once per day when any of the blenders and extruders in Buildings 1 and 2 (C04, C06, C15, C16, C18, C31, C32, C51, C03, C20, C22, C23, C24 and C45) are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop **range** across the baghouses EX1, and EX2, ~~EX3, EX4~~ and EX29 shall be maintained **at 0.8 to 6.0 inches of water or ranges** established during the most recent stack test. **Baghouses EX3, and EX4, shall be maintained at a pressure drop range of 0.5 to 2.0 inches of water across the baghouses, or ranges established during the most recent stack test.** The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this level for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and EEPa and shall be calibrated at least once every six (6) months.

Comment 4: The Visible Emissions Notations in Condition D.1.14 last paragraph shall specify the units referred to, after the "Preventive Maintenance Plan".

Response 4: The last paragraph in Condition D.1.14 was revised as follows:

"The Preventive Maintenance Plan for **the pollution control devices or baghouses** ~~this unit~~ shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Comment 5: The county status should be updated to all attainment for all pollutants.

Response 5: The county status has been updated to all attainment for all pollutants.