INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: August 10, 2012

RE: Nucor Fastener / 033 - 31290 - 00038

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

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(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNTVOP.dot12/3/07

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Part 70 Operating Renewal Administrative Permit
OFFICE OF AIR QUALITY

Nucor Fastener
6730 County Road 60
St. Joe, Indiana 46785

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

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions

Operation Permit No.: T033-31290-00038	
Issued by: Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: August 10, 2012 Expiration Date: August 10, 2017

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary nut and bolt manufacturing operation.

Source Address:	6730 County Road 60, St. Joe, Indiana 46785
General Source Phone Number:	219-337-1600
SIC Code:	3452
County Location:	DeKalb
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This source consists of two (2) plants:

(a) Nucor Fastener is located at 6730 County Road 60, St. Joe, Indiana 46785; and

(b) NUCOR Vulcraft Group – St. Joe Division is located at 6610 County Road 60, St. Joe, Indiana 46785.

IDEM has determined that Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division are under the common control of Nucor Corporation. These two plants are considered one source because they are located on adjacent properties, are under common ownership, and belong to the same industrial grouping. Therefore, the term “source” in the Part 70 documents refers to both Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division as one major source.

Separate Part 70 permits will be issued to Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division solely for administrative purposes.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

(a) One (1) natural gas-fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 9.807 million British thermal units per hour (mmBtu/hr);

(b) One (1) natural gas-fired belt heat treat furnace, constructed in 1991, including one (1) hardening furnace and one (1) draw furnace, with a total maximum heat input capacity of 18.35 mmBtu/hr;

(c) One (1) sulfuric acid pickling facility, constructed in 1999, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of 32.4 tons of steel per hour;

(d) Twenty two (22) bolt-making machines, (#1-#3, #8-#9, #12-#17, #19, #21-#24) permitted in 1986, (#4) constructed in 1994, (#7 and #25) constructed in 2000, (#11) constructed in 2003, (#30) constructed in 2004 and (#10) constructed in 2008, with a total maximum capacity of 43.2 tons of steel per hour, using a total of 124,000 pounds of coolant and oil lubricant per year, with emissions from bolt-making machines controlled by three (3) wet Venturi scrubbers, including:

(1) Five (5) bolt-making machines, identified as Machines #1, #7, #10, #11, and #25; and

(2) Seventeen (17) bolt-making machines, which are Insignificant Activities pursuant to 326 IAC 2-7-1(21), identified as Machines #2 - #4, #8, #9, #12 - #17, #19, #21-#24, and #30;

(e) One (1) nut-forming machine, including coolant usage, with a total maximum capacity of 1.27 tons of steel per hour;

(f) One (1) tumble blaster, exhausting to a baghouse, with a maximum capacity of 1.27 tons of steel per hour;

(g) Seven (7) bolt formers, with a total capacity of 9.5 tons of steel per hour, using a total maximum of 37,500 gallons of lubricant and cooling oil per year, and each equipped with an oil mist collection system, including:

(1) Six (6) bolt formers, identified as Machines #5, #6, #20, #26 - #28; and

(2) One (1) bolt former, which is an Insignificant Activity pursuant to 326 IAC 2-7-1(21), identified as Machine #29; and

(h) One (1) natural gas-fired boiler, identified as EP54, constructed May 26, 2000, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 8.37 mmBtu/hr.

A.4 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

This stationary source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired space heaters, with a total maximum capacity of 8.3 mmBtu/hr;

(b) Natural gas-fired air makeup units, with a total maximum capacity of 50.23 mmBtu/hr;

(c) Three (3) natural gas-fired annealing furnaces, with a total heat input capacity of 17.82 mmBtu/hr, and each processing 113,400 pounds of metal per batch;

(d) Four (4) natural gas fired annealing furnaces, with a total maximum heat input capacity of 27.6 mmBtu/hr.

(e) One (1) natural gas-fired heat treat furnace, including one (1) belt furnace, one (1) hardening furnace, and one (1) draw furnace, with a total maximum heat input capacity of 7.70 mmBtu/hr;

(f) Two (2) natural gas-fired heat treat furnaces, including two (2) belt furnaces, two (2) hardening furnaces, and two (2) draw furnaces, with a total maximum heat input capacity of 18.1 mmBtu/hr;

(g) One (1) wash line, using a maximum of 1,733 gallons of rust preventative per year.

(h) One (1) parts waxing line, approved for construction in 2008, for the application of a light coating of wax to product for rust prevention, with a maximum usage of 2,250 gallons of wax per year, and emissions uncontrolled; and

(i) One (1) phosphate and oil line for processing carbon steel fasteners, approved for construction in 2008, with an annual throughput of 8,136 gallons of chemicals and 396,000 gallons of water, consisting of the following:

(1) One (1) Degreaser tank, with a storage capacity of 250 gallons;

(2) Seven (7) Rinse Water tanks, each with a storage capacity of 250 gallons;

(3) One (1) De-phosphate tank, with a storage capacity of 350 gallons;

(4) One (1) Sulfuric Acid tank, with a storage capacity of 600 gallons;

(5) One (1) Activator tank, with a storage capacity of 250 gallons;

(6) Two (2) Zinc Phosphate tanks, one with a storage capacity of 600 gallons and one with a storage capacity of 250 gallons;

(7) One (1) Neutralizer tank, with a storage capacity of 250 gallons;

(8) One (1) Dry Oil tank, with a storage capacity of 250 gallons; and

(9) One (1) Wet Oil tank, with a storage capacity of 250 gallons.

(j) Endothermic generators, to be constructed in 2009, with a maximum capacity of 1.3 MMBtu/hr.

(k) One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.5 MMBtu/hr.

(l) One (1) waste oil heater, to be constructed in 2009, with a maximum capacity of 0.15 MMBtu/hr.

(m) Two cooling towers (975 gpm each) at the concrete pond

(n) Two cooling towers (975 gpm each) serving the Holcroft belt heat treat furnace and nut forming machine.

(o) One (1) natural gas-fired emergency generator, serving the Holcraft belt heat treat furnace, with a maximum capacity of 1.95 mmBtu/hr.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T033-31290-00038, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ 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. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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) The annual compliance certification report 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, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or 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 consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(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; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(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; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(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.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe 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 in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(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 which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(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 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) 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.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to

be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T033-31290-00038 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by part 70 operating permit)

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit 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 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit 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 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ 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 practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. 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(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) 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, OAQ on or before the date it is due.

(c) 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 2-7 until IDEM, OAQ 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, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a 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) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003

Indianapolis, Indiana 46204-2251

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act 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 which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(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 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of

326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue

MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following:

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the.

Records of required monitoring information include the following:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.

(BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a

"responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(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, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) natural gas-fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 9.807 million British thermal units per hour (mmBtu/hr); and

(b) One (1) natural gas-fired boiler, identified as EP54, constructed May 26, 2000, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 8.37 mmBtu/hr.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-2-4]

(a) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the PM from the one (1) boiler constructed in 1994, with a heat input capacity of 9.807 mmBtu/hr, shall be limited to 0.60 pounds per mmBtu heat input.

(b) Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the PM from the one (1) boiler EP54 constructed May 26, 2000, and with a heat input capacity of 8.37 mmBtu/hr, shall be limited to 0.51 pounds per mmBtu heat input. This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. As each new indirect heating facility is added to a plant Q will increase. As a result, the emission limitation for each progressively newer facility will be more stringent until the total plant capacity reaches 10,000 mmBtu/hr. For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6.

Boiler EP54 is in compliance with 326 IAC 6-2-4 when burning natural gas, because it has potential particulate matter emissions of 0.003 pounds per mmBtu heat input.

Boiler EP54 is in compliance with 326 IAC 6-2-4 when burning propane, because it has potential particulate matter emissions of 0.005 pounds per mmBtu heat input.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

One (1) sulfuric acid pickling facility, exhausting to stack EP63, constructed in 1999, with an acid recovery system, with a maximum capacity of 32.4 tons of steel per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the sulfuric acid pickling facility shall not exceed 40.6 pounds per hour when operating at a process weight rate of 32.4 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The sulfuric acid pickling facility is in compliance with this limit without the use of a control device, because the potential maximum uncontrolled particulate emission rate is less than 40.6 pounds per hour.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Seven (7) bolt formers, with a total capacity of 9.5 tons of steel per hour, using a total maximum of 37,500 gallons of lubricant and cooling oil per year, and each equipped with an oil mist collection system, including:

(1) Six (6) bolt formers, identified as Machines #5, #6, #20, and #26-#28; and

(2) One (1) bolt former, which is an Insignificant Activity pursuant to 326 IAC 2-7-1(21), identified as Machine #29.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from Machines #5, #6, #20, and #26-28 shall not exceed the pound per hour emission limitations when operating at maximum process weight rates as specified in the table below:

Emissions Unit	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable Particulate Emission Limit (lb/hr)
Machine #5	1.92	6.35
Machine #6	2.21	6.98
Machine #20	0.62	2.98
Machine #26	1.78	6.04
Machine #27	1.73	5.93
Machine #28	0.92	3.88

The pounds per hour limitations were calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The oil mist collection systems shall be in operation at all times the bolt formers are in operation, in order to comply with this limit.

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for the seven (7) bolt forming machines, identified as Machines #5-#6, #20 and #26-#29, and the oil mist collection systems.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

One (1) nut-forming machine, including coolant usage, with a total maximum capacity of 1.27 tons of steel per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the one (1) nut-forming machine shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

The nut-forming machine is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the nut-forming are 0.96 pounds per hour.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

One (1) tumble blaster, exhausting to a baghouse, with a maximum capacity of 1.27 tons of steel per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the tumble blaster shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

The tumble blaster is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the tumble blaster are 4.05 pounds per hour.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

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:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Nucor Fastener
Source Address: 6730 County Road 60, St. Joe, Indiana 46785
Part 70 Permit No.: T033-31290-00038

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:	**Duration of Deviation:**

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:	**Duration of Deviation:**

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Part 70 Operating Renewal Administrative Permit

Source Description and Location

Source Name:	Nucor Fastener
Source Location:	6730 County Road 60, St. Joe, Indiana, 46785
County:	DeKalb
SIC Code:	3452
Permit Renewal No.:	T033-31290-00038
Permit Reviewer:	Ghassan Shalabi

The Office of Air Quality (OAQ) has reviewed Part 70 Operating Permit for a Renewal permit application, submitted by Nucor Fastener on December 21, 2011, relating to the operation of a stationary nut and bolt manufacturing operation.

Public Notice Information

On June 20, 2012, the Office of Air Quality (OAQ) had a notice published in the Auburn Evening Star stating that Nucor Fastener has applied for a Renewal Permit of their Part 70 Operating Permit issued on October 12, 2007. The notice also stated that the OAQ proposed to issue a Part 70 Operating Permit Renewal for this operation 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.

Change

Upon further review, the OAQ has decided to make the following revisions to the permit

The changes listed below have been made to Part 70 Operating Permit No. T 033-31290-00038 Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Change 1. The phrase has been updated as follows throughout the permit

~~Part 70 Operating Permit Renewal~~
Part 70 Operating Renewal Administrative Permit

IDEM Contact

Questions regarding this proposed permit can be directed to:

Ghassan Shalabi
Indiana Department Environmental Management
Office of Air Quality
100 North Senate Avenue
MC 61-53, Room 1003
Indianapolis, Indiana 46204-2251
Toll free (within Indiana): 1-800-451-6027 extension (4-5378)
Or dial directly: (317) 234-5378
pnguyen@idem.in.gov

Please reference permit number T033-31290-00038 in all correspondence.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Nucor Fastener
Source Location:	6730 County Road 60, St. Joe, Indiana, 46785
County:	DeKalb
SIC Code:	3452
Permit Renewal No.:	T033-31290-00038
Permit Reviewer:	Ghassan Shalabi

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Nucor Fastener relating to the operation of a stationary nut and bolt manufacturing operation. On December 21, 2011, Nucor Fastener submitted an application to the OAQ requesting to renew its operating permit. Nucor Fastener was issued its Part 70 Operating Permit Renewal (T033-20219-00038) on October 12, 2007.

Source Definition

This source consists of two (2) plants:

(a) Nucor Fastener is located at 6730 County Road 60, St. Joe, Indiana 46785; and

(b) NUCOR Vulcraft Group – St. Joe Division is located at 6610 County Road 60, St. Joe, Indiana 46785.

IDEM has determined that Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division are under the common control of Nucor Corporation. These two plants are considered one source because they are located on adjacent properties, are under common ownership, and belong to the same industrial grouping. Therefore, the term “source” in the Part 70 documents refers to both Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division as one major source.

Separate Part 70 permits will be issued to Nucor Fastener and NUCOR Vulcraft Group – St. Joe Division solely for administrative purposes.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) One (1) natural gas-fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 9.807 million British thermal units per hour (mmBtu/hr);

(b) One (1) natural gas-fired belt heat treat furnace, constructed in1991, including one (1) hardening furnace and one (1) draw furnace, with a total maximum heat input capacity of 18.35 mmBtu/hr;

(c) One (1) sulfuric acid pickling facility, constructed in 1999, exhausting to stack EP63, with an acid recovery system, with a maximum capacity of 32.4 tons of steel per hour;

(d) Twenty two (22) bolt-making machines, (#1-#3, #8-#9, #12-#19, #21-#24) constructed in 1986, (#4) permitted in 1994, (#7 and #25) constructed in 2000, (#11) constructed in 2003, (#30) constructed in 2004 and (#10) constructed in 2008, with a total maximum capacity of 43.2 tons of steel per hour, using a total of 124,000 pounds of coolant and oil lubricant per year, with emissions from bolt-making machines controlled by three (3) wet Venturi scrubbers, including:

(1) Five (5) bolt-making machines, identified as Machines #1, #7, #10, #11, and #25; and

(2) Seventeen (17) bolt-making machines, which are Insignificant Activities pursuant to 326 IAC 2-7-1(21), identified as Machines #2 - #4, #8, #9, #12 - #17, #19, #21-#24, and #30;

(e) One (1) nut-forming machine, including coolant usage, with a total maximum capacity of 1.27 tons of steel per hour;

(f) One (1) tumble blaster, exhausting to a baghouse, with a maximum capacity of 1.27 tons of steel per hour;

(g) Seven (7) bolt formers, with a total capacity of 9.5 tons of steel per hour, using a total maximum of 37,500 gallons of lubricant and cooling oil per year, and each equipped with an oil mist collection system, including:

(1) Six (6) bolt formers, identified as Machines #5, #6, #20, #26 - #28; and

(2) One (1) bolt former, which is an Insignificant Activity pursuant to 326 IAC 2-7-1(21), identified as Machine #29; and

(g) One (1) natural gas-fired boiler, identified as EP54, constructed May 26, 2000, using liquid propane gas as a backup fuel, with a maximum heat input capacity of 8.37 mmBtu/hr.

Insignificant Activities

The source also consists of the following insignificant activities:

(a) Natural gas-fired space heaters, with a total maximum capacity of 8.3 mmBtu/hr;

(b) Natural gas-fired air makeup units, with a total maximum capacity of 50.23 mmBtu/hr;

(c) Three (3) natural gas-fired annealing furnaces, with a total heat input capacity of 17.82 mmBtu/hr, and each processing 113,400 pounds of metal per batch;

(d) Four (4) natural gas fired annealing furnaces, with a total maximum heat input capacity of 27.6 mmBtu/hr.

(e) One (1) natural gas-fired heat treat furnace, including one (1) belt furnace, one (1) hardening furnace, and one (1) draw furnace, with a total maximum heat input capacity of 7.70 mmBtu/hr;

(f) Two (2) natural gas-fired heat treat furnaces, including two (2) belt furnaces, two (2) hardening furnaces, and two (2) draw furnaces, with a total maximum heat input capacity of 18.1 mmBtu/hr;

(g) One (1) wash line, using a maximum of 1,733 gallons of rust preventative per year.

(h) One (1) parts waxing line, approved for construction in 2008, for the application of a light coating of wax to product for rust prevention, with a maximum usage of 2,250 gallons of wax per year, and emissions uncontrolled; and

(i) One (1) phosphate and oil line for processing carbon steel fasteners, approved for construction in 2008, with an annual throughput of 8,136 gallons of chemicals and 396,000 gallons of water, consisting of the following:

(1) One (1) Degreaser tank, with a storage capacity of 250 gallons;

(2) Seven (7) Rinse Water tanks, each with a storage capacity of 250 gallons;

(3) One (1) De-phosphate tank, with a storage capacity of 350 gallons;

(4) One (1) Sulfuric Acid tank, with a storage capacity of 600 gallons;

(5) One (1) Activator tank, with a storage capacity of 250 gallons;

(6) Two (2) Zinc Phosphate tanks, one with a storage capacity of 600 gallons and one with a storage capacity of 250 gallons;

(7) One (1) Neutralizer tank, with a storage capacity of 250 gallons;

(8) One (1) Dry Oil tank, with a storage capacity of 250 gallons; and

(9) One (1) Wet Oil tank, with a storage capacity of 250 gallons.

(j) Endothermic generators, permitted in 2009, with a maximum capacity of 1.3 MMBtu/hr.

(k) One (1) waste oil heater, permitted in 2009, with a maximum capacity of 0.5 MMBtu/hr.

(l) One (1) waste oil heater, permitted in 2009, with a maximum capacity of 0.15 MMBtu/hr.

(m) Two cooling towers (975 gpm each) at the concrete pond

(n) Two cooling towers (975 gpm each) serving the Holcroft belt heat treat furnace and nut forming machine.

(o) One (1) natural gas-fired emergency generator, serving the Holcraft belt heat treat furnace, with a maximum capacity of 1.95 mmBtu/hr.

Existing Approvals

Since the issuance of the Part 70 Operating Permit (033-20219-00038) on October 12, 2007, the source has constructed or has been operating under the following additional approvals:

(a) Minor Source Modification No. 033-25880-00038 issued on September 19, 2008;

(b) Minor Permit Modification No. 033-25882-00038 issued on November 14, 2008; and

(c) Significant Permit Modification No. 033-27585-00038 issued on May 18, 2009.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in DeKalb County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. DeKalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
DeKalb County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
DeKalb County has been classified as attainment or unclassifiable in Indiana for SO2, CO, PM10, NO2, and Pb. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	116.6
PM_{10}	120.4
$PM_{2.5}$	120.4
SO_2	6.85
VOC	246
CO	61.72
NO_x	76.88
GHGs as CO_2e	91,484
Single HAP	7.14
Total HAP	11.00

HAPs	**tons/year**
Hexane	1.33
Manganese	7.14
Other	2.53
Total	**11.00**

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5 and VOC is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

Actual Emissions

The following table shows the actual emissions as reported by the source. This information reflects the 2009 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	-
PM_{10}	9.27
PM2.5	9.27
SO_2	1.28
VOC	27.84
CO	24.10
NO_x	29.80
HAP (specify)	-

Potential to Emit After Issuance

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Nucor Vulcraft (033-00027)	11.67	11.67	11.67	-	-	210	-	-	9.59	7.14
Boiler, Installed in 1994	0.1	0.3	0.3	1.3	6.1	0.5	3.6	5997	0.081	0.077
Boiler, EP54	0.1	0.3	0.3	1.1	5.2	0.4	3.1	5122	0.069	0.066
Space Heaters	0.1	0.3	0.3	0	3.6	0.2	3.1	4389	0.069	0.065
Air Makeup Units	0.4	1.7	1.7	0.1	22	1.2	18.5	26562	0.415	0.396
7 Annealing Furnaces	0.4	1.5	1.5	0.1	19.9	1.1	16.7	24007	0.375	0.358
4 Heat Treat Furnaces	0.4	1.5	1.5	0.1	19.3	1.1	16.2	23346	0.365	0.348
Sulfuric Acid Pickling Facility	3.46	3.46	3.46	3.46	-	-	-	-	-	-
1 Nut Former	4.2	4.2	4.2	-	-	0.17	-	-	-	-
Tumble Blaster	17.73	17.73	17.73	-	-	-	-	-	-	-
Bolt Formers Using Smog Hog Units - existing	71.16	71.16	71.16	-	-	-	-	-	-	-
Bolt Formers Using Venturi Scrubbers	6.20	6.20	6.20	-	-	31	-	-	-	-
Oil and Phosphate Line - new	0.11	0.11	0.11	0.11	-	0.19	-	-	-	-
Parts Waxing Line	-	-	-	-	-	0.1	-	-	-	-

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Endothermic Generators (1.3 MMBtu/hr)	0.01	0.04	0.04	0.0034	0.57	0.03	0.48	687	0.011	0.01
Waste Oil Heater (0.5 MMBtu/hr)	0.04	0.04	0.04	0.44	0.16	0.02	0.03	264	0.005	0.004
Waste Oil Heater (0.15 MMBtu/hr)	0.01	0.01	0.01	0.13	0.05	0	0.01	79	0.0015	0.001
4 Cooling Towers	0.52	0.08	0.08	0	0	0	0	0	0	0
1.95 NG Emergency Generator	0.02	0.06	0.06	0.01	0.85	0.05	0.72	1031	0.015	0.01
Total PTE of Entire Source	**116.60**	**120.40**	**120.40**	**6.85**	**76.88**	**246**	**61.72**	**91484**	**11.00**	**7.14**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000 CO_2e	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000 CO_2e	NA	NA

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
**$PM_{2.5}$ listed is direct $PM_{2.5}$.

(a) This existing stationary source is not major for PSD because the emissions of each regulated pollutant, excluding GHGs, are less than two hundred fifty (<250) tons per year, emissions of GHGs are less than one hundred thousand (<100,000) tons of CO_2 equivalent emissions (CO_2e) per year, and it is not in one of the twenty-eight (28) listed source categories.

Federal Rule Applicability

(a) This permit does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1 for any regulated pollutant:

(1) with the potential to emit before controls equal to or greater than the major source threshold for that pollutant,

(2) that is subject to an emission limitation or standard for that pollutant, and

(3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not included in this permit.

NSPS

(b) The tanks associated with the new phosphate and oil line are not subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, since the storage capacity of each tank is less than the applicability threshold of 75 cubic meters. Therefore, the requirements of the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 are not included in the permit.

NESHAP

(c) The new phosphate and oil line is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning (40 CFR 63, Subpart T), since the solvent used does not include any of the halogenated solvents listed under 40 CFR 63.460, and the HAP content is less than the applicability threshold of 5 percent by weight. Therefore, the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning (40 CFR 63, Subpart T) are not included in the permit.

(d) The parts waxing coating line is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Metal Parts and Products Surface Coating (40 CFR 63, Subpart MMMM), since pursuant to 40 CFR 63. 3981 (Definitions), functional coatings consisting only of protective oils are not considered as "coating" for the purposes of this subpart. Therefore, the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Metal Parts and Products Surface Coating (40 CFR 63, Subpart MMMM) are not included in the permit.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart T (National Emission Standards for Halogenated Solvent Cleaning) are not included in this permit because the wash line is not a cleaning unit that uses halogenated solvents.

(f) The requirements of National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.1155, Subpart CCC, National Emission Standards for Hazardous Air Pollutants for Steel Pickling – HCl Process Facilities and Hydrochloric Acid Regeneration Plants, are not included in this permit because this NESHAP applies to steel pickling facilities that pickle carbon steel using hydrochloric acid. The steel pickling line located at this source uses sulfuric acid.

(g) The requirements of National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.3880, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products, are not included in this permit because the coating applied in the wash line is considered a protective oil and is specifically exempt from these NESHAP requirements.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
PSD applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-6 (Emission Reporting)
This source, not located in Lake, Porter, or LaPorte County, is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of VOC and PM10 is less than 250 tons per year; and the potential to emit of

CO, NOx, and SO2 is less than 2,500 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(2), triennial reporting is required. An emission statement shall be submitted in accordance with the compliance schedule in 326 IAC 2-6-3 by July 1, 2013, and every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6.5 PM Limitations Except Lake County
This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

State Rule Applicability – Individual Facilities

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
326 IAC 6-2-4 applies to the boilers because each was constructed after September 21, 1983.

(a) Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating), particulate matter emissions from the one (1) boiler constructed in 1994, with a heat input capacity of 9.807 mmBtu/hr, shall be limited to 0.60 pounds per mmBtu heat input, because the total source maximum operating capacity is less than 10 mmBtu/hr.

The boiler constructed in 1994 is in compliance with 326 IAC 6-2-4 when burning natural gas, because it has potential particulate matter emissions of 0.002 pounds per mmBtu heat input.

The boiler constructed in 1994 is in compliance with 326 IAC 6-2-4 when burning propane, because it has potential particulate matter emissions of 0.007 pounds per mmBtu heat input.

(b) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter emissions from the one (1) boiler EP54 constructed May 26, 2000, and with a heat input capacity of 8.37 mmBtu/hr, shall be limited to 0.51 pounds per mmBtu heat input. This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input. As each new indirect heating facility is added to a plant Q will increase. As a result, the emission limitation for each progressively newer

facility will be more stringent until the total plant capacity reaches 10,000 mmBtu/hr.

Boiler EP54 is in compliance with 326 IAC 6-2-4 when burning natural gas, because it has potential particulate matter emissions of 0.003 pounds per mmBtu heat input.

Boiler EP54 is in compliance with 326 IAC 6-2-4 when burning propane, because it has potential particulate matter emissions of 0.005 pounds per mmBtu heat input.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) *Sulfuric Acid Pickling Facility*

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the sulfuric acid pickling facility shall not exceed 40.6 pounds per hour when operating at a process weight rate of 32.4 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The sulfuric acid pickling facility is in compliance with this limit without the use of a control device, because the potential maximum uncontrolled particulate emission rate is less than 40.6 pounds per hour.

(b) *Bolt Formers*

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the combined five (5) bolt formers shall not exceed 12.49 pounds per hour when operating at a process weight rate of 5.27 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The oil mist collection systems shall be in operation at all times the bolt formers are in operation, in order to comply with this limit.

(c) *Bolt-Making Machines*

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the combined twenty-two (22) bolt-making machines shall not exceed 37.5 pounds per hour when operating at a process weight rate of 27.2 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

The bolt-making machines are in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the combined bolt-making machines are 0.90 pounds per hour.

(d) *Nut-Forming Machine*
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the one (1) nut-forming machine shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

The nut-forming machine is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the nut-forming are 0.96 pounds per hour.

(e) *Tumble Blaster*
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the tumble blaster shall not exceed 4.81 pounds per hour when operating at a process weight rate of 1.27 tons of steel per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour;
and P = process weight rate in tons per hour

The tumble blaster is in compliance with this limit without the use of a control device, because potential uncontrolled particulate emissions from the tumble blaster are 4.05 pounds per hour.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
This rule applies to facilities with a potential to emit of twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide. All facilities at this source have potential SO_2 emissions that are less than 25 tons per year and less than 10 pounds per hour. Therefore, 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) does not apply.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
This rule does not apply because there are no new facilities (as of January 1, 1980) included in this permit that have potential VOC emissions of 25 or more tons per year.

326 IAC 8-2-9 (Miscellaneous Metal Coating)
This rule does not apply to the wash line because the rust preventative coating does not contain VOC.

326 IAC 8-3 (Organic Solvent Degreasing Operations)
326 IAC 8-3 does not apply to the wash line because it does not meet the definition of a cold cleaner degreaser. The wash line uses a non-VOC containing material to clean the parts and then coats the parts with a protective oil (rust preventative).

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no Compliance Determination or Monitoring requirements.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on December 21, 2011.

Conclusion

The operation of this stationary nut and bolt manufacturing operation shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 033-31290-00038.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Ghassan Shalabi at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5378 or toll free at 1-800-451-6027 extension 4-5378.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emission Calculations
Summary

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, IN 46785
Permit No. 033-31290-00038
Reviewer: Ghassan Shalabi
Date: April 4, 2012

	Limited PTE (ton/yr)								
Process/emission unit	PM	$PM_{10/PM2.5}$	SO_2	VOC	CO	NO_X	HAP - Highest Single	HAP - Total	GHG
Nucor Vulcraft (033-00027)[1]	11.67	11.67	--	210	--	--	7.14 (Manganese)	9.59	
Boiler, installed 1994[2]	0.1	0.3	1.3	0.5	3.6	6.1	0.077 (Hexane)	0.081	5997
Boiler, EP54[2]	0.1	0.3	1.1	0.4	3.1	5.2	0.066 (Hexane)	0.069	5122
Space Heaters[2]	0.1	0.3	0	0.2	3.1	3.6	0.065 (Hexane)	0.069	4389
Air Makeup Units[2]	0.4	1.7	0.1	1.2	18.5	22	0.396 (Hexane)	0.415	26562
7 Annealing Furnaces[2]	0.4	1.5	0.1	1.1	16.7	19.9	0.358 (Hexane)	0.375	24007
4 Heat Treat Furnaces[2]	0.4	1.5	0.1	1.1	16.2	19.3	0.348 (Hexane)	0.365	23346
Sulfuric Acid Pickling Facility[2]	3.46	3.46	3.46	--	--	--	--	--	--
1 Nut Former[2]	4.2	4.2	--	0.17	--	--	--	--	--
Tumble Blaster[2]	17.73	17.73	--	--	--	--	--	--	--
Bolt Formers Using Smog Hog Units[2]	71.16	71.16	--	--	--	--	--	--	--
Bolt Formers Using Venturi Scrubbers[3]	6.2	6.2	--	31	--	--	--	--	--
Oil and Phosphate Line[3]	0.11	0.11	0.11	0.19	--	--	--	--	--
Parts Waxing Line[3]	--	--	--	0.1	--	--	--	--	--
Endothermic Generators (total of 1.3 MMBtu/hr)[4]	0.01	0.04	3.40E-03	3.00E-02	0.48	0.57	0.01 (Hexane)	1.10E-02	687
Waste Oil Heater (0.5 MMBtu/hr)[4]	0.04	0.04	0.44	0.02	0.03	0.16	0.004 (Hexane)	5.00E-03	264
Waste Oil Heater (0.15 MMBtu/hr)[4]	0.01	0.01	0.13	0	0.01	0.05	0.001(Hexane)	1.50E-03	79
4 Cooling towers	0.52	0.08	--	--	--	--	--	--	--
1.95 NG Emergency Generator	0.02	0.06	0.01	0.05	0.72	0.85	0.015 (Hexane)	1.61E-02	1031
Total	116.6	120.4	6.85	246.0	61.72	76.88	7.14 (Manganese)	11.00	91484

1 - Limited PTE values were taken from the TSD to Part 70 Operating Permit Renewal No. 033-25285-00027. See Source Definition Section of the TSD for further explanation.

2 - Limited PTE values were taken from the ATSD to Part 70 Operating Permit No. 033-20219-00038.

3 - Limited PTE values were taken from the tsd to permit No. 033-25880-00038.

4 - Limited PTE values were taken from the tsd to permit No. 033-27585-00038.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Space Heaters)

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
8.3	1000	72.7

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.1	0.3	0.3	0.0	3.6	0.2	3.1

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 3 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Space Heaters)
HAPs Emissions

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Permit Number: T 033-31290-00038
Reviewer: Ghassan Shalabi
Date: April 3, 2012

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.634E-05	4.362E-05	2.727E-03	6.544E-02	1.236E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.818E-05	3.999E-05	5.090E-05	1.381E-05	7.634E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

See Page 4 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Space Heaters)
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	4,362	0.1	0.1
Summed Potential Emissions in tons/yr	4,363		
CO2e Total in tons/yr	4,389		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Air Makeup Units)

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana 46785
Permit Number: T 033-31290-00038
Reviewer: Ghassan Shalabi
Date: April 3, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
50.2	1000	440.0

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.4	1.7	1.7	0.1	22.0	1.2	18.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MM
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 6 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Air Makeup Units)
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	HAPs - Organics				
	Benzene	Dichlorobenze	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	4.620E-04	2.640E-04	1.650E-02	3.960E-01	7.480E-04

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.100E-04	2.420E-04	3.080E-04	8.360E-05	4.620E-04	4.152E-01

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

See Page 7 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Air Makeup Units)
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	26,401	0.5	0.5
Summed Potential Emissions in tons/yr	26,402		
CO2e Total in tons/yr	26,562		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Boiler, Installed in 1994)

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
9.8	1000	85.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.1	0.3	0.3	0.0	4.3	0.2	3.6

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-(
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MM
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 9 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Boiler, Installed in 1994)
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	HAPs - Organics				
	Benzene	Dichlorobenze	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	9.014E-05	5.151E-05	3.219E-03	7.726E-02	1.459E-04

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	2.146E-05	4.722E-05	6.009E-05	1.631E-05	9.014E-05	8.101E-02

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

See Page 10 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (Boiler, Installed in 1994)
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	5,151	0.1	0.1
Summed Potential Emissions in tons/yr	5,151		
CO2e Total in tons/yr	5,182		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
LPG-Propane - Industrial Boilers
Boiler, installed in 1994

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 0.10 x S S = Sulfur Content =	0.00	grains/100ft^3
9.80	938.23			

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.2	0.7	0.7	0.0	13.0	1.0	7.5
				(0.10S)		**TOC value	
Potential Emission in tons	0.1	0.3	0.3	0.0	6.1	0.5	3.5

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown. Please see AP-42 for butane.

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

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See Page 12 for Greenhouse Gas calculations.

updated 7/11

Appendix A: Emission Calculations
LPG-Propane - Industrial Boilers
Boiler, installed in 1994
Greenhouse Gas

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/kgal	12,500	0.2	0.9
Potential Emission in tons	5,864	0.1	0.4
Summed Potential Emissions in tons/yr	5,864		
CO2e Total in tons/yr	5,997		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.
Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 Boiler EP 54

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
8.4	1000	73.6

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/	0.1	0.3	0.3	0.0	3.7	0.2	3.1

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combine
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recircula

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02,
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,00
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb

See page 14 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 Boiler EP 54
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	HAPs - Organics				
	Benzene	Dichlorobenze	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMc	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/	7.726E-05	4.415E-05	2.759E-03	6.623E-02	1.251E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMc	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/	1.840E-05	4.047E-05	5.151E-05	1.398E-05	7.726E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4

See Page 15 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 Boiler EP 54
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMc	120,000	2.3	2.2
Potential Emission in tons/	4,415	0.1	0.1
Summed Potential Emissions in tons/yr	4,415		
CO2e Total in tons/yr	4,442		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
LPG-Propane - Industrial Boilers
Boiler EP 54

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 0.10 x S S = Sulfur Content =	0.00	grains/100ft^3
8.37	801.32			

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.2	0.7	0.7	0.0	13.0	1.0	7.5
				(0.10S)		**TOC value	
Potential Emission in tons/	0.1	0.3	0.3	0.0	5.2	0.4	3.0

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown. Please see AP-42 for butane.

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

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See Page 17 for Greenhouse Gas calculations.

updated 7/11

Appendix A: Emission Calculations
LPG-Propane - Industrial Boilers
Boiler EP 54
Greenhouse Gas

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/kgal	12,500	0.2	0.9
Potential Emission in tons/	5,008	0.1	0.4
Summed Potential Emissions in tons/yr	5,009		
CO2e Total in tons/yr	5,122		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.
Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (4 Belt Heat Treat Furnaces, including 4 Hardening Furnaces and 4 Draw Furnaces)

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Plt ID: **033-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
44.2	1000	386.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/	0.4	1.5	1.5	0.1	19.3	1.1	16.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combinec
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculat

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, a
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/

See page 19 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (4 Belt Heat Treat Furnaces, including 4 Hardening Furnaces and 4 Draw Furnaces)
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	HAPs - Organics				
	Benzene	Dichlorobenzen	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMc	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/	4.061E-04	2.321E-04	1.450E-02	3.481E-01	6.575E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMc	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/	9.669E-05	2.127E-04	2.707E-04	7.348E-05	4.061E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

See Page 20 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (4 Belt Heat Treat Furnaces, including 4 Hardening Furnaces and 4 Draw Furnaces)
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMc	120,000	2.3	2.2
Potential Emission in tons/	23,205	0.4	0.4
Summed Potential Emissions in tons/yr	23,206		
CO2e Total in tons/yr	23,346		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (7 Annealing Furnaces)

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
45.4	1000	397.7

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/	0.4	1.5	1.5	0.1	19.9	1.1	16.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combine
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recircula

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, a
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/

See page 22 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (3 Annealing Furnaces)
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

	HAPs - Organics				
	Benzene	Dichlorobenze	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMc	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/	4.176E-04	2.386E-04	1.491E-02	3.579E-01	6.761E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMc	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/	9.943E-05	2.187E-04	2.784E-04	7.556E-05	4.176E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4

See Page 23 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100 (3 Annealing Furnaces)
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Plt ID: **033-00038**
Reviewer: **Ghassan Shalabi**
Date: **04/0/3/2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMc	120,000	2.3	2.2
Potential Emission in tons/	23,862	0.5	0.4
Summed Potential Emissions in tons/yr	23,863		
CO2e Total in tons/yr	24,007		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Non-Combustion
Sulfuric Acid Pickling

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Sulfuric Acid Pickling Facility

Maximum Uncontrolled PM/PM10 (lb/hr)*	Maximum Uncontrolled PM/PM10 (ton/yr)	Capture Efficiency Fume Exhaust (%)	Control Efficiency Scrubber and Mist Eliminator (%)	Maximum Controlled Emissions (lb/hr)	Maximum Controlled Emissions (ton/yr)
0.79	3.46	70.0%	98.0%	0.25	1.09

Since the emissions are a sulfuric acid mist, the potential to emit SO_2 is conservatively equal to PM

Methodology

Maximum controlled emissions (lb/hr) = Maximum uncontrolled PM/PM10 (lb/hr) * (1-Capture Efficiency)
+ Maximum uncontrolled PM/PM10 (lb/hr) * Capture Efficiency * (1-Control Efficiency)

*Since there is no applicable AP-42 emissions factor available, the pound per hour emission rate is based on 360 grams per hour, as supplied by the vendor.

Appendix A: Emission Calculations
Non-Combustion
Miscellaneous Operations

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Plt ID: **033-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

Tumble Blaster

Baghouse Collection Rate* (ton/yr)	Potential Baghouse Collection Rate (ton/yr)	Control Efficiency (%)	Potential PM** Emissions (ton/yr)	Potential PM Emissions (lb/hr)	PM Emissions After Controls (ton/yr)	PM Emissions After Controls (lb/hr)
11.7	17.55	99.0%	17.73	4.05	0.18	0.04

*Based on the information supplied by the applicant, the collection rate for the tumble blast dust collector is 11.7 tons of PM per year.
**PM=PM10

Methodology
Potential Baghouse Collection Rate = Collection Rate * 1.5
The Collection Rate is multiplied by a factor of 1.5 to account for annual variability.
Emissions (ton/yr) = Potential Baghouse Collection Rate / Control Efficiency
Emissions (lb/hr) = Emissions (ton/yr) * 2000 lb/ton / 8760 hrs/yr
Emissions After Controls = Potential Emissions * (1 - Control Efficiency)

Appendix A: Emission Calculations
Non-Combustion
Miscellaneous Operations

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, Indiana 46785**
Permit Number: **T 033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 3, 2012**

23 Bolt Makers & 1 Nut Former

Facility	Material	Potential Usage (lb/yr)	VOC Content (%)	PM Content (%)	Potential VOC Emissions Before Controls (ton/yr)	Potential PM Emissions Before Controls (lb/hr)	Potential PM Emissions Before Controls (ton/yr)	Control Efficiency (%)	Potential PM Emissions After Controls (lb/hr)	Potential PM Emissions After Controls (ton/yr)
23 Bolt Makers	Cooling Oil	78,770	50.00%	10.00%	19.69	0.90	3.94	98.00%	0.02	0.08
1 Nut Former	Cooling Oil	84,000	0.40%	10.00%	0.17	0.96	4.20	0.00	0.96	4.20
Total Emissions (tons/yr):				**VOC =**	**19.86**	**PM =**	**8.14**	**PM Controlled =**		**4.28**

Indiana Department of Environmental Management
Office of Air Quality

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana, 46785
County: DeKalb
SIC / NAICS Code: 3452
Permit Number: 033-31290-00038
Permit Reviewer: Ghassan Shalabi
Date: 04/0/4/2012

	Uncontrolled Potential To Emit (ton/yr)							
Process / Emission Unit	**CO**	**NO_X**	**PM**	**PM_{10}**	**SO_2**	**VOC**	**GHG**	**HAPs**
Endothermic Generators (total of 1.3 MMBtu/hr)	0.48	0.57	0.01	0.04	3.4E-03	0.03	687.00	1.1E-02
Waste Oil Heater (0.5 MMBtu/hr)	0.03	0.16	0.04	0.04	0.44	0.02	264.00	5.0E-03
Waste Oil Heater (0.15 MMBtu/hr)	0.01	0.05	0.01	0.01	0.13	0.00	79.00	1.5E-03
Totals:	**0.51**	**0.78**	**0.06**	**0.10**	**0.57**	**0.05**	**1,030.00**	**0.02**

PTE calculations were provided by the source.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Endothermic Generator

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana, 46785
County: DeKalb
SIC / NAICS Code: 3452
Permit Number: 033-31290-00038
Permit Reviewer: Ghassan Shalabi
Date: 04/0/4/2012

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
1.3	1000	11.4

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	683	0.0	0.0
Summed Potential Emissions in tons/yr	683		
CO2e Total in tons/yr	687		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Waste Oil Heater

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana, 46785
County: DeKalb
SIC / NAICS Code: 3452
Permit Number: 033-31290-00038
Permit Reviewer: Ghassan Shalabi
Date: 04/0/4/2012

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
0.5	1000	4.4

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	263	0.0	0.0
Summed Potential Emissions in tons/yr	263		
CO2e Total in tons/yr	264		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Waste Oil Heater

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, Indiana, 46785
County: DeKalb
SIC / NAICS Code: 3452
Permit Number: 033-31290-00038
Permit Reviewer: Ghassan Shalabi
Date: 04/0/4/2012

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
0.2	1000	1.3

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	79	0.0	0.0
Summed Potential Emissions in tons/yr	79		
CO2e Total in tons/yr	79		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, IN 46785**
Permit No.: **033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 4, 2012**

Parts Waxing Line and Phosphate and Oil Line

Parts Waxing Line

Unit	Capacity (gal/yr)	Wax Density (lb/gal)	VOC Content (wt. %)	PTE VOC (lb/yr)	PTE VOC (ton/yr)
Parts Waxing Line	2250	8.42	1.0%	189.45	0.1

Methodology
- Wax density and VOC Content values were provided by the Permittee.
- PTE VOC (lb/yr) = Capacity (gal/yr) * Density (lb/gal) * VOC Content (lb VOC/lb Wax)
- PTE VOC (ton/yr) = PTE VOC (lb/yr) * (1 ton / 2000 lb)

Phosphate and Oil Line

Tank #	Chemical in Tank	Tank Capacity (gal)	Tank Concentration (%)	Chemical Usage Rate (gal/yr)	Density (lb/gal)	VOC Content (wt. %)	PM EF (lb PM/ton H_2SO_4)	PTE VOC (ton/yr)	PTE PM / PM10 / SO_2* (ton/yr)
1	Degreaser (NST)	250	5%	600		--	--	--	--
2	Rinse Water	250	100%			--	--	--	--
3	Rinse Water	250	100%			--	--	--	--
4	Rinse Water	250	100%			--	--	--	--
5	De-phosphate (GC 390)	250	13%	1560		--	--	--	--
6	Sulfuric Acid	600	12%	7000	15.3	--	4.14	--	0.11
7	Rinse Water	250	100%			--	--	--	--
8	Rinse Water	250	100%			--	--	--	--
9	Activator GL V 65	250	10%	1200		--	--	--	--
10	Zinc Phosphate (GB Z 3190)	600	12%	3456		--	--	--	--
11	Zinc Phosphate (GB Z 3190)	250	12%	1440		--	--	--	--
12	Rinse Water	250	100%			--	--	--	--
13	Rinse Water	250	100%			--	--	--	--
14	Neutralizer (GL V	250	12%	1440		--	--	--	--
15	Dry Oil (RP 4106)	250	11%	1320		--	--	--	--
16	Wet Oil (398LT)	250	15%	1800	8.5	2.5%	--	0.19	--
Total								0.19	0.11

Methodology
- Chemical Rate Usage, Density, and VOC content were provided by the Permittee.
- The PM EF is based on the uncontrolled emissions from the present pickle line: (0.79 lb PM/hr) * (8760 hr/yr) / (1669.9 tons H_2SO_4/yr) = 4.14 lb PM/ton H_2SO_4
- The PTE of PM_{10} is assumed to equal the PTE of PM.
- PTE VOC (ton/yr) = Chemical Rate Usage (gal/yr) * Density (lb/gal) * VOC Content (lb VOC/lb Chemical) * (1 ton/2000 lb)
- PTE PM/PM_{10}/SO_2 (ton/yr) = H_2SO_4 Usage (gal/yr) * H_2SO_4 Density (lb/gal) * (1 ton / 2000 lb) * PM EF (lb PM/ton H_2SO_4) * (1 ton / 2000 lb)

*Since the emissions are sulfuric acid mist, the PTE to emit SO_2 is conservatively equal to PM PTE.

Appendix A: Emission Calculations
Bolt-Former Machines

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, St. Joe, IN 46785
Permit No.: 033-31290-00038
Reviewer: Ghassan Shalabi
Date: April 4, 2012

Bolt Formers Using Smog Hog Oil Mist Collectors for Particulate Control

Machine #	Rate of Units Processed (ton/hr)	Cooling Oil Usage (gal/yr)	Density of Cooling Oil (lb/gal)	PM Emitted (lb PM/lb Cooling Oil)	Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$		Control Efficiency (%)	Controlled PTE $PM/PM_{10}/PM_{2.5}$		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions
					(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
5 (Moved from Venturi Units)	1.92	7594.9	7.59	0.5	3.29	14.41	90.0%	0.33	1.44	1.923	6.35
6 (Moved from Venturi Units)	2.21	8742.1	7.59	0.5	3.79	16.59	90.0%	0.38	1.66	2.214	6.98
20	0.62	2452.5	7.59	0.5	1.06	4.65	90.0%	0.11	0.47	0.621	2.98
26	1.78	7041.1	7.59	0.5	3.05	13.36	90.0%	0.31	1.34	1.783	6.04
27	1.73	6843.4	7.59	0.5	2.96	12.99	90.0%	0.30	1.30	1.733	5.93
28	0.92	3639.2	7.59	0.5	1.58	6.91	90.0%	0.16	0.69	0.922	3.88
29*	0.30	1186.7	7.59	0.5	0.51	2.25	90.0%	0.05	0.23	0.301	N/A - exempt
Total		37500.0			16.25	71.16		1.62	7.12		32.16 lb/hr or 140.9 tpy

**This is an Insignificant Activity as defined in 326 IAC 2-7-1(21)*

Methodology

- Cooling Oil Usage is based on a total potential usage of 37,500 gal/yr for all the bolt formers using Smog Hog oil mist collection systems for particulate control. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportionate to rate of units processed by each machine.
- Density of Cooling Oil, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- The PTE of $PM_{10}/PM_{2.5}$ is assumed to equal the PTE of PM.
- Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$ (lb/hr) = Cooling Oil Usage (gal/yr) * Density of Cooling Oil (lb/gal) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE $PM/PM_{10}/PM_{2.5}$ (lb/hr) = Uncontrolled PTE $PM/PM_{10/PM2.5}$ (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (gal/yr) * Density of Cooling Oil (lb/gal) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- 326 IAC 6-3-2 Allowable PM Emissions (lb/hr) = 4.10 * [Process Weight Rate (ton/hr)]$^{0.67}$
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

Bolt Formers Using the Venturi Scrubber Systems for Particulate Control

Machine #	Rate of Units Processed (tons/hr)	Cooling Oil Usage (lb/yr)	VOC Content (lb VOC/lb Cooling Oil)	PM Emitted (lb PM/lb Cooling Oil)	PTE VOC (ton/yr)	Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$		Control Efficiency (%)	Controlled PTE $PM/PM_{10}/PM_{2.5}$		Total Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable PM Emissions (lb/hr)
						(lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)		
1	6.33	18174	0.5	0.1	4.543	0.207	0.909	98.0%	0.00415	0.0182	6.33	N/A - exempt
2*	1.49	4278	0.5	0.1	1.069	0.049	0.214	98.0%	0.00098	0.0043	1.49	N/A - exempt
3*	1.53	4393	0.5	0.1	1.098	0.050	0.220	98.0%	0.00100	0.0044	1.53	N/A - exempt
4*	3.42	9819	0.5	0.1	2.455	0.112	0.491	98.0%	0.00224	0.0098	3.42	N/A - exempt
7	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
8*	1.85	5311	0.5	0.1	1.328	0.061	0.266	98.0%	0.00121	0.0053	1.85	N/A - exempt
9*	1.19	3417	0.5	0.1	0.854	0.039	0.171	98.0%	0.00078	0.0034	1.19	N/A - exempt
10 (new)	4.38	12575	0.5	0.1	3.144	0.144	0.629	98.0%	0.00287	0.0126	4.38	N/A - exempt
11	4.02	11542	0.5	0.1	2.885	0.132	0.577	98.0%	0.00264	0.0115	4.02	N/A - exempt
12*	1.52	4364	0.5	0.1	1.091	0.050	0.218	98.0%	0.00100	0.0044	1.52	N/A - exempt
13*	0.59	1694	0.5	0.1	0.423	0.019	0.085	98.0%	0.00039	0.0017	0.59	N/A - exempt
14*	0.51	1464	0.5	0.1	0.366	0.017	0.073	98.0%	0.00033	0.0015	0.51	N/A - exempt
15*	0.77	2211	0.5	0.1	0.553	0.025	0.111	98.0%	0.00050	0.0022	0.77	N/A - exempt
16*	0.84	2412	0.5	0.1	0.603	0.028	0.121	98.0%	0.00055	0.0024	0.84	N/A - exempt
17*	0.54	1550	0.5	0.1	0.388	0.018	0.078	98.0%	0.00035	0.0016	0.54	N/A - exempt
19*	0.30	861	0.5	0.1	0.215	0.010	0.043	98.0%	0.00020	0.0009	0.30	N/A - exempt
21*	0.22	632	0.5	0.1	0.158	0.007	0.032	98.0%	0.00014	0.0006	0.22	N/A - exempt
22*	0.35	1005	0.5	0.1	0.251	0.011	0.050	98.0%	0.00023	0.0010	0.35	N/A - exempt
23*	0.13	373	0.5	0.1	0.093	0.004	0.019	98.0%	0.00009	0.0004	0.13	N/A - exempt
24*	2.44	7005	0.5	0.1	1.751	0.080	0.350	98.0%	0.00160	0.0070	2.44	N/A - exempt
25	4.64	13322	0.5	0.1	3.330	0.152	0.666	98.0%	0.00304	0.0133	4.64	N/A - exempt
30*	1.75	5024	0.5	0.1	1.256	0.057	0.251	98.0%	0.00115	0.0050	1.75	N/A - exempt
		124000			31.00	1.42	6.20		0.03	0.12		

**Insignificant Activity as defined in 326 IAC 2-7-1(21).*

14.786

Methodology

- Cooling Oil Usage is based on a total potential usage of 124,000 lb/yr for all the bolt formers using the Venturi scrubbers for particulate control. This usage represents an increase in total potential usage from 78,770 pounds per year. The Permittee estimates that the rate of oil to each individual bolt former will be approximately proportional to the rate of units processed by each machine.
- VOC Content, PM Emitted, and Control Efficiency values are based off of calculations performed in Appendix A to the TSD of Part 70 Operating Permit No. T033-20219-00038.
- PTE VOC (ton/yr) = Cooling Oil Usage (lb/yr) * VOC Content (lb VOC/lb Cooling Oil) * (1 ton / 2000 lb)
- The PTE of $PM_{10}/PM_{2.5}$ is assumed to equal the PTE of PM.
- Uncontrolled PTE $PM/PM_{10}/PM_{2.5}$ (lb/hr) = Cooling Oil Usage (lb/yr) * PM Emitted (lb PM/lb Cooling Oil) * (1 yr / 8760 hr)
- Controlled PTE $PM/PM_{10}/PM_{2.5}$ (lb/hr) = Uncontrolled PTE PM/PM_{10} (lb/hr) * (1 - Control Efficiency)
- PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)
- Total Process Weight Rate (ton/hr) = Rate of Units Processed (ton/hr) + [Cooling Oil Rate (lb/yr) * (1 yr/8760 hr) * (1 ton / 2000 lb)]
- Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from 326 IAC 6-3.

Appendix A: Emission Calculations
Cooling Towers

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, IN 46785**
Permit No.: **033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 4, 2012**

2 cooling Towers at the concrete pond (each 975 gpm)
2 cooling towers at the Holcroft belt heat reat furnace (each 975 gpm)
Estimated max total dissolved solids concentration of 1,250 ppm
Drift loss rate of 0.005%

PM = 975 (gal/min) * (1,250/1,000,000) * (8.345 lb/gal) * 0.00005 * 60 = 0.031 lb/hr
PM = 0.031 * 8760 / 2000 = 0.13 tpy
PM for 4 cooling towers = 0.52 tpy

Assume 16% of PM is PM10. Assume PM2.5 = PM10
PM10/PM2.5 = 0.16 * 0.52 tpy = 0.0832 tpy

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, IN 46785**
Permit No.: **033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 4, 2012**

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
1.95	1000	17.1

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/	0.02	0.06	0.06	0.01	0.85	0.05	0.72

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combi
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirc

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02,
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,(
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000

See page 35 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, IN 46785**
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	HAPs - Organics				
	Benzene	Dichloroben	Formaldehy	Hexane	Toluene
Emission Factor in lb/MMc	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/	1.794E-05	1.025E-05	6.406E-04	1.537E-02	2.904E-05

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMc	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/	4.271E-06	9.395E-06	1.196E-05	3.246E-06	1.794E-05	1.612E-02

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter

See Page 36 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: **Nucor Fastener**
Address City IN Zip: **6730 County Road 60, St. Joe, IN 46785**
Permit No.: **033-31290-00038**
Reviewer: **Ghassan Shalabi**
Date: **April 4, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMc	120,000	2.3	2.2
Potential Emission in tons/	1,025	0.0	0.0
Summed Potential Emissions in tons/yr	1,025		
CO2e Total in tons/yr	1,031		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: John Harden
Nucor Fastener
6730 CR 60
Saint Joseph, IN 46785

DATE: August 10, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V - Renewal Administrative Permit
033 - 31290 - 00038

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Tim Miller, VP / GM
Herbert Weidemann Environmental Resources Management (ERM)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

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Toll Free (800) 451-6027
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August 10, 2012

TO: Eckhart Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: **Nucor Fastener**
Permit Number: **033 - 31290 - 00038**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

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2		Tim Miller VP / GM Nucor Fastener 6730 CR 60 Saint Joseph IN 46785 *(RO CAATS)*									
3		Mr. Steve Christman NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 *(Affected Party)*									
4		DeKalb County Commissioners 100 South Main Street Auburn IN 46706 *(Local Official)*									
5		Ms. Diane Leroy 303 N. Jackson St. Auburn IN 46706 *(Affected Party)*									
6		Mr. Barry Fordanish R#3 1480 CR 66 Auburn IN 46706 *(Affected Party)*									
7		Mr. Dave Weilbaker 1423 Urban Ave Auburn IN 46706 *(Affected Party)*									
8		Dekalb County Health Department 220 E 7th St #110 Auburn IN 46706 *(Health Department)*									
9		Daniel & Sandy Trimmer 15021 Yellow River Road Columbia City IN 46725 *(Affected Party)*									
10		Brown & Sons Fuel Co. P.O. Box 665 Kendallville IN 46755 *(Affected Party)*									
11		Mr. Marty K. McCurdy 2550 County Road 27 Waterloo IN 46793 *(Affected Party)*									
12		St. Joe Town Council P.O. Box 293 St. Joe IN 46785 *(Local Official)*									
13		Mr. Herbert Weidemann Environmental Resources Management (ERM) One Continental Towers, 1701 Golf Road Suite 1000 Rolling Meadows IL 60540 (Consultant)									
14		Eckhart Public Library 603 South Jackson Street Auburn IN 46706 *(Library)*									
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