

**CONSTRUCTION PERMIT and ENHANCED NEW SOURCE REVIEW  
OFFICE OF AIR MANAGEMENT**

**Teledyne Casting Service  
300 Philadelphia Street  
LaPorte, Indiana 46352**

is hereby authorized to construct

One (1) melt department magnesium wire feeder, equipped with the wire injection dust collector, known as C11, exhausted through Stack S11, at a flow rate of 20,000 actual cubic feet per minute capacity: 13.75 tons of iron per hour.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP 091-10023-00018	
Issued by:  Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

### **Construction Conditions**

#### General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

#### Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

#### First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).
  - (e) The Permittee has submitted their Part 70 (T 091-6141) application on June 17, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

- (f) If the source does not have a Part 70 permit at the time it is ready to start operation of the new facilities an affidavit shall be filled.
  - (g) If the source already has a Part 70 permit, an administrative amendment of the Part 70 permit shall be obtained.
7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

### **Operation Conditions**

#### General Operation Conditions

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

#### Preventive Maintenance Plan

- 3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### Transfer of Permit

- 4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
  - (a) In the event that ownership of this melt department magnesium wire feeder is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
  - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
  - (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
- (a) Violation of any conditions of this permit.
  - (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
  - (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
  - (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
  - (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

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

Malfunction Condition

7. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):
- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
  - (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
  - (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2 (a)(1) through (6).
  - (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Annual Emission Reporting

8. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. A copy of this rule is enclosed. The annual statement must be submitted to:

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

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

9. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- (a) visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

10. Particulate Matter (PM) Limitation

That pursuant to 326 IAC 6-3 (Process Operations), the melt shop wire injection dust collector shall be in operation at all times when the melt department magnesium wire feeder is in operation, and shall not exceed a particulate matter (PM) emission rate of 19.7 pounds per hour when operating at a process weight rate of 10.417 tons per hour and shall not exceed a particulate matter (PM) emission rate of 23.7 pounds per hour when operating at a process weight rate of 13.75 tons per hour.

11. PM and PM<sub>10</sub>

- (a) The outlet grain loading of the baghouse shall be less than 0.0235 grains per dry standard cubic foot of outlet air at flow rate of 20,000 actual cubic feet per minute, equivalent to 17,035 dry standard cubic feet per minute at an exhaust temperature of 150 degrees Fahrenheit. This outlet grain loading limit is equivalent to a PM and PM<sub>10</sub> emission rate of less than fifteen (15) tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable.
- (b) Any change or modification which may increase potential PM and/or PM<sub>10</sub> emissions after control to twenty-five (25) and/or fifteen (15) tons per year, respectively, from the equipment covered in this permit shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change shall occur.

Baghouse Operating Condition

12. That the baghouse shall be operated at all times when the melt department magnesium wire feeder is in operation.

- (a) The Permittee shall take readings of the total static pressure drop across the baghouse, at least once daily when the magnesium wire feeder is in operation and vented to the atmosphere. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 2.0 and 8.0 inches of water. The Preventive Maintenance Plan for this baghouse shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.
- (b) The instrument used for determining the pressure shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.
- (c) The gauge employed to take the pressure drop across the baghouse or any part of the facility shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within  $\pm 2$  percent of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.
- (d) An inspection shall be performed each calendar quarter of the baghouse. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.
- (e) In the event that a bag's failure has been observed:
  - (i) The affected compartments will be shut down immediately until the failed units have been replaced.
  - (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

Visible Emission Notations

13. That visible emission notations of all exhaust to the atmosphere from the wire injection dust collector shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee will record whether emissions are normal or abnormal.
- (a) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80 percent of the time the process is in operation, not counting start up or shut down time.
  - (b) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
  - (c) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.
  - (d) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Open Burning

14. That 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.

Emergency Reduction Plans

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

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:  
  
Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
within 180 calendar days from the date on which this source commences operation.
- (c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM, shall supply such a plan.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAM, 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 level. [326 IAC 1-5-3]

Performance Testing

16. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests for PM and PM<sub>10</sub> shall be performed for the wire injection baghouse dust collector within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-6 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.
- (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
- (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
- (d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

- (e) Whenever the results of the stack test performed exceed the PM and/or PM<sub>10</sub> limits specified in Operation Conditions 10 and 11, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR MANAGEMENT  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ? \_\_\_\_\_, 100 LBS/HR VOC ? \_\_\_\_\_, 100 LBS/HR SULFUR DIOXIDE ? \_\_\_\_\_ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ? \_\_\_\_\_ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?     Y            N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?     Y            N

COMPANY: \_\_\_\_\_ Teledyne Casting Service \_\_\_\_\_ PHONE NO. \_\_\_\_\_ 219-362-1000 \_\_\_\_\_

LOCATION: (CITY AND COUNTY) \_\_\_\_\_ LaPorte / LaPorte \_\_\_\_\_

PERMIT NO. \_\_\_\_\_ CP 091-10023 \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ 091-00018 \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/ 19\_\_\_\_ \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/ 19\_\_\_\_ \_\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1    Applicability of rule**

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO<sub>2</sub>, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

**326 IAC 1-2-39    "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2373)

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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Indiana Department of Environmental Management  
Office of Air Management

## Technical Support Document (TSD) for New Construction and Operation

### Source Background and Description

Source Name: Teledyne Casting Service  
 Source Location: 300 Philadelphia Street, LaPorte, Indiana 46352  
 County: LaPorte  
 Construction Permit No.: CP 091-10023-00018  
 SIC Code: 3321  
 Permit Reviewer: Frank P. Castelli

The Office of Air Management (OAM) has reviewed an application from Teledyne Casting Service relating to the construction and operation of a magnesium wire feeder, consisting of the following equipment:

One (1) melt department magnesium wire feeder, equipped with the existing metal shop dust collector, known as CO6, exhausted through Stack S06, capacity: 13.75 tons of iron per hour.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S06	Mag. wire feeder/duct collector	45	5	100,000	150

### Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

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

A complete application for the purposes of this review was received on August 12, 1998.

A final approval for issuance of an interim permit was issued on September 9, 1998.

### Emissions Calculations

See page 1 of 1 of Appendix A (Emissions Calculation Spreadsheets) for detailed calculations.

### Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on

8,760 hours of operation per year at rated capacity):

<b>Pollutant</b>	<b>Allowable Emissions (tons/yr)</b>	<b>Potential Emissions (tons/yr)</b>
Particulate Matter (PM)	104	102
Particulate Matter (PM <sub>10</sub> )	102	102
Sulfur Dioxide (SO <sub>2</sub> )	0.00	0.00
Volatile Organic Compounds (VOC)	0.00	0.00
Carbon Monoxide (CO)	0.00	0.00
Nitrogen Oxides (NO <sub>x</sub> )	0.00	0.00
Single Hazardous Air Pollutant (HAP)	0.00	0.00
Combination of HAPS	0.00	0.00

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3-2. See attached spreadsheet for detailed calculations.
- (b) The potential emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of particulate matter are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

**County Attainment Status**

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) LaPorte County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

<b>Pollutant</b>	<b>Emissions (tons/yr)</b>
PM	85.84
PM <sub>10</sub>	100.61
SO <sub>2</sub>	15.7
VOC	202.4
CO	525.6
NO <sub>x</sub>	262.8

- (a) This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.
- (b) These emissions were based on Facility Quick Look Report, dated March 30, 1998.

**Proposed Modification**

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

<b>Pollutant</b>	<b>PM (tons/yr)</b>	<b>PM<sub>10</sub> (tons/yr)</b>	<b>SO<sub>2</sub> (tons/yr)</b>	<b>VOC (tons/yr)</b>	<b>CO (tons/yr)</b>	<b>NO<sub>x</sub> (tons/yr)</b>
Proposed Modification	5.56	5.56	0.00	0.00	0.00	0.00
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	5.56	5.56	0.00	0.00	0.00	0.00
PSD Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-091-6141-00018) application on June 17, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

### Federal Rule Applicability

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this facility.

There are no National Emissions of Hazardous Air Pollutants (NESHAPS) 40 CFR Part 63 applicable to this facility

### State Rule Applicability

#### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The allowable PM<sub>10</sub> emission rate of 3.20 pounds per hour is equivalent to 14.0 tons per year to avoid the applicability of 326 IAC 2-2 for a major modification to a major source.

The allowable PM emission rate of 5.48 pounds per hour is equivalent to 24.0 tons per year to avoid the applicability of 326 IAC 2-2 for a major modification to a major source.

#### 326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source has the potential to emit more than 100 tons per year of VOC. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

#### 326 IAC 6-3-2 (Particulate Emission Limitations)

The wire feeding operations shall comply with 326 IAC 6-3-2(c). The 326 IAC 6-3-2 equations are as follows:  $E = 4.10 P^{0.67}$ , where P equals process weight in tons per hour for process weights up to and including sixty thousand (60,000) pounds per hour and E equals the allowable emission rate in pounds per hour. For process weights in excess of sixty thousand (60,000) pounds per hour,  $E = 55.0 P^{0.11} - 40$ . The allowable PM emissions based on the higher process weight rate (P) of 13.75 tons per hour of molten iron is 23.7 pounds per hour. This allowable PM emission rate has been truncated to be equivalent to a PM emission rate of 24.9 tons per year to avoid the applicability of 326 IAC 2-2 and is equivalent to 5.68 pounds per hour. Since the maximum controlled PM emission rate is 1.36 pounds per hour, this modification complies with the rule by using the baghouse.

### Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

None of these listed air toxics will be emitted from this proposed construction.

### Conclusion

The construction of this magnesium wire feeder will be subject to the conditions of the attached proposed **Construction Permit No. CP 091-10023-00018**.

## Indiana Department of Environmental Management Office of Air Management

### Addendum to the Technical Support Document for New Construction and Operation

**Source Name:** Teledyne Casting Service  
**Source Location:** 300 Philadelphia Street, LaPorte, Indiana 46352  
**County:** LaPorte  
**Construction Permit No.:** CP 091-10023-00018  
**SIC Code:** 3321  
**Permit Reviewer:** Frank P. Castelli

On September 29, 1998, the Office of Air Management (OAM) had a notice published in the LaPorte Herald-Argus, LaPorte, Indiana, stating that Teledyne Casting Service had applied for a construction permit to construct and operate a magnesium wire feeder with a dust collector for particulate matter control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the Construction Permit. The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

1. Parts (f) and (g) have been added to Construction Condition No. 6 as follows to address the fact that a Part 70 Operating Permit is being prepared simultaneously with this permit.

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (f) **If the source does not have a Part 70 permit at the time it is ready to start operation of the new facilities an affidavit shall be filled.**
  - (g) **If the source already has a Part 70 permit, an administrative amendment of the Part 70 permit shall be obtained.**
2. "Enhanced New Source Review" has been added to the title of the permit to address the fact that a Part 70 Operating Permit is being prepared simultaneously with this permit.
3. Condition No. 16 has been added to the permit to require stack testing of the new baghouse outlet to insure that the particulate matter emissions from the magnesium wire feeder do not exceed the PM and PM<sub>10</sub> limits specified in Condition Nos. 10 and 11 of the permit as follows:

**Performance Testing**

- 16. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests for PM and PM<sub>10</sub> shall be performed for the wire injection baghouse dust collector within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-6 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.**
- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.**
  - (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.**
  - (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.**
  - (d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.**
  - (e) Whenever the results of the stack test performed exceed the PM and/or PM<sub>10</sub> limits specified in Operation Conditions 10 and 11, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.**

On October 21, 1998, Kushal Som, US EPA Region V, submitted comments on the proposed construction permit. The summary of the comments and corresponding responses are as follows:

**Comment 1:**

Since this is a 28 source category facility, shouldn't there be some sort of fugitive emission analysis? What are the expected fugitive emissions of PM and PM<sub>10</sub>?

**Response 1:**

A conservative estimate of the total maximum potential fugitive particulate matter emissions are 2,154 pounds (1.08 tons) per year.

The emissions table from the TSD has been revised to include fugitive emissions. These emissions need to be included in the PSD definition emissions since this source is one of the twenty eight (28) major PSD source groups.

The revised emissions, including the potential fugitive particulate matter emissions, are shown in the table below. All emissions are less than the PSD significant levels.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification	6.64	6.64	0.00	0.00	0.00	0.00
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	6.64	6.64	0.00	0.00	0.00	0.00
PSD Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements still do not apply.

**Comment 2**

There is no specific information available concerning the baghouse. The flow rate and the capture efficiency, for example.

**Response 2**

Subsequent to the application and within the 30-day public comment period, the applicant has decided to install a new stand-alone baghouse. The PM and PM<sub>10</sub> emissions will not be exhausted to the existing metal shop baghouse.

The capture efficiency of the new baghouse is 95.0% and the control efficiency is 99.5%. This relates to an overall control efficiency of 94.525%. This control efficiency was used in all calculations and the emission factors and control efficiency will be verified by the stack testing requirement that has been added to the permit. The flow rate of the new baghouse is 20,000 actual cubic feet per minute.

The equipment description on page 1 of the permit has been revised as follows to incorporate the new baghouse:

One (1) melt department magnesium wire feeder, equipped with the ~~existing metal shop wire injection~~ dust collector, known as ~~E06 C11~~, exhausted through Stack ~~S06~~, **S11 at a flow rate of 20,000 actual cubic feet per minute**, capacity: 13.75 tons of iron per hour.

### Comment 3

On page 5 of 9, there is no wording in the permit which required the source to report the pressure drop deviation to IDEM. In other words, if the pressure drop exceeds or goes below 4 - 8 inches of water, the source should contact IDEM. Looking at the Malfunction Report, or the PMP, there is no such requirement.

### Response 3

Operation Condition 12 (Baghouse Operating Condition) states that if the pressure drop of the baghouse deviates from the normal operating range for any on (1) reading, the applicant shall take the appropriate correctional actions as detailed in their Preventive Maintenance Plan. Deviations lasting one (1) hour or more shall be reported on the malfunction form incorporated in the permit pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction) as required by Operation Condition No. 7 (Malfunction Condition). Therefore, no changes are required in the permit.

On October 23, 1998, Laurie Ropel, Environmental/Manufacturing Engineer, Teledyne Casting, submitted comments on the proposed construction permit. The comments and corresponding responses are as follows:

### Comment 1:

Draft Permit, Page 1: Revise description as follows:

One (1) melt department magnesium wire feeder, equipped with the ~~existing metal shop~~ new wire injection dust collector, known as ~~CO6~~ C11, exhausted through Stack ~~CO6~~ S11, capacity: 330 tons of iron per day (13.75 tons of iron per hour average for 24 hours).

Reason for the change: Since the permit application was submitted, TCS voluntarily purchased a new dust collector to control emissions from the melt department magnesium wire feeder. The new dust collector will be referred to as the wire injection dust collector, C11 and will exhaust to stack S11.

### Response 1:

The description of the new equipment has been revised due to the change in baghouses and the comment from the US EPA Region V as shown above and repeated here:

One (1) melt department magnesium wire feeder, equipped with the ~~existing metal shop~~ **wire injection** dust collector, known as ~~CO6~~ **C11**, exhausted through Stack ~~CO6~~, **S11 at a flow rate of 20,000 actual cubic feet per minute**, capacity: 13.75 tons of iron per hour.

**Comment 2:**

Draft Permit, Page 5: Revise permit conditions as follows:

10. Particulate Matter (PM) Limitation

That pursuant to 326 IAC 6-3 (Process Operations) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), the ~~melt shop~~ wire injection dust collector shall be in operation at all times when the melt department magnesium wire feeder is in operation, and shall not exceed a particulate matter (PM) emission rate of ~~5.48 pounds per hour~~ 136.3 pounds per day (5.68 pounds per hour average for 24 hours), equivalent to ~~24.0~~ 24.9 tons per year. This PM emission rate will make 326 IAC 2-2 not applicable and will also satisfy the requirements of 326 IAC 6-3.

Reason for the change: Emissions will be controlled by the wire injection dust collector. Also, the limited allowable emission rate in operation conditions 10 and 11 should be revised to match the calculations in Appendix A.

**Response 2:**

Operation Condition No. 10 has been split into two (2) conditions to address the applicability of 326 IAC 6-3 and 326 IAC 2-2, separately. Condition 10 has been revised as follows. In addition, Condition 11 has been added to limit the outlet grain loading of the baghouse to avoid the applicability of 326 IAC 2-2. The grain loading limit is calculated in the attached revised spreadsheet in Appendix A on page 1 of 1.

10. Particulate Matter (PM) Limitation

That pursuant to 326 IAC 6-3 (Process Operations) ~~and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))~~, the melt shop **wire injection** dust collector shall be in operation at all times when the melt department magnesium wire feeder is in operation, and shall not exceed a particulate matter (PM) emission rate of **19.7** ~~5.48~~ pounds per hour ~~equivalent to 24.0 tons per year~~. ~~This PM emission rate will make 326 IAC 2-2 not applicable and will also satisfy the requirements of 326 IAC 6-3.~~ **when operating at a process weight rate of 10.417 tons per hour and shall not exceed a particulate matter (PM) emission rate of 23.7 pounds per hour when operating at a process weight rate of 13.75 tons per hour.**

11. PM and PM<sub>10</sub>

(a) **The outlet grain loading of the baghouse shall be less than 0.0235 grains per dry standard cubic foot of outlet air at flow rate of 20,000 actual cubic feet per minute, equivalent to 17,035 dry standard cubic feet per minute at an exhaust temperature of 150 degrees Fahrenheit. This outlet grain loading limit is equivalent to a PM and PM<sub>10</sub> emission rate of less than fifteen (15) tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable.**

(b) **Any change or modification which may increase potential PM and/or PM<sub>10</sub> emissions after control to twenty-five (25) and/or fifteen (15) tons per year, respectively, from the equipment covered in this permit shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change shall occur.**

**Comment 3:**

11. PM<sub>10</sub> Limitation

The PM<sub>10</sub> emission rate shall not exceed the ~~3.20 pounds per hour~~ 81.6 pounds per day (3.40 pounds per hour average for 24 hours), equivalent to ~~14.0~~ 14.9 tons per year. This PM<sub>10</sub> emission rate makes 326 IAC 2-2 not applicable.

Reason for the change: Emissions will be controlled by the wire injection dust collector. Also, the limited allowable emission rate in operation conditions 10 and 11 should be revised to match the calculations in Appendix A.

**Response 3:**

Proposed Operation Condition No. 11 has been deleted and replaced by Condition 11 provided in Response 2.

~~11. PM<sub>10</sub> Limitation~~

~~The PM<sub>10</sub> emission rate shall not exceed the 3.20 pounds per hour, equivalent to 14.0 tons per year. This PM<sub>10</sub> emission rate makes 326 IAC 2-2 not applicable.~~

**Comment 4:**

Baghouse Operating Condition

- 12.(a) The Permittee shall take readings of the total static pressure drop across the ~~baghouses~~ baghouse, at least once daily when the magnesium wire feeder is in operation and vented to the atmosphere. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the ~~baghouses~~ baghouse shall be maintained within the range of ~~4.0~~ 2.0 and 8.0 inches of water. The Preventive Maintenance Plan for this baghouse shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.

Reason for the change: Dust collectors controlling operations emitting fine particles, such as this operation, typically operate at a lower pressure drop than operations emitting medium or large sized particles.

- 12.(d) An inspection shall be performed ~~each calendar quarter~~ annually of all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.

Reason for the change: The average life of Teledyne Casting Service's dust collector bags is approximately two years. Also, broken bags would be detected during the daily visible emission notation. Thus, quarterly bag inspections of each bag or quarterly leak tests would be excessive and would not provide any additional information.

- 12.(e) In the event that a bag's failure has been observed:

- (i) If the failure results in a visible emissions violation, ~~The~~ the affected compartments will be shut down immediately until the failed units have been replaced.

- (ii) ~~Based upon the findings of the inspection, any additional corrective~~ Corrective actions will be devised within ~~eight (8)~~ twenty-four (24) hours of discovery and will include a timetable for completion.

Reason for the change: A bag failure would not result in an exceedance of an existing permit condition or regulation due to a particulate emissions increase unless a visible emission limitation is exceeded.

#### Response 4:

Parts (d) and (e) of Condition No. 12 are required to minimize excess emissions, to the extent feasible, caused by events such as a bag failure. The OAM does not believe that annual inspections are sufficient to insure proper operation of the baghouse. The OAM does not consider shutting down the baghouse and associated production equipment to be infeasible in this case.

Once a bag failure is observed, continuing to operate the equipment and venting uncontrolled particulate matter to the atmosphere, visible or not, may not be considered an attempt by the Permittee to take all reasonable steps to minimize levels of emissions that exceed an emission standard or other requirement in the permit.

Therefore, the OAM believes that the requirement to shutdown the affected compartments is a reasonable action to ensure compliance with the particulate matter limitations. Therefore these sections have not been changed.

In addition, OAM does not believe that the source has substantiated that operation of the facilities with broken bags can still comply with the applicable PM emission rate and not exceed the PM and PM<sub>10</sub> PSD significant levels.

Part (a) of Operating Condition No. 12 has been revised as follows:

- 12 (a) The Permittee shall take readings of the total static pressure drop across the ~~baghouses~~ **baghouse**, at least once daily when the magnesium wire feeder is in operation and vented to the atmosphere. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the ~~baghouses~~ **baghouse** shall be maintained within the range of ~~4.0~~ **2.0** and 8.0 inches of water. The Preventive Maintenance Plan for this baghouse shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.

#### Comment 5:

Technical Support Document, Page 1

Source Background and Description

One (1) melt department magnesium wire feeder, equipped with the ~~existing metal shop~~ new wire injection dust collector, known as ~~CO6~~ C11, exhausted through Stack ~~SO6~~ S11, capacity: 330 tons of iron per day (13.75 tons of iron per hour average for 24 hours).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
<del>S06</del> S11	Mag. wire feeder/ <del>duct</del> dust collector	<del>45</del> 23.5	<del>5</del> 2	<del>100,000</del> 20,000	150

Reason for change: Since the permit application was submitted, TCS voluntarily purchased a new dust collector to control emissions from the melt department magnesium wire feeder.

**Response 5:**

The purpose of this document is to revise the permit and document any revisions in factual information contained in the TSD. The equipment list has been revised as stated in Response 1, above in the permit. The Stack Summary table is revised to reflect the new baghouse parameters as follows: No changes in the permit are necessary due to these changes.

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S11	Mag. wire feeder/ dust collector	23.5	2	20,000	150

**Comment 6:**

Total Potential and Allowable Emissions

Pollutant	Allowable Emissions (tons/yr)	Potential Emissions (tons/yr)
Particulate Matter (PM)	104	<del>402</del> 21.5
Particulate Matter (PM <sub>10</sub> )	<del>402</del> 104	<del>402</del> 21.5
Sulfur Dioxide (SO <sub>2</sub> )	0.00	0.00
Volatile Organic Compounds (VOC)	0.00	0.00
Carbon Monoxide (CO)	0.00	0.00
Nitrogen Oxides (NO <sub>x</sub> )	0.00	0.00
Single Hazardous Air Pollutant (HAP)	0.00	0.00
Combination of HAPS	0.00	0.00

Reason for change: Emissions estimates should account for particulate settling within the building using a 78% settling factor according to the AP-42 technical source document titled "An Inventory of Iron Foundry Emissions: by Gutow, January 1972.

County Attainment Status

- (b) LaPorte County has been classified as attainment or unclassifiable for PM, PM<sub>10</sub>, and NO<sub>x</sub>. LaPorte County is classified as maintenance status for SO<sub>2</sub> ~~all remaining criteria pollutants~~. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Response 6:**

The allowable PM<sub>10</sub> emissions are not 104 tons per year since that allowable PM emission rate is pursuant to 326 IAC 6-3-2 and does not apply to PM<sub>10</sub> emissions. The 102 tons per year value is the unrestricted PM<sub>10</sub> potential to emit and therefore cannot be changed.

The potential PM and PM<sub>10</sub> emissions cannot take into account the inside building settling factor. Therefore the PM and PM<sub>10</sub> emission rates are correct at 102 tons per year. As per discussions with U.S. EPA, the emission factors from AP-42 that should be used are the total emission factor (1.8) rather than the emission factor which only accounts for that emitted directly to the atmosphere (0.4) or a 78% reduction in this case.

The attainment status is listed as either attainment or nonattainment and since maintenance is considered attainment, no change is required.

**Comment 7:**

Technical Support Document, Page 3

Source Status

Pollutant	Emissions (tons/yr)
PM	<del>85.84</del> 172.64
PM <sub>10</sub>	<del>100.61</del> 100.07
SO <sub>2</sub>	<del>15.7</del> 1.38
VOC	<del>202.4</del> 265.40
CO	<del>525.6</del> 2.18
NO <sub>x</sub>	<del>262.8</del> 8.36

- (a) This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.
- (b) These emissions were based on ~~Facility Quick Look Report, dated March 30, 1998~~ the 1997 Air Emissions Statement submitted to IDEM, OAM, July 1998.

**Response 7:**

Thank you providing an update of the actual emissions however, this table in the TSD reflects the existing permitted PSD definition emissions (not actual emissions) and therefore should not be revised.

**Comment 8:**

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NOx (tons/yr)
Proposed Modification	<del>5.56</del> 1.56	<del>5.56</del> 1.56	0.00	0.00	0.00	0.00
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	<del>5.56</del> 1.56	<del>5.56</del> 1.56	0.00	0.00	0.00	0.00
PSD Significant Level	25	15	40	40	100	40

Reason for change: Emission estimates should account for particulate settling within the building using a 78% settling factor according to the AP-42 technical source document titled "Inventory of Iron Foundry Emissions" by Gutow, January 1972.

**Response 8:**

See Response 6 and therefore since the settling factor can not be used, no change should be made to this table.

**Comment 9:**

Technical Support Document, Page 4

State Rule Applicability

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The allowable PM<sub>10</sub> emission rate of ~~3.20 pounds per hour~~ 81.6 pounds per day (3.40 pounds per hour average for 24 hours) is equivalent to ~~14.0~~ 14.9 tons per year to avoid the applicability of 326 IAC 2-2 for a major modification to a major source.

The allowable PM emission rate of ~~5.48 pounds per hour~~ 136.3 pounds per day (5.68 pounds per hour average for 24 hours) is equivalent to ~~24.0~~ 24.9 tons per year to avoid the applicability of 326 IAC 2-2 for a major modification to a major source.

Reason for change: This section should be revised to be consistent with the calculations in Appendix A.

**Response 9:**

See the changes in the permit covering these limits in Responses 2 and 3 above.

**Comment 10:**

326 IAC 6-3-2 (Particulate Emission Limitations)

The wire feeding operations shall comply with 326 IAC 6-3-2(c). The 326 IAC 6-3-2 equations are as follows:  $E = 4.10 P^{0.67}$ , where P equals process weight in tons per hour for process weights up to and including sixty thousand (60,000) pounds per hour and E equals the allowable emission rate in pounds per hour. For process weights in excess of sixty thousand (60,000) pounds per hour,  $E = 55.0 P^{0.11} - 40$ . The allowable PM emissions based on the higher process weight rate (P) of 13.75 tons per hour of molten iron is 23.7 pounds per hour. This allowable PM emission rate has been truncated to be equivalent to a PM emission rate of 24.9 tons per year to avoid the applicability of 326 IAC 2-2 and is equivalent to 5.68 pounds per hour average for 24 hours. Since the maximum controlled PM emission rate is ~~4.36~~ 0.38 pounds per hour, this modification complies with the rule ~~by using the baghouse~~.

Reason for the change: Emission estimates should account for particulate settling within the building using a 78% settling factor according to the AP-42 technical source document titled "An Inventory of Iron Foundry Emissions" by Gutow, January 1972. The modification complies with the rule without using the baghouse.

**Response 10:**

See Response 2 for the changes in the PM limit in the permit. Since we are not allowing the use of the 78.8% settling factor, the PM emissions from this modification requires the baghouse to comply with both 326 IAC 2-2 and 326 IAC 6-3. Therefore, no change is required in the permit.

**Comment 11:**

Technical Support Document, Appendix A.

Revise as shown on the attached spreadsheet.

The applicant reduced both the before and after control PM and PM<sub>10</sub> emissions by 78.8% due to a "settling factor".

Reason for change: Emission estimates should account for particulate settling within the building using a 78% settling factor according to the AP-42 technical source document titled "An Inventory of Iron Foundry Emissions" by Gutow, January 1972. The modification complies with the rule without using the baghouse.

**Response 11:**

For the reasons explained in Responses 6 and 8, the PM and PM<sub>10</sub> emission calculations have not been revised. The controlled potential PM and PM<sub>10</sub> emissions from this modification, without taking into account a "settling emission factor" are already well under the PSD Significant Levels for this existing major PSD source.

Potential Emissions Calculations

Company Name: Teledyne Casting Service  
 Address City IN Zip: 300 Philadelphia Street, LaPorte, Indiana 46350  
 CP: 091-10023  
 Plt ID: 091-00018  
 Reviewer: Frank P. Castelli  
 Date: August 12, 1998

Emission Unit		Magnesium Wire Feeder (Stack S06)		0 to 6,500 hours: melt rate = 330 tons/day = 13.75 tons/hr						Limited Allowable Emission Rate
Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/6500 hrs)	Overall Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/6500 hrs)	Allowable Emission Rate (lbs/hr)	Limited Allowable Emission Rate (lbs/hr)	
PM	13.75	1.8	24.75	80.4	94.525%	1.36	4.40	23.7	5.68	
PM10	13.75	1.8	24.75	80.4	94.525%	1.36	4.40		3.40	

  

Emission Unit		Magnesium Wire Feeder (Stack S06)		6500 to 8760 hours: melt rate = 250 tons/day = 10.417 tons/hr						Limited Allowable Emission Rate
Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/2260 hrs)	Overall Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/2260)	Allowable Emission Rate (lbs/hr)	Limited Allowable Emission Rate (lbs/hr)	
PM	10.417	1.8	18.8	21.2	94.525%	1.03	1.16	19.7	5.68	
PM10	10.417	1.8	18.8	21.2	94.525%	1.03	1.16		3.40	

Total Annual Emissions for 8760 hours		Total Uncontrolled	Total Controlled
PM	(tons per year)	101.6	5.56
PM10	(tons per year)	101.6	5.56

Unit ID	Description of Process	Allowable Grain Loading/ Cubic Foot of Outlet Air (grains/dscf)	Gas or Air Flow Rate (acfm.)	Stack Temp. (F)	Gas or Air Flow Rate (dscfm.)	Equivalent PM Emission Rate (lbs/hr)	Equivalent PM Emissions Rate (tons/yr)
Stack S-11	Feeder	0.0234550	20000.0	150.0	17034.5	3.425	15.00