

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

October 3, 2011

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Kendal Stegmann, Senior Environmental Manager, Compliance and Enforcement

THROUGH: Phil Martin, P.E., Engineering Section

THROUGH: Peer Review

FROM: David Schutz, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2007-213-C (M-4)(PSD)**
EJIW-Ardmore Foundry, Inc. (Formerly "East Jordan Iron Works")
Gray & Ductile Iron Foundry
Ardmore, Carter County, Oklahoma
Sec. 7 – T 3S – R 3E
From I-35, East on SH-53 to Ardmore Airpark, North ½ Mile
Latitude 34.306°N, Longitude 97.037°W

SECTION I. INTRODUCTION

EJIW-Ardmore Foundry has requested a modified construction permit for a gray and ductile iron foundry near Ardmore (SIC Code 3321). The facility was issued a modified PSD construction permit (Permit No. 2007-213-C (M-3)) on February 24, 2010. The facility is currently operating under Permit No. 2007-213-TVR (M-2) issued February 23, 2009.

The modified permit incorporates the changes as authorized under Permit No. 2007-213-C (M-3), and incorporates the following additional changes:

- CO emissions from the induction furnaces, pouring & mold cooling operations, and shake-out operations are being increased. Total facility CO increases from 509.91 TPY to 781.91 TPY. The original CO emission limits were based on published emission factors, but stack testing in October 2010 showed CO emissions (all uncontrolled) to be well above the original estimates. Relaxation of CO emissions limits re-opens previous PSD analyses of BACT, ambient impacts, etc.
- NOx emission limits for the "Pouring and Mold Cooling" and "Shake-out" operations are being relaxed. NOx emissions remain below PSD significant emission rates, but since one of the criteria of a "significant modification" is changing a limit established to avoid some otherwise applicable requirement (here, PSD), a modified construction permit will be issued to revise those NOx limits.

The changes authorized under Permit No. 2007-213-C (M-3) were:

- Allowable iron throughput will be increased from 560 tons per day and 137,143 tons per year to 736 tons per day and 180,000 tons per year.
- Some additional discharge fans will be added to the process area. This will necessitate revising point-by-point emissions limitations for the ventilation fans.
- The scrap crusher and dryer will be removed from the permit.
- A holding furnace, previously authorized, will be removed from the permit.

Emissions limits for PM, SO₂, and VOC are not affected.

The facility is subject to Title V permitting requirements by virtue of emissions of 58.34 TPY PM₁₀, 781.91 TPY CO, 223.27 TPY VOC, and 36.73 TPY of Title III hazardous air pollutants (HAPs). The facility is subject to PSD requirements and also subject to the requirements of 40 CFR Part 63, Subpart EEEEE.

SECTION II. PROCESS DESCRIPTION

The foundry includes charge handling, melting, inoculation, pouring, cooling, shake-out, mold and core making, sand handling and storing, finishing, and coating operations. Maximum melting rates are now anticipated at 32 tons per hour and 180,000 tons per year with a daily maximum of 736 tons. The facility anticipates handling 15 tons of sand per ton of iron poured, or a total circulation of 2.7 million tons of sand per year. A small portion of that sand is formed into cores. The foundry includes a “green sand” mold line and two core-making processes, one using shell sand and the other using a phenolic urethane cold box (PUCB) binder system.

The facility includes three electric induction furnaces for iron melting and facilities for mold making and casting processing. A detailed description of each area in the foundry follows.

A) Charge Handling/Melting/Inoculation

Scrap steel, scrap cast iron, foundry returns, and pig iron are loaded into storage bins from trucks and railroad cars. The charge composition can change with material price consideration and/or availability. The charge is weighed on scale feeders and is transferred to one of the melt furnaces.

Initial metal melting is done in three electric induction furnaces (EIF). The electric induction furnaces melt solid metals into a molten stage and alloys may be added. The composition of the charge depends upon the specific metal characteristics required. Addition of alloys is done to improve properties of the castings. Alloying generally consists of graphite, silicon carbide, ferrosilicon, and ferromanganese. Molten metal is tapped by tilting the furnace and pouring through a spout of the furnace to a transfer ladle. The transfer ladle is used to transport metal to an automatic pouring device. Slag removal is performed as part of normal operations on the melt furnaces.

When ductile iron is being made, the metal is tapped into a transfer ladle containing magnesium ferrosilicon. The introduction of magnesium into the iron improves its crystalline properties and facilitates the transition from gray to ductile iron. The metal is transferred to the automatic pouring device and ferrosilicon is added for further refining. Both the transfer and pouring ladles are heated by natural gas-fired heaters. The heaters (torches) are used to heat the ladles and are not used for direct heating of metal. These torches are additionally used to cure the refractory.

A direct evacuation control (DEC) system vents emissions from the EIFs to a baghouse while scrap is being melted. Capture efficiency is 99%. When charging, the EIF roof is temporarily open until the charge feeder advances to engage the hood, allowing emissions from the furnace to escape. Particulate matter is primarily iron oxide (Fe_2O_3), a compound which is 69.9% by weight iron. The particulate also includes small amounts of manganese and metallic compounds, based on analyses of material collected from the baghouses. The collection efficiency for all control systems was based on experience with iron foundry ventilation system design. The stated efficiency for all baghouses associated with these operations is 0.0035 grains/DSCF.

B) Coremaking Operations

Cores are molded sand shapes used to make an opening or a cavity in a casting. The Core Room at the foundry uses two different coremaking processes: shell and phenolic urethane cold box (PUCB). Some of the cores are given a protective wash. This is accomplished by spraying or dipping the cores into a graphite refractory water-based slurry. A natural gas-fired oven will be used to dry and cure the cores. Core mud may be used to repair damaged portions of a core. Core wash prevents metal from penetrating the core. The cores from the two processes are transferred to molding lines for insertion into the mold.

The shell process utilizes sand coated with phenolic resin and hexamethylenetetramine. A release agent is used to allow separation of the core from the core box. The sand is fed into the shell machines and heat is applied to the core box from combustion of natural gas. The resin coating thermosets when the heat is applied, thus curing the core. The shell cores are then sent to the mold lines for placement into the molds.

The PUCB process utilizes a phenolic cold box binding system. With this system, sand is mixed with the three stages of organic binders. The first part is the phenolic resin, the second part is an isocyanate, and the third is the catalyst, dimethyl isopropanol amine (DMIPA), a non-HAP. The sand is mixed with the phenolic and isocyanate resins in a mixer. The mixed sand is then put into core boxes that are gassed with the catalyst, causing the resins to bind the sand and make the core. DMIPA emissions are controlled by an acid scrubber with a 98.5% control efficiency that uses sulfuric acid to neutralize the catalyst emissions. A release agent is applied to the core boxes to allow removal of the core from the core box after the core is made. Cores are sent to the mold lines for insertion into the mold. Particulate matter emissions from the sand heater is captured and vented to a fabric filter.

C) Green Sand Molding, Pouring, Cooling, and Shake-out

This process uses return sand from the shake-outs, new sand, bentonite clay, sea coal, and water to make molds used to shape the exterior of the casting. After mixing in the muller, the sand mixture is transferred to the molding machines and molded on the pattern. Patterns are coated with a heavy oil “release agent.” The patterns are withdrawn to leave an impression of the shape on the casting. Cores are then set to produce the internal shape of the casting. A conveyor transports the mold to the pouring area where the mold is closed and molten metal is poured into the molds.

As the molten metal solidifies in the molds, the molds are routed through a set of cooling tunnels. The castings are separated from the sand via an initial shake-out process. The castings then pass through another set of cooling tunnels to the final shake-out process. The shake-out process emissions are included from the initial shake-out to the final shake-out processes. Sand separated by the shake-outs is processed through screens, cooled, and is recycled to the muller. Castings are routed to the finishing and cleaning area. Particulate matter emissions from the screens, sand mullers, pouring, cooling tunnels, and shake-out are controlled by baghouse dust collection systems. The baghouse manufacturers guarantee 0.0035 to 0.0045 gr/DSCF.

D) Finishing

The metal finishing process removes sand, prepares the casting surface, and includes quality inspection. Despruing, shotblasting, and grinding are all performed in this area. Despruing removes sprues, gates, and risers with casting handling manipulators. Particulate matter is controlled with a dry collection system that has a manufacturer’s emission guarantee of 0.0045 grains/DSCF.

E) Coating

Finished castings are coated based on product requirements. Castings are sent to an asphaltic dip coating system. The asphaltic dip contains up to 0.6 pounds VOC per gallon.

SECTION III. PSD REVIEW

The facility is a major source under Prevention of Significant Deterioration (PSD) criteria. The recent construction permit section reopened PSD review. Permit No. 2007-213-TVR (M-3) authorized emissions of 58.41 TPY of PM₁₀, 29.83 TPY of NO_x, 509.91 TPY of CO, 223.35 TPY of VOC, 2.18 TPY of SO₂, and 0.03 TPY of lead (Pb). NO_x emissions of 34.22 TPY and CO emissions of 781.91 TPY will now be authorized.

The facility was subject to PSD because the potential emissions of carbon monoxide (CO) and volatile organic compounds (VOC) are greater than 100 tons per year for a facility classified as a PSD named source category. Full PSD review was required for those pollutants whose significance level is exceeded as shown in the following table. Full PSD review of emissions consists of the following: a determination of best available control technology (BACT); an evaluation of existing air quality and determination of monitoring requirements; an evaluation of PSD increment consumption; an analysis of compliance with National Ambient Air Quality Standards (NAAQS); an evaluation of source-related impacts on growth, soils, vegetation, visibility; and a Class I area impact evaluation.

Pollutants added in minor quantities were evaluated for all pollutant-specific rules, regulations and guidelines.

The following table presents the facility emissions compared to PSD levels of significance. References used in determining the emission rates for each emission unit are also tabulated.

EMISSIONS INCREASES COMPARED TO PSD LEVELS OF SIGNIFICANCE

| Pollutant | Current Permit Total Emissions TPY | This Permit Total Emissions TPY | Emissions Changes, TPY | PSD Levels of Significance, TPY | PSD Review Required? |
|------------------|---|--|-------------------------------|--|-----------------------------|
| PM ₁₀ | 58.42 | 58.34 | -0.08 | 15 | No |
| CO | 509.91 | 781.91 | 272.0 | 100 | Yes |
| VOC | 223.35 | 223.27 | -0.08 | 40 | No |
| NO _x | 29.83 | 34.22 | 4.39 | 40 | No |
| SO ₂ | 2.18 | 2.11 | -0.07 | 40 | No |
| Pb | 0.03 | 0.03 | 0 | 0.6 | No |

EMISSION FACTOR REFERENCES

| Emission Unit | Pollutant | Emission Factor Source |
|-----------------------------------|---|--|
| Charge Handling | PM ₁₀ | Manufacturer Guarantee, Ohio RACM Guide, Gutow article (Modern Castings, 1972) |
| EIF Melting | PM ₁₀ , SO ₂ , NO _x , Pb | FIRE: 6.25, SCC 3-04-003-03, CERP data and baghouse manufacturer guarantee |
| | CO, VOC | Stack testing at EJIW – Ardmore Foundry, Inc |
| EIF Melting HAPs | HAPs | “Foundry Process Emission Factors: Baseline Emissions from Automotive Foundries in Mexico” (CERP data) |
| Inoculation | PM ₁₀ , VOC | FIRE: 6.25, SCC 3-04-003-10 & 22 |
| Ladle Heating Torches | All | AP-42 (9/98), Table 1.4-1 through 4 |
| Pouring & Cooling Pouring HAPs | PM ₁₀ | Manufacturer guarantee, stack testing at foundry in Ohio |
| | SO ₂ | FIRE: 6.25, SCC 3-04-003-20 |
| | VOC, CO | Stack testing at EJIW – Ardmore Foundry, Inc |
| | NO _x | Stack testing in 2010 |
| | Pb | CERP data |
| | HAPs | CERP data |
| Cooling HAPs | HAPs | CERP data |

EMISSION FACTOR REFERENCES

Continued

| Emission Unit | Pollutant | Emission Factor Source |
|------------------------------|------------------|---|
| Shake-out | PM ₁₀ | FIRE: 6.25, SCC 3-04-003-31 and baghouse manufacturer guarantee |
| | VOC, CO | Stack testing at EJIW – Ardmore Foundry, Inc |
| | Pb | CERP data |
| Shake-out HAPs | HAPs | CERP data and baghouse manufacturer guarantee |
| Grinding | PM ₁₀ | FIRE: 6.25, SCC 3-04-003-60 and baghouse manufacturer guarantee |
| Sand Handling and Storage | PM ₁₀ | FIRE: 6.25, SCC 3-04-003-50 and baghouse manufacturer guarantee |
| Mold Making | PM ₁₀ | Ohio RACM Guide |
| Shell Coremaking | PM ₁₀ | Ohio RACM Guide |
| | VOC, HAPs | Mass Balances |
| Shell Core NG Emissions | All, HAPs | AP-42 (9/98), Table 1.4-1 through 4 |
| PUCB Coremaking | PM ₁₀ | Ohio RACM Guide |
| | VOC | Mass Balances |
| Pattern & Maintenance Shop | PM ₁₀ | “Inventory of Iron Foundry Emissions”, <u>Modern Castings</u> , 1971, Gutow, Bernard S. and baghouse manufacturer guarantee |
| Mold and Core Chemicals | VOC | Mass Balances |
| Coating | VOC | Mass Balances |
| Building and Ducting Heaters | All | AP-42 (9/98), Table 1.4-1 through 4 |
| Core Oven | All | AP-42 (9/98), Table 1.4-1 through 4 |
| Road Dust | PM ₁₀ | AP-42 (10/97), Section 13.2.1 |
| Emergency generators | All | AP-42 (10/96), Section 3.3 |
| Coating Heater | All | AP-42 (9/98), Table 1.4-1 through 4 |
| Waste Handling Baghouse | PM ₁₀ | 19,340 ACFM and baghouse manufacturer guarantee |

SECTION IV. EQUIPMENT

| EUG “MS” | | | |
|-----------------|---|--------------------------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| CH-1 | MS01, MS02 | Charge handling | 2001 |
| CH-1 | CH1, CH2, CH3, CH4 | Charge handling fugitives | 2001 |
| EIF-1 | MS01, | Electric induction melt furnace | 2001 |
| EIF-2 | MS02, R13, | Electric induction melt furnace | 2001 |
| EIF-3 | R14 | Electric induction melt furnace | 2001 |
| EIF-1 | EF-16B, R13, | Electric induction furnace fugitives | 2001 |
| EIF-2 | R14, EF-22, | | |
| EIF-3 | EF-23, EF-24 | | |
| I-1 | EF-16B, R13, R14, EF-22, EF-23, EF-24 | Inoculation ladle | 2001 |
| I-1 | MS01, MS02 | Ladle repair | 2001 |

| EUG “NG” | | | |
|-----------------|---|---|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| T-1 | R13, R14, EF-16B, EF-22, EF- 23, EF-24 | Preheater torches for inoculation and transfer ladles – 10 MMBTUH | 2001 |
| SHELLHE | SHELLHE, R1, R2 | Core machines – two 0.5 MMBTUH units | 2001 |
| CO-1 | SHELLHE, R1, R2 | 2.5 MMBTUH oven | 2001 |
| MUA | MUA1 | Building air & miscellaneous units (45 MMBTUH total) | 2001 |
| | MUA2 | Building air & miscellaneous units | 2001 |
| | MUA3 | Building air & miscellaneous units | 2001 |
| | MUA4 | Building air & miscellaneous units | 2001 |
| | MUA5 | Building air & miscellaneous units | 2001 |
| | MUA6 | Building air & miscellaneous units | 2001 |
| | MUA7 | Building air & miscellaneous units | 2001 |
| | MUA8 | Building air & miscellaneous units | 2001 |
| | MUA9 | Building air & miscellaneous units | 2001 |
| | MUA10 | Building air & miscellaneous units | 2001 |
| | DIP-2 | Coating Post-Heater | 2003 |

| EUG “P” | | | |
|----------------|---|----------------------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| PM-2 | MS01, MS02, SS01 | Pouring & mold cooling | 2001 |
| PM-2 | R1, R2, R3, R4, R5, R6, R7 | Pouring & mold cooling fugitives | 2001 |
| SO-1 | SS01, SS03, R1, R2, R3, R4, R5, R6, R7 | Shake-out – punchout | 2001 |
| SO-2 | | Shake-out – mold dump conveyor | 2001 |
| SO-3 | | Shake-out – primary shake-out | 2001 |
| SO-4 | | Shake-out – cooling conveyor | 2001 |
| SO-5 | | Shake-out – secondary shake-out | 2001 |
| SO-1 – SO-5 | R1, R2, R3, R4, R5, R6, R7 | Shake-out fugitives | 2001 |

| EUG “F” | | | |
|-----------------|------------------------------------|---|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| CC-1 | SS01, SS03 | Casting Cooling | 2001 |
| SB-1 | GS01 | Shotblasting – continuous shotblast cabinet | 2001 |
| SB-1 | R8, R9, R10, R11, R12, EF-13 | Shotblasting fugitives | 2001 |
| GR-1 | GS01 | Grinding – autogrinder 1 | 2001 |
| GR-2 | | Grinding – autogrinder 2 | 2001 |
| GR-3 | | Grinding – manual grinder 1 | 2001 |
| GR-4 | | Grinding – manual grinder 2 | 2001 |
| GR-5 | | Grinding – manual grinder 3 | 2001 |
| GR-6 | | Grinding – manual grinder 4 | 2001 |
| GR-7 | | Grinding – manual grinder 5 | 2001 |
| GR-8 | | Grinding – manual grinder 6 | 2001 |
| GR-9 | | Grinding – manual grinder 7 | 2001 |
| GR-10 | | Grinding – manual grinder 8 | 2001 |
| GR-1 to GR-6 | R4, R5, R6, R7 | Grinding fugitives | 2001 |
| WHBH | R9, R10 | Waste handling | 2005 |

| EUG "C" | | | |
|---------|-------------------|-----------------------|-------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| SHELL1 | R1, R2 | Shell core machine #1 | 2001 |
| SHELL2 | R1, R2 | Shell core machine #2 | 2001 |
| PUCB1 | COREBH, R1, R2 | PUCB core machine #1 | 2001 |
| PUCB2 | COREBH, R1, R2 | PUCB core machine #2 | 2001 |

| EUG "SS" | | | |
|----------|--|---|-------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| MOLD1 | SS01, SS02, SS03, SS04, MS01, MS02 | HWS mold making machine - 300 ton/hr sand | 2001 |
| SAND1 | | Sand handling & storage – return sand conveyor | 2001 |
| SAND2 | | Sand handling & storage – overbelt magnet | 2001 |
| SAND3 | | Sand handling & storage – metallics conveyor | 2001 |
| SAND4 | | Sand handling & storage – crusher sand conveyor | 2001 |
| SAND5 | | Sand handling & storage – return sand conveyor | 2001 |
| SAND6 | | Sand handling & storage – return sand belt | 2001 |
| SAND7 | | Sand handling & storage –transfer conveyor | 2001 |
| SAND8 | | Sand handling & storage – screen inlet belt | 2001 |
| SAND9 | | Sand handling & storage – screen | 2001 |
| SAND10 | | Sand handling & storage – 275 ton surge bin | 2001 |
| SAND11 | | Sand handling & storage – cooler inlet conveyor | 2001 |
| SAND12 | | Sand handling & storage – 150 ton new sand bin | 2001 |
| SAND13 | | Sand handling & storage – cooler | 2001 |
| SAND14 | | Sand handling & storage – bucket elevator | 2001 |
| SAND15 | | Sand handling & storage – plow belt | 2001 |
| SAND16 | | Sand handling & storage – 300 ton sand bin #1 | 2001 |
| SAND17 | | Sand handling & storage – 300 ton sand bin #2 | 2001 |
| SAND18 | | Sand handling & storage – Mullor weight feeder #1 | 2001 |
| SAND19 | | Sand handling & storage - Mullor weight feeder #1 | 2001 |
| SAND20 | | Sand handling & storage – Mullor #1 | 2001 |
| SAND21 | | Sand handling & storage – Mullor #2 | 2001 |
| SAND22 | | Sand handling & storage – mold machine hopper | 2001 |
| SAND23 | Sand handling & storage – bad batch surge hopper | 2001 | |
| -- | R1, R2, R3, R4, R5, R6, R7, R16 | Sand handling & molding fugitives | 2001 |

| EUG "MCRC" | | | |
|-------------------|------------------|------------------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| CHEM1 | R1, R2 | Mold and core room chemicals | 2001 |

| EUG "D" | | | |
|----------------|------------------|-----------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| DIP1 | EF-34 | Asphaltic dip coating | 2001 |

| EUG "HR" | | | |
|-----------------|------------------|----------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| ROAD1 | fugitive | Haul roads | 2001 |

| EUG "S" | | | |
|----------------|------------------|-----------------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| SHOP1 | R1, R2 EF-21 | Pattern & Maintenance shops | 2001 |

| EUG "EG" | | | |
|-----------------|------------------|-------------------------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| EG-1 | EG-1 | 250 kW (350 HP) emergency generator | 2001 |
| EG-2 | EG-2 | 400 kW (550 HP) emergency generator | 2001 |

| EUG "Facility" | | | |
|-----------------------|------------------|----------------------|--------------------------|
| EU ID# | Point ID# | EU Name/Model | Construction Date |
| None | None | Facility | 2001 |

SECTION V. EMISSIONS

EUG “MS”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|---|----------------------------|------------------|---------------|-----------------|----------|-----------------|----------|-------------|-------------|---------------|---------------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| MS01 MS02 | Charge handling | 0.420 | 1.183 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH1 CH2 CH3 CH4 | Charge handling fugitives | 0.931 | 2.619 | -- | -- | -- | -- | -- | -- | -- | -- |
| MS01 MS02 R13 R14 | EIF melting | 1.176 | 3.313 | -- | -- | -- | -- | 0.950 | 2.673 | 10.432 | 29.340 |
| EF-16B R13 R14 EF-22 EF-23 EF-24 | EIF melting fugitives | 0.138 | 0.387 | -- | -- | -- | -- | 0.010 | 0.027 | 0.105 | 0.296 |
| EF-16B R13 R14 EF-22 EF-23 EF-24 | Inoculation (all fugitive) | 0.960 | 2.700 | -- | -- | -- | -- | 0.160 | 0.450 | -- | -- |
| MS01 MS02 | Ladle repair | 0.180 | 0.507 | -- | -- | -- | -- | -- | -- | -- | -- |
| | TOTALS | 3.805 | 10.709 | 0 | 0 | 0 | 0 | 1.12 | 3.15 | 10.537 | 29.636 |

EUG “NG”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|---|---|------------------|--------------|-----------------|--------------|-----------------|---------------|--------------|--------------|--------------|---------------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R13 R14 EF-16B EF-22 EF-23 EF-24 | I & T Ladle torches – 10 MMBTUH | 0.080 | 0.210 | 0.006 | 0.017 | 1.000 | 2.820 | 0.060 | 0.150 | 0.840 | 2.370 |
| SHELLHE R1, R2 | two shell core machines – 0.5 MMBTUH apiece | 0.010 | 0.021 | 0.001 | 0.002 | 0.100 | 0.282 | 0.010 | 0.016 | 0.080 | 0.237 |
| SHELLHE R1, R2 | core oven – 2.5 MMBTUH | 0.020 | 0.083 | 0.002 | 0.007 | 0.250 | 1.095 | 0.010 | 0.060 | 0.210 | 0.920 |
| MUA1- MUA10 | miscellaneous heaters – total 45 MMBTUH | 0.342 | 1.498 | 0.027 | 0.118 | 4.500 | 19.710 | 0.248 | 1.084 | 3.780 | 16.556 |
| DIP-2 | Coating Post Heater – 3.5 MMBTUH | 0.030 | 0.116 | 0.002 | 0.009 | 0.350 | 1.533 | 0.020 | 0.084 | 0.290 | 1.288 |
| | TOTALS | 0.482 | 1.928 | 0.038 | 0.153 | 6.200 | 25.440 | 0.348 | 1.394 | 5.200 | 21.371 |

EUG “P”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|--|----------------------------------|------------------|---------------|-----------------|--------------|-----------------|--------------|---------------|---------------|---------------|----------------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| MS01 MS02 SS01 | Pouring & mold cooling | 2.434 | 6.859 | 0.622 | 1.750 | 2.129 | 5.989 | 38.838 | 109.233 | 203.008 | 570.960 |
| R1 R2 R3 R4 R5 R6 R7 | Pouring & mold cooling fugitives | 0.184 | 0.517 | 0.018 | 0.050 | 0.061 | 0.173 | 0.874 | 2.457 | 5.741 | 16.145 |
| SS01 SS03 | Shake-out | 1.856 | 5.228 | -- | -- | 0.063 | 0.178 | 16.727 | 47.045 | 50.432 | 141.840 |
| R1 R2 R3 R4 R5 R6 R7 | Shake-out fugitives | 0.358 | 1.008 | -- | -- | 0.001 | 0.002 | 0.169 | 0.475 | 0.509 | 1.433 |
| | TOTALS | 4.832 | 13.612 | 0.640 | 1.800 | 2.254 | 6.342 | 56.608 | 159.21 | 259.69 | 730.378 |

EUG "C"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|--|------------------|--------------|-----------------|-----|-----------------|-----|---------------|-------------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R1 R2 | Shell core machine #1 Shell core machine #2 | 0.084 | 0.131 | -- | -- | -- | -- | 1.82 | 2.85 | -- | -- |
| COREBH | PUCB core machine #1 PUCB core machine #2 | 0.164 | 0.064 | -- | -- | -- | -- | 8.68 | 3.40 | -- | -- |
| R1 R2 | PUCB core machine fugitives | 0.042 | 0.016 | -- | -- | -- | -- | -- | -- | -- | -- |
| | TOTALS | 0.290 | 0.211 | -- | -- | -- | -- | 10.500 | 6.25 | -- | -- |

EUG "MCRC"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|------------------------------|------------------|-----|-----------------|-----|-----------------|-----|-------|-------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R1 R2 | Mold and core room chemicals | -- | -- | -- | -- | -- | -- | 11.61 | 32.71 | -- | -- |

EUG "D"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|-----------------------|------------------|-----|-----------------|-----|-----------------|-----|-------|-------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| EF-34 | Asphaltic dip coating | -- | -- | -- | -- | -- | -- | 10.34 | 20.36 | -- | -- |

EUG "S"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|-----------------|--|------------------|-------|-----------------|-----|-----------------|-----|-------|-----|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R1, R2 EF-21 | Pattern & maintenance shop + fugitives | 0.130 | 0.367 | -- | -- | -- | -- | -- | -- | -- | -- |

EUG "HR"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|---------------|------------------|-------|-----------------|-----|-----------------|-----|-------|-----|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| fugitive | Haul roads | 0.002 | 0.008 | -- | -- | -- | -- | -- | -- | -- | -- |

EUG "EG"

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|------------------|------------------|--------------|-----------------|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| EG-1 | 350 HP generator | 0.265 | 0.066 | 0.247 | 0.062 | 3.763 | 0.941 | 0.307 | 0.077 | 0.811 | 0.203 |
| EG-2 | 550 HP generator | 0.423 | 0.106 | 0.396 | 0.099 | 6.021 | 1.505 | 0.491 | 0.123 | 1.297 | 0.324 |
| | TOTALS | 1.980 | 0.247 | 1.846 | 0.231 | 27.900 | 3.487 | 2.224 | 0.278 | 6.012 | 0.751 |

HAZARDOUS AIR POLLUTANTS

| HAP | C A S | lb/hr | TPY |
|-----------------------|--------------|----------------|-----------------|
| Antimony | 7440360 | 0.00011 | 0.00043 |
| Arsenic | 7440382 | 0.00004 | 0.00015 |
| Cadmium | 7440439 | 0.00019 | 0.00076 |
| Chromium (III) | 7440473 | 0.00398 | 0.01593 |
| Cobalt | 7440484 | 0.01734 | 0.06937 |
| Lead | 7439921 | 0.00804 | 0.03215 |
| Manganese | 7439965b | 0.01593 | 0.06370 |
| Mercury | 7439976 | 0.00002 | 0.00007 |
| Nickel | 7440020 | 0.00367 | 0.01050 |
| Selenium | 7782492 | 0.00006 | 0.00016 |
| 2-Methylnaphthalene | 91576 | 0.00000 | 0.00001 |
| 3-Methylchloranthrene | 56495 | 0.00000 | 0.00000 |
| Acetaldehyde | 75070 | 1.40666 | 5.62662 |
| Acetophenone | 98862 | 0.03560 | 0.14238 |
| Benz(a)anthracene | 56553 | 0.00000 | 0.00000 |
| Benzene | 71422 | 1.70068 | 6.80325 |
| Cumene | 98828 | 0.01322 | 0.05286 |
| Dichlorobenzene | 25321226 | 0.00008 | 0.00031 |
| Dibenzofurans | 132649 | 0.00873 | 0.03491 |
| Ethyl benzene | 100414 | 0.12123 | 0.48492 |
| Formaldehyde | 50000 | 0.72397 | 2.89652 |
| Hexane | 110543 | 0.11447 | 0.45787 |
| Napthalene | 91203 | 0.28646 | 1.14588 |
| o-Cresol | 95487 | 0.34912 | 1.39649 |
| Phenol | 108952 | 1.13475 | 4.53900 |
| POM | -- | 0.71190 | 2.84760 |
| Styrene | 100425 | 0.12867 | 0.51469 |
| Toluene | 108883 | 1.08067 | 4.32289 |
| Xylenes | 1330207 | 1.14705 | 4.58836 |
| TOTALS | | 9.16773 | 36.67092 |

SUMMARY OF CRITERIA EMISSIONS BY UNIT - Continued

| Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|--|------------------|--------------|-----------------|--------------|-----------------|--------------|--------------|---------------|---------------|---------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| Grinding | 2.816 | 7.933 | -- | -- | -- | -- | -- | -- | -- | -- |
| Grinding fugitives | 0.004 | 0.010 | -- | -- | -- | -- | -- | -- | -- | -- |
| Sand handling & molding | 5.169 | 14.562 | -- | -- | -- | -- | -- | -- | -- | -- |
| Sand handling & molding fugitives | 0.130 | 0.364 | -- | -- | -- | -- | -- | -- | -- | -- |
| Shell core machine #1 Shell core machine #2 | 0.084 | 0.131 | -- | -- | -- | -- | 1.82 | 2.85 | -- | -- |
| PUCB core machine #1 PUCB core machine #2 | 0.164 | 0.064 | -- | -- | -- | -- | 8.68 | 3.40 | -- | -- |
| PUCB core machine fugitives | 0.042 | 0.016 | -- | -- | -- | -- | -- | -- | -- | -- |
| Mold and core room chemicals | -- | -- | -- | -- | -- | -- | 11.61 | 32.71 | -- | -- |
| Asphaltic dip coating | -- | -- | -- | -- | -- | -- | 10.34 | 20.36 | -- | -- |
| Pattern & maintenance shop + fugitives | 0.130 | 0.367 | -- | -- | -- | -- | -- | -- | -- | -- |
| Haul roads | 0.002 | 0.008 | -- | -- | -- | -- | -- | -- | -- | -- |
| 350 HP generator | 0.265 | 0.066 | 0.247 | 0.062 | 3.763 | 0.941 | 0.307 | 0.077 | 0.811 | 0.203 |
| 550 HP generator | 0.423 | 0.106 | 0.396 | 0.099 | 6.021 | 1.505 | 0.491 | 0.123 | 1.297 | 0.324 |
| Coating Heater – 3.5 MMBTUH | 0.027 | 0.117 | 0.002 | 0.009 | 0.350 | 1.533 | 0.019 | 0.084 | 0.294 | 1.288 |
| Waste sand dust handling | 0.373 | 1.051 | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTALS | 20.48 | 58.34 | 1.32 | 2.11 | 18.24 | 34.22 | 91.32 | 223.27 | 277.54 | 781.91 |
| PREVIOUS PERMIT | 21.77 | 58.42 | 2.53 | 2.18 | 34.42 | 29.83 | 92.75 | 223.35 | 184.51 | 509.91 |
| NET CHANGES | -1.29 | -0.08 | -1.21 | -0.07 | -16.18 | 4.39 | -1.43 | -0.08 | 93.03 | 272.00 |

SUMMARY OF EMISSIONS BY DISCHARGE POINT

| Discharge Point | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|-----------------|------------------|--------------|-----------------|--------------|-----------------|---------------|---------------|----------------|----------------|----------------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| SSO1 | 2.994 | 8.803 | 0.207 | 0.583 | 0.710 | 1.996 | 20.238 | 56.920 | 48.000 | 135.000 |
| SSO2 | 2.366 | 6.955 | -- | -- | -- | -- | -- | -- | -- | -- |
| SSO3 | 2.004 | 5.893 | -- | -- | 0.063 | 0.178 | 5.687 | 15.995 | 7.232 | 20.340 |
| SSO4 | 1.314 | 3.864 | -- | -- | -- | -- | -- | -- | -- | -- |
| MSO1 | 1.699 | 4.955 | 0.207 | 0.583 | 0.710 | 1.996 | 15.295 | 43.017 | 104.320 | 293.400 |
| MSO2 | 1.699 | 4.955 | 0.207 | 0.583 | 0.710 | 1.996 | 15.295 | 43.017 | 104.320 | 293.400 |
| GSO1 | 3.881 | 11.411 | -- | -- | -- | -- | -- | -- | -- | -- |
| R1 | 0.204 | 0.512 | 0.004 | 0.011 | 0.184 | 0.713 | 11.217 | 19.936 | 1.040 | 3.089 |
| R2 | 0.204 | 0.512 | 0.004 | 0.011 | 0.184 | 0.713 | 11.217 | 19.936 | 1.040 | 3.089 |
| R3 | 0.090 | 0.263 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R4 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R5 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R6 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R7 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R8 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R9 | 0.183 | 0.538 | -- | -- | -- | -- | -- | -- | -- | -- |
| R10 | 0.183 | 0.538 | -- | -- | -- | -- | -- | -- | -- | -- |
| R11 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R12 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-13 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R13 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| R14 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-16B | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| R16 | 0.016 | 0.046 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-21 | 0.042 | 0.122 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-22 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-23 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-24 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| COREBH | 0.158 | 0.064 | -- | -- | -- | -- | -- | -- | -- | -- |
| MUA1 – 10 | 0.328 | 1.498 | 0.027 | 0.118 | 4.500 | 19.710 | 0.248 | 1.084 | 3.780 | 16.556 |
| CH1 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH2 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH3 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH4 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CHF | 0.089 | 0.262 | -- | -- | -- | -- | -- | -- | -- | -- |
| ROAD | 0.002 | 0.008 | -- | -- | -- | -- | -- | -- | -- | -- |
| COATING | -- | -- | -- | -- | -- | -- | 10.339 | 20.355 | -- | -- |
| EG-1 | 0.265 | 0.066 | 0.247 | 0.062 | 3.763 | 0.941 | 0.307 | 0.077 | 0.811 | 0.203 |
| EG-2 | 0.423 | 0.106 | 0.396 | 0.099 | 6.021 | 1.505 | 0.491 | 0.123 | 1.297 | 0.324 |
| DIP-2 | 0.025 | 0.117 | 0.002 | 0.009 | 0.350 | 1.533 | 0.019 | 0.084 | 0.294 | 1.288 |
| TOTAL | 20.475 | 58.34 | 1.322 | 2.112 | 18.242 | 34.226 | 91.320 | 223.269 | 277.547 | 781.908 |

STACK PARAMETERS

| Stack ID | Process | Height, Feet | Diameter, Inches | Flowrate, ACFM | Temperature, °F |
|-----------------|--|---------------------|-------------------------|-----------------------|------------------------|
| CH1 | charge handling | 75 | 96 | 80,000 | 70 |
| CH2 | charge handling | 75 | 96 | 80,000 | 70 |
| CH3 | charge handling | 75 | 96 | 80,000 | 70 |
| CH4 | charge handling | 75 | 96 | 80,000 | 70 |
| COREBH | PUCB coremaking | 65 | 11 | 2,000 | 70 |
| GS01 | shotblasting grinding | 135 | 74 | 105,000 | 77 |
| MS01 | charge handling EIF melting pouring & mold cooling sand handling & molding ladle repair | 130 | 58 | 59,306 | 100 |
| MS02 | charge handling EIF melting pouring & mold cooling sand handling & molding ladle repair | 130 | 58 | 59,306 | 95 |
| SS01 | pouring & mold cooling shake-out casting cooling sand handling & molding | 135 | 68 | 80,701 | 110 |
| SS02 | sand handling & molding | 135 | 58 | 64,224 | 92 |
| SS03 | shake-out casting cooling sand handling & molding | 135 | 58 | 61,439 | 110 |
| SS04 | sand handling & molding | 135 | 46 | 40,000 | 110 |
| R1 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives shell coremaking core oven fugitives PUCB coremaking fugitives mold & core room chemicals pattern & maintenance shop fugitives | 60 | 32 | 10,000 | 80 |

STACK PARAMETERS - Continued

| Stack ID | Process | Height, Feet | Diameter, Inches | Flowrate, ACFM | Temperature, °F |
|----------|---|--------------|------------------|----------------|-----------------|
| R2 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives shell coremaking core oven fugitivesPUCB coremaking fugitives mold & core room chemicals pattern & maintenance shop fugitives | 60 | 32 | 10,000 | 80 |
| R3 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives | 60 | 32 | 10,000 | 80 |
| R4 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives grinding fugitives | 60 | 32 | 10,000 | 80 |
| R5 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives grinding fugitives | 60 | 32 | 10,000 | 80 |
| R6 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives grinding fugitives dip coating | 60 | 32 | 10,000 | 80 |
| R7 | pouring & mold cooling fugitives shake-out fugitives sand handling & molding fugitives grinding fugitives | 60 | 32 | 10,000 | 80 |
| R8 | shotblast fugitives | 57 | 62 | 45,000 | 150 |
| R9 | shotblast fugitives waste handling | 57 | 62 | 45,000 | 150 |
| R10 | shotblast fugitives waste handling | 57 | 62 | 45,000 | 150 |
| R11 | shotblast fugitives | 57 | 62 | 45,000 | 150 |
| R12 | shotblast fugitives | 57 | 62 | 45,000 | 150 |
| R13 | shotblast fugitives | 74 | 32 | 10,000 | 80 |

STACK PARAMETERS - Continued

| Stack ID | Process | Height, Feet | Diameter, Inches | Flowrate, ACFM | Temperature, °F |
|----------------------------|--|--------------|------------------|----------------|-----------------|
| SHELLHE | shell coremaking core oven | 54.5 | 15 | 3,000 | 170 |
| EF-15 | EIF melting inoculation I & T ladle torches | 74 | 32 | 9,917 | 81 |
| EF-16A | EIF melting inoculation I & T ladle torches sand handling & molding fugitives | 74 | 32 | 9,917 | 81 |
| EF-16B | EIF melting inoculation I & T ladle torches | 74 | 32 | 9,917 | 81 |
| EF-21 | pattern & maintenance shops | 20 | 45 | 13,000 | 80 |
| EF-34 | dip coating | 29 | 57 | 20,000 | 80 |
| MUA-1 through MUA-10 | heaters | 32 – 104' | 3 | — | 171 |
| EF-22 | EIF melting inoculation I & T ladle torches | 68 | 50 | 25,200 | 80 |
| EF-23 | EIF melting inoculation I & T ladle torches | 68 | 50 | 25,200 | 80 |
| EF-24 | EIF melting inoculation I & T ladle torches | 54 | 50 | 25,200 | 80 |

SECTION VI. INSIGNIFICANT ACTIVITIES

Insignificant activities are listed in OAC 252:100-8, Appendix I. Insignificant activities identified and justified in the application are listed below.

- * Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel which are either used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year. The facility includes two diesel-engine powered emergency generators rated at 400 kW and a 250 kW, respectively. Upon the compliance date of changes to NESHAP Subpart ZZZZ, these engines will cease to be “insignificant activities.”
- Space heaters, boilers, process heaters and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas). The facility includes numerous gas-fired heaters which are smaller than 5 MMBTUH.

- * Storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature. The facility includes two small diesel storage tanks for the emergency generators.
- Gasoline and aircraft fuel handling facilities, equipment, and storage tanks except those subject to New Source Performance Standards and standards in OAC 252:100-37-15, 39-30, 39-41, and 39-48. This category includes the diesel storage tanks on the emergency generators.
- * Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature . This category repeats the diesel storage tanks.
- Cold degreasing operations utilizing solvents that are denser than air. However, degreasing is conducted as a part of routine maintenance and is considered a trivial activity and recordkeeping will not be required in the Specific Conditions.
- Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes. However, welding is conducted as a part of routine maintenance and is considered a trivial activity and recordkeeping will not be required in the Specific Conditions.
- Hazardous waste and hazardous materials drum staging areas. The facility includes a hazardous waste staging area for drummed waste.
- Sanitary sewage collection and treatment facilities other than incinerators and Publicly Owned Treatment Works (POTW). Stacks or vents for sanitary sewer plumbing traps are also included (i.e., lift station)
- * Surface coating operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, and clean-up solvents at any one emissions unit.
- * Activities having the potential to emit no more than 5 TPY (actual emissions) of any criteria pollutant. None additional listed but may be used in the future.

SECTION VII. BEST AVAILABLE CONTROL TECHNOLOGY

BACT was analyzed using the "top-down" approach. In those cases where a control strategy was deemed technologically infeasible or sufficient justification was provided for rejection by energy or environmental impacts, economic costs were not calculated. Control economics were evaluated using equipment lifespan, contingency costs, indirect costs, a discount interest rate, an interest rate on capital, utilities, and labor costs (including benefits, overhead, etc.).

Since the only pollutant subject to BACT requirements whose emissions are increasing is CO, the BACT analysis is limited to CO. All other BACT remains unchanged.

A. BACT FOR CO

The BACT proposal was reviewed using the EPA bulletin board RBLC (RACT/BACT/LAER Clearinghouse). Two emission units are responsible for 93% of CO emissions: the pouring/cooling emissions and the shake-out emissions. Other CO is emitted from natural gas combustion units.

CO emissions result primarily from contacting organic materials with molten metal. Organic binders in molds are burned without sufficient residence time at an elevated temperature and sufficient oxygen resulting in incomplete combustion. The applicant expects large amounts of residual CO trapped in molds and an ongoing partial oxidation of organic binders during the shake-out process. The pouring operation has a stack flow of 199,200 ACFM with 203 lb/hr CO, and the shake-out operation has a stack flow of 142,000 ACFM with 50.43 lb/hr CO.

The only practical means of CO emission control is secondary combustion, either thermal or catalytic. Catalytic oxidation methods, recuperative and regenerative, were not considered demonstrated technology for foundry operations and an economic analysis was performed. Control vendors indicated that operation of catalytic systems would be unreliable due to particulate matter potentially fouling the catalyst, rendering the system inert. Based on this potential occurrence, an additional one-time cost associated with installation of a secondary filter system was included in case of primary baghouse failure. The large amount of PM also makes regenerative thermal oxidation questionable, since the operating temperatures would be sufficient to “glaze” the heat retention beds, plugging them off. This leaves flaring or single-pass thermal oxidation. The following table presents the BACT selections for CO from foundries.

BACT SELECTION FOR CO FROM FOUNDRIES

| Alternative Analyzed | Control Cost (\$/ton) | Technological Feasibility | Selection/Rejection |
|--------------------------------|------------------------------|----------------------------------|---|
| Regenerative Thermal Oxidation | 4,031 | Possible | too expensive, increases combustion emissions |
| Recuperative Oxidation | 5,806 | Possible | too expensive, increases combustion emissions |

For the pouring/cooling and shake-out units, no add-on control for CO is acceptable as BACT.

The BACT selection was reviewed in comparison to other CO BACT determinations nationally for CO emissions from foundry operations. Upon review of the RBLC, it was determined that there are no CO BACT determinations for the types of operations conducted by the Ardmore facility.

B. BACT FOR VOC

The majority of VOC emissions are anticipated from a few units: shake-out, mold and core chemicals, coating, and pouring/cooling. This accounts for 97.4% of the annual VOC emissions. For this facility, no add-on VOC control is acceptable as BACT.

The BACT determination for the Core Room Operation specified that the scrubber for the PUCB catalyst must have a VOC control efficiency of at least 95%. The facility proposed that a scrubber with an efficiency of at least 98.5% be used to control the VOC emissions from the PUCB catalyst, therefore, the VOC control associated with this operation is BACT.

C. BACT FOR PM₁₀

East Jordan Iron Works proposed baghouses as BACT for the following processes: EIF melting, pouring, mold cooling, shake-out, shotblast, grinding, sand handling and storage, and mold making. The controlled emissions from these operations account for 76% of facility-wide PM₁₀ emissions.

PM₁₀ BACT for the processes is baghouses that have a grain loading equal to 0.0035 to 0.0045 grains per dry standard cubic foot of air. BACT for combustion units is acceptable as using natural gas fuel with no add-on controls. The BACT is more stringent than other determinations nationally, primarily to be able to comply with PSD increments for PM₁₀.

SECTION VIII. AIR QUALITY IMPACTS

Only the CO impacts will be revised in the Air Quality Analysis. All other emissions and impacts remain as in the previous permit.

For an area which is affected by emissions from a new major source or modification, an analysis of the existing air quality is required for those pollutants which are emitted in significant quantities. The facility must demonstrate that each project does not cause nor contribute to a violation of the National Ambient Air Quality Standards nor violate the increments of PSD.

Modeling was conducted using the AERMOD model. Regulatory default options for the model were used in all cases. The modeling analysis is organized into two major sections for each applicable pollutant based on U.S. EPA modeling guidance: a NAAQS analysis and a PSD Increment analysis. The techniques used in the air dispersion modeling analysis are consistent with current AQD and U.S. EPA modeling procedures.

VOC is not limited directly by NAAQS. Rather, it is regulated as an ozone precursor. EPA developed a method for predicting ozone concentrations based on VOC and NO_x concentrations in an area. The ambient impacts analysis utilized these tables from "VOC/NO_x Point Source Screening Tables" (Richard Sheffe, OAQPS, September, 1988). The Scheffe tables utilize increases in NO_x and VOC emissions to predict increases in ozone concentrations. With revision of the ambient standard of ozone from the 1-hour standard to an 8-hour standard, this analysis became obsolete.

A Class I Area analysis is performed to determine the ambient air quality impacts in the vicinity of the nearest Class I Area (Wichita Mountains National Wildlife Refuge), which is located approximately 121 km to the west-northwest. The U.S. EPA has established special PSD Increment values for Class I Areas for SO₂ and NO₂. Prior to completing a PSD Increment analysis, however, impacts due to increased emissions from the foundry are assessed against a modeling significance level of 1.0 µg/m³, 24-hour average concentration, for all pollutants for any facility constructed within 6 miles of a Class I area.

The following tables show maximum modeled impacts from the project compared to the ambient levels of significance for each pollutant for which PSD specifies an ambient level of significance or which has an ambient standard. As shown through the tables, ambient impacts are below NAAQS and increment standards. Thus, it has been demonstrated that the plant does not cause nor contribute to an air quality standards violation.

NAAQS COMPLIANCE

| Pollutant | Modeled Impacts, ug/m ³ | Background Concentration, ug/m ³ | Total Impacts, ug/m ³ | NAAQS, ug/m ³ |
|------------------|------------------------------------|---|----------------------------------|--------------------------|
| PM ₁₀ | 27.5 (24-hrs) ¹ | 48 | 75.5 | 150 |
| | 6.3 (annual) ² | 27 | 33.3 | 50 |
| CO | 1,717 (1-hr) ³ | 2,404 | 4,121 | 40,000 |
| | 513 (8-hr) ³ | 1,259 | 1,772 | 10,000 |
| Ozone | 12 (1-hr) | 202 | 214 | 235 |

¹ 6th highest
² 5-year average
³ maximum (1st highest)

NOTE: The maximum monitored impacts following construction were 187 ug/m³ (1-hour), therefore, the predicted impacts are somewhat higher than actual.

INCREMENT COMPLIANCE

| Pollutant | Modeled Incremental Impacts, ug/m ³ | Ambient Levels of Significance, ug/m ³ | Radius Of Impact, km | PSD Increments, ug/m ³ |
|------------------|--|---|----------------------|-----------------------------------|
| PM ₁₀ | 27.5 (24-hrs) | 5 | 3.5 | 30 |
| | 6.3 (annual) | 1 | 2.9 | 17 |
| CO | 1,717 (1-hr) | 2,000 | NA | NA |
| | 513 (8-hr) | 500 | 0.5 | NA |

NA = Not Applicable

COMPARISON OF IMPACTS TO AMBIENT MONITORING LEVELS OF SIGNIFICANCE

| Pollutant | Modeled Impacts, ug/m³ | Monitoring Levels of Significance, ug/m³ | Post-Construction Monitoring Required? |
|------------------|--|--|---|
| PM ₁₀ | 27.5 (24-hrs) | 10 | yes |
| CO | 513 (8-hr) | 575 | no |
| Ozone | 223 TPY VOC | 100 TPY VOC | yes |

Post-construction monitoring of ozone and PM₁₀ impacts was required. The maximum recorded ozone impact in the period between April 15 and October 15, 2002, was 0.0956 ppm (1-hour). That impact was in compliance with the ambient air quality standards in effect at the time. The highest 24-hour PM concentration was 44 ug/m³, which is in compliance with the NAAQS limit of 150 ug/m³ (2nd highest).

SECTION IX. OTHER PSD ANALYSES

Growth Impacts

No significant industrial or commercial secondary growth occurred as a result of the foundry. Only a nominal number of new jobs were created at the new facility and these were filled primarily by the local work force in the immediate area. No significant population growth occurred. Only a minimal air quality impact is expected as a result of associated secondary growth. Relaxation of existing limits is expected to result in minimal staff being added.

Soils, Vegetation, and Visibility

There are two portions to a visibility analysis: impacts near the facility and impacts on Class I areas. The applicant has conducted a visibility impact analysis in accordance with guidelines in the Workbook for Estimating Visibility Impairment (EPA-450/ 4-80-031) using EPA's software VISCREEN. A Level 1 screening analysis was performed for the facility's impact on the nearest Class I area, the Wichita Mountains Wildlife Refuge, 121 km (75 miles) away. The analysis used a 160 km visual range as requested by the U.S. Department of the Interior. Since contrast parameters were all computed to be less than the specified level where additional analysis would be required, the Level 1 analysis indicated that it is highly unlikely that the source would cause any adverse visibility impairment in the nearest Class I area. There are no scenic vistas near the vicinity of the project. There is minimal impairment of visibility resulting from the facility's emissions.

Operation of the facility is not expected to produce any perceptible visibility impacts in the vicinity of the plant. The applicant has attempted to utilize EPA computer software for visibility impacts analyses. The software was intended to predict distant impacts. Attempts to utilize the EPA methods for close-in impacts have resulted in the program prematurely terminating operation. Given the limitation of 20% opacity of discharges, and a reasonable expectation that normal operation will result in 0% opacity, no local visibility impairment is anticipated.

CO has not been found to produce detrimental effects on plants at concentrations below 100 ppm for exposures of one to three weeks. Since the ambient standards have been established at 35 ppm (40 mg/m³) and 9 ppm (10 mg/m³) for the 1-hour and 8-hour averages, respectively, there is no threat to plant life from CO emissions at the site. Any effect of VOC emissions on soils and vegetation at the facility should be minimal in view of the limited potential for alteration of ozone levels at the modest emission rate projected.

No effect on soils is anticipated from the facility. The application correctly pointed out that the particulate matter is primarily silicon dioxide and iron oxide. These are already among the primary constituents of the local soils.

Impact On Class I Areas

The nearest Class I area is the Wichita Mountains Wildlife Refuge, about 121 km (75 miles) from the facility at nearly a 70° angle to the prevailing winds. The two important tests for impact on a Class I area are visibility impairment and ambient air quality effect. A visibility analysis in the previous section indicated no impairment of visibility for this area. A significant air quality impact is defined as an ambient concentration increase of 1 ug/m³, 24 hour average. A receptor was modeled at the Wichita Mountains Wildlife Refuge showing an impact of 0.017 ug/m³, which is less than the Class I area level of significance. The extended transport distance to the nearest Class I area precludes any significant air quality impact from the facility.

SECTION X. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]

Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]

This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]

Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in attainment of these standards. The "Air Quality Impacts" section includes a demonstration of compliance with these standards.

OAC 252:100-5 (Registration, Emissions Inventory, and Annual Fees) [Applicable]

The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources)

[Applicable]

Part 5 includes the general administrative requirements for part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emission limitations for all the sources are taken from the permit application and previous permit.

OAC 252:100-9 (Excess Emission Reporting Requirements)

[Applicable]

Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning)

[Applicable]

Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter)

[Applicable]

This subchapter is applicable to the torches and ovens. This subchapter limits emissions of particulate matter from processes other than fuel-burning equipment based on their process weight rate. The following table compares the emissions rates of PM with the allowable PM emissions under Subchapter 19, showing that the facility is in compliance.

COMPLIANCE WITH SUBCHAPTER 19

| Operation | Process Weight Rate, TPH | Allowable PM Emissions per Subchap. 19, lb/hr | Permitted PM Emissions, lb/hr |
|-------------------|---------------------------------|--|--------------------------------------|
| Charge Handling | 32 | 40.5 | 1.35 |
| EIF Melting | 32 | 40.5 | 1.32 |
| Inoculation | 32 | 40.5 | 0.96 |
| Pouring & Cooling | 32 | 40.5 | 2.62 |
| Shake-out | 32 | 40.5 | 2.37 |
| Shotblast | 32 | 40.5 | 1.48 |
| Grinding | 32 | 40.5 | 4.10 |
| Sand Handling | 480 | 64.5 | 6.03 |
| Shell Coremaking | 0.48 | 2.51 | 0.08 |
| PUCB Coremaking | 12.77 | 2.51 | 0.21 |

Subchapter 19 specifies PM emissions limitations based on heat input capacity. The following table lists applicable standards by unit and anticipated PM emissions. For most of the combustion devices, applicable permit limitations are more stringent than Subchapter 19.

COMPARISON OF PM EMISSIONS TO LIMITATIONS OF OAC 252:100-19

| Unit | Heat Input Capacity, MMBTUH | PM Emission Limitation of OAC 252:100-19, lb/MMBTU | Anticipated PM Emission Rate, lb/MMBTU, AP-42 (7/98), Section 1.4 |
|-----------------------|------------------------------------|---|--|
| Ladle Preheat Torches | 10 | 0.60 | 0.0076 |
| Shell Core Machine | 1 | 0.60 | 0.0076 |
| Core Oven | 2.5 | 0.60 | 0.0076 |
| Coating Heater | 3.5 | 0.60 | 0.0076 |

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
 No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. The facility utilizes baghouses on various melting, casting, and sand handling operations to achieve compliance with Subchapter 25, and will monitor the pressure differentials across the baghouses to ensure compliance is maintained on a continuous basis.

OAC 252:100-29 (Fugitive Dust) [Applicable]
Subchapter 29 prohibits the handling, transportation, or disposition of any substance likely to become airborne or windborne without taking “reasonable precautions” to minimize emissions of fugitive dust. No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Charge handling fugitive dust is controlled by utilizing covered operations where possible. Roadway fugitive dust is controlled by weekly sweeping of paved roadways.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. For fuel gas having a gross calorific value of 1,000 BTU/SCF, this limit corresponds to fuel sulfur content of 1,203 ppmv. The permit requires the use of gaseous fuel with sulfur content less than 343 ppmv to ensure compliance with Subchapter 31.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
Subchapter 33 limits NO_x emissions from new fuel-burning equipment with a rated heat input greater than or equal to 50 MMBTUH. None of the emissions units exceed the 50 MMBTUH threshold and are not applicable to this subchapter.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are part of this project: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit or catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires new (constructed after December 28, 1974) storage tanks with a capacity between 400 and 40,000 gallons holding an organic liquid with a true vapor pressure greater than 1.5 psia to be operated with a submerged fill pipe. This requirement does not affect the 300 gallon portable vessels which are smaller than the 400 gallon threshold.
Part 5 limits the VOC content of paints and coatings. Organic materials used as PUCB chemicals, shell coremaking chemicals, and pattern and core chemicals are not regulated by Subchapter 37.
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The permit will require compliance.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
 This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

| | | |
|----------------------|---|---------------------------|
| OAC 252:100-8 Part 9 | Major Sources Affecting Nonattainment Areas | not in area category |
| OAC 252:100-15 | Mobile Sources | not in source category |
| OAC 252:100-17 | Incinerators | not type of emission unit |
| OAC 252:100-23 | Cotton Gins | not type of emission unit |
| OAC 252:100-24 | Grain Elevators | not in source category |
| OAC 252:100-29-2 | Fugitive Dust/Nonattainment Areas | not in area category |
| OAC 252:100-39 | Nonattainment Areas | not in area category |
| OAC 252:100-47 | Landfills | not in source category |

SECTION XI. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Applicable]
 PSD applies to this project since emission increases are the result of relaxation of limitations from a previous PSD permit.

NSPS, 40 CFR Part 60 [Not Applicable]
Subpart N (Basic Oxygen Process Furnaces): This subpart regulates basic oxygen furnaces, which are used in primary steelmaking (smelting of iron ores). This foundry is a secondary operation which has no basic oxygen furnaces.
Subpart Na (Basic Oxygen Process Furnaces): This subpart also regulates basic oxygen furnaces. This foundry is a secondary operation with no basic oxygen furnaces.
Subpart AA (Electric Arc Furnaces): Subpart AA affects electric arc furnaces, which also are used in primary steelmaking. This foundry is a secondary operation which has no electric arc furnaces.

Subpart AAa (Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels): Subpart AAa affects electric arc furnaces, which also are used in primary steelmaking. This foundry is a secondary operation which has no electric arc furnaces.

Subpart Z (Ferroalloy Production Facilities): Subpart Z affects ferrosilicon alloy production in submerged electric arc furnaces. “Submerged electric arc furnace” is defined as a furnace where an electric current is passed through the melt. The induction furnace is not the type of furnace regulated by this subpart.

Subpart III (Stationary Compression Ignition Internal Combustion Engines) affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. The emergency engines at this facility pre-date Subpart III.

NESHAP, 40 CFR Part 61 [Not Applicable]
 Although small amounts of arsenic and mercury are emitted, the facility is not subject to any of the 40 CFR Part 61 Subparts. Arsenic standards in 40 CFR Part 61 Subparts N, O, and P govern glass manufacturing, copper smelting, and arsenic manufacturing facilities, respectively. None of these three applies to the East Jordan facility. Mercury standards in 40 CFR Part 61 Subpart E apply to the processing of mercury ore, production of chlorine or metal hydroxide, or to the treatment of wastewater sludge. None of these applies to this foundry.

NESHAP, 40 CFR Part 63 [Subparts ZZZZ and EEEEE Applicable]
Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart previously affected only RICE with a site-rating greater than 500 brake horsepower that are located at a major source of HAP emissions. On January 18, 2008, the EPA published a final rule that promulgates standards for new and reconstructed engines (after June 12, 2006) with a site rating less than or equal to 500 HP located at major sources, and for new and reconstructed engines (after June 12, 2006) located at area sources. Owners and operators of new or reconstructed engines at area sources and of new or reconstructed engines with a site rating equal to or less than 500 HP located at a major source (except new or reconstructed 4-stroke lean-burn engines with a site rating greater than or equal to 250 HP and less than or equal to 500 HP located at a major source) must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines). The emergency engines at this facility pre-date the new standards. On March 3, 2010, EPA finalized additional requirements for stationary CI RICE. A summary of these requirements for the emergency engines located at this facility are shown below.

| Engine Category | Normal Operation @ 15% O ₂ |
|--|---|
| Existing Emergency CI & Black Start CI | Change oil and filter every 500 hours of operation or annually, whichever one comes first; Inspect air cleaner every 1,000 hours of operation or annually, whichever one comes first; and Inspect all hoses and belts every 500 hours of operation or annually, whichever one comes first and replace as necessary. |

Sources have the option to utilize an oil analysis program in order to extend the specified oil change requirements of this subpart. Initial compliance demonstrations must be conducted within 180 days after the compliance date. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

Other applicable requirements include:

- 1) The owner/operator must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. In March, 2007, the EPA filed a motion to vacate and remand this rule back to the agency. The rule was vacated by court order, subject to appeal, on June 8, 2007. No appeals were made and the rule was vacated on July 30, 2007. Existing and new small gaseous fuel boilers and process heaters (less than 10 MMBtu/hr heat rating) were not subject to any standards, recordkeeping, or notifications under Subpart DDDDD.

EPA is planning on issuing guidance (or a rule) on what actions applicants and permitting authorities should take regarding MACT determinations under either Section 112(g) or Section 112(j) for sources that were affected sources under Subpart DDDDD and other vacated MACTs. It is expected that the guidance (or rule) will establish a new timeline for submission of section 112(j) applications for vacated MACT standards. At this time, AQD has determined that a 112(j) determination is not needed for sources potentially subject to a vacated MACT, including Subpart DDDDD. This permit may be reopened to address Section 112(j) when necessary.

Subpart EEEEE (Iron and Steel Foundries): This subpart was promulgated on April 22, 2004. For purposes of this subpart, this facility is considered an existing facility and was allowed three years from promulgation to comply with this MACT. The standards for existing facilities include: a metal melting furnace PM limitation of 0.005 grains/DSCF, a pouring station PM limitation of 0.010 grains/DSCF, and a triethylamine cold box mold or core making line triethylamine limit of 1 ppmv. No discharge of greater than 20% opacity is allowed from the building housing any emission sources. Stack testing conducted on March 6-7, 2007, showed compliance with the applicable limits.

Compliance Assurance Monitoring, 40 CFR Part 64

[Applicable]

Compliance Assurance Monitoring, as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, that is required to obtain a Title V permit, if it meets all the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than major source thresholds.

The baghouses on stacks SS01, SS02, SS03, SS04, and GS01 are subject to this part. CAM plans have been incorporated into this permit. Stacks MS01 and MS02 are subject to a MACT, therefore, not subject to CAM. The PUCB core machine has uncontrolled emissions less than 100 TPY, therefore is not subject to CAM.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
This facility does not store any regulated substance above the applicable threshold limits. More information on this federal program is available at the web site: <http://www.epa.gov/ceppo/>.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subpart A and F Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).
Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.
This facility does not utilize any Class I & II substances.

SECTION XII. TIER CLASSIFICATION AND PUBLIC REVIEW

This application has been determined to be a **Tier II** based on the request for a significant modification to a PSD construction permit.

Public review of the application and permit are required. The applicant published the "Notice of Filing a Tier II Application" on March 27, 2011, in the *The Daily Ardmorite*, a daily newspaper printed in Carter County. The notice stated that the application was available for public review at Ardmore Public Library or at the Air Quality Division's main office. The applicant also published a "Notice of Tier II Draft Permit" in the *The Daily Ardmorite* on April 17, 2011. This facility is within 50 miles of the border with the state of Texas; the state of Texas was notified of the draft permit. No comments were received from the public or adjacent state. The "proposed" permit was submitted to EPA for a 45-day review period. The following comments were received from Region VI:

COMMENT "A": The modification of the emission limits in the PSD Permit would require a corresponding modification of the emission limits in the Operating Permit.

Response: this is correct. The modified operating permit has been applied for.

COMMENT "B": On page 26, the 2002 post construction 8-hour Ozone monitoring had been recorded as 0.0857 ppm. The NAAQS according to 40 CFR 50.9 at that time was 0.08 ppm. Reasons for considering this to be in compliance should be given.

Response: The initial construction permit was issued May 22, 2000. There was a protracted federal court case on the 8-hour standard which kept the 1-hour ozone standard as the applicable standard when the initial construction permit was issued. On July 5, 2000, EPA reinstated the 1-hour standard for ozone returning all affected counties to the ozone designations (attainment, nonattainment or unclassifiable) that were in place when the standard was revoked. The 8-hour ozone standard was not in effect until June 15, 2004, and compliance is not determined from highest value. The mention of the highest 8-hour ozone impacts was extraneous and will be deleted.

For compliance with the 1-hour standard, the significant item is monitored impacts of 0.0956 ppm compared to a standard of 0.12 ppm.

COMMENT "C": On page 26, post construction monitoring of PM is shown as a requirement. The monitoring results that were obtained should be given to verify whether it was within the NAAQS.

Response: the highest monitored value was 44 ug/m³, which is in compliance with the PM₁₀ standards in effect at the time. The monitoring values ranged from 29 to 44 ug/m³, 24-hour average.

COMMENT "D": The reasons for the difference in the 8hr Modeled Incremental Impact of CO given in the two tables on page 25 as 458g/m³ and that given in the table on page 26 as 513g/m³ should be explained.

Response: The differences results from a typographical error, which has been corrected. "513" is correct.

COMMENT "E": Whether startup, shutdown and malfunction emissions have been included in computing the total emissions should be clarified. Pursuant to: §[63.6\(e\)\(3\)\(i\)](#) a written SSM Plan is required by the compliance date.

Response: there are three basic issues to this comment:

- AQD does not routinely authorize malfunctions, so malfunctions are not included in emissions limits.
- Start-up and shutdown emissions are expected to be lower than normal operation emissions, therefore, no special provisions for start-up and shutdown are needed.
- The SSM plan as required by 40 CFR Part 63 has been completed by the operator as of April 22, 2007.

Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page:<http://www.deq.state.ok.us>.

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the real property.

Fees Paid

Part 70 construction permit modification fee of \$1,500.

SECTION XIII. SUMMARY

The facility was constructed as described in the permit application. Ambient air quality standards are not threatened at this site. This permit modification is partial resolution to an active Air Quality compliance or enforcement issue. Issuance of the modified construction permit is recommended.

**PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**EJIW-Ardmore Foundry, Inc.
Gray Iron Foundry**

Permit No. 2007-213-C (M-4)(PSD)

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality Division on December 8, 1999, with supplemental information received March 9 and March 17, 2000; July 11, 2001; and March 10, November 25 and December 19, 2002; October 22, 2007; December 23, 2008; September 14, 2009; and October 6, 2010. The Evaluation Memorandum dated October 3, 2011, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

1. Points of emissions and emission limitations for each point: [OAC 252:100-8-6(a)]

A. Emissions limitations by process:

EUG “MS”

| Point ID | Emission Unit | PM ₁₀ [*] | | SO ₂ | | NO _x | | VOC | | CO | |
|---|----------------------------|-------------------------------|-------|-----------------|-----|-----------------|-----|-------|-------|--------|-------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| MS01 MS02 | Charge handling | 0.420 | 1.183 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH1 CH2 CH3 CH4 | Charge handling fugitives | 0.931 | 2.619 | -- | -- | -- | -- | -- | -- | -- | -- |
| MS01 MS02 | EIF melting | 1.176 | 3.313 | -- | -- | -- | -- | 0.950 | 2.673 | 10.432 | 29.34 |
| EF-16B R13 R14 EF-22 EF-23 EF-24 | EIF melting fugitives | 0.138 | 0.387 | -- | -- | -- | -- | 0.010 | 0.027 | 0.105 | 0.296 |
| EF-16B R13 R14 EF-22 EF-23 EF-24 | Inoculation (all fugitive) | 0.960 | 2.700 | -- | -- | -- | -- | 0.160 | 0.450 | -- | -- |
| MS01 MS02 | Ladle repair | 0.180 | 0.507 | -- | -- | -- | -- | -- | -- | -- | -- |

*PM includes filterable and condensable, or “front-half” and “back-half.”

SPECIFIC CONDITIONS 2007-213-C (M-4)(PSD)

EUG “NG”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|---|---|------------------|-------|-----------------|-------|-----------------|--------|-------|-------|-------|--------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R13 R14 EF-16B EF-22 EF-23 EF-24 | I & T Ladle torches – 10 MMBTUH | 0.080 | 0.210 | 0.006 | 0.017 | 1.000 | 2.820 | 0.060 | 0.150 | 0.840 | 2.370 |
| SHELLHE R1, R2 | two shell core machines – 0.5 MMBTUH apiece | 0.010 | 0.021 | 0.001 | 0.002 | 0.100 | 0.282 | 0.010 | 0.016 | 0.080 | 0.237 |
| SHELLHE R1, R2 | core oven – 2.5 MMBTUH | 0.020 | 0.083 | 0.002 | 0.007 | 0.250 | 1.095 | 0.010 | 0.060 | 0.210 | 0.920 |
| MUA1- MUA10 | miscellaneous heaters – total 45 MMBTUH | 0.342 | 1.498 | 0.027 | 0.118 | 4.500 | 19.710 | 0.248 | 1.084 | 3.780 | 16.556 |
| DIP-2 | Coating Post-Heater – 3.5 MMBTUH | 0.030 | 0.116 | 0.002 | 0.009 | 0.350 | 1.533 | 0.020 | 0.084 | 0.290 | 1.288 |

EUG “P”

| Point ID | Emission Unit | PM ₁₀ [*] | | SO ₂ | | NO _x | | VOC | | CO | |
|--|----------------------------------|-------------------------------|-------|-----------------|-------|-----------------|-------|--------|---------|---------|---------|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| MS01 MS02 SS01 | Pouring & mold cooling | 2.434 | 6.859 | 0.622 | 1.750 | 2.129 | 5.989 | 38.838 | 109.233 | 203.008 | 570.960 |
| R1 R2 R3 R4 R5 R6 R7 | Pouring & mold cooling fugitives | 0.184 | 0.517 | 0.018 | 0.050 | 0.061 | 0.173 | 0.874 | 2.457 | 5.741 | 16.145 |
| SS01 SS03 | Shake-out | 1.856 | 5.228 | -- | -- | 0.063 | 0.178 | 16.727 | 47.045 | 50.432 | 141.840 |
| R1 R2 R3 R4 R5 R6 R7 | Shake-out fugitives | 0.358 | 1.008 | -- | -- | 0.001 | 0.002 | 0.169 | 0.475 | 0.509 | 1.433 |

*PM includes filterable and condensable, or “front-half” and “back-half.”

EUG “C”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|--|------------------|-------|-----------------|-----|-----------------|-----|-------|------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R1 R2 | Shell core machine #1 Shell core machine #2 | 0.084 | 0.131 | -- | -- | -- | -- | 1.82 | 2.85 | -- | -- |
| COREBH | PUCB core machine #1 PUCB core machine #2 | 0.164 | 0.064 | -- | -- | -- | -- | 8.68 | 3.40 | -- | -- |
| R1 R2 | PUCB core machine fugitives | 0.042 | 0.016 | -- | -- | -- | -- | -- | -- | -- | -- |

EUG “MCRC”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|------------------------------|------------------|-----|-----------------|-----|-----------------|-----|-------|-------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| R1 R2 | Mold and core room chemicals | -- | -- | -- | -- | -- | -- | 11.61 | 32.71 | -- | -- |

EUG “D”

| Point ID | Emission Unit | PM ₁₀ | | SO ₂ | | NO _x | | VOC | | CO | |
|----------|-----------------------|------------------|-----|-----------------|-----|-----------------|-----|-------|-------|-------|-----|
| | | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| EF-34 | Asphaltic dip coating | -- | -- | -- | -- | -- | -- | 10.34 | 20.36 | -- | -- |

EUG “HR” : The following emissions units are considered insignificant since emissions are less than 5 TPY of any criteria pollutant.

| EU ID# | Point ID# | EU Name/Model | Construction Date |
|--------|-----------|---------------|-------------------|
| ROAD1 | fugitive | Haul roads | 2001 |

EUG “EG” : The following emissions units are considered insignificant since emissions are less than 5 TPY of any criteria pollutant.

| EU ID# | Point ID# | EU Name/Model | Construction Date |
|--------|-----------|-------------------------------------|-------------------|
| EG-1 | EG-1 | 250 kW (350 HP) emergency generator | 2001 |
| EG-2 | EG-2 | 400 kW (550 HP) emergency generator | 2001 |

- A. The owner/operator shall comply with all applicable requirements of the NESHAP: Reciprocating Internal Combustion Engines, Subpart ZZZZ, for each affected facility including but not limited to: [40 CFR 63.6580 through 63.6675]

What This Subpart Covers

1. § 63.6580 What is the purpose of subpart ZZZZ?
2. § 63.6585 Am I subject to this subpart?
3. § 63.6590 What parts of my plant does this subpart cover?
4. § 63.6595 When do I have to comply with this subpart?

Emission and Operating Limitations

5. § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

General Compliance Requirements

6. § 63.6605 What are my general requirements for complying with this subpart?

Testing and Initial Compliance Requirements

7. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
8. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

Continuous Compliance Requirements

9. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

Notifications, Reports, and Records

10. § 63.6650 What reports must I submit and when?
11. § 63.6655 What records must I keep?
12. § 63.6660 In what form and how long must I keep my records?

Other Requirements and Information

13. § 63.6665 What parts of the General Provisions apply to me?
14. § 63.6670 Who implements and enforces this subpart?
15. § 63.6675 What definitions apply to this subpart?

EUG “S”: The following emissions units are considered insignificant since emissions are less than 5 TPY of any criteria pollutant.

| EU ID# | Point ID# | EU Name/Model | Construction Date |
|---------------|------------------|-----------------------------|--------------------------|
| SHOP1 | R1, R2 EF-21 | Pattern & Maintenance shops | 2001 |

B. Emissions limitations by discharge point

| Discharge Point | PM ₁₀ * | | SO ₂ | | NO _x | | VOC | | CO | |
|-----------------|--------------------|--------|-----------------|-------|-----------------|--------|--------|--------|---------|---------|
| | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY | lb/hr | TPY |
| SSO1 | 2.994 | 8.803 | 0.207 | 0.583 | 0.710 | 1.996 | 20.238 | 56.920 | 48.000 | 135.000 |
| SSO2 | 2.366 | 6.955 | -- | -- | -- | -- | -- | -- | -- | -- |
| SSO3 | 2.004 | 5.893 | -- | -- | 0.063 | 0.178 | 5.687 | 15.995 | 7.232 | 20.340 |
| SSO4 | 1.314 | 3.864 | -- | -- | -- | -- | -- | -- | -- | -- |
| MSO1 | 1.699 | 4.955 | 0.207 | 0.583 | 0.710 | 1.996 | 15.295 | 43.017 | 104.320 | 293.400 |
| MSO2 | 1.699 | 4.955 | 0.207 | 0.583 | 0.710 | 1.996 | 15.295 | 43.017 | 104.320 | 293.400 |
| GSO1 | 3.881 | 11.411 | -- | -- | -- | -- | -- | -- | -- | -- |
| R1 | 0.204 | 0.512 | 0.004 | 0.011 | 0.184 | 0.713 | 11.217 | 19.936 | 1.040 | 3.089 |
| R2 | 0.204 | 0.512 | 0.004 | 0.011 | 0.184 | 0.713 | 11.217 | 19.936 | 1.040 | 3.089 |
| R3 | 0.090 | 0.263 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R4 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R5 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R6 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R7 | 0.091 | 0.266 | 0.003 | 0.007 | 0.009 | 0.025 | 0.149 | 0.419 | 0.893 | 2.511 |
| R8 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R9 | 0.183 | 0.538 | -- | -- | -- | -- | -- | -- | -- | -- |
| R10 | 0.183 | 0.538 | -- | -- | -- | -- | -- | -- | -- | -- |
| R11 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R12 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-13 | 0.004 | 0.013 | -- | -- | -- | -- | -- | -- | -- | -- |
| R13 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| R14 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-16B | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| R16 | 0.016 | 0.046 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-21 | 0.042 | 0.122 | -- | -- | -- | -- | -- | -- | -- | -- |
| EF-22 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-23 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| EF-24 | 0.187 | 0.550 | 0.001 | 0.003 | 0.167 | 0.470 | 0.037 | 0.105 | 0.158 | 0.444 |
| COREBH | 0.158 | 0.064 | -- | -- | -- | -- | -- | -- | -- | -- |
| MUA1 – 10 | 0.328 | 1.498 | 0.027 | 0.118 | 4.500 | 19.710 | 0.248 | 1.084 | 3.780 | 16.556 |
| CH1 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH2 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH3 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CH4 | 0.201 | 0.589 | -- | -- | -- | -- | -- | -- | -- | -- |
| CHF | 0.089 | 0.262 | -- | -- | -- | -- | -- | -- | -- | -- |
| ROAD | 0.002 | 0.008 | -- | -- | -- | -- | -- | -- | -- | -- |
| COATING | -- | -- | -- | -- | -- | -- | 10.339 | 20.355 | -- | -- |
| EG-1 | 0.265 | 0.066 | 0.247 | 0.062 | 3.763 | 0.941 | 0.307 | 0.077 | 0.811 | 0.203 |
| EG-2 | 0.423 | 0.106 | 0.396 | 0.099 | 6.021 | 1.505 | 0.491 | 0.123 | 1.297 | 0.324 |
| DIP-2 | 0.025 | 0.117 | 0.002 | 0.009 | 0.350 | 1.533 | 0.019 | 0.084 | 0.294 | 1.288 |

*PM includes filterable and condensable, or “front-half” and “back-half.”

2. The facility shall be authorized to operate 24 hours per day, every day of the year up to the following raw material usage rates: [OAC 252:100-8-6(a)]

| Raw Material | Limitation | Specifications |
|---------------------------------|---|-------------------------|
| Scrap Metals | 736 tons per day 180,000 tons per year | -- |
| Coating | 67,851 gallons per year | 0.6 lb/gal or less VOC |
| Shell Core Materials | 1,500 tons per year | 0.19% by wt. VOC |
| PUCB binder catalyst | 4 tons per year | 100% VOC by weight |
| Core Wash Material 1 | 200,000 lbs per year | 5% by wt VOC |
| Mold and Core Release Materials | 91,303 lbs per year | 54% by wt VOC |
| Core Release Material 1 | 1,064 gallons per year | 5.58 lb/gal or less VOC |
| Core Release Material 2 | 245 gallons per year | 0.43 lb/gal or less VOC |
| Core Release Material 3 | 135 gallons per year | 0.57 lb/gal or less VOC |
| PUCB binder chemicals | 140 tons per year | 55% VOC by weight |

3. The following raw materials are authorized to be used with concentrations of organic materials not to exceed the following specifications:

| Raw Material | Component | Concentration Limitation |
|---------------------|--------------------------|---------------------------------|
| Asphaltic coating | Total VOC | 0.6 ppg |
| Shell core binder | formaldehyde | 0.02% |
| | phenol | 0.08% |
| PUCB catalyst | Total VOC | 100% |
| Core wash | Total VOC | 5% |
| Mold & core release | Total VOC | 50% |
| PUCB binder | 1,2,4-trimethyl benzene | 3% |
| | Bis-2-ethylhexyl adipate | 10% |
| | Formaldehyde | 0.07% |
| | Naphthalene | 1.6% |
| | Phenol | 6.6% |

4. Air emissions from the PUCB catalyst application operation (Stack “COREBH”) shall be processed by a wet scrubber or equivalent (at least 98.5%) efficient control for emissions of dimethyl isopropanol amine. The scrubber liquor shall be maintained at a pH of 5.5 or less, and a minimum pressure differential of 1 inch WC shall be maintained when catalyst is being applied to cores. The pH and pressure differential shall be monitored and recorded at least once per day when operated. [OAC 252:100-8-6]

5. Asphaltic coating shall be applied by a dipping system or equivalent with negligible PM emissions. [OAC 252:100-8-6]

6. Air exhausts from the following operations shall be processed by a baghouse or equivalent PM emissions control device that achieves PM₁₀ emissions of 0.0045 gr/DSCF or less.

[OAC 252:100-8-6]

| Discharge Point IDs | Operations | PM₁₀ Concentration Limit gr/DSCF |
|---|---|--|
| GS01 | shotblasting grinding | 0.0045 |
| MS01 | charge handling EIF melting pouring & mold cooling sand handling & molding ladle repair | 0.0035 |
| MS02 | charge handling EIF melting pouring & mold cooling sand handling & molding ladle repair | 0.0035 |
| SS01 | pouring & mold cooling shake-out casting cooling mold making | 0.0045 |
| SS02 | sand handling & molding | 0.0045 |
| SS03 | pouring & mold cooling shake-out casting cooling mold making | 0.0040 |
| SS04 | sand handling & molding | 0.0040 |
| WHBH (vents inside, released via R9 & R10) | waste sand handling | 0.0045 |

A. The waste handling baghouse shall be operated at a pressure differential of at least 2 inches WC when waste sand is being processed or handled.

7. Except for emergency generators, all fuel-burning units shall be fueled with pipeline-grade natural gas. Natural gas usage shall not exceed 539 million cubic feet per year (12-month rolling totals). Compliance can be shown by the following methods: for pipeline grade natural gas, a current gas company bill. Compliance shall be demonstrated at least once annually. [OAC 252:100-31]

8. The following records shall be maintained on-site. All such records shall be made available to regulatory personnel. These records shall be maintained for a period of at least five years after the time they are made. [OAC 252:100-43]

- a. Production of iron (monthly and 12-month rolling totals).
- b. Usage of all materials in Specific Condition No. 2 (monthly and 12-month rolling totals). Chemical usage shall be reported as the difference between amounts used in any month and the amounts recovered from the binding operations for disposal.
- c. Composition (VOC and HAP concentrations) of each material listed in Specific Condition No. 3.
- d. Pressure differentials of baghouse on stacks SS01, SS02, SS03, SS04, GS01, MS01, MS02, and waste handling (daily, when operating).
- e. Natural gas usage (monthly and 12-month rolling totals).
- f. Pressure differential and pH of PUCB wet scrubber liquor (daily when operated)
- g. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 7.
- h. Records as required by 40 CFR Part 63, Subpart EEEEE.
- i. Records as required by 40 CFR Part 63, Subpart ZZZZ.

9. No later than 30 days after each anniversary date of the issuance of the initial Title V operating permit for this facility (April 23, 2003), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(a)&(d)]

10. The facility is subject to 40 CFR Part 63, Subpart EEEEE, and shall comply with all requirements specified in the final standard. [40 CFR Part 63, Subpart EEEEE]

- a. 63.7680 What is the purpose of this subpart?
- b. 63.7681 Am I subject to this subpart?
- c. 63.7682 What parts of my foundry does this subpart cover?
- d. 63.7683 When do I have to comply with this subpart?
- e. 63.7690 What emissions limitations must I meet?
- f. 63.7700 What work practice standards must I meet?
- g. 63.7710 What are my operation and maintenance requirements?

- h. 63.7720 What are my general requirements for complying with this subpart?
- i. 63.7730 By what date must I conduct performance tests or other initial compliance demonstrations?
- j. 63.7731 When must I conduct subsequent performance tests?
- k. 63.7732 What test methods and other procedures must I use to demonstrate initial compliance with the emissions limitations?
- l. 63.7733 What procedures must I used to establish operating limitations?
- m. 63.7734 How do I demonstrate initial compliance with the emissions limitations that apply to me?
- n. 63.7735 How do I demonstrate initial compliance with the work practice standards that apply to me?
- o. 63.7736 How do I demonstrate initial compliance with the operation and maintenance requirements that apply to me?
- p. 63.7740 What are my monitoring requirements?
- q. 63.7741 What are the installation, operation, and maintenance requirements for my monitors?
- r. 63.7742 How do I monitor and collect data to demonstrate continuous compliance?
- s. 63.7743 How do I demonstrate continuous compliance with the emissions limitations that apply to me?
- t. 63.7744 How do I demonstrate continuous compliance with the work practice standards that apply to me?
- u. 63.7745 How do I demonstrate continuous compliance with the operation and maintenance requirements that apply to me?
- v. 63.7746 What other requirements must I meet to demonstrate continuous compliance?
- w. 63.7747 How do I apply for alternative monitoring requirements for a continuous emissions monitoring system?
- x. 63.7750 What notifications must I submit and when?
- y. 63.7751 What reports must I submit and when?

- z. 63.7752 What records must I keep?
- aa. 63.7753 In what form and for how long must I keep my records?
- bb. 63.7760 What parts of the General Provisions apply to me?
- cc. 63.7761 Who implements and enforces this subpart?
- dd. 63.7765 What definitions apply to this subpart?

12. Compliance Assurance Monitoring requirements and specifications for stacks SS01, SS02, SS03, SS04, and GS01:

| Parameter | Baghouses |
|--|---|
| Indicator | Baghouse pressure differential |
| Measurement Approach | Differential pressure transducer or manometer |
| Indicator Range | An excursion is defined as a daily pressure differential below 2 inches water column. Excursions trigger an inspection, corrective actions, and a reporting requirement. |
| Data Representativeness Performance Criteria | The differential pressure transducer or manometer monitors the static pressures upstream and downstream of the baghouse. |
| QA/QC Practices and Criteria | Monthly comparison to U-tube manometer, Dwyer A-396A calibration pump and a Fluke 715 volt/mA calibrator, or equivalent method approved by AQD. Acceptability criterion is 0.5 inches WC. |
| Monitoring Frequency | Pressure differential is monitored at least once every operating day |
| Data Collection Procedure | Data are recorded by computer or manually |
| Averaging Period | Daily when emissions units are operated |



PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON STREET, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit Number: 2007-213-C (M-4)(PSD)

East Jordan Iron Works, Inc.

having complied with the requirements of the law, is hereby granted permission to modify a gray iron foundry located in Sec. 7 – T 3S – R 3E near Ardmore, Carter County, Oklahoma, subject to standard conditions dated July 21, 2009, and specific conditions, both attached.

In the absence of commencement of construction, this permit shall expire 18 months from the issuance date, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

DEQ Form #100-890

Revised 10/20/06

East Jordan Iron Works
Attn: Mr. Richard Hodge
301 Spring Street
East Jordan, MI 49727-0439

SUBJECT: Permit Application No. **2007-213-C (M-4)(PSD)**
Ardmore Foundry
Sec. 7 – T 3S – 3E
Ardmore, Carter County, Oklahoma

Dear Mr. Hodge:

Enclosed is the permit authorizing construction of the referenced facility. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact our office at (405)702-4100.

Sincerely,

David S. Schutz, P.E.
AIR QUALITY DIVISION
Enclosure

**MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(July 21, 2009)**

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed. [40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a 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 the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM₁₀). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

[OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit.

[OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit.

[OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege. [OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
- (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d).
[OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited.

[OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(18) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance.

[OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly

designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.

[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]
 - (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
 - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
 - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or

- (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation

into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]