Statement of Basis

Permit to Construct No. P-2013.0065
Project ID 61311

Cives Steel Company
Idaho Falls, Idaho

Facility ID 019-00097

Final

June 17, 2015 D.B. for
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Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
Btu	British thermal units
CAA	Clean Air Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SO_2	sulfur dioxide
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
VOC	volatile organic compounds
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Cives Steel Company (Cives) is a structural steel fabrication facility located seven miles northwest of downtown Idaho Falls. The structural steel operations are completely contained in the facility's Fabrication Building. In the Fabrication Building the painting operations, plasma cutting activities, welding processes occur. The plasma cutting is completely enclosed inside a vessel and emissions are exhausted to a dust collector located inside the Fabrication Building. The abrasive blasting occurs inside the Fabrication Building and emissions from this process are vented to a Donaldson Dust Collector system.
Air in the Fabrication Building is heated by twenty five (25) natural gas-fired space heaters.

All the emissions from the processes are planned sources through the first three phases of the construction at the facility.

Permitting History

This is the initial PTC for an existing facility that was constructed and began operation in July 2013. Thus there is no permitting history.

Application Scope

This permit is the initial PTC for this facility.

The applicant has installed and is operating the following emissions units:

- Painting inside the Fabrication Building.
- Welding inside the Fabrication Building.
- Abrasive blasting inside an enclosed vessel exhausted to a dust collector filter located outside of the building for particulate matter (PM) collection and then is vented to the atmosphere.
- Plasma cutting inside an enclosed vessel exhausted to a dust collector inside the building for PM collection and then vented to the atmosphere.
- Area heaters burning natural gas to provide heat to the facility

Application Chronology

December 24, 2013	DEQ received an application and an application fee.
January 7 – January 22, 2014	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
January 8, 2014	DEQ sent a notice of violation to the facility, which included notification that a PTC was required (Enforcement Case No. E-2013.0022).
January 10, 2014	DEQ determined that the application was incomplete.
January 17, 2014	DEQ received supplemental information from the applicant.
April 14, 2014	DEQ determined that the application was complete.
May 23, 2014	DEQ received a revised emissions inventory.
May 28, 2014	DEQ made available the draft permit and statement of basis for peer and regional office review.
November 25, 2014	DEQ received a revised a replacement PTC application.
May 12, 2014	DEQ received a revised emissions inventory.

May 15, 2015	DEQ made available the draft permit and statement of basis for applicant review.
June 8, 2015	DEQ received the permit processing fee.
June 17, 2015	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Sources	Control Equipment
Paint booth	A Graco High Volume Low Pressure spray gun is used for spray painting with a transfer efficiency of 60-90%. A PM emission control efficiency of 98% is applied from the Fabrication Building exhaust fan pre-filters
Welding	Vented within the Fabrication Building. Exhaust through pre-filters at 98% PM control efficiency
Abrasive blasting	Enclosed unit with a Donaldson Dust Collector with filters that have a PM control efficiency of 99.9%
Plasma cutting	Donaldson Dust Collector with filters that have a PM control efficiency of 99.9%
25 natural gas space heaters	None

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of potential to emit an emission inventory was developed for all emissions units existing at the facility. A complete emission inventory is shown in the replacement PTC application that was received on November 25, 2014, see (Trim Record # 2014AAG1860); and a revised emissions inventory received on May 12, 2015, see (Trim Record # 2015AAG683).

Appendix A of this statement of basis contains a detailed presentation of the calculations and assumptions used to determine the controlled and uncontrolled potential to emit (PTE) for all criteria air pollutants, HAP, TAP in pounds per hour (lb/hr) and tons per year (T/yr). Emissions of GHGs are also included in Appendix A.

Ambient Air Quality Impact Analyses

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the ambient air impact analyses for TAP document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Bonneville County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The uncontrolled PTE for other criteria air pollutants (i.e., PM_{10}, $PM_{2.5}$, CO, SO_2, NOx, and VOC) each falls below the applicable major source threshold. Also, the PTE for one HAP is less than 10 T/yr and for the combination of two HAPs or more is less than 25 T/yr and that make the HAP emissions fall to below major source thresholds. In addition the uncontrolled PTE for the greenhouse gases (GHG) is below the major source thresholds of 100,000 T/yr. Therefore, the classification for the facility for this permitting action is now "B."

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 ..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the structural steel fabrication plant. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 ..... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625..... Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assessed by Permit Conditions 2.7, 2.8, and 2.9.

Standards for New Sources (IDAPA 58.01.01.677)

IDAPA 58.01.01.676..... Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of less than ten (10) million BTU per hour, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is incorporated as Permit Condition 2.12.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 ..... Requirement to Obtain Tier I Operating Permit

Facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for criteria air pollutants (i.e., PM_{10}, $PM_{2.5}$ SO_2, NO_x, CO, VOC, and lead) or 10 tons per year for any one HAP or 25 tons per year for all HAPs combined as demonstrated previously in Table 3 (Uncontrolled Potential to Emit for regulated air Pollutants) of this statement of basis. Also, the PTE for greenhouse gases (GHG, or CO_2 equivalent) is estimated by the permittee to be equal to 4,529 T/yr, which is well below the major source thresholds of 100,000 T/yr. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

40 CFR 63, Subpart HHHHHH ..... National Emission Standards for Hazardous Air Pollutants : Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

(a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

(1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.

(2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.

(3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.Target HAP compounds are chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), and cadmium (Cd).

(b) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

Cives does not perform spray application of coatings to motor vehicles and mobile equipment or use coating/painting that contains compounds of target HAP. Therefore, Subpart HHHHHH does not apply to Cives.

40 CFR 63, Subpart XXXXXX..... National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.

The facility has proposed to operate as a minor source of hazardous air pollutant (HAP) emissions, and is subject to the requirements of 40 CFR 63, Subpart XXXXXX

§ 63.11514 Am I subject to this subpart?

Section (a) states that you are subject to this subpart if you own or operate an area source that is primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through (9) of this section.

Paragraphs (a)(1) through (9) list the following operations: (1) Electrical and Electronic Equipment Finishing Operations; (2) Fabricated Metal Products; (3) Fabricated Plate Work (Boiler Shops); (4) Fabricated Structural Metal Manufacturing; (5) Heating Equipment, except Electric; (6) Industrial Machinery and Equipment Finishing Operations; (7) Iron and Steel Forging; (8) Primary Metal Products Manufacturing; and (9) Valves and Pipe Fittings.

Cives fabricates metal products and engages in the manufacturing of structural metal products. Therefore, this facility is subject to the requirements of Subpart XXXXXX.

Section (b) states that the provisions of this subpart apply to each new and existing affected source listed and defined in paragraphs (b)(1) through (5) of this section if you use materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials that contain MFHAP are defined to be materials that contain greater than 0.1 percent for carcinogens, as defined by OSHA at 29 CFR 1910.1200(d)(4), and greater than 1.0 percent for noncarcinogens. For the MFHAP, this corresponds to materials that contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material.

(1) A dry abrasive blasting affected source is the collection of all equipment and activities necessary to perform dry abrasive blasting operations which use materials that contain MFHAP or that have the potential to emit MFHAP.

(2) A machining affected source is the collection of all equipment and activities necessary to perform machining operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or that have the potential to emit MFHAP.

(3) A dry grinding and dry polishing with machines affected source is the collection of all equipment and activities necessary to perform dry grinding and dry polishing with machines operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or have the potential to emit MFHAP.

(4) A spray painting affected source is the collection of all equipment and activities necessary to perform spray-applied painting operations using paints which contain MFHAP. A spray painting affected source includes all equipment used to apply cleaning materials to a substrate to prepare it for paint application (surface preparation) or to remove dried paint; to apply a paint to a substrate (paint application) and to dry or cure the paint after application; or to clean paint operation equipment (equipment cleaning). Affected source(s) subject to the requirements of this paragraph are not subject to the miscellaneous surface coating provisions of subpart HHHHHH of this part, "National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources."

(5) A welding affected source is the collection of all equipment and activities necessary to perform welding operations which use materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or have the potential to emit MFHAP.

Section (c) defines an affected source as new if the facility commenced construction or reconstruction of the affected source, as defined in §63.2, "General Provisions" to part 63, after April 3, 2008.

Cives performs dry abrasive blasting, dry grinding and polishing (with small hand held grinders), and welding with materials that contain MFHAP or that have the potential to emit MFHAP. In addition, Cives for the purposes of this Subpart is considered a new affected source since the facility was in existence after April 3, 2008.

§ 63.11515 What are my compliance dates?

Section (b) states that if you own or operate a new affected source, you must achieve compliance with the applicable provisions in this subpart by July 23, 2008, or upon startup of your affected source, whichever is later.

Therefore, Cives was required to come into compliance with this Subpart upon startup of the affected source on July 7, 2013 and states that the required documentation has been submitted to EPA Region 10 and DEQ.

§ 63.11516 Standards and Compliance Requirements

(a) Dry abrasive blasting standards. If you own or operate a new or existing dry abrasive blasting affected source, you must comply with the requirements in paragraphs (a)(1) through (3) of this section, as applicable, for each dry abrasive blasting operation that uses materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or has the potential to emit MFHAP. These requirements do not apply when abrasive blasting operations are being performed that do not use any materials containing MFHAP or do not have the potential to emit MFHAP.

(1) Standards for dry abrasive blasting of objects performed in totally enclosed and unvented blast chambers. If you own or operate a new or existing dry abrasive blasting affected source which consists of an abrasive blasting chamber that is totally enclosed and unvented, as defined in §63.11522, "What definitions apply to this subpart?," you must implement management practices to minimize emissions of MFHAP. These management practices are the practices specified in paragraph (a)(1)(i) and (ii) of this section.

(i) You must minimize dust generation during emptying of abrasive blasting enclosures; and

(ii) You must operate all equipment associated with dry abrasive blasting operations according to the manufacturer's instructions.

(2) Standards for dry abrasive blasting of objects performed in vented enclosures. If you own or operate a new or existing dry abrasive blasting affected source which consists of a dry abrasive blasting operation which has a vent allowing any air or blast material to escape, you must comply with the requirements in paragraphs (a)(2)(i) and (ii) of this section. Dry abrasive blasting operations for which the items to be blasted exceed 8 feet (2.4 meters) in any dimension, may be performed subject to the requirements in paragraph (a)(3) of this section.

(i) You must capture emissions and vent them to a filtration control device. You must operate the filtration control device according to manufacturer's instructions, and you must demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the filtration control devices, as specified by the requirements in §63.11519(c)(4), "What are my notification, recordkeeping, and reporting requirements?"

(ii) You must implement the management practices to minimize emissions of MFHAP as specified in paragraphs (a)(2)(ii)(A) through (C) of this section.

(A) You must take measures necessary to minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable; and

(B) You must enclose dusty abrasive material storage areas and holding bins, seal chutes and conveyors that transport abrasive materials; and

(C) You must operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions.

(3) Standards for dry abrasive blasting of objects greater than 8 feet (2.4 meters) in any one dimension. If you own or operate a new or existing dry abrasive blasting affected source which consists of a dry abrasive

blasting operation which is performed on objects greater than 8 feet (2.4 meters) in any one dimension, you may implement management practices to minimize emissions of MFHAP as specified in paragraph (a)(3)(i) of this section instead of the practices required by paragraph (a)(2) of this section. You must demonstrate that management practices are being implemented by complying with the requirements in paragraphs (a)(3)(ii) through (iv) of this section.

(i) Management practices for dry abrasive blasting of objects greater than 8 feet (2.4 meters) in any one dimension are specified in paragraphs (a)(3)(i)(A) through (E) of this section.

(A) You must take measures necessary to minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable; and

(B) You must enclose abrasive material storage areas and holding bins, seal chutes and conveyors that transport abrasive material; and

(C) You must operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions; and

(D) You must not re-use dry abrasive blasting media unless contaminants (i.e., any material other than the base metal, such as paint residue) have been removed by filtration or screening, and the abrasive material conforms to its original size; and

(E) Whenever practicable, you must switch from high particulate matter (PM)-emitting blast media (e.g., sand) to low PM-emitting blast media (e.g., crushed glass, specular hematite, steel shot, aluminum oxide), where PM is a surrogate for MFHAP.

(ii) You must perform visual determinations of fugitive emissions, as specified in §63.11517(b), "What are my monitoring requirements?" according to paragraphs (a)(3)(ii)(A) or (B) of this section, as applicable.

(A) For abrasive blasting of objects greater than 8 feet (2.4 meters) in any one dimension that is performed outdoors, you must perform visual determinations of fugitive emissions at the fenceline or property border nearest to the outdoor dry abrasive blasting operation.

(B) For abrasive blasting of objects greater than 8 feet (2.4 meters) in any one dimension that is performed indoors, you must perform visual determinations of fugitive emissions at the primary vent, stack, exit, or opening from the building containing the abrasive blasting operations.

(iii) You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "What are my notification, recordkeeping, and reporting requirements?"

(iv) If visible fugitive emissions are detected, you must perform corrective actions until the visible fugitive emissions are eliminated, at which time you must comply with the requirements in paragraphs (a)(3)(iv)(A) and (B) of this section.

(A) You must perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements."

(B) You must report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, with your annual certification and compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

Compliance with these requirements is assured by Permit Conditions 3.12.1 through 3.15.7.

(b) Standards for machining. If you own or operate a new or existing machining affected source, you must implement management practices to minimize emissions of MFHAP as specified in paragraph (b)(1) and (2) of this section for each machining operation that uses materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or has the potential to emit MFHAP.

Cives does not perform machining on materials that contain MFHAP or that have the potential to emit MFHAP. Therefore, this Section of Subpart XXXXXX does not apply to Cives.

(c) Standards for dry grinding and dry polishing with machines. If you own or operate a new or existing dry grinding and dry polishing with machines affected source, you must comply with the requirements of paragraphs (c)(1) and (2) of this section for each dry grinding and dry polishing with machines operation that uses materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or has the potential to emit MFHAP. These requirements do not apply when dry grinding and dry polishing operations are being performed that do not use any materials containing MFHAP and do not have the potential to emit MFHAP.

(1) You must capture emissions and vent them to a filtration control device. You must demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the filtration control devices, as specified by the requirements in §63.11519(c)(4), "Notification, recordkeeping, and reporting requirements."

(2) You must implement management practices to minimize emissions of MFHAP as specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) You must take measures necessary to minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable;

(ii) You must operate all equipment associated with the operation of dry grinding and dry polishing with machines, including the filtration control device, according to manufacturer's instructions.

Cives does not perform dry grinding and dry polishing with machines on materials that contain MFHAP or that have the potential to emit MFHAP. Therefore, this Section of Subpart XXXXXX does not apply to Cives.

(d) Standards for control of MFHAP in spray painting. If you own or operate a new or existing spray painting affected source, as defined in §63.11514 (b)(4), "Am I subject to this subpart?", you must implement the management practices in paragraphs (d)(1) through (9) of this section when a spray-applied paint that contains MFHAP is being applied. These requirements do not apply when spray-applied paints that do not contain MFHAP are being applied.

Cives does not perform spray painting with materials that contain MFHAP or that have the potential to emit MFHAP. Therefore, this Section of Subpart XXXXXX does not apply to Cives.

(f) Standards for welding. If you own or operate a new or existing welding affected source, you must comply with the requirements in paragraphs (f)(1) and (2) of this section for each welding operation that uses materials that contain MFHAP, as defined in §63.11522, "What definitions apply to this subpart?," or has the potential to emit MFHAP. If your welding affected source uses 2,000 pounds or more per year of welding rod containing one or more MFHAP (calculated on a rolling 12-month basis), you must demonstrate that management practices or fume control measures are being implemented by complying with the requirements in paragraphs (f)(3) through (8) of this section. The requirements in paragraphs (f)(1) through (8) of this section do not apply when welding operations are being performed that do not use any materials containing MFHAP or do not have the potential to emit MFHAP.

(1) You must operate all equipment, capture, and control devices associated with welding operations according to manufacturer's instructions. You must demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the capture and control devices, as specified by the requirements in §63.11519(c)(4), "Notification, recordkeeping, and reporting requirements."

(2) You must implement one or more of the management practices specified in paragraphs (f)(2)(i) through (v) of this section to minimize emissions of MFHAP, as practicable, while maintaining the required welding quality through the application of sound engineering judgment.

(i) Use welding processes with reduced fume generation capabilities (e.g., gas metal arc welding (GMAW)—also called metal inert gas welding (MIG));

(ii) Use welding process variations (e.g., pulsed current GMAW), which can reduce fume generation rates;

(iii) Use welding filler metals, shielding gases, carrier gases, or other process materials which are capable of reduced welding fume generation;

(iv) Optimize welding process variables (e.g., electrode diameter, voltage, amperage, welding angle, shield gas flow rate, travel speed) to reduce the amount of welding fume generated; and

(v) Use a welding fume capture and control system, operated according to the manufacturer's specifications.

(3) Tier 1 compliance requirements for welding. You must perform visual determinations of welding fugitive emissions as specified in §63.11517(b), "Monitoring requirements," at the primary vent, stack, exit, or opening from the building containing the welding operations. You must keep a record of all visual determinations of fugitive emissions along with any corrective action taken in accordance with the requirements in §63.11519(c)(2), "Notification, recordkeeping, and reporting requirements."

(4) Requirements upon initial detection of visible emissions from welding. If visible fugitive emissions are detected during any visual determination required in paragraph (f)(3) of this section, you must comply with the requirements in paragraphs (f)(4)(i) and (ii) of this section.

(i) Perform corrective actions that include, but are not limited to, inspection of welding fume sources, and evaluation of the proper operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section. After completing such corrective actions, you must perform a follow-up inspection for visible fugitive emissions in accordance with §63.11517(a), "Monitoring Requirements," at the primary vent, stack, exit, or opening from the building containing the welding operations.

(ii) Report all instances where visible emissions are detected, along with any corrective action taken and the results of subsequent follow-up inspections for visible emissions, and submit with your annual certification and compliance report as required by §63.11519(b)(5), "Notification, recordkeeping, and reporting requirements."

(5) Tier 2 requirements upon subsequent detection of visible emissions. If visible fugitive emissions are detected more than once during any consecutive 12 month period (notwithstanding the results of any follow-up inspections), you must comply with paragraphs (f)(5)(i) through (iv) of this section.

(i) Within 24 hours of the end of the visual determination of fugitive emissions in which visible fugitive emissions were detected, you must conduct a visual determination of emissions opacity, as specified in §63.11517(c), "Monitoring requirements," at the primary vent, stack, exit, or opening from the building containing the welding operations.

(ii) In lieu of the requirement of paragraph (f)(3) of this section to perform visual determinations of fugitive emissions with EPA Method 22, you must perform visual determinations of emissions opacity in accordance with §63.11517(d), "Monitoring Requirements," using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding operations.

(iii) You must keep a record of each visual determination of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, in accordance with the requirements in §63.11519(c)(3), "Notification, recordkeeping, and reporting requirements."

(iv) You must report the results of all visual determinations of emissions opacity performed in accordance with paragraphs (f)(5)(i) or (ii) of this section, along with any subsequent corrective action taken, and submit with your annual certification and compliance report as required by §63.11519(b)(6), "Notification, recordkeeping, and reporting requirements."

(6) Requirements for opacities less than or equal to 20 percent but greater than zero. For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded is 20 percent or less but greater than zero, you must perform corrective actions, including inspection of all welding fume sources, and evaluation of the proper

operation and effectiveness of the management practices or fume control measures implemented in accordance with paragraph (f)(2) of this section.

(7) Tier 3 requirements for opacities exceeding 20 percent. For each visual determination of emissions opacity performed in accordance with paragraph (f)(5) of this section for which the average of the six-minute average opacities recorded exceeds 20 percent, you must comply with the requirements in paragraphs (f)(7)(i) through (v) of this section.

(i) You must submit a report of exceedence of 20 percent opacity, along with your annual certification and compliance report, as specified in §63.11519(b)(8), "Notification, recordkeeping, and reporting requirements," and according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(ii) Within 30 days of the opacity exceedence, you must prepare and implement a Site-Specific Welding Emissions Management Plan, as specified in paragraph (f)(8) of this section. If you have already prepared a Site-Specific Welding Emissions Management Plan in accordance with this paragraph, you must prepare and implement a revised Site-Specific Welding Emissions Management Plan within 30 days.

(iii) During the preparation (or revision) of the Site-Specific Welding Emissions Management Plan, you must continue to perform visual determinations of emissions opacity, beginning on a daily schedule as specified in §63.11517(d), "Monitoring Requirements," using EPA Method 9, at the primary vent, stack, exit, or opening from the building containing the welding operations.

(iv) You must maintain records of daily visual determinations of emissions opacity performed in accordance with paragraph (f)(7)(iii) of this section, during preparation of the Site-Specific Welding Emissions Management Plan, in accordance with the requirements in §63.11519(b)(9), "Notification, recordkeeping, and reporting requirements."

(v) You must include these records in your annual certification and compliance report, according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(8) Site-Specific Welding Emissions Management Plan. The Site-Specific Welding Emissions Management Plan must comply with the requirements in paragraphs (f)(8)(i) through (iii) of this section.

(i) Site-Specific Welding Emissions Management Plan must contain the information in paragraphs (f)(8)(i)(A) through (F) of this section.

(A) Company name and address;

(B) A list and description of all welding operations which currently comprise the welding affected source;

(C) A description of all management practices and/or fume control methods in place at the time of the opacity exceedence;

(D) A list and description of all management practices and/or fume control methods currently employed for the welding affected source;

(E) A description of additional management practices and/or fume control methods to be implemented pursuant to paragraph (f)(7)(ii) of this section, and the projected date of implementation; and

(F) Any revisions to a Site-Specific Welding Emissions Management Plan must contain copies of all previous plan entries, pursuant to paragraphs (f)(8)(i)(D) and (E) of this section.

(ii) The Site-Specific Welding Emissions Management Plan must be updated annually to contain current information, as required by paragraphs (f)(8)(i)(A) through (C) of this section, and submitted with your annual certification and compliance report, according to the requirements of §63.11519(b)(1), "Notification, recordkeeping, and reporting requirements."

(iii) You must maintain a copy of the current Site-Specific Welding Emissions Management Plan in your records in a readily-accessible location for inspector review, in accordance with the requirements in §63.11519(c)(12), "Notification, recordkeeping, and reporting requirements."

Compliance with these requirements is assured by PTC's Permit Conditions 3.14.1 through 3.14.11.

§ 63.11517 What are my monitoring requirements?

(a) Visual determination of fugitive emissions, general. Visual determination of fugitive emissions must be performed according to the procedures of EPA Method 22, of 40 CFR part 60, Appendix A–7. You must conduct the EPA Method 22 test while the affected source is operating under normal conditions. The duration of each EPA Method 22 test must be at least 15 minutes, and visible emissions will be considered to be present if they are detected for more than six minutes of the fifteen minute period.

(b) Visual determination of fugitive emissions, graduated schedule. Visual determinations of fugitive emissions must be performed in accordance with paragraph (a) of this section and according to the schedule in paragraphs (b)(1) through (4) of this section.

(1) Daily Method 22 Testing. Perform visual determination of fugitive emissions once per day, on each day the process is in operation, during operation of the process.

(2) Weekly Method 22 Testing. If no visible fugitive emissions are detected in consecutive daily EPA Method 22 tests, performed in accordance with paragraph (b)(1) of this section for 10 days of work day operation of the process, you may decrease the frequency of EPA Method 22 testing to once every five days of operation of the process (one calendar week). If visible fugitive emissions are detected during these tests, you must resume EPA Method 22 testing of that operation once per day during each day that the process is in operation, in accordance with paragraph (b)(1) of this section.

(3) Monthly Method 22 Testing. If no visible fugitive emissions are detected in four consecutive weekly EPA Method 22 tests performed in accordance with paragraph (b)(2) of this section, you may decrease the frequency of EPA Method 22 testing to once per 21 days of operation of the process (one calendar month). If visible fugitive emissions are detected during these tests, you must resume weekly EPA Method 22 in accordance with paragraph (b)(2) of this section.

(4) Quarterly Method 22 Testing. If no visible fugitive emissions are detected in three consecutive monthly EPA Method 22 tests performed in accordance with paragraph (b)(3) of this section, you may decrease the frequency of EPA Method 22 testing to once per 60 days of operation of the process (3 calendar months). If visible fugitive emissions are detected during these tests, you must resume monthly EPA Method 22 in accordance with paragraph (b)(3) of this section.

Compliance with these requirements is assured by Permit Conditions 3.14.1 through 3.14.11.

(c) Visual determination of emissions opacity for welding Tier 2 or 3, general. Visual determination of emissions opacity must be performed in accordance with the procedures of EPA Method 9, of 40 CFR part 60, Appendix A–4, and while the affected source is operating under normal conditions. The duration of the EPA Method 9 test shall be thirty minutes.

(d) Visual determination of emissions opacity for welding Tier 2 or 3, graduated schedule. You must perform visual determination of emissions opacity in accordance with paragraph (c) of this section and according to the schedule in paragraphs (d)(1) through (5) of this section.

(1) Daily Method 9 testing for welding, Tier 2 or 3. Perform visual determination of emissions opacity once per day during each day that the process is in operation.

(2) Weekly Method 9 testing for welding, Tier 2 or 3. If the average of the six minute opacities recorded during any of the daily consecutive EPA Method 9 tests performed in accordance with paragraph (d)(1) of this section does not exceed 20 percent for 10 days of operation of the process, you may decrease the frequency of EPA Method 9 testing to once per five days of consecutive work day operation. If opacity greater than 20 percent is detected during any of these tests, you must resume testing every day of operation of the process according to the requirements of paragraph (d)(1) of this section.

(3) Monthly Method 9 testing for welding Tier 2 or 3. If the average of the six minute opacities recorded during any of the consecutive weekly EPA Method 9 tests performed in accordance with paragraph (d)(2) of this section does not exceed 20 percent for four consecutive weekly tests, you may decrease the frequency of EPA Method 9 testing to once per every 21 days of operation of the process. If visible emissions opacity greater than 20 percent is detected during any monthly test, you must resume testing every five days of operation of the process according to the requirements of paragraph (d)(2) of this section.

(4) Quarterly Method 9 testing for welding Tier 2 or 3. If the average of the six minute opacities recorded during any of the consecutive weekly EPA Method 9 tests performed in accordance with paragraph (d)(3) of this section does not exceed 20 percent for three consecutive monthly tests, you may decrease the frequency of EPA Method 9 testing to once per every 120 days of operation of the process. If visible emissions opacity greater than 20 percent is detected during any quarterly test, you must resume testing every 21 days (month) of operation of the process according to the requirements of paragraph (d)(3) of this section.

(5) Return to Method 22 testing for welding, Tier 2 or 3. If, after two consecutive months of testing, the average of the six minute opacities recorded during any of the monthly EPA Method 9 tests performed in accordance with paragraph (d)(3) of this section does not exceed 20 percent, you may resume EPA Method 22 testing as in paragraphs (b)(3) and (4) of this section. In lieu of this, you may elect to continue performing EPA Method 9 tests in accordance with paragraphs (d)(3)and (4) of this section.

Compliance with these requirements is assured by Permit Conditions 3.13.1 through 3.13.3.

§ 63.11519 What are my notification, recordkeeping, and reporting requirements?

(a) What notifications must I submit?

(1) Initial Notification. If you are the owner or operator of an area source in one of the nine metal fabrication and finishing source categories, as defined in §63.11514 "Am I subject to this subpart?," you must submit the Initial Notification required by §63.9(b) "General Provisions," for a new affected source no later than 120 days after initial startup or November 20, 2008, whichever is later. For an existing affected source, you must submit the Initial Notification no later than July 7, 2013. Your Initial Notification must provide the information specified in paragraphs (a)(1)(i) through (iv) of this section.

(i) The name, address, phone number and e-mail address of the owner and operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the relevant standard (i.e., this subpart); and

(iv) A brief description of the type of operation. For example, a brief characterization of the types of products (e.g., aerospace components, sports equipment, etc.), the number and type of processes, and the number of workers usually employed.

(2) Notification of compliance status. If you are the owner or operator of an existing affected source, you must submit a notification of compliance status on or before November 22, 2011. If you are the owner or operator of a new affected source, you must submit a notification of compliance status within 120 days after initial startup, or by November 20, 2008, whichever is later. You are required to submit the information specified in paragraphs (a)(2)(i) through (iv) of this section with your notification of compliance status:

(i) Your company's name and address;

(ii) A statement by a responsible official with that official's name, title, phone number, e-mail address and signature, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart;

(iii) If you operate any spray painting affected sources, the information required by §63.11516(e)(3)(vi)(C), "Compliance demonstration," or §63.11516(e)(4)(ix)(C), "Compliance demonstration," as applicable; and

(iv) The date of the notification of compliance status.

(b) What reports must I prepare or submit?

(1) Annual certification and compliance reports. You must prepare and submit annual certification and compliance reports for each affected source according to the requirements of paragraphs (b)(2) through (7) of this section. The annual certification and compliance reporting requirements may be satisfied by reports required under other parts of the CAA, as specified in paragraph (b)(3) of this section.

(2) Dates. Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), "General Provisions," you must prepare and submit each annual certification and compliance report according to the dates specified in paragraphs (b)(2)(i) through (iii) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(i) The first annual certification and compliance report must cover the first annual reporting period which begins the day after the compliance date and ends on December 31.

(ii) Each subsequent annual certification and compliance report must cover the subsequent semiannual reporting period from January 1 through December 31.

(iii) Each annual certification and compliance report must be prepared and submitted no later than January 31 and kept in a readily-accessible location for inspector review. If an exceedence has occurred during the year, each annual certification and compliance report must be submitted along with the exceedence reports, and postmarked or delivered no later than January 31.

Compliance with these requirements is assured by Permit Conditions 3.15.1 through 3.15.4.

(3) Alternate dates. For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, "Title V."

(i) If the permitting authority has established dates for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), "Title V," you may prepare or submit, if required, the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (b)(2)(iii) of this section.

(ii) If an affected source prepares or submits an annual certification and compliance report pursuant to this section along with, or as part of, the monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), "Title V," and the compliance report includes all required information concerning exceedences of any limitation in this subpart, its submission will be deemed to satisfy any obligation to report the same exceedences in the annual monitoring report. However, submission of an annual certification and compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

Cives is not a Title V source. Therefore, it is not subject to this requirement.

(4) General requirements. The annual certification and compliance report must contain the information specified in paragraphs (b)(4)(i) through (iii) of this section, and the information specified in paragraphs (b)(5) through (7) of this section that is applicable to each affected source.

(i) Company name and address;

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report; and

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 12-month period ending on December 31. Note that the information reported for the 12 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

Compliance with these requirements is assured by Permit Condition 3.15.5.

(5) Visual determination of fugitive emissions requirements. The annual certification and compliance report must contain the information specified in paragraphs (b)(5)(i) through (iii) of this section for each affected source which performs visual determination of fugitive emissions in accordance with §63.11517(a), "Monitoring requirements."

(i) The date of every visual determination of fugitive emissions which resulted in detection of visible emissions;

(ii) A description of the corrective actions taken subsequent to the test; and

(iii) The date and results of the follow-up visual determination of fugitive emissions performed after the corrective actions.

(6) Visual determination of emissions opacity requirements. The annual certification and compliance report must contain the information specified in paragraphs (b)(6)(i) through (iii) of this section for each affected source which performs visual determination of emissions opacity in accordance with §63.11517(c), "Monitoring requirements."

(i) The date of every visual determination of emissions opacity;

(ii) The average of the six-minute opacities measured by the test; and

(iii) A description of any corrective action taken subsequent to the test.

Compliance with these requirements is assured by Permit Conditions 3.15.5 through 3.15.7.

(8) Exceedences of 20 percent opacity for welding affected sources. As required by §63.11516(f)(7)(i), "Requirements for opacities exceeding 20 percent," you must prepare an exceedence report whenever the average of the six-minute average opacities recorded during a visual determination of emissions opacity exceeds 20 percent. This report must be submitted along with your annual certification and compliance report according to the requirements in paragraph (b)(1) of this section, and must contain the information in paragraphs (b)(8)(iii)(A) and (B) of this section.

(A) The date on which the exceedence occurred; and

(B) The average of the six-minute average opacities recorded during the visual determination of emissions opacity.

(9) Site-specific Welding Emissions Management Plan reporting. The permittee must submit a copy of the records of daily visual determinations of emissions recorded in accordance with §63.11516(f)(7)(iv), "Tier 3 requirements for opacities exceeding 20 percent," and a copy of your Site-Specific Welding Emissions Management Plan and any subsequent revisions to the plan pursuant to §63.11516(f)(8), "Site-specific Welding Emission Management Plan," along with your annual certification and compliance report, according to the requirements in paragraph (b)(1) of this section.

Compliance with these requirements is assured by Permit Condition 3.16.

(c) What records must I keep?

The permittee must collect and keep records of the data and information specified in paragraphs (c)(1) through (13) of this section, according to the requirements in paragraph (c)(14) of this section.

(1) General compliance and applicability records. Maintain information specified in paragraphs (c)(1)(i) through (ii) of this section for each affected source.

(i) Each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report.

(ii) Records of the applicability determinations as in §63.11514(b)(1) through (5), "Am I subject to this subpart," listing equipment included in its affected source, as well as any changes to that and on what date they occurred, must be maintained for 5 years and be made available for inspector review at any time.

(2) Visual determination of fugitive emissions records. Maintain a record of the information specified in paragraphs (c)(2)(i) through (iii) of this section for each affected source which performs visual determination of fugitive emissions in accordance with §63.11517(a), "Monitoring requirements."

(i) The date and results of every visual determination of fugitive emissions;

(ii) A description of any corrective action taken subsequent to the test; and

(iii) The date and results of any follow-up visual determination of fugitive emissions performed after the corrective actions.

(3) Visual determination of emissions opacity records. Maintain a record of the information specified in paragraphs (c)(3)(i) through (iii) of this section for each affected source which performs visual determination of emissions opacity in accordance with §63.11517(c), "Monitoring requirements."

(i) The date of every visual determination of emissions opacity; and

(ii) The average of the six-minute opacities measured by the test; and

(iii) A description of any corrective action taken subsequent to the test.

(4) Maintain a record of the manufacturer's specifications for the control devices used to comply with §63.11516, "What are my standards and management practices?"

Compliance with these requirements is assured by Permit Conditions 3.27.1 through 3.27.5.

(5) Spray paint booth filter records. Maintain a record of the filter efficiency demonstrations and spray paint booth filter maintenance activities, performed in accordance with §63.11516(d)(1)(ii) and (iii), "Requirements for spray painting objects in spray booths or spray rooms."

(6) Waterspray booth or water curtain efficiency tests. Maintain a record of the water curtain efficiency demonstrations performed in accordance with §63.11516(d)(1)(ii), "Requirements for spray painting objects in spray booths or spray rooms."

(7) HVLP or other high transfer efficiency spray delivery system documentation records. Maintain documentation of HVLP or other high transfer efficiency spray paint delivery systems, in compliance with §63.11516(d)(3), "Requirements for spray painting of all objects." This documentation must include the manufacturer's specifications for the equipment and any manufacturer's operation instructions. If you have obtained written approval for an alternative spray application system in accordance with §63.11516(d)(2), "Spray painting of all objects," you must maintain a record of that approval along with documentation of the demonstration of equivalency.

(8) HVLP or other high transfer efficiency spray delivery system employee training documentation records. Maintain certification that each worker performing spray painting operations has completed the training specified in §63.11516(d)(6), "Requirements for spray painting of all objects," with the date the initial training and the most recent refresher training was completed.

Cives does not perform spray painting with materials that contain MFHAP or that have the potential to emit MFHAP. Therefore, this Section of Subpart XXXXXX does not apply and no further discussion is required.

(11) Visual determination of emissions opacity performed during the preparation (or revision) of the Site-Specific Welding Emissions Management Plan. You must maintain a record of each visual determination of emissions opacity performed during the preparation (or revision) of a Site-Specific Welding Emissions Management Plan, in accordance with §63.11516(f)(7)(iii), "Requirements for opacities exceeding 20 percent."

(12) Site-Specific Welding Emissions Management Plan. If you have been required to prepare a plan in accordance with §63.11516(f)(7)(iii), "Site-Specific Welding Emissions Management Plan," you must maintain a copy of your current Site-Specific Welding Emissions Management Plan in your records and it must be readily available for inspector review.

(13) Manufacturer's instructions. If you comply with this subpart by operating any equipment according to manufacturer's instruction, you must keep these instructions readily available for inspector review.

(14) Welding Rod usage. If you operate a new or existing welding affected source which is not required to comply with the requirements of §63.11516(f)(3) through (8) because it uses less than 2,000 pounds per year of welding rod (on a rolling 12-month basis), you must maintain records demonstrating your welding rod usage on a rolling 12-month basis.

(15) Your records must be maintained according to the requirements in paragraphs (c)(14)(i) through (iii) of this section.

(i) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1), "General Provisions." Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(ii) As specified in §63.10(b)(1), "General Provisions," you must keep each record for 5 years following the date of each occurrence, measurement, corrective action, report, or record.

(iii) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, corrective action, report, or record according to §63.10(b)(1), "General Provisions." You may keep the records off-site for the remaining 3 years.

Compliance with these requirements is assured by Permit Conditions 3.28.1 through 3.28.5.

Permit Conditions Review

The facility was not permitted before by DEQ. This section describes the new permit conditions for this initial PTC.

Facility-Wide Conditions

- All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with the fugitive dust requirements of Permit Condition 6 and IDAPA 58.01.01.650-651.
- Compliance with the fugitive requirements under Permit Condition 2.1 is assured by following the operating, monitoring and recordkeeping requirements listed in Permit Conditions 2.2, 2.3, and 2.4.
- The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution in accordance with the odor requirements of Permit Condition 2.5 and IDAPA 58.01.01.775-776.
- Compliance with the odor requirements under Permit Condition 2.5 is assured by following the operating, monitoring and recordkeeping requirements in Permit Condition 2.6.
- Visible emissions (opacity) standards apply to any stack, vent or other equivalent opening at the facility in accordance with Permit Condition 2.7 and IDAPA 58.01.01.625.
- Compliance with the visible emissions requirements under Permit Condition 2.7 is assured by following the operating, monitoring and recordkeeping requirements in Permit Condition 2.8.
- If open burning is conducted at the facility, the open burning requirements apply per Permit Condition 2.9 and IDAPA 58.01.01.600-624 (Rules for Control of Open Burning).
- All reporting and certifications required by this permit shall be in accordance with Permit Condition 2.10. The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.
- Permit Condition 2.11: The fuel burning equipment of IDAPA 58.01.01.675 applies to any boiler existing at the facility. The PM emissions limits shall not be in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume for gas. Since the combustion units at the facility are burning only natural gas, this permit condition will be assured.
- Permit Condition 2.12: The permittee shall not sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur: ASTM Grade 1 fuel oil - 0.3% by weight; ASTM Grade 2 fuel oil – 0.5 by weight.

Compliance with this permit condition is assured by permit condition 2.13 which requires that the permittee maintain documentation on site of supplier verification of distillate fuel oil sulfur content on as-received basis.

- Permit Condition 2.14 requires that the space heaters and the paint building heaters shall be fired on natural gas exclusively.
- Permit Condition 2.15: Incorporation of Federal Requirements by Reference – This permit condition is included in the permit as required in IDAPA 58.01.01.107.03 because the facility is subject to National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Fabrication and Finishing Source Categories – Subpart XXXXXX.

Structural Steel Welding, Painting Operations, Abrasive Blasting, Plasma Cutting, Space Heaters

- Permit Condition 3.3 sets emission limits for $PM_{10}/PM_{2.5}$ and VOC from painting/coating, welding, and abrasive blasting operations as described in Table 3.2 of the PTC. Compliance with this permit condition is assured by Permit Conditions 3.6, 3.7, 3.8, and 3.21.
- Permit Condition 3.4 sets emission limits for TAP from all processes at the facility to be below the TAP emissions limits (EL) described in IDAPA 58.01.01.585 and 586. Compliance with this permit condition is assured by Permit Condition 3.23.
- Permit Condition 3.5 sets limit for HAPs to less than 10 T/yr for one HAP and to less than 25 T/yr for all HAPs emissions from the facility. Compliance with this permit condition is assured by Permit Condition 3.22.
- Permit Conditions 3.6, 3.7, and 3.8 set limits for painting/coating, welding wire/rod use, and steel shot use operation at the facility. Compliance with these emission limits are assured through Permit Conditions 3.18, 3.19, and 3.20, respectively.
- Permit Condition 3.9 does not allow the permittee to conduct any stationary grinding operation at the facility. Per an email from the facility's consultant on 4/8/14, grinding is not conducted at the facility.
- Permit Condition 3.10 is included to require the permittee to install two baghouses (i.e., Donaldson Torit dust collector with a minimum control efficiency of 99.9%) and two pre-filter systems with a minimum control efficiency of 95% to control particulate emissions from the Fabrication Building stacks at the facility. This permit condition requires the permittee to develop a baghouse and pre-filter system procedures document for the inspection and operation of the baghouses and the pre-filters. The document must be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual. Baghouses are expected to be highly effective in controlling particulates from this process, provided they are operated and maintained according to manufacturer specifications and periodically inspected. If any visible emissions were present from the baghouse stacks, the permittee must realize that a corrective action must be taken to fix the baghouses or the pre-filters and a description of the correction action must be taken. At a minimum the baghouse procedures document must include procedures to determine if bags are ruptured and procedures to determine if bags are not appropriately secured in place. The permittee is required to maintain records of the results of each baghouse inspection in accordance with Monitoring and Recordkeeping requirements in the General Provisions of this permit.
- Permit Condition 3.11 requests the permittee to conduct all painting, welding operations inside the Fabrication Building. Per the PTC application and comments from permittee's consultant (submitted on 5/22/15- see Trim record # 2015AAG779), the plasma cutting is required to be conducted in a fully enclosed dust collection system that is located within the Fabrication Building. The abrasive blasting will be conducted into a fully enclosed dust collection system that vents into a baghouse outside the Fabrication Building. In addition, all painting spray guns are required to be conducted with XTR 7, airless spray guns, or equivalent technology.
- As discussed previously, Permit Conditions 3.12 through 3.16 ensure compliance with NESHAP XXXXXX.
- Permit Condition 3.17 is included to ensure compliance with the Emissions Limits, TAPs Emission Limits, and HAP Emissions Limits Permit Conditions.

- Permit Condition 3.18 requires recordkeeping to demonstrate compliance with the Painting/Coating Use Limits Permit Condition.
- Permit Condition 3.19 requires recordkeeping to demonstrate compliance with the Welding Wire/Rod Use Limits Permit Condition.
- Permit Condition 3.20 requires recordkeeping to demonstrate compliance with the Steel Shot Usage Limits Permit Condition.
- Permit Condition 3.21 requires a calculation to demonstrate compliance with the Emissions Limits Permit Condition.
- Permit Condition 3.22 requires a calculation to demonstrate compliance with the TAPs Emissions Limits Permit Condition.
- Permit Condition 3.23 requires a calculation to demonstrate compliance with the HAP Emissions Limits Permit Condition.
- Permit Condition 3.24 requires monitoring and recordkeeping of the baghouse operating requirements to demonstrate compliance with the HAP Emissions Limits Permit Condition.
- As discussed previously, Permit Conditions 3.25 through 3.28 ensure compliance with NESHAP XXXXXX.

PTC General Provisions

The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101. This is assured by Permit Condition 4.1.

The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211. This is assured by Permit Condition 4.2.

The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01. This is assured by Permit Condition 4.3.

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108. This is assured by Permit Condition 4.4.

The requirement in Permit Condition 4.5 states that "this permit shall expire if construction has not begun within two years of its issue date, or if construction is suspended for one year" This is required by IDAPA 58.01.01.211.

The construction and operation notification provision in Permit Condition 4.6 requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.

The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03. This is assured by PTC General Provisions No. 4.7.

The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing. This is assured by General Provisions No. 4.8.

The performance test report provision requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05. This is assured by General Provisions No. 4.9.

The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211. This is assured by Permit Condition 4.10.

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130. If a reportable excess emission event occurs, send the notifications to the DEQ Idaho Falls Regional Office as described in the rule. This is assured by Permit Condition 4.11.

The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123. This is assured by Permit Condition 4.12.

The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125. This is assured by Permit Condition 4.13.

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126. This is assured by Permit Condition 4.14.

The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06. This is assured by Permit Condition 4.15.

The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211. This is assured by Permit Condition 4.16.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

Cives Steel Company

Facility Wide Modeling Input Summary

Criteria Pollutants							TAP Annual				TAP 24-Hour		
Source ID	PM10 (24-hour) (lb/hr)	PM2.5 (24-hour) (lb/hr)	PM2.5 (Annual) (ton/yr)	NOx (1-hour) (lb/hr)	NOx (Annual)[1] (lb/hr) Full	(ton/yr)	Formaldehyde (ton/yr)	Arsenic (ton/yr)	Cadmium (ton/yr)	Nickel (ton/yr)	Iron (lb/hr)	Quartz (lb/hr)	Chromium (lb/hr)
MAU-01A[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-01B[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-01C[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-01D[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-01E[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-01F[2]	8.25E-03	8.25E-03	3.61E-02	1.09E-01	1.09E-01	4.75E-01	3.56E-04	9.50E-07	5.23E-06	9.98E-06	NA	NA	1.52E-06
MAU-02A[2]	5.50E-03	5.50E-03	2.41E-02	7.23E-02	7.23E-02	3.17E-01	2.38E-04	6.34E-07	3.49E-06	6.65E-06	NA	NA	1.01E-06
MAU-02B[2]	5.50E-03	5.50E-03	2.41E-02	7.23E-02	7.23E-02	3.17E-01	2.38E-04	6.34E-07	3.49E-06	6.65E-06	NA	NA	1.01E-06
RTU-01[2]	8.94E-04	8.94E-04	3.92E-03	1.18E-02	1.18E-02	5.15E-02	3.86E-05	1.03E-07	5.67E-07	1.08E-06			1.65E-07
RTU-02[2]	3.73E-04	3.73E-04	1.63E-03	4.90E-03	4.90E-03	2.15E-02	1.61E-05	4.29E-08	2.36E-07	4.51E-07			6.86E-08
RTU-03[2]	8.94E-04	8.94E-04	3.92E-03	1.18E-02	1.18E-02	5.15E-02	3.86E-05	1.03E-07	5.67E-07	1.08E-06			1.65E-07
RTU-04[2]	8.94E-04	8.94E-04	3.92E-03	1.18E-02	1.18E-02	5.15E-02	3.86E-05	1.03E-07	5.67E-07	1.08E-06			1.65E-07
RAD_HEAT-01[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
RAD_HEAT-02[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
RAD_HEAT-03[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
RAD_HEAT-04[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
RAD_HEAT-05A[2,3]	3.35E-04	3.35E-04	1.47E-03	4.41E-03	4.41E-03	1.93E-02	1.45E-05	3.86E-08	2.13E-07	4.06E-07			6.18E-08
RAD_HEAT-05B[2,3]	3.35E-04	3.35E-04	1.47E-03	4.41E-03	4.41E-03	1.93E-02	1.45E-05	3.86E-08	2.13E-07	4.06E-07			6.18E-08
RAD_HEAT-06A[2,4]	3.35E-04	3.35E-04	1.47E-03	4.41E-03	4.41E-03	1.93E-02	1.45E-05	3.86E-08	2.13E-07	4.06E-07			6.18E-08
RAD_HEAT-06B[2,4]	3.35E-04	3.35E-04	1.47E-03	4.41E-03	4.41E-03	1.93E-02	1.45E-05	3.86E-08	2.13E-07	4.06E-07			6.18E-08
RAD_HEAT-07[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
RAD_HEAT-08[2]	7.45E-04	7.45E-04	3.26E-03	9.80E-03	9.80E-03	4.29E-02	3.22E-05	8.59E-08	4.72E-07	9.02E-07			1.37E-07
UH-01[2]	2.24E-03	2.24E-03	9.79E-03	2.94E-02	2.94E-02	1.29E-01	9.66E-05	2.58E-07	1.42E-06	2.71E-06			4.12E-07
SAW_BLDG_HEA[2]	2.53E-04	2.53E-04	1.11E-03	3.33E-03	3.33E-03	1.46E-02	1.10E-05	2.92E-08	1.61E-07	3.07E-07			4.67E-08
DRILL_BLD_HE[2]	2.53E-04	2.53E-04	1.11E-03	3.33E-03	3.33E-03	1.46E-02	1.10E-05	2.92E-08	1.61E-07	3.07E-07			4.67E-08
PEDDI_BLD_HE[2]	2.53E-04	2.53E-04	1.11E-03	3.33E-03	3.33E-03	1.46E-02	1.10E-05	2.92E-08	1.61E-07	3.07E-07			4.67E-08
COPPER_BLD_H[2]	2.53E-04	2.53E-04	1.11E-03	3.33E-03	3.33E-03	1.46E-02	1.10E-05	2.92E-08	1.61E-07	3.07E-07			4.67E-08
BEAD_BLAST[5]	0.034	0.034	0.150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FAN_01[5,6]	1.15E-01	1.13E-01	7.03E-02	2.01E-01	2.00E-01	8.75E-01	6.53E-04	1.74E-06	9.58E-06	3.02E-04	0.1044	1.48E-02	1.32E-02
FAN_02[5,6]	1.15E-01	1.13E-01	7.03E-02	2.01E-01	2.00E-01	8.75E-01	6.53E-04	1.74E-06	9.58E-06	3.02E-04	0.1044	1.48E-02	1.32E-02
FAN_03[5,6]	1.15E-01	1.13E-01	7.03E-02	2.01E-01	2.00E-01	8.75E-01	6.53E-04	1.74E-06	9.58E-06	3.02E-04	0.1044	1.48E-02	1.32E-02
FAN_04[5,6]	1.15E-01	1.13E-01	7.03E-02	2.01E-01	2.00E-01	8.75E-01	6.53E-04	1.74E-06	9.58E-06	3.02E-04	0.1044	1.48E-02	1.32E-02

[1] Annual NO2 modeling is based on an annual average lb/hr value (tons/year x 2000 lb/hr / 8760 hours/yr)

[2] Equipment operates up to 24-hours per day

[3] A single emission unit vents out two stacks. Assumed that flow is divided equally between the two stacks (RAD_HEAT_05A and RAD_HEAT_05B)

[4] A single emission unit vents out two stacks. Assumed that flow is divided equally between the two stacks (RAD_HEAT_06A and RAD_HEAT_06B)

[5] Equipment operates up to 24-hours per day.

[6] Assumed that all four fans operate at the same time and vent equally. Emissions include unvented sources inside main bay including painting, welding, and FDB dust collector

NA = Not applicable. Source(s) do not emit pollutant.

Emission units vent through Fans 1 through 4

Cives Steel Company
Current Emissions Summary

Table 1: Criteria Pollutant Summary

Pollutant		Heaters	Abrasive Blasting		Painting		Welding		FDB		Controlled Total	Uncontrolled Total	Modeling Threshold [1,2]	Exceeds Threshold
			Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled				
NOx	tpy	4.18							0.02	0.02	4.20	4.20	1.20	Exceeds
	lb/hr	0.96							0.01	0.01	0.96	0.96	0.20	Exceeds
CO	tpy	3.51									3.51	3.51		
	lb/hr	0.80									0.80	0.80	15.00	Below
PM10	tpy	0.32	0.15	150.00	1.72	85.95	3.77E-02	1.88	6.54E-05	0.04	2.22	238.19		
	lb/hr	0.07	0.03	34.25	0.39	19.62	8.60E-03	0.43	1.49E-05	0.01	0.51	54.39	0.22	Exceeds
PM2.5	tpy	0.32	0.15	150.00	1.72	85.95	3.77E-02	1.88	1.68E-05	0.01	2.22	238.16	0.35	Exceeds
	lb/hr	0.07	0.03	34.25	0.39	19.62	8.60E-03	0.43	3.84E-06	0.004	0.51	54.38	0.054	Exceeds
SO2	tpy	0.03									0.03	0.03	1.20	Below
	lb/hr	0.01									0.01	0.01	0.21	Below
Lead	lb/month [3]	3.49E-03									3.49E-03	3.49E-03	14.00	Below
VOC	tpy	0.23			40.95	40.95					41.18	41.18		
	lb/hr	0.05			9.35	9.35					9.40	9.40		
CO2e	tpy	4,529										4529.07		

[1] *State of Idaho Guideline for Performing Air Quality Impact Analysis*, Tabel 2: Modeling Thresholds for Criteria Pollutants. July 2, 2011

[2] Compare controlled emission estimates to threshold

[3] Used the annual ton/yr total and divided by 12 to calculate a monthly average

Table 2: Toxic Air Pollutants (TAPs) Summary

TAPs	NG Heaters		Abrassive Blasting		Painting		Welding		FDB (Plasma Cutting)		Total		EL [1]	Exceeds	AAC [2]	AACC [3]
	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	EL	(mg/m^3)	(ug/m^3)
2-Methylnaphthalene	2.29E-07	1.00E-06									2.29E-07	1.00E-06				
3-Methylchloranthene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
7,12-Dimethylbenz(a)anthracene	1.53E-07	6.69E-07									1.53E-07	6.69E-07				
Acenaphthene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Acenaphthylene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Aluminum							1.12E-02	4.90E-02			1.12E-02	4.90E-02	0.667	Below	0.5	
Anthracene	2.29E-08	1.00E-07									2.29E-08	1.00E-07				
Benza(a)anthracene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Benzo(a)pyrene	1.15E-08	5.02E-08									1.15E-08	5.02E-08	2.00E-06	Below		3.00E-04
Benzo(b)fluoranthene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Benzo(g,h,I)perylene	1.15E-08	5.02E-08									1.15E-08	5.02E-08				
Benzo(k)fluoranthene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Butane	2.01E-02	8.78E-02									2.01E-02	8.78E-02				
Calcium Carbonate							2.06E-02	9.04E-02			2.06E-02	9.04E-02	0.667	Below	0.5	
Chrysene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Copper							2.58E-03	1.13E-02			2.58E-03	1.13E-02	0.013	Below	0.01	
Dibenzo(a,h)anthracene	1.15E-08	5.02E-08									1.15E-08	5.02E-08				
Ethane	2.96E-02	1.30E-01									2.96E-02	1.30E-01				
Fluoranthene	2.87E-08	1.25E-07									2.87E-08	1.25E-07				
Fluorene	2.67E-08	1.17E-07									2.67E-08	1.17E-07				
Fluorides as (F)							4.30E-03	1.88E-02			4.30E-03	1.88E-02	0.167	Below	0.125	
Indeno(1,2,3-cd)pyrene	1.72E-08	7.53E-08									1.72E-08	7.53E-08				
Iron							4.14E-01	1.81E+00	3.79E-03	1.66E-02	4.17E-01	1.83E+00	0.067	Exceeds	0.05	
Pentane	2.48E-02	1.09E-01									2.48E-02	1.09E-01	118	Below	88.5	
Phenanathrene	1.62E-07	7.11E-07									1.62E-07	7.11E-07				
Propane	1.53E-02	6.69E-02									1.53E-02	6.69E-02				
Pyrene	4.78E-08	2.09E-07									4.78E-08	2.09E-07				
Barium	4.20E-05	1.84E-04									4.20E-05	1.84E-04				
Copper	8.12E-06	3.56E-05									8.12E-06	3.56E-05	0.067	Below	0.05	
Magnesium Oxide							4.30E-03	1.88E-02			4.30E-03	1.88E-02	0.667	Below	0.5	
Magnesium Carbonate							4.30E-03	1.88E-02			4.30E-03	1.88E-02	0.667	Below	0.5	
Mineral Silicates							8.60E-04	3.77E-03			8.60E-04	3.77E-03	0.133	Below	0.1	
Molybdenum	1.05E-05	4.60E-05					9.46E-03	4.14E-02			9.47E-03	4.15E-02	0.333	Below	0.25	
Tungsten							8.60E-04	3.77E-03			8.60E-04	3.77E-03	0.067	Below	0.05	
Vanadium	2.20E-05	9.62E-05									2.20E-05	9.62E-05	0.003	Below	0.0025	
Zinc	2.77E-04	1.21E-03									7.19E-02	3.15E-01	0.667	Below	0.5	
Zinc -Controlled					7.16E-02	3.14E-01										
Zirconium							8.60E-04	3.77E-03			8.60E-04	3.77E-03	0.333	Below	0.25	
Iron oxide fume			3.29E-02	1.44E-01	2.50E-01	1.09E+00	1.03E-02	4.52E-02			2.93E-01	1.28E+00	3.33E-01	Below	0.25	
Carbon black			4.11E-04	1.80E-03							4.15E-03	1.82E-02	0.23	Below	0.175	
Carbon black -Controlled					3.74E-03	1.64E-02										
Silicon			5.14E-04	2.25E-03			1.81E-02	7.91E-02			1.86E-02	8.13E-02	0.667	Below	0.5	
Quartz (SiO2)							1.42E-02	6.21E-02							0.005	
Quartz (SiO2) -Controlled					4.49E-02	1.97E-01					5.91E-02	2.59E-01	0.0067	Exceeds		
4-methylpentante-2-one					6.49E-01	2.84E+00					6.49E-01	2.84E+00	13.7	Below	10.25	
heptan-2-one					6.49E-01	2.84E+00					6.49E-01	2.84E+00	15.7	Below	11.75	
tetraethyl silicate					2.50E-01	1.09E+00					2.50E-01	1.09E+00	5.67	Below	4.25	
tetraethyl silicate -Controlled					4.99E-03	2.19E-02					4.99E-03	2.19E-02				
ethanol					9.61E-01	4.21E+00					9.61E-01	4.21E+00	125	Below	94	
isopropanol					5.62E-01	2.46E+00					5.62E-01	2.46E+00	65.3	Below	49	
2-butaxyethanol					5.62E-01	2.46E+00					5.62E-01	2.46E+00	8	Below	6	
aluminum silicate																
aluminum silicate-Controlled					7.49E-03	3.28E-02					7.49E-03	3.28E-02	0.133	Below	0.1	
mica																
mica-Controlled					3.74E-03	1.64E-02					3.74E-03	1.64E-02	0.2	Below	0.15	
Benzene	2.01E-05	8.78E-05									2.01E-05	8.78E-05	8.00E-04	Below		1.20E-01
Dichlorobenzene	1.15E-05	5.02E-05									1.15E-05	5.02E-05	20	Below	15	
ethylbenzene					2.10E-01	9.19E-01					2.10E-01	9.19E-01	29	Below	21.75	
Formaldehyde	7.16E-04	3.14E-03									7.16E-04	3.14E-03	5.10E-04	Exceeds		7.70E-02
Hexane	1.72E-02	7.53E-02									1.72E-02	7.53E-02	12	Below	9	
methyl alcohol					3.74E-01	1.64E+00					3.74E-01	1.64E+00	17.3	Below	13	
Naphthalene	5.83E-06	2.55E-05									5.83E-06	2.55E-05	3.33	Below	2.5	
phenol					3.77E-02	1.65E-01					3.77E-02	1.65E-01	1.27	Below	0.95	
Toluene	3.25E-05	1.42E-04									3.25E-05	1.42E-04	25	Below	18.75	
xylene					8.29E-01	3.63E+00					8.29E-01	3.63E+00	29	Below	21.75	
Arsenic	1.91E-06	8.37E-06									1.91E-06	8.37E-06	1.50E-06	Exceeds		2.30E-04
Beryllium	1.15E-07	5.02E-07									1.15E-07	5.02E-07	2.80E-05	Below		4.20E-03
Cadmium	1.05E-05	4.60E-05									1.05E-05	4.60E-05	3.70E-06	Exceeds		5.60E-04
Chromium	1.34E-05	5.86E-05					4.99E-02	2.18E-01	3.01E-03	1.32E-02	5.29E-02	2.32E-01	0.033	Exceeds	0.025	
Cobalt	8.02E-07	3.51E-06					8.60E-04	3.77E-03			8.61E-04	3.77E-03	0.0033	Below	0.0025	
Manganese	3.63E-06	1.59E-05	3.25E-04	1.43E-03			2.84E-02	1.24E-01	6.57E-04	2.88E-03	2.94E-02	1.29E-01	0.333	Below	0.25	
Mercury	2.48E-06	1.09E-05									2.48E-06	1.09E-05				
Nickel	2.01E-05	8.78E-05														4.20E-03
Nickel -Controlled							2.58E-04	1.13E-03	1.54E-06	6.73E-06	2.80E-04	1.22E-03	2.70E-05	Exceeds		
Selenium	2.29E-07	1.00E-06									2.29E-07	1.00E-06	0.013	Below	0.01	
Lead	4.78E-06	2.09E-05									4.78E-06	2.09E-05				
											Uncontrolled Facility Wide Total HAPs		6.80			
											Uncontrolled Facility Wide Total TAPS		26.60			
											Controlled Facility Wide HAPs		6.80			
											Controlled Facility Wide Total TAPS		25.51			

Note: Mercury is no longer listed in IDAPA 58.01.01.585/586

[1] IDAPA 58.01.01.585/586 Screening Emission Level

[2] IDAPA 58.01.01.585 Acceptable Ambient Concentration (AAC), 24-hour average

[3] IDAPA 58.01.01.586 Acceptable Ambient Concentration for Carcinogens (AACC), annual average

Cives Steel Company
Painting Criteria Emissions

Throughput[1]	21,000	gal
Hours of Operation	8,760	hrs
HEPA filter on fans	98.0%	control efficiency for PM

VOCs

Coating[2]	VOC Content (lb/gal)[3]	VOC Emitted (lb/hr)[4]	VOC Emitted (tpy)[4]
AMERLOCK 2	1.5	3.6	15.8
CARBOZINC 11	0	0.0	0.0
AMERCOAT 68HS	2.4	5.8	25.2
Total VOCs	--	**9.3**	**41.0**

Notes

(1) Projected based on current 2013 production levels.

(2) Coatings for the MSDSs provided by client for representative coatings used at the facility

(3) VOC content listed in MSDSs provided by client

(4) Assumed each coating usage was total coating throughput divided by the number of coatings

Sample Calculation:

Emission rate (lb/hr)=Throughput (gal) * VOC Content (lb/gal) / (# of coatings * hours of operation)

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation * 1 ton/2000 lb

PM

Throughput[1]	21,000	gal
Hours of Operation	8,760	
Paint Gun Transfer Efficiency[2]	82.5%	

		Uncontrolled	
Coating[3]	Solids Content (lb/gal)[4]	PM Emitted (lb/hr)[5]	PM Emitted (tpy)[5]
AMERLOCK 2	11.975	5.0	22.0
CARBOZINC 11	8.9238	3.7	16.4
AMERCOAT 68HS	25.8749	10.9	47.5
Total PM	--	**19.6**	**85.9**

Notes

(1) Projected based on current 2013 production levels.

(2) Transfer efficiency of the spray gun is based on a 65% transfer efficiency and 50% of remainder falling out for a total of 82.5%

(3) Coatings for the MSDSs provided by client for representative coatings used at the facility

(4) Solids content listed in MSDSs provided by client

(5) Assumed each coating usage was total coating throughput divided by the number of coatings and total PM is assumed to equal PM10 and PM2.5

Sample Calculation:

Emission rate (lb/hr)=Throughput (gal) * Solids Content (lb/gal) / (hours of operation) * (1-transfer efficiency)

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation * 1 ton/2000 lb

Cives Steel Company
Painting TAPs Emissions

Maximum Throughput[1]	21,000	gal/yr
AMERLOCK 2	21,000	gal/yr
CARBONZINC 11	21,000	gal/yr
AMERCOAT 68 HS	21,000	gal/yr
Hours of Operation	8,760	hrs
Airless spray gun transfer efficiency	82.5%	
Particulate control efficiency	98%	

TAPs

Pollutant[1]	Density (lb/gal)	Mix Ratio	Quartz (SiO2)	4-methylpentan-2-one	heptan-2-one	diiron trioxide	xylene	tetraethyl silicate	Ethylbenzene	Phenol	Ethanol	Isopropanol	2-Butaxyethanol	Methyl Alcohol	Aluminum Silicate	Mica	Zinc	Carbon Black
CAS #			14808-60-7	108-10-1	110-43-0	1309-37-1	1330-20-7	78-10-4	100-41-4	108-95-2	64-17-5	67-63-0	111-76-2	67-56-1	1332-58-7	12001-26-2	7440-66-6	1333-86-4
Coating[2]			%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
AMERLOCK 2 Total[3]	11.975	100%					7%		3%	1%	1%							
AMERLOCK 2 CURE	11.68	50%					13%		5%	1.5%	1%							
AMERLOCK 2/400 Resin	12.27	50%					1%											
CARBOZINC 11	8.9238	100%	20%								25%	15%	15%	10%	10%	5%		5%
AMERCOAT 68HS Total[4]	25.8749	100%	14%	6%	6%	2%	4%	2%	1%								33%	
AMERCOAT 68 HS CURE	7.59	21%					10%		1.5%									
AMERCOAT 68HS RESIN	10.1	46%	30%	13%	13%	5%	5%	5%	1%									
AMERCOAT 68 HS Powder	59.5	33%															100%	

		Uncontrolled Emission Rate[5]		Controlled Emission Rate[5]		Idaho TAP Screening Emissions Level[6]	Exceed TAP EL
Pollutant	**CAS**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	
Quartz (SiO2)[7,8]	14808-60-7	2.25E+00	9.84	4.49E-02	0.20	0.0067	**Yes**
4-methylpentane-2-one[8]	108-10-1	6.49E-01	2.84	6.49E-01	2.84	13.7	No
heptan-2-one[8]	110-43-0	6.49E-01	2.84	6.49E-01	2.84	15.7	No
diiron trioxide[8]	1309-37-1	2.50E-01	1.09	2.50E-01	1.09	0.333	No
xylene[8]	1330-20-7	8.29E-01	3.63	8.29E-01	3.63	29	No
tetraethyl silicate[7,8]	78-10-4	2.50E-01	1.09	4.99E-03	0.02	5.67	No
Ethylbenzene[8]	100-41-4	2.10E-01	0.92	2.10E-01	0.92	29	No
Phenol[8]	108-95-2	3.77E-02	0.17	3.77E-02	0.17	1.27	No
Ethanol[8]	64-17-5	9.61E-01	4.21	9.61E-01	4.21	125	No
Isopropanol[8]	67-63-0	5.62E-01	2.46	5.62E-01	2.46	65.3	No
2-Butaxyethanol[8]	111-76-2	5.62E-01	2.46	5.62E-01	2.46	8	No
Methyl Alcohol[8]	67-56-1	3.74E-01	1.64	3.74E-01	1.64	17.3	No
Aluminum Silicate[7,8]	1332-58-7	3.74E-01	1.64	7.49E-03	0.03	0.133	**Yes**
Mica[7,8]	12001-26-2	1.87E-01	0.82	3.74E-03	0.02	0.2	No
Zinc[7,8]	7440-66-6	3.58E+00	15.69	7.16E-02	0.31	0.667	**Yes**
Carbon black[7,8]	1333-86-4	1.87E-01	0.82	3.74E-03	0.02	0.23	No
Total TAPs	--		**52.17**		**22.86**	--	--
EPA HAPs=			**6.36**		**6.36**		

Notes

(1) Maximum allowable throughput

(2) Coating MSDSs as provided by client

(3) AMERLOCK 2 is comprised of AMERLOCK 2 Cure and AMERLOCK 2/400 Resin. Percentage of each in the mixture is provided as the mix ratio.

(4) AMERCOAT 68HS is comprised of AMERCOAT 68HS Cure, Resin, and Powder. Percentage of each in the mixture is provided as the mix ratio.

(5) Cives would like the operational flexibility to use up to 21,000 gallons for each of the three paints (AMERLOCK2, CARBONZINC 11, and AMERCOAT 68HS), with at TOTAL throughput limit of 21,000 gallons per year. For example, any combination of the three paints usage will not exceed 21,000 gallons for the year.

(6) Screening levels from IDAPA 58.01.01.585 & 586

(7) Quartz (silica), tetraethyl silicate, aluminum silicate, mica, zinc, and carbon black are particulate toxics. Therefore, a 98% control was applied to the PTE from the pre-filters for the four exhaust fans.

(8) Transfer efficiency of the spray gun is based on a 65% transfer efficiency and 50% of remainder falling out for a total of 82.5%.

Sample Calculation:

Emission rate (lb/hr)=Sum of [Throughput (gal/paint) * Density (lb/gal) * TAP % / hours per year]

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation * 1 ton/2000 lb

Cives Steel Company

Natural Gas Heater Emissions

Natural Gas Heating Value (BTU/scf) 1,020

	Emission Factor[1]	MAU-1		MAU-2		RTU-1		RTU-2		RTU-3		RTU-4		Radiant Heat [4] (outbuildings)		CoRayVac Infrared [5] Heat		CoRayVac Infrared [6] Heat		Unit Heater	
	(lb/106scf)	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Model		DGX-120-H32		DGX-118-H32		48HCDD12E2M6-6U5M0		48HCDA06E2M6-0B5FO		48HCED08E2M6-6U5MO		48HCED08E2M6-6U5MO		PH-34		B-9		B-10		PDP300AE0130	
Number of Units		6		2		1		1		1		1		4		2		6		1	
Heat Input (MMBTU/hr)		1.1067		0.7378		0.12		0.05		0.12		0.12		0.034		0.09		0.1		0.3	
Natural Gas Usage (scf/hr)		6,510		1,447		118		49		118		118		133		176		588		294	
Natural Gas Usage (10^6scf/hr)		0.0065		0.0014		0.00012		0.00005		0.00012		0.00012		0.00013		0.00018		0.00059		0.0003	
Annual Hours of Operations (hrs/yr)[2]		8,760		8,760		8,760		8,760		8,760		8,760		8,760		8,760		8,760		8,760	
Criteria Pollutants																					
NO_X	100	6.51E-01	2.85E+00	1.45E-01	6.34E-01	1.18E-02	5.15E-02	4.90E-03	2.15E-02	1.18E-02	5.15E-02	1.18E-02	5.15E-02	1.33E-02	5.84E-02	1.76E-02	7.73E-02	5.88E-02	2.58E-01	2.94E-02	1.29E-01
CO	84	5.47E-01	2.40E+00	1.22E-01	5.32E-01	9.88E-03	4.33E-02	4.12E-03	1.80E-02	9.88E-03	4.33E-02	9.88E-03	4.33E-02	1.12E-02	4.91E-02	1.48E-02	6.49E-02	4.94E-02	2.16E-01	2.47E-02	1.08E-01
PM [3]	7.6	4.95E-02	2.17E-01	1.10E-02	4.82E-02	8.94E-04	3.92E-03	3.73E-04	1.63E-03	8.94E-04	3.92E-03	8.94E-04	3.92E-03	1.01E-03	4.44E-03	1.34E-03	5.87E-03	4.47E-03	1.96E-02	2.24E-03	9.79E-03
SO_2	0.6	3.91E-03	1.71E-02	8.68E-04	3.80E-03	7.06E-05	3.09E-04	2.94E-05	1.29E-04	7.06E-05	3.09E-04	7.06E-05	3.09E-04	8.00E-05	3.50E-04	1.06E-04	4.64E-04	3.53E-04	1.55E-03	1.76E-04	7.73E-04
VOC	5.5	3.58E-02	1.57E-01	7.96E-03	3.49E-02	6.47E-04	2.83E-03	2.70E-04	1.18E-03	6.47E-04	2.83E-03	6.47E-04	2.83E-03	7.33E-04	3.21E-03	9.71E-04	4.25E-03	3.24E-03	1.42E-02	1.62E-03	7.09E-03
HAP Emissions																					
2-Methylnaphthalene	2.40E-05	1.56E-07	6.84E-07	3.47E-08	1.52E-07	2.82E-09	1.24E-08	1.18E-09	5.15E-09	2.82E-09	1.24E-08	2.82E-09	1.24E-08	3.20E-09	1.40E-08	4.24E-09	1.86E-08	1.41E-08	6.18E-08	7.06E-09	3.09E-08
3-Methylchloranthene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.04E-07	4.56E-07	2.31E-08	1.01E-07	1.88E-09	8.24E-09	7.84E-10	3.44E-09	1.88E-09	8.24E-09	1.88E-09	8.24E-09	2.13E-09	9.34E-09	2.82E-09	1.24E-08	9.41E-09	4.12E-08	4.71E-09	2.06E-08
Acenaphthene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Acenaphthylene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Anthracene	2.40E-06	1.56E-08	6.84E-08	3.47E-09	1.52E-08	2.82E-10	1.24E-09	1.18E-10	5.15E-10	2.82E-10	1.24E-09	2.82E-10	1.24E-09	3.20E-10	1.40E-09	4.24E-10	1.86E-09	1.41E-09	6.18E-09	7.06E-10	3.09E-09
Benza(a)anthracene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Benzene	2.10E-03	1.37E-05	5.99E-05	3.04E-06	1.33E-05	2.47E-07	1.08E-06	1.03E-07	4.51E-07	2.47E-07	1.08E-06	2.47E-07	1.08E-06	2.80E-07	1.23E-06	3.71E-07	1.62E-06	1.24E-06	5.41E-06	6.18E-07	2.71E-06
Benzo(a)pyrene	1.20E-06	7.81E-09	3.42E-08	1.74E-09	7.60E-09	1.41E-10	6.18E-10	5.88E-11	2.58E-10	1.41E-10	6.18E-10	1.41E-10	6.18E-10	1.60E-10	7.01E-10	2.12E-10	9.28E-10	7.06E-10	3.09E-09	3.53E-10	1.55E-09
Benzo(b)fluoranthene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Benzo(g,h,i)perylene	1.20E-06	7.81E-09	3.42E-08	1.74E-09	7.60E-09	1.41E-10	6.18E-10	5.88E-11	2.58E-10	1.41E-10	6.18E-10	1.41E-10	6.18E-10	1.60E-10	7.01E-10	2.12E-10	9.28E-10	7.06E-10	3.09E-09	3.53E-10	1.55E-09
Benzo(k)fluoranthene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Butane	2.10E+00	1.37E-02	5.99E-02	3.04E-03	1.33E-02	2.47E-04	1.08E-03	1.03E-04	4.51E-04	2.47E-04	1.08E-03	2.47E-04	1.08E-03	2.80E-04	1.23E-03	3.71E-04	1.62E-03	1.24E-03	5.41E-03	6.18E-04	2.71E-03
Chrysene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Dibenzo(a,h)anthracene	1.20E-06	7.81E-09	3.42E-08	1.74E-09	7.60E-09	1.41E-10	6.18E-10	5.88E-11	2.58E-10	1.41E-10	6.18E-10	1.41E-10	6.18E-10	1.60E-10	7.01E-10	2.12E-10	9.28E-10	7.06E-10	3.09E-09	3.53E-10	1.55E-09
Dichlorobenzene	1.20E-03	7.81E-06	3.42E-05	1.74E-06	7.60E-06	1.41E-07	6.18E-07	5.88E-08	2.58E-07	1.41E-07	6.18E-07	1.41E-07	6.18E-07	1.60E-07	7.01E-07	2.12E-07	9.28E-07	7.06E-07	3.09E-06	3.53E-07	1.55E-06
Ethane	3.10E+00	2.02E-02	8.84E-02	4.48E-03	1.96E-02	3.65E-04	1.60E-03	1.52E-04	6.66E-04	3.65E-04	1.60E-03	3.65E-04	1.60E-03	4.13E-04	1.81E-03	5.47E-04	2.40E-03	1.82E-03	7.99E-03	9.12E-04	3.99E-03
Fluoranthene	3.00E-06	1.95E-08	8.55E-08	4.34E-09	1.90E-08	3.53E-10	1.55E-09	1.47E-10	6.44E-10	3.53E-10	1.55E-09	3.53E-10	1.55E-09	4.00E-10	1.75E-09	5.29E-10	2.32E-09	1.76E-09	7.73E-09	8.82E-10	3.86E-09
Fluorene	2.80E-06	1.82E-08	7.98E-08	4.05E-09	1.77E-08	3.29E-10	1.44E-09	1.37E-10	6.01E-10	3.29E-10	1.44E-09	3.29E-10	1.44E-09	3.73E-10	1.64E-09	4.94E-10	2.16E-09	1.65E-09	7.21E-09	8.24E-10	3.61E-09
Formaldehyde	7.50E-02	4.88E-04	2.14E-03	1.09E-04	4.75E-04	8.82E-06	3.86E-05	3.68E-06	1.61E-05	8.82E-06	3.86E-05	8.82E-06	3.86E-05	1.00E-05	4.38E-05	1.32E-05	5.80E-05	4.41E-05	1.93E-04	2.21E-05	9.66E-05
Hexane	1.80E+00	1.17E-02	5.13E-02	2.60E-03	1.14E-02	2.12E-04	9.28E-04	8.82E-05	3.86E-04	2.12E-04	9.28E-04	2.12E-04	9.28E-04	2.40E-04	1.05E-03	3.18E-04	1.39E-03	1.06E-03	4.64E-03	5.29E-04	2.32E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.17E-08	5.13E-08	2.60E-09	1.14E-08	2.12E-10	9.28E-10	8.82E-11	3.86E-10	2.12E-10	9.28E-10	2.12E-10	9.28E-10	2.40E-10	1.05E-09	3.18E-10	1.39E-09	1.06E-09	4.64E-09	5.29E-10	2.32E-09
Naphthalene	6.10E-04	3.97E-06	1.74E-05	8.82E-07	3.87E-06	7.18E-08	3.14E-07	2.99E-08	1.31E-07	7.18E-08	3.14E-07	7.18E-08	3.14E-07	8.13E-08	3.56E-07	1.08E-07	4.71E-07	3.59E-07	1.57E-06	1.79E-07	7.86E-07
Pentane	2.60E+00	1.69E-02	7.41E-02	3.76E-03	1.65E-02	3.06E-04	1.34E-03	1.27E-04	5.58E-04	3.06E-04	1.34E-03	3.06E-04	1.34E-03	3.47E-04	1.52E-03	4.59E-04	2.01E-03	1.53E-03	6.70E-03	7.65E-04	3.35E-03
Phenanathrene	1.70E-05	1.11E-07	4.85E-07	2.46E-08	1.08E-07	2.00E-09	8.76E-09	8.33E-10	3.65E-09	2.00E-09	8.76E-09	2.00E-09	8.76E-09	2.27E-09	9.93E-09	3.00E-09	1.31E-08	1.00E-08	4.38E-08	5.00E-09	2.19E-08
Propane	1.60E+00	1.04E-02	4.56E-02	2.31E-03	1.01E-02	1.88E-04	8.24E-04	7.84E-05	3.44E-04	1.88E-04	8.24E-04	1.88E-04	8.24E-04	2.13E-04	9.34E-04	2.82E-04	1.24E-03	9.41E-04	4.12E-03	4.71E-04	2.06E-03
Pyrene	5.00E-06	3.26E-08	1.43E-07	7.23E-09	3.17E-08	5.88E-10	2.58E-09	2.45E-10	1.07E-09	5.88E-10	2.58E-09	5.88E-10	2.58E-09	6.67E-10	2.92E-09	8.82E-10	3.86E-09	2.94E-09	1.29E-08	1.47E-09	6.44E-09
Toluene	3.40E-03	2.21E-05	9.69E-05	4.92E-06	2.15E-05	4.00E-07	1.75E-06	1.67E-07	7.30E-07	4.00E-07	1.75E-06	4.00E-07	1.75E-06	4.53E-07	1.99E-06	6.00E-07	2.63E-06	2.00E-06	8.76E-06	1.00E-06	4.38E-06
Arsenic	2.00E-04	1.30E-06	5.70E-06	2.89E-07	1.27E-06	2.35E-08	1.03E-07	9.80E-09	4.29E-08	2.35E-08	1.03E-07	2.35E-08	1.03E-07	2.67E-08	1.17E-07	3.53E-08	1.55E-07	1.18E-07	5.15E-07	5.88E-08	2.58E-07
Barium	4.40E-03	2.86E-05	1.25E-04	6.37E-06	2.79E-05	5.18E-07	2.27E-06	2.16E-07	9.45E-07	5.18E-07	2.27E-06	5.18E-07	2.27E-06	5.87E-07	2.57E-06	7.76E-07	3.40E-06	2.59E-06	1.13E-05	1.29E-06	5.67E-06
Beryllium	1.20E-05	7.81E-08	3.42E-07	1.74E-08	7.60E-08	1.41E-09	6.18E-09	5.88E-10	2.58E-09	1.41E-09	6.18E-09	1.41E-09	6.18E-09	1.60E-09	7.01E-09	2.12E-09	9.28E-09	7.06E-09	3.09E-08	3.53E-09	1.55E-08
Cadmium	1.10E-03	7.16E-06	3.14E-05	1.59E-06	6.97E-06	1.29E-07	5.67E-07	5.39E-08	2.36E-07	1.29E-07	5.67E-07	1.29E-07	5.67E-07	1.47E-07	6.42E-07	1.94E-07	8.50E-07	6.47E-07	2.83E-06	3.24E-07	1.42E-06
Chromium	1.40E-03	9.11E-06	3.99E-05	2.03E-06	8.87E-06	1.65E-07	7.21E-07	6.86E-08	3.01E-07	1.65E-07	7.21E-07	1.65E-07	7.21E-07	1.87E-07	8.18E-07	2.47E-07	1.08E-06	8.24E-07	3.61E-06	4.12E-07	1.80E-06
Cobalt	8.40E-05	5.47E-07	2.40E-06	1.22E-07	5.32E-07	9.88E-09	4.33E-08	4.12E-09	1.80E-08	9.88E-09	4.33E-08	9.88E-09	4.33E-08	1.12E-08	4.91E-08	1.48E-08	6.49E-08	4.94E-08	2.16E-07	2.47E-08	1.08E-07
Copper	8.50E-04	5.53E-06	2.42E-05	1.23E-06	5.39E-06	1.00E-07	4.38E-07	4.17E-08	1.83E-07	1.00E-07	4.38E-07	1.00E-07	4.38E-07	1.13E-07	4.96E-07	1.50E-07	6.57E-07	5.00E-07	2.19E-06	2.50E-07	1.10E-06
Manganese	3.80E-04	2.47E-06	1.08E-05	5.50E-07	2.41E-06	4.47E-08	1.96E-07	1.86E-08	8.16E-08	4.47E-08	1.96E-07	4.47E-08	1.96E-07	5.07E-08	2.22E-07	6.71E-08	2.94E-07	2.24E-07	9.79E-07	1.12E-07	4.90E-07
Mercury	2.60E-04	1.69E-06	7.41E-06	3.76E-07	1.65E-06	3.06E-08	1.34E-07	1.27E-08	5.58E-08	3.06E-08	1.34E-07	3.06E-08	1.34E-07	3.47E-08	1.52E-07	4.59E-08	2.01E-07	1.53E-07	6.70E-07	7.65E-08	3.35E-07
Molybdenum	1.10E-03	7.16E-06	3.14E-05	1.59E-06	6.97E-06	1.29E-07	5.67E-07	5.39E-08	2.36E-07	1.29E-07	5.67E-07	1.29E-07	5.67E-07	1.47E-07	6.42E-07	1.94E-07	8.50E-07	6.47E-07	2.83E-06	3.24E-07	1.42E-06
Nickel	2.10E-03	1.37E-05	5.99E-05	3.04E-06	1.33E-05	2.47E-07	1.08E-06	1.03E-07	4.51E-07	2.47E-07	1.08E-06	2.47E-07	1.08E-06	2.80E-07	1.23E-06	3.71E-07	1.62E-06	1.24E-06	5.41E-06	6.18E-07	2.71E-06
Selenium	2.40E-05	1.56E-07	6.84E-07	3.47E-08	1.52E-07	2.82E-09	1.24E-08	1.18E-09	5.15E-09	2.82E-09	1.24E-08	2.82E-09	1.24E-08	3.20E-09	1.40E-08	4.24E-09	1.86E-08	1.41E-08	6.18E-08	7.06E-09	3.09E-08
Vanadium	2.30E-03	1.50E-05	6.56E-05	3.33E-06	1.46E-05	2.71E-07	1.19E-06	1.13E-07	4.94E-07	2.71E-07	1.19E-06	2.71E-07	1.19E-06	3.07E-07	1.34E-06	4.06E-07	1.78E-06	1.35E-06	5.93E-06	6.76E-07	2.96E-06
Zinc	2.90E-02	1.89E-04	8.27E-04	4.20E-05	1.84E-04	3.41E-06	1.49E-05	1.42E-06	6.23E-06	3.41E-06	1.49E-05	3.41E-06	1.49E-05	3.87E-06	1.69E-05	5.12E-06	2.24E-05	1.71E-05	7.47E-05	8.53E-06	3.74E-05
Lead	0.0005	3.26E-06	1.43E-05	7.23E-07	3.17E-06	5.88E-08	2.58E-07	2.45E-08	1.07E-07	5.88E-08	2.58E-07	5.88E-08	2.58E-07	6.67E-08	2.92E-07	8.82E-08	3.86E-07	2.94E-07	1.29E-06	1.47E-07	6.44E-07
TAP Totals	1.13E+01	7.37E-02	3.23E-01	1.64E-02	7.18E-02	1.33E-03	5.84E-03	5.55E-04	2.43E-03	1.33E-03	5.84E-03	1.33E-03	5.84E-03	1.51E-03	6.61E-03	2.00E-03	8.75E-03	6.66E-03	2.92E-02	3.33E-03	1.46E-02
GHG Emissions	**kg/MMBtu**																				
CO_2	53.02	704	3,084	156	685	13	56	5	23	13	56	13	56	14	63	19	84	64	279	32	139
CH_4	1.00E-03	0.01	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
N_2O	1.00E-04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO_2e			3,087		686		56		23		56		56		63		84		279		139

Notes

(1) Emission Factors from AP-42, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4 (July 1998)

(2) Assume 8,760 hours of operation

Sample Calculation:

Emission rate (tpy) =NG Usage (10^6 scf/hr) * Annual Hours of Operation (hrs) * Emission Factor (lb/10^6 scf) * 1 ton/2000 lb

Emission rate (lb/hr) = Emission rate (tpy) * 2000 lb/1 ton * 1 yr/hours of operation

Cives Steel Company
Abrasive Blasting Emissions

Throughput[1]	300,000 lb of steel shot consumed/yr
Hours of Operation[2]	8,760 hrs
Control Efficiency (PM_{10})[3]	99.9%
Control Efficiency($PM_{2.5}$)[3]	99.9%

Pollutant[4]	Controlled Emissions		Uncontrolled Emissions	
	lb/hr	tpy	lb/hr	tpy
PM_{10}	0.034	0.15	34.25	150
$PM_{2.5}$	0.034	0.15	34.25	150

Notes

(1) Projected based on current 2013 production levels.

(2) Hours of operation assumed 8,760

(3) Based on Manufacturer Spec (Donaldson Torit) for Dust Collector. Based on Donaldson Torit, Ultra Web II filters rated at 99.999% on 0.5 micron filters. Assume 99.9% for conservatism.
http://allergyclean.com/article-understandingmerv.htm

Sample Calculation:

Emission rate (tpy) = Throughput (lb of steel shot/yr) * (1-control efficiency) * 1 ton/2000 lb

Emission rate (lb/hr) = Emission rate (tpy) * 2000 lb/1 ton * 1 yr/hours of operation

TAPs

Pollutant	CAS	Weight Percent[1]	Controlled Emissions		Idaho TAP Screening Emissions Level	Exceed TAP EL
			lb/hr	tpy	lb/hr	
Iron oxide fume	1309-37-1	96%	0.03	0.14	0.333	No
Carbon black	1333-86-4	1%	0.00	0.00	0.23	No
Manganese dust	7439-96-5	0.95%	0.00	0.00	0.333	No
Silicon	7440-21-3	1.50%	0.00	0.00	0.667	No
Total TAPs	--	--	**0.03**	**0.15**	--	--

Notes

(1) Percentage of each Idaho TAP listed in IDAPA 58.01.01.585 & 586 from MSDSs provided by client

Sample Calculation:

Emission rate (lb/hr) = PM controlled emission rate (lb/hr) * TAP Weight Percent (%)

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation (hrs) * 1 ton/2000 lb

Cives Steel Company
Welding Emissions

Throughput Weld Wire[1]	125,000	lbs
Throughput Weld Rod[1]	10,000	lbs
Hours of Operation[2]	8,760	hrs
HEPA filter on fans	98.0%	control efficiency for PM

PM		Uncontrolled		Controlled	
Electrode[3]	EF lb/1000 lb of Electrode[4]	PM Emitted (lb/hr)	PM Emitted (tpy)	PM Emitted (lb/hr)	PM Emitted (tpy)
Weld Wire	27.9	0.4	1.7	7.96E-03	3.49E-02
Weld Rod	27.9	0.03	0.14	6.37E-04	2.79E-03
Total PM[5]	–	0.43	1.88	8.60E-03	3.77E-02

Notes

(1) Anticipated needs based on similar shop throughputs at existing facilities.

(2) Hours of operation assumed to be (2) 10 hour shifts, 5 days a week, 52 weeks a year

(3) Based on the information provided by the client, the facility uses weld wire and weld rod in welding operations

(4) Emission Factor from AP-42 Table 12.19-1 for Shielded Metal Arc Welding (SMAW) for electrode type ECoCr

(5) Total PM is assumed to equal PM10 and PM2.5

Sample Calculation:

Emission rate (lb/hr)=Throughput (lb)/1000 * EF (lb/1000 lb of electrode)/ (hours of operation)

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation * 1 ton/2000 lb

TAPs

Throughput (for each electrode type)[6]	27,000	lbs
PM Emitted (for each electrode type)	0.09	lb/hr

Pollutant[7]	Aluminum	Calcium Carbonate	Chromium	Cobalt	Copper	Iron	Iron Oxide	Magnesium Oxide	Manganese	Molybdenum	Nickel	Silica	Silicon	Zirconium	Magnesium Carbonate	Tungsten	Limestone and/or calcium carbonate	Mineral Silicates	Quartz	Fluorides
CAS #	7429-90-5	1317-65-3	7440-47-3	7440-48-4	7440-50-8	7439-89-6	1309-37-1	1309-48-4	7439-96-5	7439-98-7	7440-02-0	14808-60-7	7440-21-3	7440-67-7	546-93-0	7440-33-7	1317-65-3	1332-58-7	14808-60-7	NA
Electrode[8]	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	–	0
Tubular Arc Welding (Group A)	2%	2%	3%	0	1%	98%	0	0	5%	1%	0	2%	4%	0	0	0	0	0	0	0
Tubular Arc Welding (Group B)	5%	2%	0	0	0	95%	0	3%	2%	0	0	2%	2%	0	0	0	0	0	0	0
Tubular Arc Welding (Group C)	3%	0	0	1%	2%	98%	12%	2%	4%	2%	4%	2%	4%	1%	0	0	0	0	0	0
Tubular Arc Welding (Group D)	0%	0	20%	0	0	95%	0	0	2%	2%	1%	0	2%	0	0	0	0	0	0	0
Hardsurfacing Electrode	3%	10%	35%	0	0	80%	0	0	15%	6%	10%	10%	8%	0	5%	1%	0	0	0	0
Covered Electrode	0	0	0	0	0	15%	0	0	5%	0	0	0	1%	0	0	0	10%	1%	0.5%	5%

		Emission Rate		Idaho TAP Screening Emissions Level	Exceed EL
Pollutant	CAS	lb/hr	tpy	lb/hr	
Aluminum	7429-90-5	0.0112	0.05	0.667	No
Calcium Carbonate	1317-65-3	0.0120	0.05	0.667	No
Chromium	7440-47-3	0.0499	0.22	0.033	Yes
Cobalt	7440-48-4	0.0009	0.00	0.0033	No
Copper	7440-50-8	0.0026	0.01	0.013	No
Iron	7439-89-6	0.4136	1.81	0.067	Yes
Iron Oxide	1309-37-1	0.0103	0.05	0.333	No
Magnesium Oxide	1309-48-4	0.0043	0.02	0.667	No
Manganese	7439-96-5	0.0284	0.12	0.067	No
Molybdenum	7439-98-7	0.0095	0.04	0.333	No
Nickel -Uncontrolled	7440-02-0	0.0129	0.06	2.70E-05	Yes
Controlled		2.58E-04	1.13E-03		
Silica	14808-60-7	0.0138	0.06	0.0067	Yes
Silicon	7440-21-3	0.0181	0.08	0.667	No
Zirconium	7440-67-7	0.0009	0.00	0.333	No
Magnesium Carbonate	546-93-0	0.0043	0.02	0.667	No
Tungsten	7440-33-7	0.0009	0.00	0.067	No
Limestone and/or calcium carbonate	1317-65-3	0.0086	0.04	0.667	No
Mineral Silicates	1332-58-7	0.0009	0.00	0.133	No
Quartz	14808-60-7	0.0004	0.00	0.0067	No
Fluorides as (F)	NA	0.0043	0.02	0.167	No
Uncontrolled Total TAPs	–	0.608	2.66	–	
Controlled Total TAPs	–	0.595	2.61	–	

Notes

(6) Throughput was based on the sum of weld wire and weld rod divided by the number of electrode types the facility uses

(7) TAP percentages provided by client

(8) Electrode MSDSs as provided by client

Exceeds Idaho TAP Screening Emission Level

Sample Calculation:

Emission rate (lb/hr)=Sum of [PM Emission Rate (lb/hr) * %TAP]

Emission rate (tpy) = Emission rate (lb/hr) * hours of operation * 1 ton/2000 lb

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: May 14, 2015

TO: Harbi Elshafei, Permit Writer, Air Program

FROM: Darrin Mehr, Stationary Source Modeler, Air Program

PROJECT: P-2013.0065 PROJ 61311 PTC Application for Cives Steel Permit to Construct Project

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAP)

1.0 Summary

The Cives Steel Company (Cives) submitted a Permit to Construct (PTC) application for an initial PTC for an existing unpermitted facility. The facility processes steel into finished structural steel components for construction projects. The facility is located near Idaho Falls Idaho. Site-specific air quality impact analyses involving atmospheric dispersion modeling of estimated emissions associated with the facility were submitted to DEQ to demonstrate that the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02 and 203.03 [Idaho Air Rules Section 203.02 and 203.03]). CH2M HILL, Cives' permitting consultant, submitted the analyses and applicable information and data enabling DEQ to evaluate potential impacts to ambient air.

CH2M HILL performed site-specific air quality impact analyses to demonstrate compliance with air quality standards for the operations at the facility. The DEQ review summarized by this memorandum addressed the rules, policies, methods, and data pertaining to the pollutant dispersion modeling analyses used to demonstrate that the estimated emissions associated with operation of the proposed facility or modification will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not evaluate compliance with any other rules or analyses that do not pertain to the air impact analyses. This review did not evaluate the accuracy of the emissions estimates. Evaluation of the emissions estimates is the responsibility and authority of the permit writer.

The submitted modeling information and air quality impact analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the facility as modeled were below Significant Impact Levels (SIL) or other applicable regulatory thresholds; or b) that predicted pollutant concentrations from emissions associated with the facility as modeled, when appropriately combined with ambient background concentrations, were below applicable National Ambient Air Quality Standards (NAAQS) at ambient air locations where and when the proposed facility has a significant impact; 5) showed that Toxic Air Pollutant (TAP) emissions increases associated with the facility do not result in increased ambient air impacts exceeding allowable TAP increments. Table 1 presents key assumptions and results to be considered in the development of the permit.

Air impact analyses are required by Idaho Air Rules to be conducted according to methods outlined in 40 CFR 51, Appendix W (Guideline on Air Quality Models). Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as

limited by a federally enforceable permit condition. The submitted information and analyses demonstrated to the satisfaction of the Department that operation of the proposed facility or modification will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition.

Table 1. KEY CONDITIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
Particulate Matter and Solid TAPs Control Emissions sources located within the main fabrication building, comprised build-out of Phases 1, 2, and 3 of the initial construction and subsequent modifications to the Cives facility, are assumed to exhausted through four stacks identified in the model setup as FAN_01, FAN_02 FAN_03, and FAN_04. These point sources were represented as vertical and uninterrupted releases. Each stack was assumed to be equipped with a filter system capable of removing 98% of all particulate matter across all particle sizes, including all TAPs emitted as solid particulate matter. Prior to control by the fabric filter systems, 17.5% of the solids in the painting material were assumed to be collected in the exhaust stream for FAN_01-FAN_04. Following control by the fabric filters 0.35% of paint solids were modeled as being emitted to the atmosphere by the four fan stacks as PM_{10} and $PM_{2.5}$.	Particulate matter control efficiency, exhaust parameters (primarily stack locations in relation to the ambient air boundary, stack release height, vertical and uninterrupted release, exit velocity, release height in relation to heights of structures) were important criteria used to establish compliance with the TAP increment. Airborne solid particulate matter of all particle sizes of criteria and toxic air pollutants collected by the ventilation systems were assumed to be controlled by 98% efficient fabric filtration equipment and emitted through stacks with model IDs FAN_01, FAN_02, FAN_03, and FAN_04.
Facility Phases of Construction This modeling demonstration reflects a single operating scenario. The final build out with Phases 1, 2, and 3 for the Cives facility with all structures and emissions points completed to final design specifications were modeled according to Phase 3 design of sources and material usage. Exhaust parameters and emission rates reflect the Phase 3 conditions. Intermediate structure, emission release, pollutant emissions, and material usage conditions for Phase 1 and Phase 2 were not modeled. Exhaust parameters for the sources (primarily FAN_01 through FAN_04) are important factors for the compliance demonstration. Release height, maximum exit diameter, and exhaust flow rate were key components to the facility's modeling demonstration. Section 2-Project Description lists the existing configuration of the two existing process building fans exhausts as: ***"Current configuration consists of two horizontal exhaust fans located on east side of building approximately five feet above floor of building."***	Additional intermediate conditions operating scenarios representing potential emissions and Phase 1 and Phase 2 structure and emission point release parameters were not required for this project nor were they presented in the permit application. This modeling demonstration assumes that Cives complete construction through Phase 3 in a continuous and timely fashion. Emissions from the existing facility were modeled with exhaust parameters listed in Cives' permit application and this DEQ modeling memorandum. If the construction activities have been halted, then it is appropriate for DEQ to review whether to require Cives to demonstrate compliance with NAAQS and TAPs increments using the current as-built facility potential emissions and emission point release parameters.

Primary Fabrication Building Emission sources venting inside of the main structure and these emissions are assumed to be split equally and emitted through FAN_01, FAN_02, FAN_03, and FAN_04. The following sources vent inside the primary fabrication building: • Welding – uncontrolled. • Painting – uncontrolled. • Plasma arc metal cutting – enclosed operation within main building vented to a fabric filter system with 99.9% PM_{10} and $PM_{2.5}$ control. • Makeup air unit 1 (MAU-1) is comprised of 6 units. • Makeup air unit 2 (MAU-2) is comprised of 2 units. These sources are uncontrolled.	Emissions unit and emission activities vent within the main building as either uncontrolled inside building or as controlled to some level by add-on controls. All of these emissions within the main building are assumed to be captured with 100% efficiency, routed through a pre-filter system with a high control efficiency of 98% prior to being emitted by stacks with model IDs FAN_01, FAN_02, FAN_03, and FAN_04. No fugitive emissions were predicted to occur from any processes within the fabrication building.
Daily Emissions Emissions were modeled for 24 hours per day for the 24-hour average PM_{10} and $PM_{2.5}$ NAAQS and non-carcinogenic TAPs. Hourly emissions were based on a total requested annual process throughputs divided evenly by 8,760 hours per year. All 24-hour average emission rates were based on these annualized emission rates so no additional short-term increases above the annualized emissions were accounted for in the modeling demonstration. Daily material throughputs reflected in these emission rates are determined by dividing the total annual throughputs by 365 days per year.	A worst-case daily emission rate scenario was not specifically identified for 24-hour average NAAQS compliance. The requested level of daily operational capacity was reflected in the hourly emissions rates. Additional capacity for daily painting operations is supported by reflecting all 3 paint materials in the hourly and annual $PM_{2.5}$ and PM_{10} emission rate calculations, instead of just a single paint material.

The timeline and associated submittals for the Cives Steel Company project, primarily reflecting the modeling analyses, are listed below:

- October 29, 2013: DEQ met with a representative of Cives Steel and CH2M HILL, their permitting consultant to discuss an Idaho Falls Regional Office Notice to Comply letter requesting the company to evaluate air quality permitting requirements for the recently-constructed facility
- November 1, 2013: DEQ provided CH2M HILL, with a meteorological dataset based on surface data obtained from the Idaho Falls airport.
- November 19, 2013: DEQ sent CH2M HILL ambient background concentrations for the project via email.
- November 22, 2013: DEQ received a modeling protocol via email, from CH2M HILL, on behalf of Cives.
- December 5, 2013: DEQ issued a modeling protocol approval letter via email with comments.
- December 24, 2013: DEQ received a PTC application from Cives. Modeling files were included.
- January 10, 2014: DEQ issued an incompleteness determination letter to Cives.
- January 17, 2014: Cives submitted an entirely new PTC application intended to replace the December 24, 2013 PTC application.
- March 28, 2014: CH2M HILL submitted revised AERMAP run files to DEQ via email.
- April 14, 2014: DEQ issued a letter to Cives declaring the application complete.
- May 23, 2014: CH2M HILL submitted an emission inventory spreadsheet with minor revisions to DEQ via email.
- July 9, 2014: CH2M HILL submitted a revised emission inventory.

- July 11, 2014: CH2M HILL submitted revised electronic modeling files.
- October 11, 2014: CH2M HILL submitted revised electronic modeling files.
- November 25, 2014: CH2M HILL submitted a revised permit application and modeling demonstration files with substantial changes to application and modeling files.
- May 12, 2015: CH2M HILL submitted a revised emission calculation spreadsheet affecting only annual potential to emit for VOCs.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality standards and analyses used to demonstrate compliance with air quality standards.

2.1.1 Area Classification

The Cives facility is an existing stationary facility. The facility is located approximately 6 miles northeast of Idaho Falls, in Bonneville County. The area is designated as attainment or unclassifiable for all criteria air pollutants.

2.1.2 Significant and Cumulative NAAQS Impact Analyses

If maximum modeled pollutant impacts to ambient air from emissions sources associated with a new facility or the emissions increase associated with a modification exceed the SILs of Idaho Air Rules Section 006 (referred to as a significant contribution in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02. A cumulative NAAQS impact analysis may also be required for permit revisions driven by compliance/enforcement actions, any correction of emissions limits or other operational parameters that may affect pollutant impacts to ambient air, or other cases where DEQ believes NAAQS may be threatened by the emissions associated with the facility or proposed project.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts, according to established DEQ/EPA guidance, policies, and procedures, from applicable facility-wide emissions and emissions from any nearby co-contributing sources. A DEQ-approved background concentration value is then added to the modeled result that is appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis.

Table 2. APPLICABLE REGULATORY LIMITS				
Pollutant	**Averaging Period**	**Significant Impact Levels[a] ($\mu g/m^3$)[b]**	**Regulatory Limit[c] ($\mu g/m^3$)**	**Modeled Design Value Used[d]**
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms per cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

If the cumulative NAAQS impact analysis shows a violation of the standard, the permit cannot be issued if the proposed project or facility has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. The facility or project does not have a significant contribution to a violation if impacts are below the SIL at all specific receptors showing violations during the time periods when modeled violations occurred.

Compliance with Idaho Air Rules Section 203.02 is demonstrated if: a) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or b) modeled design values of the cumulative NAAQS impact analysis (modeling applicable emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or c) if the cumulative

NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.1.3 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

> *Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.*

Permitting requirements for toxic air pollutants (TAP) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

> *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Per Section 210, if the total project-wide emissions increase of any TAP associated with a new source or modification exceeds screening emission levels (EL) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emissions increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AAC) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACC) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP.

2.2 Background Concentrations

Background concentrations are used in the cumulative NAAQS impact analyses to account for impacts from sources not explicitly modeled. Table 3 lists appropriate background concentrations for the site and surrounding area for all pollutants modeled in these analyses. Criteria pollutants not listed in Table 3 were not modeled because emissions associated with operation of the Cives Steel facility were below DEQ established modeling thresholds.

DEQ provided CH2M HILL with appropriate background concentration values for the Cives project. Background concentrations used by the applicant in the modeling demonstration were provided by DEQ in a November 19, 2013 email and the December 5, 2013 modeling protocol approval letter.

DEQ also provided additional NO_2 and ozone background data in the form of 24 hourly values comprising a representative day via email and in the protocol approval letter. This data was appropriate for a Tier III 1-hour average NO_2 ambient standards demonstration. The modeling demonstration used a Tier II Ambient Ratio Method to demonstrate compliance with the 1-hour NO_2 NAAQS standard. Thus the background values consisting of 24 individual hour background values, which represented a "daily"

background for NO_2 and O_3, were provided by DEQ in the modeling protocol approval letter were not used for the NAAQS demonstration and are not listed in this memorandum.

Potential emissions of lead, SO_2, and CO were below DEQ's Level I modeling thresholds. Modeling was not required for these pollutants and background concentrations are not included in Table 3.

Table 3. BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)[a]	Comments
PM_{10}[b]	24-hour	81	Default small town/suburban background value for Rexburg, Idaho[1]
$PM_{2.5}$[c]	24-hour	22.6	98th percentile value, excluding exceptional events, from the Ballard Road monitoring site near Fort Hall using 2010, 2011, and 2012 data. Data was obtained from the EPA AQS website.
	Annual	6.5	Mean value of the three annual average values for 2010, 2011, and 2013 Ballard Road data.
NO_2[d]	1-hour	58.3	Single hourly value representing the 98th percentile of the 2007 and 2010 ozone season monitoring data obtained at the Idaho Transportation Department on State Street in Boise
	Annual	32	Default small town/suburban background value. This is the maximum value within the 1996 through 1999 Pocatello, Idaho dataset.[1]

a. Micrograms per cubic meter.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
c. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
d. Nitrogen dioxide.

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

This section describes the modeling methods used by CH2M HILL, the applicant's consultant, to demonstrate preconstruction compliance with applicable air quality standards.

3.1.1 Overview of Analyses

CH2M HILL performed site-specific air impact analyses that were determined by DEQ to be reasonably representative of the Cives facility. Results of the submitted analyses demonstrated compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

Table 4 provides a brief description of parameters used in the modeling analyses.

[1] Hardy, Rick and Schilling, Kevin, DEQ. Background Concentrations for Use in New Source Review Dispersion Modeling. Memorandum to Mary Anderson, DEQ. March 14, 2003.

Table 4. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
General Facility Location	6 miles northeast of Idaho Falls	The area is an attainment or unclassified area for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 12345. Non regulatory default settings for stacks equipped with raincaps and horizontal release orientations were used. Ambient concentration output was specified.
Meteorological Data	Idaho Falls	2008-2012. See Section 3.1.4 of this memorandum.
Projection	UTM/NAD83	Universal Transverse Mercator, Zone 12. The horizontal datum was specified in model setup and AERMAP files as NAD83.
Terrain	Considered	Receptor, building, and emissions source elevations were determined using USGS 1/3 arc second National Elevation Dataset (NED) files along with site grading plans. AERMAP Version 11103 was used to generate receptor elevations and hill height scales. DEQ did not conduct a detailed review of the application's determination of receptor elevations and hill height scales.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility.
Receptor Grid	Grid 1	25-meter spacing along the ambient air boundary.
	Grid 2	5-meter spacing within two rectangular grids located along the ambient air boundary to the north and south of the Phase III PAINTBAY structure, extending at least 55 meters horizontally and vertically.
	Grid 3	25-meter spacing in a grid extending at least 100 meters in all directions from the facility's ambient air boundary.
	Grid 4	100-meter spacing within a 2.7 kilometer (X) by 2.3 kilometer (Y) grid set on Grid 3.
	Grid 5	500-meter spacing within an 11.0 kilometer (X) by 10.5 kilometer (Y) grid set on Grid 4.

3.1.2 Modeling protocol and Methodology

A modeling protocol was submitted to DEQ prior to receipt of the application, and was prepared by CH2M HILL. The protocol was received via email by DEQ on November 22, 2013. DEQ issued a protocol approval, with comments, to CH2M HILL on December 5, 2013.

Site-specific modeling was generally conducted using data and methods described in the protocol and in the *Idaho Air Quality Modeling Guideline* (State of Idaho Guideline for Performing Air Quality Impact Analyses. Doc. ID AQ-011 (September 2013). See http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.

3.1.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in 40 CFR 51, Appendix W (Guideline on Air Quality Models). The refined, steady state, multiple-source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. AERMOD retains the single straight line trajectory of ISCST3, but includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers. AERMOD was used for the modeling analyses to evaluate impacts of the facility.

NO_2 1-hour impacts are assessed using a tiered approach to account for $NO/NO_2/O_3$ chemistry. Tier 1 is the most conservative approach and assumes full conversion of NO to NO_2. Tier 2 assumes a 0.80 default ambient ratio of NO_2/NO_x. Tier 3 accounts for more refined assessment of the NO to NO_2 conversion, and

a supplemental modeling program can be used with AERMOD to better account for $NO/NO_2/O_3$ atmospheric chemistry. Either the Plume Volume Molar Ratio Method (PVMRM) or the Ozone Limiting Method (OLM) can be specified within the AERMOD input file. As stated in EPA guidance (Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. Memorandum: from Tyler Fox, Leader, Air Quality Modeling Group, C439-01, Office of Air Quality Planning and Standards, USEPA; to Regional Air Division Directors. March 01, 2011), EPA has not indicated by preference of one option over the other (PVMRM vs. OLM).

The non-regulatory Beta option for capped and horizontal release points was approved for this project. CH2M HILL applied the Beta option for all point sources except the four primary exhaust stacks with model IDs FAN_01, FAN_02, FAN_03, and FAN_04.

The non-regulatory Tier III compliance methods using either OLM or PVMRM for 1-hour average NO_2 standard was approved by DEQ. These methods were not used by the applicant in the modeling demonstration. A Tier II ARM was applied for the 1-hour and annual average NO_2 NAAQS impacts attributed to the Cives facility. The default Tier II ARM value of 0.80 was used for 1-hour average NO_2 NAAQS and the default value of 0.75 was used for the annual averaging period.

3.1.4 Meteorological Data

The Cives site is approximately 6.5 miles northeast of the Idaho Falls Regional Airport's NWS met tower. DEQ provided CH2M HILL with model-ready meteorological data processed from the Idaho Falls airport's National Weather Service (NWS) data for the surface data. Boise upper air data was used to process the dataset. Additional surface data used to fill in missing NWS data was obtained from the Automated Surface Observation System (ASOS), providing 1-minute data. DEQ ran AERMINUTE Version 11325 using a 0.5 meter per second threshold velocity. AERSURFACE Version 13016 was used to establish albedo, Bowen ratio, and surface roughness for the AERMET processing runs. Additional refinement to the surface parameters was performed to reflect the number of ground snow cover days on a monthly basis for December, January and February for each year of data. The AERMET input surface parameters of albedo, surface roughness, and Bowen ratio were averaged using each month's snow cover days and the boundary condition values for complete snow cover and complete lack of snow cover. AERMET Version 12345 was used to process the data files and generate AERMOD-ready meteorological data covering 2008 through 2012.

Figure 1 presents the meteorological data set wind rose and frequency distribution for selected wind speed intervals for entire 2008 through 2012 dataset. Figure 2 depicts the meteorological data wind rose at the Idaho Falls airport where the data was collected. Figure 3 shows the Cives facility and the neighboring area and a comparison to wind rose in Figure 2 indicates the primary wind directions for the project are from the north and south.

Figure 1. IDAHO FALLS 2008-2012 WITH ASOS DATA WIND SPEED

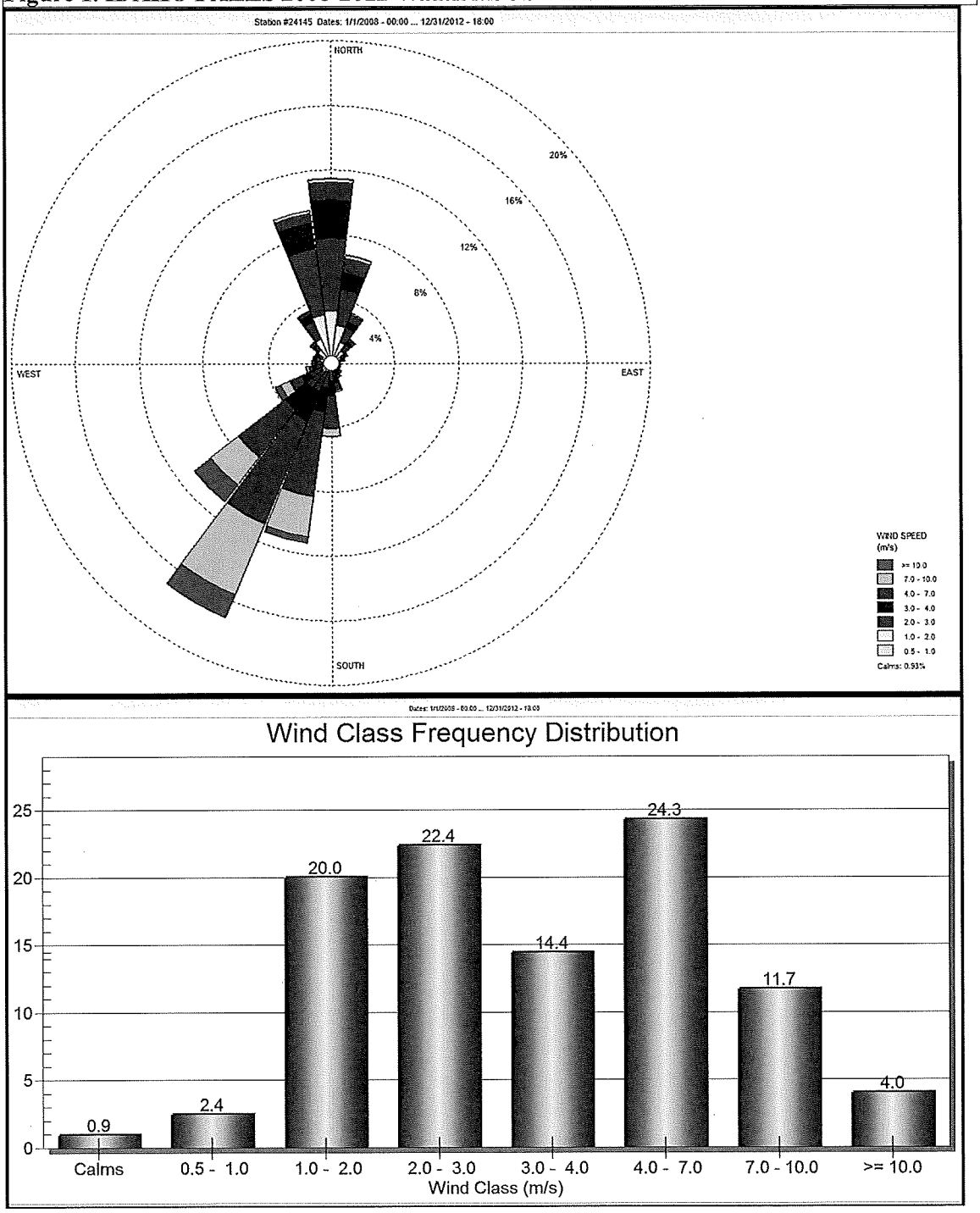


Figure 2. WIND ROSE FOR '08-'12 IDAHO FALLS SURFACE MET DATA

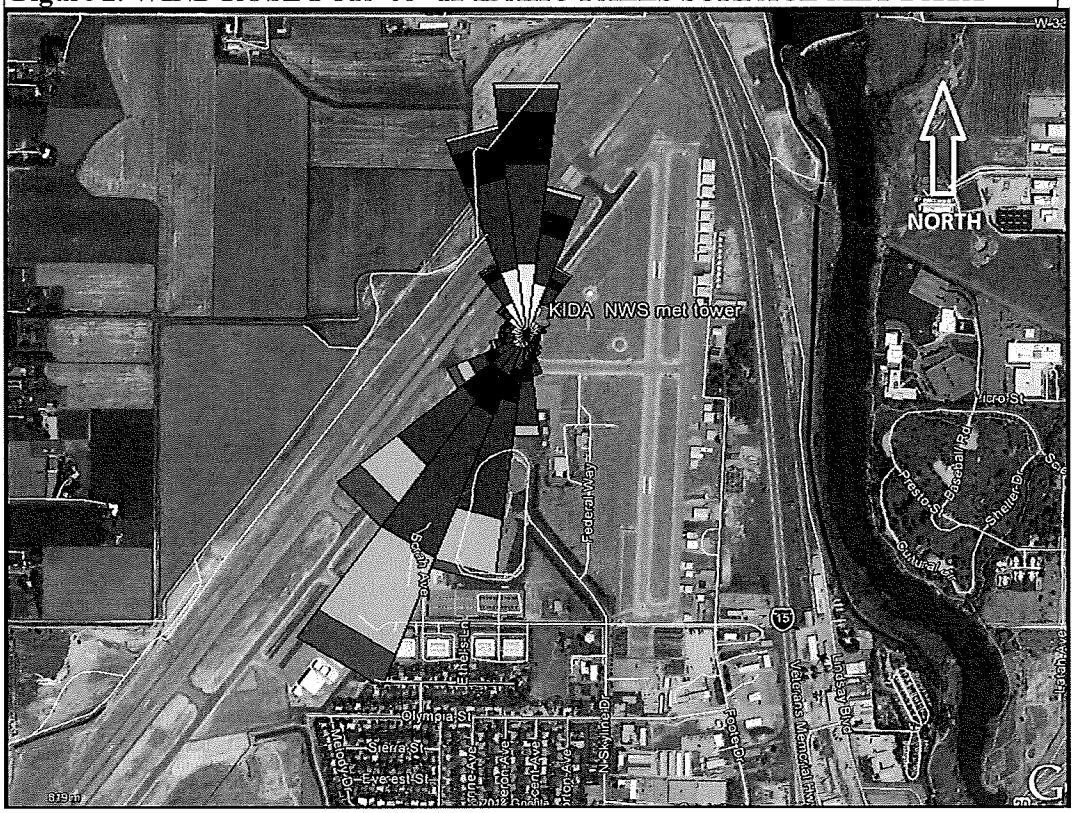
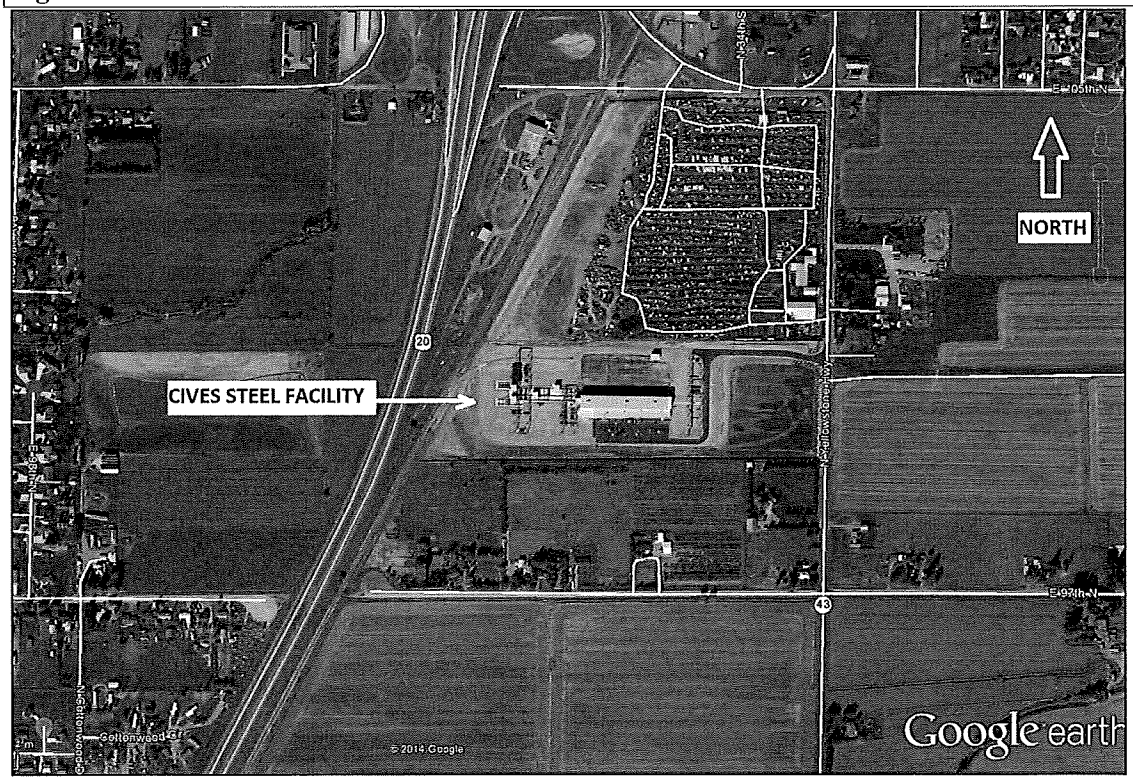


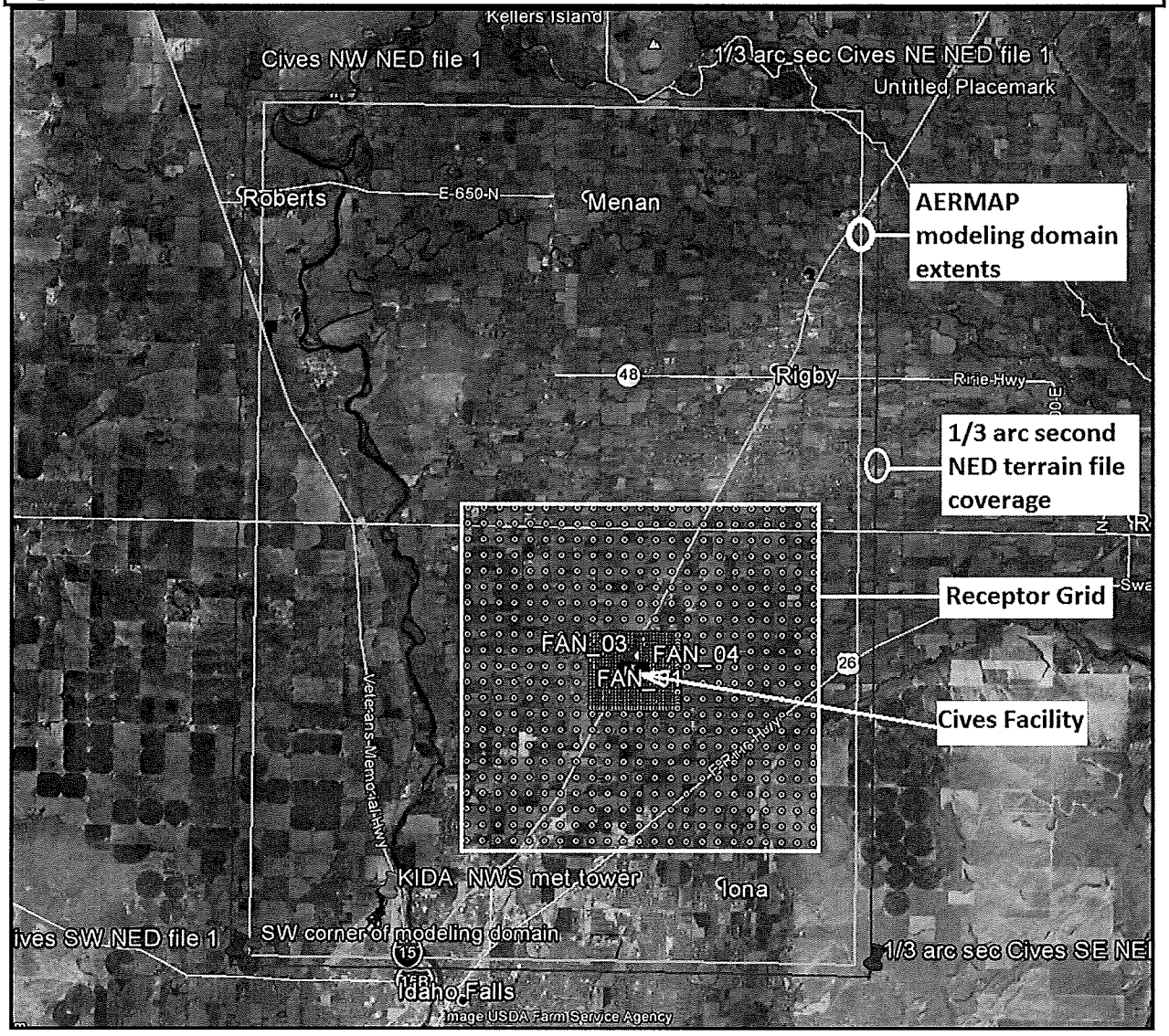
Figure 3. CIVES STEEL FACILITY and SURROUNDING AREA



3.1.5 Terrain Effects

CH2M HILL used a National Elevation Dataset (NED) file as input data to AERMAP Version 11103 to determine receptor elevations, hill height scale values, and base elevations of buildings. Base elevations of stacks were set equal to building base elevations. DEQ did not perform an extensive review of the AERMAP runs and data. The NED file was described as having a 10 meter resolution, which is a 1/3 arc second resolution file and was in the TIF format. Figure 4 below shows the extent of the NED file and the extents of the receptor grid used for Cives' AERMAP run using a Google earth image. The AERMAP run specified a NAD83 horizontal datum. Elevations were extracted for emission sources, buildings, and receptors. Hill height scale values were extracted for the receptors.

Figure 4. TERRAIN FILE AND FULL RECEPTOR GRID COVERAGE



3.1.6 Building Downwash

Potential downwash effects on the emissions plume were accounted for in the model by using building parameters developed by CH2M HILL. The Building Profile Input Program (BPIP) with the PRIME downwash algorithm (BPIP-PRIME) was used to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and release parameters for input to AERMOD.

Building dimensions were presented in DEQ form MI4. Lateral dimensions of structures listed in the table matched Google earth and model setup reasonably well where structures have been already been built. Phases 2 and 3 of the project have not been constructed and the dimensions used in the model setup were assumed to be accurately representative of the future construction projects. Building tier heights were assumed to be accurate as submitted.

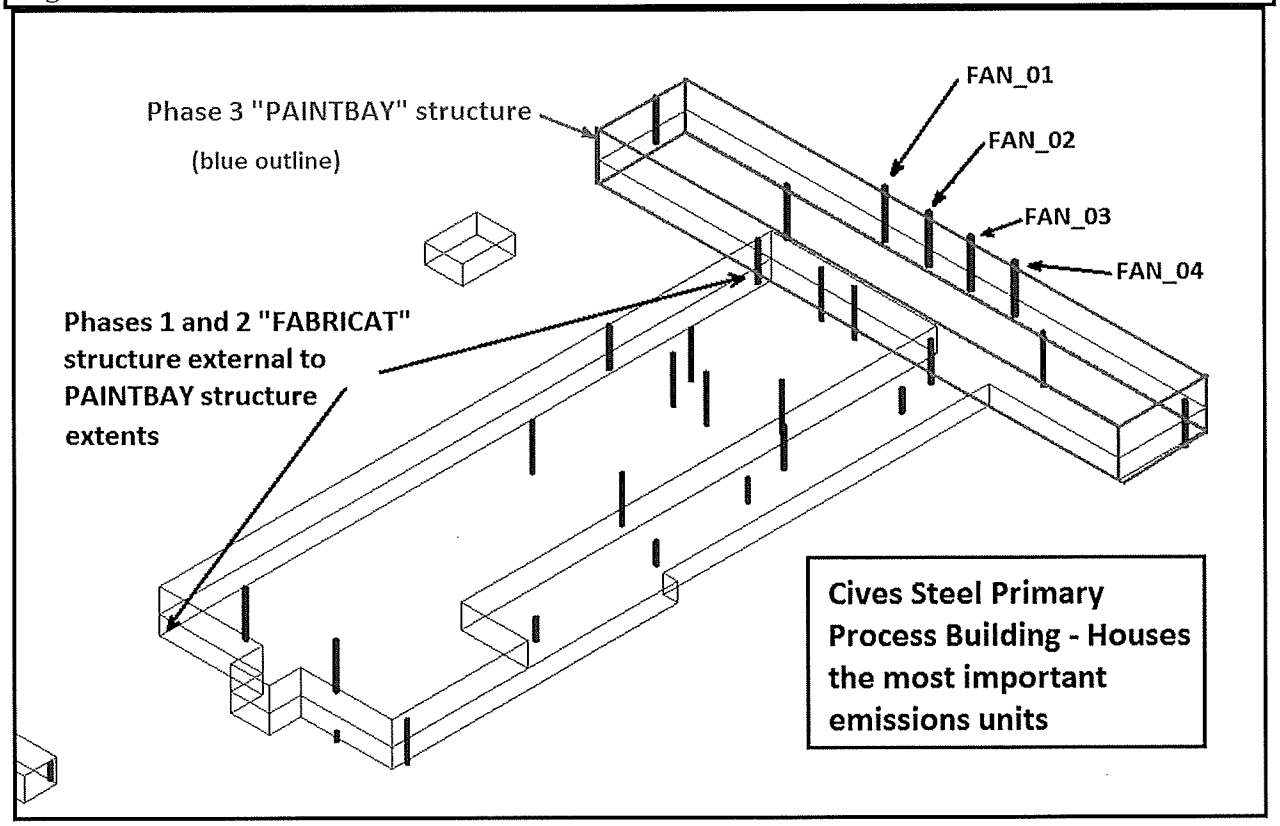
The final Phase 3 PAINTBAY portion of the main process building was input into BPIP as a separate structure from the rest of the main process building (named FABRICAT in BPIP). The tallest tier height for FABRICAT was 10.21 meters (33.5 feet) above grade. The PAINTBAY building was depicted with a 10.67 meter (35 feet) height above grade and was set directly over a lower tier in the FABRICAT model setup with an outline identical to the PAINTBAY structure. The PAINTBAY structure will be viewed in the BPIP-PRIME program as a separate structure extending to ground level.

The heights of the structures for future Phases 2 and 3 are important factors for the modeling demonstration. Structure tier heights are an important component of this modeling demonstration. Building-induced downwash effects are expected to occur for each of the four most important exhaust plumes represented in this modeling demonstration. The difference between the height above grade of the Phase 3 section of the tallest building (model ID PAINTBAY) compared to process exhaust systems FAN_01 through FAN04 provides a stack release of 2 feet above PAINTBAY roofline. These four exhaust fan stacks are to be located immediately adjacent to the PAINTBAY structure following completion of Phase 3 of the facility.

The base elevations for primary process building and FAN_01 through FAN_04 matched, and used an elevation of 1463.68 meters (4,800.9 feet). This confirms the modeling represents release heights of the FAN_01-FAN_04 stacks at 2 feet above the roofline.

The main Cives process building is shown in Figure 5. Phases I, II, and III are represented.

Figure 5. CIVES STEEL PHASED CONSTRUCTION OF FABRICATION BUILDING



3.1.7 Ambient Air Boundary

Cives is an existing facility located north of Idaho Falls (just south of Ucon). As described in the modeling protocol included in the replacement permit application, the property boundary is fenced and there is an entrance gate on the eastern ambient air boundary along Highway 43/North Yellowstone Highway. Google earth images confirm the perimeter of the facility is fenced except where a rail spur on the west boundary crosses the ambient air boundary. The property was used as an agricultural field with a residence and the rail spur did not exist prior to construction of the Cives facility. The rail spur terminates within the Cives property and appears to only to provide access to rail transportation for the Cives facility.

DEQ accepted the ambient air boundary as submitted. The methods proposed to prevent public access within the ambient air boundary satisfy the requirements specified in the *Idaho Air Quality Modeling Guideline*. Figure 6 shows the modeled site layout with the ambient air boundary.

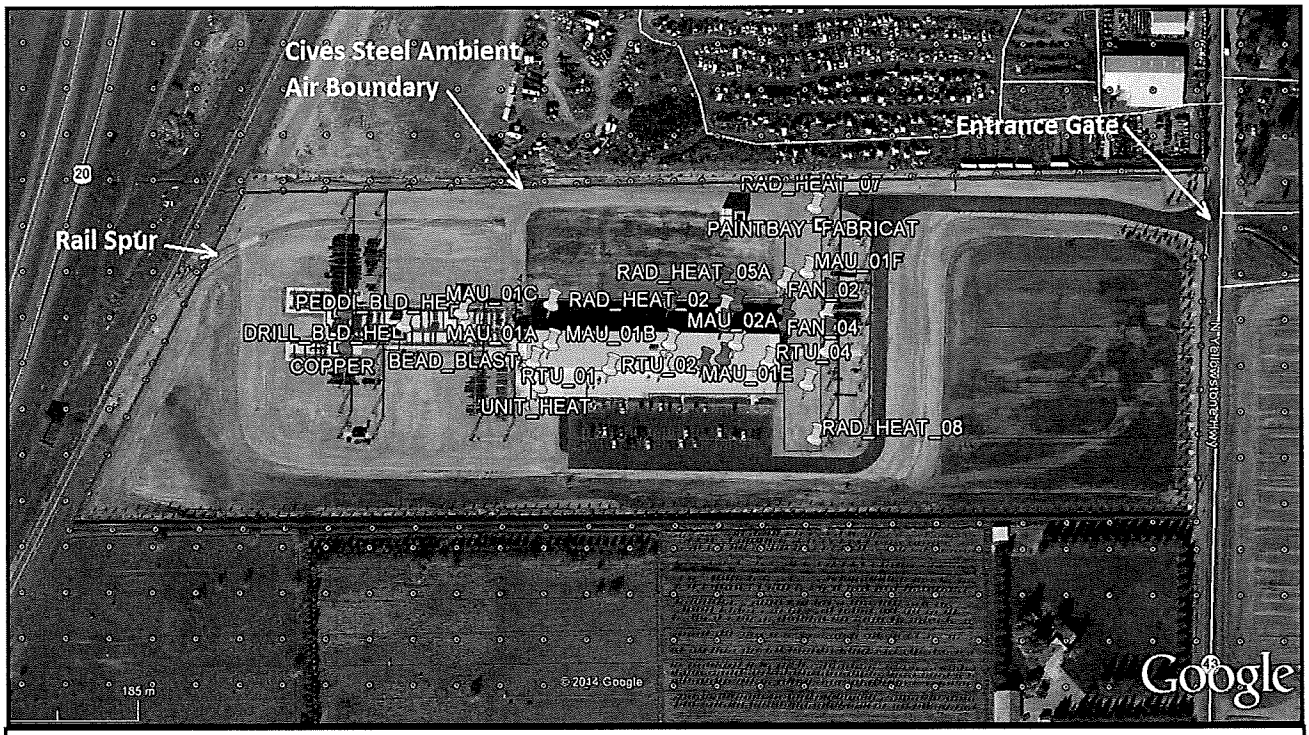
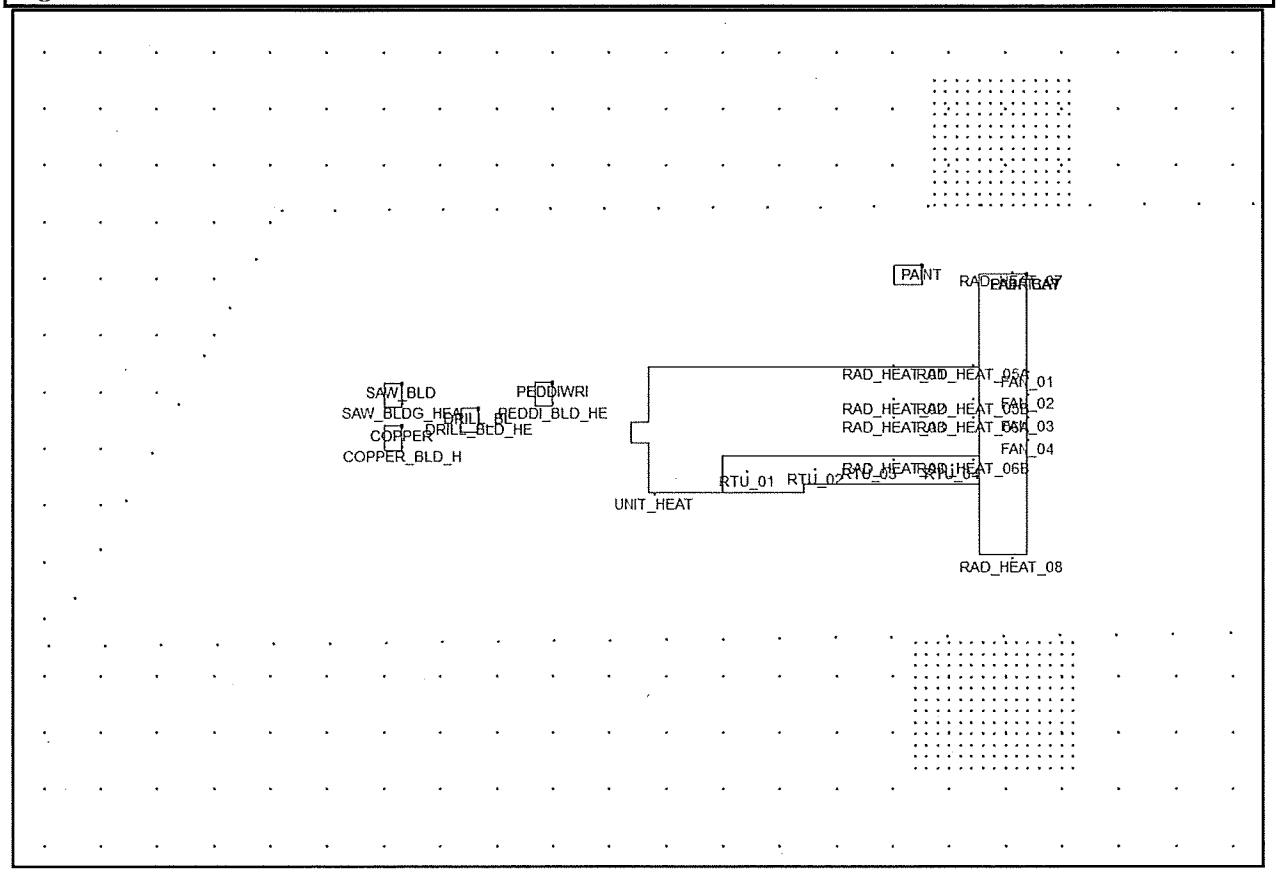


Figure 6. CIVES STEEL AMBIENT AIR BOUNDARY

3.1.8 Receptor Network

A cumulative NAAQS impact analysis was performed using a receptor grid centered on the facility. Receptors were spaced at 25 meters apart along the ambient air boundary and for at least 100 meters in all directions established the fine resolution area for impacts near the facility. Spacing was increased to 100 meters for the next grid and 500 meters was used for a coarse resolution grid. Two hot spot resolution grids were included in the November 25, 2014 modeling demonstration. The highest impacts were predicted to occur in these regions. DEQ agrees that the receptor grid adequately resolved the maximum ambient impacts for this project.

Figure 7. HIGH RESOLUTION RECEPTOR GRIDS



3.2 *Emission Rates*

Emissions rates of criteria pollutants and TAPs for operations at the Cives facility were provided by the applicant. The emission inventory spreadsheet submitted on May 12, 2015 was the final emission inventory spreadsheet for the project. DEQ modeling review did not include review of emissions rates for accuracy. Review and approval of estimated emissions was the responsibility of the DEQ permit writer. DEQ modeling review assumes the short term and annual average emissions modeled by Cives reflect the maximum requested permit-allowable emissions for emissions units and processes at the facility.

Footnote 5 of the "Painting TAPs Emissions" tab of the final emission inventory spreadsheet submitted on May 12, 2015, describes the requested emissions rates and process throughput of process paint materials for the project.

> "(5) Cives would like the operational fexibility to use up to 21,000 gallons for each of the three paints (AMERLOCK2, CARBONZINC 11, and AMERCOAT 68HS), with at TOTAL throughput limit of 21,000 gallons per year. For example, any combination of the three paints usage will not exceed 21,000 gallons for the year."

The assumptions used to calculate particulate matter criteria and particulate matter toxic air pollutant emissions in combination provide an effective level of control, resulting in 0.35% of solids present in the materials being emitted for the hourly and annual emissions. The control methods include airless spray

gun transfer efficiency of 65%, for 35% overspray; PM dropout within the primary process building of 50%; and, fabric filter control of 98% prior to emission through the primary exhaust stacks (FAN_01, FAN_02, FAN_03, and FAN_04). This level of control was applied to the aggregate of all three coating materials, each at 21,000 gallons per year, and 57.5 gallons per day of each paint. Note that a worst-case 24-hour throughput of paint materials developed independently of the annual throughput was not clearly defined. Daily, or 24-hour average, emissions were based on the emissions rates developed by averaging annual emissions at the requested throughputs over 8,760 hours per year. Emissions attributed to all three coating materials were included in the modeled hourly emission rates for both 24-hour and annual averaging periods. Hourly emission rates were modeled for 24 hours per day without application of operational factors to alter the emission rates to demonstrate compliance with 24-hour average standards. Hourly emission rates were modeled for 8,760 hours per year without additional restrictions.

3.2.1 Criteria Pollutant Emissions Rate

Tables 5 and 6 list criteria pollutant emissions rates used in the site-specific modeling analyses for the facility-wide requested potential emissions for all applicable averaging periods. The rates listed represent the maximum allowable rate averaged over the specified period. The emission rates listed in Table 5 were modeled for 24 hours per day. The emission rates in Table 6 were modeled for 8,760 hours per year.

Table 5. MODELED SHORT-TERM EMISSIONS RATES

Source ID	Description	PM_{10}[a], 24-hour average (lb/hr)[b]	$PM_{2.5}$[c] 24-hour average (lb/hr)	NOx[d], 1-hour average (lb/hr)
SAW_BLDG_HEA	Saw building heater	2.53E-04	2.53E-04	0.00333
DRILL_BLD_HE	Drill building heater	2.53E-04	2.53E-04	0.00333
PEDDI_BLD_HE	Peddiwriter building heater	2.53E-04	2.53E-04	0.00333
COPPER_BLD_H	Copper building heater	2.53E-04	2.53E-04	0.00333
FAN_01	Main building exhaust fan	0.115	0.113	0.201
FAN_02	Exhaust fan 02	0.115	0.113	0.201
FAN_03	Exhaust fan 03	0.115	0.113	0.201
FAN_04	Exhaust fan 04	0.115	0.113	0.201
RAD_HEAT_01	Main building radiant heater	7.45E-04	7.45E-04	0.0098
RAD_HEAT_02	Radiant heater 02	7.45E-04	7.45E-04	0.0098
RAD_HEAT_03	Radiant heater 03	7.45E-04	7.45E-04	0.0098
RAD_HEAT_04	Radiant heater 04	7.45E-04	7.45E-04	0.0098
RAD_HEAT_05A	Heater with 2 exhausts - wall exhaust	3.35E-04	3.35E-04	0.00441
RAD_HEAT_05B	Radiant heater 5 with two exhausts (roof)	3.35E-04	3.35E-04	0.00441
RAD_HEAT_06A	Radiant heater 06 two exhausts (roof)	3.35E-04	3.35E-04	0.00441
RAD_HEAT_06B	Radiant heater 06 two exhausts (wall exhaust)	3.35E-04	3.35E-04	0.00441
RAD_HEAT_07	Radiant heater 07	7.45E-04	7.45E-04	0.0098
RAD_HEAT_08	Radiant heater 08	7.45E-04	7.45E-04	0.0098
UNIT_HEAT	Unit heater	0.00224	0.00224	0.0294
RTU_01	Rooftop unit 1	8.94E-04	8.94E-04	0.0118
RTU_02	Rooftop unit 2	3.73E-04	3.73E-04	0.0049
RTU_03	Rooftop unit 3	8.94E-04	8.94E-04	0.0118
RTU_04	Rooftop unit 4	8.94E-04	8.94E-04	0.0118
BEAD_BLAST	Beadblast baghouse	0.034	0.034	0

a. Particulate matter with a mean aerodynamic diameter of 10 microns or less, including condensables.
b. Pounds per hour.
c. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less, including condensables.
d. Nitrogen oxides.

Table 6. MODELED LONG-TERM EMISSIONS RATES			
Source ID	**Description**	**$PM_{2.5}$[a], Annual average (lb/hr)[c]**	**NO_x[b], Annual average (lb/hr)**
SAW_BLDG_HEA	Saw building heater	2.53E-04	0.0033
DRILL_BLD_HE	Drill building heater	2.53E-04	0.0033
PEDDI_BLD_HE	Peddiwriter building heater	2.53E-04	0.0033
COPPER_BLD_H	Copper building heater	2.53E-04	0.0033
FAN_01	Main building exhaust fan	0.0161	0.1998
FAN_02	Exhaust fan 02	0.0161	0.1998
FAN_03	Exhaust fan 03	0.0161	0.1998
FAN_04	Exhaust fan 04	0.0161	0.1998
RAD_HEAT_01	Main building radiant heater	7.44E-04	0.0098
RAD_HEAT_02	Radiant heater 02	7.44E-04	0.0098
RAD_HEAT_03	Radiant heater 03	7.44E-04	0.0098
RAD_HEAT_04	Radiant heater 04	7.44E-04	0.0098
RAD_HEAT_05A	Heater with 2 exhausts - wall exhaust	3.36E-04	0.0044
RAD_HEAT_05B	Radiant heater 5 with two exhausts (roof)	3.36E-04	0.0044
RAD_HEAT_06A	Radiant heater 06 two exhausts (roof)	3.36E-04	0.0044
RAD_HEAT_06B	Radiant heater 06 two exhausts (wall exhaust)	3.36E-04	0.0044
RAD_HEAT_07	Radiant heater 07	7.44E-04	0.0098
RAD_HEAT_08	Radiant heater 08	7.44E-04	0.0098
UNIT_HEAT	Unit heater	0.0022	0.0295
RTU_01	Rooftop unit 1	8.95E-04	0.0118
RTU_02	Rooftop unit 2	3.72E-04	0.0049
RTU_03	Rooftop unit 3	8.95E-04	0.0118
RTU_04	Rooftop unit 4	8.95E-04	0.0118
BEAD_BLAST	Beadblast baghouse	0.0342	0

a. Particulate matter with a mean aerodynamic diameter of 2.5 microns or less, including condensables.
b. Nitrogen oxides.
c. Pounds per hour.

3.2.2 TAP Emission Rates

CH2M HILL and Cives modeled those TAPs where facility-wide TAPs emissions from applicable sources exceeded the emissions screening levels (EL) of Idaho Air Rules Section 585 and 586. Table 7 provides modeled emissions rates for TAP. The hourly emission rates were modeled for 8,760 hours per year.

Table 7. TOXIC AIR POLLUTANT EMISSIONS RATES								
Source	Description	Pollutant Emissions						
		Non-carcinogens			Carcinogens			
		Iron[a] (lb/hr)[b]	Chromium[c] (lb/hr)	Silica - Quartz (lb/hr)	Arsenic (lb/hr)[b]	Cadmium (lb/hr)	Formaldehyde (lb/hr)	Nickel (lb/hr)
SAW_BLDG_HEA	Saw building heater	0	4.67E-08	0	6.67E-09	3.68E-08	2.51E-06	7.01E-08
DRILL_BLD_HE	Drill building heater	0	4.67E-08	0	6.67E-09	3.68E-08	2.51E-06	7.01E-08
PEDDI_BLD_HE	Peddiwriter building heater	0	4.67E-08	0	6.67E-09	3.68E-08	2.51E-06	7.01E-08
COPPER_BLD_H	Copper building heater	0	4.67E-08	0	6.67E-09	3.68E-08	2.51E-06	7.01E-08
FAN_01	Main building exhaust fan	0.104	0.0132	0.0148	3.97E-07	2.19E-06	1.49E-04	6.89E-05
FAN_02	Exhaust fan 02	0.104	0.0132	0.0148	3.97E-07	2.19E-06	1.49E-04	6.89E-05
FAN_03	Exhaust fan 03	0.104	0.0132	0.0148	3.97E-07	2.19E-06	1.49E-04	6.89E-05
FAN_04	Exhaust fan 04	0.104	0.0132	0.0148	3.97E-07	2.19E-06	1.49E-04	6.89E-05
RAD_HEAT_01	Main building radiant heater	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
RAD_HEAT_02	Radiant heater 02	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
RAD_HEAT_03	Radiant heater 03	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
RAD_HEAT_04	Radiant heater 04	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
RAD_HEAT_05A	Heater with 2 exhausts - wall exhaust	0	6.18E-08	0	8.81E-09	4.86E-08	3.31E-06	9.27E-08
RAD_HEAT_05B	Radiant heater 5 with two exhausts (roof)	0	6.18E-08	0	8.81E-09	4.86E-08	3.31E-06	9.27E-08
RAD_HEAT_06A	Radiant heater 06 two exhausts (roof)	0	6.18E-08	0	8.81E-09	4.86E-08	3.31E-06	9.27E-08
RAD_HEAT_06B	Radiant heater 06 two exhausts (wall exhaust)	0	6.18E-08	0	8.81E-09	4.86E-08	3.31E-06	9.27E-08
RAD_HEAT_07	Radiant heater 07	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
RAD_HEAT_08	Radiant heater 08	0	1.37E-07	0	1.96E-08	1.08E-07	7.35E-06	2.06E-07
UNIT_HEAT	Unit heater	0	4.12E-07	0	5.89E-08	3.24E-07	2.21E-05	6.19E-07
RTU_01	Rooftop unit 1	0	1.65E-07	0	2.35E-08	1.29E-07	8.81E-06	2.47E-07
RTU_02	Rooftop unit 2	0	6.86E-08	0	9.79E-09	5.39E-08	3.68E-06	1.03E-07
RTU_03	Rooftop unit 3	0	1.65E-07	0	2.35E-08	1.29E-07	8.81E-06	2.47E-07
RTU_04	Rooftop unit 4	0	1.65E-07	0	2.35E-08	1.29E-07	8.81E-06	2.47E-07

a. Iron emitted as iron salts, Chemical Abstract Service number 7439-89-6.
b. Pounds per hour. Modeled at 24 hours per day for non-carcinogens and 8760 hours per year for carcinogens.
c. Chromium (metals or as Cr II).

3.3 Emission Release Parameters

Table 8 lists emission release parameters for sources modeled.

Table 8. EMISSIONS RELEASE PARAMETERS						
Model ID	**Description**	**Source Type / Release Orientation**	**Stack Height (m)[a]**	**Modeled Diameter (m)**	**Stack Gas Temperature (K)[b]**	**Stack Gas Flow Velocity (m/sec)[c]**
SAW_BLDG_HEA	Saw building heater	HORIZONTAL	3.66	0.35	294.26	7.75
DRILL_BLD_HE	Drill building heater	HORIZONTAL	3.66	0.35	294.26	7.75
PEDDI_BLD_HE	Peddiwriter building heater	HORIZONTAL	3.66	0.35	294.26	7.75
COPPER_BLD_H	Copper building heater	HORIZONTAL	3.66	0.35	294.26	7.75
FAN_01	Main building exhaust fan	DEFAULT	11.28	1.22	294.26	8.09
FAN_02	Exhaust fan 02	DEFAULT	11.28	1.22	294.26	8.09
FAN_03	Exhaust fan 03	DEFAULT	11.28	1.22	294.26	8.09
FAN_04	Exhaust fan 04	DEFAULT	11.28	1.22	294.26	8.09
RAD_HEAT_01	Main building radiant heater	HORIZONTAL	9.14	0.10	344.26	12.25
RAD_HEAT_02	Radiant heater 02	RAINCAP	10.82	0.10	344.26	12.25
RAD_HEAT_03	Radiant heater 03	RAINCAP	10.82	0.10	344.26	12.25
RAD_HEAT_04	Radiant heater 04	HORIZONTAL	9.14	0.10	344.26	12.25
RAD_HEAT_05A	Heater with 2 exhausts - wall exhaust	HORIZONTAL	9.14	0.10	344.26	6.12
RAD_HEAT_05B	Radiant heater 5 with two exhausts (roof)	RAINCAP	10.82	0.10	344.26	6.12
RAD_HEAT_06A	Radiant heater 06 two exhausts (roof)	RAINCAP	10.82	0.10	344.26	6.12
RAD_HEAT_06B	Radiant heater 06 two exhausts (wall exhaust)	HORIZONTAL	9.14	0.10	344.26	6.12
RAD_HEAT_07	Radiant heater 07	HORIZONTAL	9.75	0.10	344.26	12.25
RAD_HEAT_08	Radiant heater 08	HORIZONTAL	9.75	0.10	344.26	12.25
UNIT_HEAT	Unit heater	HORIZONTAL	9.14	0.15	322.04	31.05
RTU_01	Rooftop unit 1	HORIZONTAL	5.03	0.081	330.37	43.98
RTU_02	Rooftop unit 2	HORIZONTAL	5.03	0.081	324.82	18.32
RTU_03	Rooftop unit 3	HORIZONTAL	5.03	0.081	330.37	43.98
RTU_04	Rooftop unit 4	HORIZONTAL	5.03	0.081	330.37	43.98
BEAD_BLAST	Beadblast baghouse	HORIZONTAL	1.91	1.03	294.3	8.087

a. Meters.
b. Kelvin.
c. Meters per second.

Cives' permit application provided supporting documentation on the exhaust parameters used in the modeling demonstration in Appendix C. Manufacturer's specification data was the primary resource used to substantiate the exhaust parameters.

FAN_01 – FAN_04

An email from Quantum Group Engineering, PC, to Ben Merkling, General Manager, Cives, provided supporting documentation of the intended design parameters for primary building exhaust fans. CH2M HILL's replacement application cover letter outlined the response to incompleteness items for the initial December 24, 2013 PTC application. Primary exhaust fans FAN_01, FAN_02, FAN_03, and FAN_04 are designed with rectangular stacks of dimensions 30 inches by 60 inches. The equivalent diameter of each stack is 47.9 inches, or approximately 4 feet. Each of the four ventilation systems will be equipped with a centrifugal fan with an operating power of 16.74 horsepower, which is to provide adequate stack pressure to deliver an exhaust flow rate of 20,000 actual cubic feet per minute with an exhaust train equipped with a fabric filtration system of 98% efficient for PM, PM_{10}, and $PM_{2.5}$ control and the necessary stack connections and vertical stack run with a release height of 37 feet. The Greenheck fan performance curve and the performance specifications were for the Model SWB-336-200 backward inclined centrifugal fan. The primary stacks fans specifications are fully supported with this data. The presence of rain caps, downblast caps, or any other stack cap treatments were discussed in the application materials for FAN_01

– FAN_04 and a vertical and uninterrupted flow was represented in the model setup. An exit temperature of 70 degrees F was modeled and DEQ agrees this is appropriate for the ventilation of the interior of the process building. DEQ assumes that Cives will construct the stacks with the same locations release height, and stack termination characteristics as reflected in the modeling demonstration.

BEAD_BLAST
Abrasive blasting emissions will be controlled by a Donaldson Torit Ultra Web fabric filter system, Model DFO-3-18, which has an exhaust flow rate of between 1,710 actual cubic feet per minute (ACFM) and 14,370 ACFM. CH2M HILL modeled this horizontal release. Release height and exit diameter of this fabric filter vent was not noted in the specifications document. It is assumed that a short release height of 6.25 feet above grade and an exit diameter of 3.4 feet are representative values.

Other Sources
Manufacturer's specification sheets were provided for the heaters and roof top units. This information corroborated the modeled stack parameters adequately. Without exception, each of these point sources were modeled as horizontal releases or as equipped with a rain cap.

3.4 Results for Significant Impact Level Analyses

Significant Impact Level analyses were not included in the modeling demonstration. Cumulative impact analyses were presented for all pollutants and averaging periods that exceeded modeling thresholds.

3.5 Results for Cumulative Impact Analyses

Table 9 provides results for the cumulative impact analyses performed for criteria pollutants.

Idaho Air Rules require that Cives demonstrate that emissions from their facility not cause or significantly contribute to a violation of NAAQS. Predicted ambient design impacts, when added to ambient background concentrations provided by DEQ, were below the applicable NAAQS.

The ambient impacts presented below in Table 9 were taken from Cives Steel's July

Cives 1-hour NO_2 NAAQS demonstration used the Tier I conversion method of NOx to NO_2—100% of the NOx was assumed to be converted to ambient NO_2 concentrations. Total NOx emissions were modeled and a total NOx ambient impact was used for the design impact without the Tier II Ambient Ratio Method (ARM) factor of 0.8 being applied to the design value. The same approach was also used for the annual average NO_2 NAAQS design impact. Total NOx emissions were modeled and an annual average Tier II ARM factor of 0.75 was not applied to the total NOx design impact. Complete transformation of NOx to NO_2 was applied for the annual average NO_2 NAAQS demonstration, resulting in a conservative impact estimate.

Table 9. RESULTS FOR CUMULATIVE IMPACT ANALYSES						
Pollutant	**Averaging Period**	**Maximum Modeled Design Value Concentration[a] ($\mu g/m^3$)[b]**	**Background Concentration ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS[c] ($\mu g/m^3$)**	**Percent of NAAQS**
$PM_{2.5}$[d]	24-hour	8.8[j]	22.6	31.4	35	90%
	Annual	0.57[f]	6.5	7.1	12	59%
PM_{10}[e]	24-hour	7.4[g] (8.1)[h]	81	88.4 (89.1)	150	59% (59%)
NO_2[k]	1-hour	50.9[i]	58.3	109.2	188	58%
	Annual	5.3[l]	6.5	11.8	100	12%

a. Taken from the ambient air receptor having the highest design value impact.
b. Micrograms per cubic meter.
c. National ambient air quality standards.
d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Modeled design value is the maximum 1st highest value at any receptor, averaged over 5 years.
g. Modeled design value is the 6th highest modeled value from a 5-year meteorological data set per EPA guidance. CH2M HILL's demonstration used the 6th highest impact from 5 individual years of meteorological data. CH2M HILL's design value is not conservative compared to a design value developed according to EPA guidance.
h. DEQ's verification run used the 6th high impact from a 5-year dataset. DEQ's impact is the appropriate value to use in the NAAQS demonstration but using the 5-year dataset results in a minimal increase in the total ambient impact in this case.
i. Modeled design value is the 5-year average of the 8th highest daily 1-hour maximum impacts for each year per EPA guidance. Cives' design concentration was based on the maximum 8th high maximum daily 1-hour impact averaged over a single year, with 5 individual years of results. This is a conservative approach compared to using the 5-year average value. The listed impact includes the application of the 0.80 Tier II Ambient Ratio Method factor.
j. Cives' submitted design value was based on the maximum 8th highest 24-hour impact for an individual year. This design value is conservative compared to using a value based on the maximum 8th high impact averaged over 5 consecutive years.
k. Nitrogen dioxide.
l. Modeled design value is the maximum annual average impact at any receptor averaged over 5 years. 100% conversion of NO to NO_2 was assumed.

3.6 Results for Toxic Air Pollutant Analysis

Table 10 presents results for TAP modeling. The impacts listed below are attributed to facility-wide emissions. All design impacts are the maximum impacts. Non-carcinogenic 24-hour average TAP impacts used the maximum impact using five individual years of impacts. Annual average carcinogenic TAP impacts used a 5-year concatenated meteorological data file. All TAP impacts were below the applicable increments.

Table10. RESULTS FOR TOXIC AIR POLLUTANT ANALYSES					
Pollutant	**CAS[a] Number**	**Averaging Period**	**Maximum Modeled Concentration ($\mu g/m^3$)[b]**	**AAC/ AACC[c] ($\mu g/m^3$)**	**Percent of Increment**
Non-Carcinogenic					
Chromium (metal)	7440-47-3	24-hour	0.99	250	0.4%
Iron (salts)	7439-89-6	24-hour	7.80	50	16%
Silica - Quartz	14808-60-7	24-hour	0.99	5	20%
Carcinogenic					
Arsenic	7440-38-2	Annual	1E-05	2.3E-04	4%
Cadmium	7440-43-9	Annual	6E-05	5.6E-04	11%
Formaldehyde	50-00-0	Annual	4.0E-03	7.7E-02	5%
Nickel	7440-02-0	Annual	1.5E-03	4.2E-03	36%

a. Chemical Abstract Service
b. Micrograms per cubic meter.
c. Acceptable Ambient Concentration/Acceptable Ambient Concentration for Carcinogens (Toxic Air Pollutant allowable increments listed in Idaho Air Rules Sections 585 or 586).

4.0 Conclusions

The ambient air impact analyses demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any ambient air quality standard.

APPENDIX C – PROCESSING FEE

PTC Fee Calculation

Instructions:
Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Cives Steel Company
Address: 10059 North Yellostone Highway
City: Idaho Falls
State: Idaho
Zip Code: 83401
Facility Contact: Ben Merkling
Title: General Manager
AIRS No.: 019-00097

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	4.2	0	4.2
SO_2	0.0	0	0.0
CO	3.5	0	3.5
PM10	2.2	0	2.2
VOC	41.2	0	41.2
TAPS/HAPS	0.0	0	0.0
Total:	51.2	0	**51.2**
Fee Due	**$ 5,000.00**		

Comments: