Statement of Basis

Permit to Construct No. P-2013.0032
Project ID 61197

Yanke Machine Shop, Inc.
Boise, Idaho

Facility ID 001-00297

Final

November 23, 2015
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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
BACT	Best Available Control Technology
BMP	best management practices
BRC	below regulatory concern as defined in IDAPA 58.01.01.221.01
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EI	emissions inventories
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FCAW	Flux Cored Arc Welding
FEC	Facility Emissions Cap
FR	Federal Register
gal/yr	gallons per year
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
GMAC	Gas Metal Arc Welding
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
HPV	high priority violation
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
MFHAP	Metal fabrication and finishing HAP as defined in 40 CFR 63.11522

mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
MSDS	Material Safety Data Sheets, now called Safety Data Sheets (SDS)
NA	not applicable
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
ND	no data
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
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
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SDS	Safety Data Sheets, formerly called Material Safety Data Sheets (MSDS)
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SMAW	Shield Metal Arc Welding
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
Yanke/YMS	Yanke Machine Shop, Inc.
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

Yanke Machine Shop, Inc. (Yanke) provides metal fabrication and industrial machining services to the mining, agricultural, food processing, and power industries. The fabrication and industrial machining process involves equipment assembly, metal forming, welding and grinding, and abrasive blasting and painting.

The main sources of emissions are welding and grinding, abrasive blasting and painting, and natural gas combustion.

Welding and Grinding

Yanke uses a variety of welding rods to fabricate and repair equipment. Yanke uses Gas Metal Arc Welding (GMAC), Flux Cored Arc Welding (FCAW), and Shield Metal Arc Welding (SMAW) to manufacture and repair equipment. Descriptions of GMAC, FCAW, and SMAW are available in AP-42 Chapter 12.19 Electric Arc Welding.

Yanke welds base material inside the fabrication building and inside the machine shop and repair shop building. Welding activities generate emissions. Yanke uses pedestal and hand-held grinders to fabricate and repair equipment. Grinding is conducted in the same bays as welding. Currently, welding and grinding emissions have not been captured and controlled through filtration system nor have been vented out of any exhaust stacks. Instead, welding and grinding emissions leave the building through 23 bay doors located in the fabrication building and in the machine shop and repair shop building. Each bay contains two roll-up or sliding doors where welding and grinding emissions can escape.

In the permit, Yanke is required to achieve 95% or better overall $PM_{10}/PM_{2.5}$ capture and control efficiency from welding and grinding operations because Yanke has applied this overall capture and control efficiency in the emissions inventories (EI). This permit is supported by the modeling analysis based on 100% capture efficiency and 95% control efficiency of the filtration control devices. Yanke is required to completely enclose the fabrication building and the machine shop and repair shop building, to capture emissions from welding and grinding operations, and to vent the captured emissions to the filtration control devices that have $PM_{10}/PM_{2.5}$ control efficiencies of 95% or greater. To provide Yanke operational flexibilities, the permit allows Yanke to use DEQ approved alternatives to achieve 95% or better overall $PM_{10}/PM_{2.5}$ capture and control efficiency.

Abrasive Blasting

Yanke preps and paints some manufactured equipment. Painting preparation is accomplished using abrasive blasting. The abrasive blasting booth is located inside the abrasive blasting building. Abrasive media is comprised of 60% of crushed glass and 40% of Kleen Balst. Abrasive media is fed into a hopper and delivered through two compressed air guns. Currently, abrasive blasting is conducted in a three-quarter enclosed booth. Two exhaust vents are located inside the abrasive blasting booth. Particulates in the air stream through these two exhaust vents are captured by an Aseco-Madsen baghouse with $PM_{10}/PM_{2.5}$ control efficiency of 99.9%. The abrasive blasting building has a single horizontal exhaust stack.

In the application, Yanke has used operating limits to keep $PM_{10}/PM_{2.5}$ Potential to Emit (PTE) below regulatory concern (BRC) so that ambient analyses for $PM_{10}/PM_{2.5}$ would not be required. For abrasive blasting, Yanke has assumed that the abrasive booth is completely enclosed, that emissions are captured and controlled by a baghouse with a control efficiency of 99% or greater for PM_{10} and $PM_{2.5}$, and that abrasive booth has a maximum daily throughput of 6,000 lb/day and a total abrasive media purchased not to exceed 628,304 lb/yr. In addition, the permit also includes requirements in 40 CFR 63, Subpart XXXXXX because the abrasive process is subject to the subpart.

Abrasive material is currently recycled twice. 6,000 lb/day of abrasive material includes the recycled materials. 628,304 lb/yr are new abrasive media without counting the recycled materials.

Spray Painting

At the time the permit application was submitted on May 6, 2013, painting operation is conducted in an enclosed paint booth that is located in an existing room inside the fabrication building and adjacent to the welding and grinding operations that are also located in the fabrication building. The booth is an updraft paint booth. Particulates from the paint booth are vented through a series of filtered wall vents. From the wall vents, particulates are then exhausted to an outside exhaust where particulates pass through another set of filters and are eventually exhausted to the atmosphere. The paint booth filtered wall vents and the set of filters inside the outside exhaust are comprised of Flanders Pre-Pleated-40 Low Pressure Drop Filters. The filters with a MERV 8 rating capture particle size from 3.0 to 10.0 μm with 70% control efficiency, but do not capture particle size smaller than 3.0 μm. Yanke has decided to re-design their paint booth and will incorporate paint booth exhaust filters with a 99% control efficiency for PM_{10} and $PM_{2.5}$.

Three paint spray guns could be used simultaneously. Yanke uses a Graco G40 AA Airless spray gun, a Binks 2100 Conventional spray gun, and a Graco Contractor 2 88420 Airless spray gun. Each gun has a material transfer efficiency of 65%.

In the application, Yanke used operating limits to keep $PM_{10}/PM_{2.5}$ PTE BRC so that ambient analyses for $PM_{10}/PM_{2.5}$ would not be required. For coating operation, Yanke has also assumed that the exhaust filters of the paint booth have control efficiencies of 99% for both PM_{10} and $PM_{2.5}$.

On February 10, 2014, Yanke submitted preliminary paint booth re-design drawings that showed that the paint booth would have 14 stacks instead of one stack. DEQ has decided that the re-design will be handled in a separate permit application. This permit will be issued based on what was in the existing application.

Metalizing Treatment

Some of the metal structures produced at Yanke were given a "metalizing" treatment. Yanke utilized a Sulzer Metco 16E Series wire combustion gun to thermally spray hard wire and composite powders. The metalizing treatment consisted of a procedure in which the surface of a metal structure was plasma coated with a chromium, nickel, molybdenum, and manganese mixture. According to the May 6, 2013 application, this entire process was performed underneath a dust collection fume hood which was vented to a single exhaust stack without control. The metalizing treatment process was located in the machine shop and repair shop building where part of the welding and grinding operations locates. Metalizing was conducted infrequently - approximately 20 hours per year according to the application.

In the application, Yanke has used operating limits to keep $PM_{10}/PM_{2.5}$ PTE BRC so that ambient analyses for $PM_{10}/PM_{2.5}$ would not be required. Yanke has proposed to use filters with 95% control efficiency for PM_{10} and $PM_{2.5}$ and to limit annual usage of metalizing powders and wire. Therefore, Yanke is required to capture emissions from the metalizing treatment and to vent them to filters with 95% control efficiency for both PM_{10} and $PM_{2.5}$.

According to Yanke's 11/5/2015 comments on the draft permit, Yanke no longer metalizes material. Yanke discontinued the process of metalizing material in 2013.

Shop Space Heaters

Yanke is comprised of three main buildings: the abrasive blasting building, the machine shop and repair shop building, and the office/fabrication building. The fabrication building also contains a parts warehouse and paint booth. Yanke utilizes a total of 19 natural gas-fired space heaters for comfort heating. The total rated heat capacity from these heaters is 5.426 MMBtu per hour. All space heater emissions are vented from roof-top exhaust vents. The space heater exhaust vents are fitted with rain-caps.

Emissions

Emissions are expected to occur from the following sources:

- 19 natural gas heater stacks/vents
- One abrasive blasting baghouse stack

- One paint booth stack (Note: on 2/10/2014, Yanke submitted preliminary paint booth re-design information. The re-design will change stack number from one to 14. DEQ has decided that the re-design would be handled in a separate permit application. This permit will be issued based on what was in the original application.)
- Fabrication building and machine shop and repair shop building (Note: during the 10/1/2013 site visit, Yanke provided the work plan for installing filtration system for the two buildings. The proposed filters has 95% control efficiency)

Permitting History

This is the initial PTC for an existing facility that was initially constructed in July 1972 thus there is no permitting history.

Application Scope

This permit is the initial PTC for the entire facility.

Application Chronology

February 6, 2013	The consent order requires the facility to submit a PTC application within 90 days of the effective date of the consent order. (Enforcement Case No. E-2012.0020)
May 6, 2013	DEQ received an application.
May 7, 2013	DEQ received an application fee.
May 13 – May 28, 2013	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 22, 2013	DEQ determined that the application was incomplete.
May 24, May 28, June 3, and June 6, 2013	DEQ received supplemental information from the applicant.
June 21, 2013	DEQ determined that the application was incomplete the second time.
July 11, 2013	DEQ received supplemental information from the applicant.
July 26, 2013	DEQ determined that the application was complete.
September 13, 2013	DEQ made available the draft permit and statement of basis for peer and regional office review.
September 20, 2013	DEQ made available the draft permit and statement of basis for applicant review.
October 1, November 1, and December 10, 2013	DEQ received the work plan on building filtration system for the fabrication building and the machine shop and repair shop building, the revised EI, and the federal regulatory review.
December 23 and 24, 2013	DEQ received the usage information of stainless steel and carbon & alloy Steel.
February 10, 2014	DEQ received preliminary paint booth re-design drawings. DEQ has decided that the re-design will be handled in a separate permit application. This permit will be issued based on what was in the original application.
March 19, 2014	DEQ made available the 2nd draft permit and statement of basis for peer and regional office review.
October 15, 2015	DEQ made available the 2nd draft permit and statement of basis for applicant review.

November 3, 2015	DEQ received the permit processing fee.
November 23, 2015	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment (done)

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No. (Refer to Modeling Memo for Related Information)
WELD 1	Welding Type of welding: Gas Metal Arc Welding (GMAC) Flux Cored Arc Welding (FCAW) Shield Metal Arc Welding (SMAW). Welding rods type and usage: Refer to the permit. Estimated rod usage: 13 lb/hr Manufacture date: 1942	Completely Enclosed Buildings with Filtration Control Devices [a] Manufacturer: Norco or equivalent Model: T6500 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 95% or greater for PM_{10} and $PM_{2.5}$ Or DEQ approved alternatives	11 filtration control devices for fabrication shop bays 1, 2, & 3 7 filtration control devices for fabrication shop bays 4 & 5 7 filtration control devices for repair shop 3 filtration control devices for plasma bay (Modeled as volume sources)
LATHE 1	Grinding Pedestal grinders Hand-held grinders Grinding belts and wheels total usage: 125 lb/yr		
BB 1	Abrasive Blasting Manufacturer: Ruemlin Model: Unknown Manufacture Date: 1996 Hopper capacity: 6,000 lbs/day Total gun capacity: 11 lbs/min or 660 lbs/hr for two guns total	Completely Enclosed Booth with Baghouse [a] Manufacturer: Aseco-Madsen Model: ND Type: ND Control efficiency: 99% or greater for PM_{10} and $PM_{2.5}$	STCK1 Stack height: 20 ft (6.1 m) Exit diameter: 2.82 ft (0.86 m) Exit flow rate: 19,040 acfm Exit temperature: Ambient

Source ID No.	Sources	Control Equipment	Emission Point ID No. (Refer to Modeling Memo for Related Information)
PB 1	Spray Paint Booth Manufacturer: Yanke Machine Shop, Inc. Model: NA Manufacture Date: July 1972 Number of paint spray guns to be used simultaneously: three Gun No. 1 Manufacturer: Graco or equivalent Model: G40 AA or equivalent Gun type: Airless Transfer efficiency: 65% or greater Rated capacity: 5-9 oz/min or about 4.22 gal/hr Gun No. 2 Manufacturer: Binks or equivalent Model: 2100 or equivalent Gun type: Conventional Transfer efficiency: 65% or greater Rated capacity: 5-9 oz/min or about 4.22 gal/hr Gun No. 3 Manufacturer: Graco or equivalent Model: Contractor, 2 88420 or equivalent Gun type: Airless Transfer efficiency: 65% or greater Rated capacity: 5-9 oz/min or about 4.22 gal/hr	Completely Enclosed Booth with Exhaust Filters [a]: Manufacturer: Yanke Machine Shop, Inc. Model: NA Type: updraft air filtration system Control efficiency: 99% or greater for PM_{10} and $PM_{2.5}$	STCK2 Stack height: 32 ft (9.75 m) Exit diameter: 1.1 ft (0.3444 m) Exit flow rate: 10,450 acfm Exit temperature: Ambient
FAB 1-FAB 10	Natural Gas Heaters Ten identical ones, each with the following parameters: Manufacturer: Modine Model: PDP400AE0130 Manufacture date: 2011 Heat input rating: 0.361 MMBtu/hr Fuel: natural gas	None	STCK5 – STCK14 Ten identical ones, each stack with the following parameters: Stack height: 27 ft (8.23 m) Exit diameter: 0.67 ft (0.2032 m) Exit flow rate: No data (rainhat) Exit temperature: 150 °F (65.6 °C)
MS 1	Machine Shop Natural Gas Heater Manufacturer: Modine Model: PDP400AE0130 Manufacture date: 2011 Heat input rating: 0.361 MMBtu/hr Fuel: natural gas	None	STCK15 Stack height: 24 ft (7.23 m) Exit diameter: 0.67 ft (0.2032 m) Exit flow rate: No data (rainhat) Exit temperature: 150 °F (65.6 °C)

Source ID No.	Sources	Control Equipment	Emission Point ID No. (Refer to Modeling Memo for Related Information)
MS 2	Machine Shop Natural Gas Heater Manufacturer: Modine Model: PDP250AE0130 Manufacture date: 2011 Heat input rating: 0.226 MMBtu/hr Fuel: natural gas	None	STCK16 Stack height: 24 ft (7.23 m) Exit diameter: 0.67 ft (0.2032 m) Exit flow rate: No data (rainhat) Exit temperature: 140 °F (60.0 °C)
MS 3	Machine Shop Natural Gas Heater Manufacturer: Modine Model: PDP250AE0130 Manufacture date: 2011 Heat input rating: 0.226 MMBtu/hr Fuel: natural gas	None	STCK17 Stack height: 24 ft (7.23 m) Exit diameter: 0.67 ft (0.2032 m) Exit flow rate: No data (rainhat) Exit temperature: 140 °F (60.0 °C)
MS 4	Machine Shop Natural Gas Heater Manufacturer: Modine Model: PDP250AE0130 Manufacture date: 2011 Heat input rating: 0.226 MMBtu/hr Fuel: natural gas	None	STCK18 Stack height: 24 ft (7.23 m) Exit diameter: 0.33 ft (0.1016 m) Exit flow rate: No data (rainhat) Exit temperature: 140 °F (60.0 °C)
MS 5	Machine Shop Natural Gas Heater Manufacturer: Modine Model: PDP250AE0130 Manufacture date: 2011 Heat input rating: 0.226 MMBtu/hr Fuel: natural gas	None	STCK19 Stack height: 24 ft (7.23 m) Exit diameter: 0.33 ft (0.1016 m) Exit flow rate: No data (rainhat) Exit temperature: 140 °F (60.0 °C)
PBH 1 PBH 2	East Paint Booth Heater and West Paint Booth Heater (Natural Gas Heaters) Manufacturer: Bryant Model: Unknown Manufacture date: 1980s Heat input rating: 0.10 MMBtu/hr each Fuel: natural gas	None	STCK3 & STCK4 Each stack with the following parameters: Stack height: 28 ft (8.53 m) Exit diameter: 0.25 ft (0.0762 m) Exit flow rate: 1,205 acfm Exit temperature: 120 °F (49 °C)
WH 1	Warehouse Heater #1 Manufacturer: Bryant Model: 46602 Manufacture date: 1970-1980 Heat input rating: 0.125 MMBtu/hr Fuel: natural gas	None	STCK20 Stack height: 27 ft (8.23 m) Exit diameter: 0.25 ft (0.0762 m) Exit flow rate: No data (rainhat) Exit temperature: 120 °F (49 °C)
WH 2	Warehouse Heater #2 Manufacturer: Modine Model: PDP250AE0130 Manufacture date: 2011 Heat input rating: 0.226 MMBtu/hr Fuel: natural gas	None	STCK21 Stack height: 27 ft (8.23 m) Exit diameter: 0.33 ft (0.101 m) Exit flow rate: No data (rainhat) Exit temperature: 140 °F (60 °C)

[a] Yanke shall have used the control measures within 60 days of the permit issuance or by a DEQ-approved alternative date.

Emissions Inventories

DEQ reviewed and revised the calculations of emissions estimations for $PM_{10}/PM_{2.5}$, SO_2, NOx, CO, VOC, CO_{2e}, HAP, and TAP. They are discussed in Appendix A of the Statement of Basis.

Potential to Emit (PTE)

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, Yanke developed an emission inventory for the operations at the facility.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined 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 **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or hazardous air pollutants (HAP) above the applicable Major Source threshold without permit limits. Yanke is a Synthetic Minor source for HAP emissions.

Yanke did not provide the uncontrolled PTE. However, by removing the control measures imposed in the permit application as listed in Table 1 and by using 8,760 operating hours per year, the uncontrolled PTE is estimated and summarized in the following tables.

Table 2 CONTROL MEASURES CORRESPONDING TO PERMIT LIMITS

Source	Hours Corresponding to the Permitted Material Usage	$PM_{10}/PM_{2.5}$/PM TAP Control Efficiency Used in EI
Welding	3,510	95%
Grinding	3,510	95%
Abrasive Blasting	3,510	99%
Painting	1,950	99%
Metalizing Treatment	20	95%
Natural Gas Combustion (19 units)	8,760	0

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM_{10} T/Yr	$PM_{2.5}$ T/Yr	SO_2 T/Yr	NOx T/Yr	CO T/Yr	VOC T/Yr	CO_2e T/Yr	Lead T/Yr
Welding	1.0	1.0	----	----	----	----	----	5.8E-04
Grinding	Insignificant	Insignificant	---	---	---	---	---	2.0E-01
Abrasive Blasting	30.6	3.1	----	----	----	----	----	3.8E-03
Painting	46.4	46.4	----	----	----	69.93	----	----
Metalizing Treatment	1.4	1.4	----	----	----	----	----	----
Natural Gas Combustion (19 units)	0.2	0.2	0.014	2.33	1.96	0.13	2788	1.16E-05
Totals	**79.6**	**52.1**	**1.4E-02**	**2.3**	**2.0**	**70.1**	**2,788.2**	**2.1E-01**

Table 4 UNCONTROLLED POTENTIAL TO EMIT FOR HAP

Source	Grinding	Metalizing	Painting	Welding	Abrasive	Natural Gas
HAP	**T/yr**	**T/yr**	**T/yr**	**T/yr**	**T/yr**	**T/yr**
Cobalt Oxide 1	1.3E-06	----	----	----		----
Nickel	1.5E+01	6.1E-01	----	3.5E-02	1.7E-02	4.9E-05
Chromium 2	6.2E-05	9.5E-02	----	5.3E+00	1.4E-02	3.3E-05
Cobalt	1.2E+01	1.4E-04	----	----		2.0E-06
Manganese	3.9E+00	1.4E-04	----	5.4E-02		8.9E-06
Lead	2.0E-01	----	----	8.5E-07	3.8E-03	----
Beryllium	----	----	----	5.4E-09	----	2.8E-07
Ethylbenzene	----	----	1.5E+01	----	----	----
Cumene	----	----	1.9E-02	----	----	----
Toluene	----	----	1.5E+01	----	----	----
Methanol	----	----	2.9E+00	----	----	----
Methyl Isobutyl Ketone	----	----	4.4E+00	----	----	----
Xylene	----	----	3.1E+01	----	----	----
1Cobalt 2-Ethylhexanote	----	----	5.3E-03	----	----	----
3 Manganese Dioxide	----	----	1.5E+01	----	----	----
Selenium	1.6E-02	----	----	----	----	5.6E-07
Antimony	2.7E-03	----	----	----	----	
Mercury	----	----	----	----	----	6.1E-06
Cadmium	----	----	----	----		2.6E-05
Arsenic	1.4E-01	----	----	----	1.0E-02	4.7E-06
2-Methylnaphthalene b,c	----	----	----	----	----	5.6E-07
3-Methylchloranthrene b,c	----	----	----	----	----	4.2E-08
7,12-Dimethylbenz(a)anthracene b,c	----	----	----	----	----	3.7E-07
Acenaphthene b,c	----	----	----	----	----	4.2E-08
Acenaphthylene b,c	----	----	----	----	----	4.2E-08
Anthracene b,c	----	----	----	----	----	5.6E-08
Benzo(a)anthracene b,c	----	----	----	----	----	4.2E-08
Benzene b	----	----	----	----	----	4.9E-05
Benzo(a)pyrene b,c	----	----	----	----	----	2.8E-08
Benzo(b)fluoranthene b,c	----	----	----	----	----	2.8E-08
Benzo(g,h,i)perylene b,c	----	----	----	----	----	2.8E-08
Benzo(k)fluoranthene b,c	----	----	----	----	----	4.2E-08
Chrysene b,c	----	----	----	----	----	4.2E-08
Dibenzo(a,h)anthracene b,c	----	----	----	----	----	2.8E-05
Dichlorobenzene b	----	----	----	----	----	2.8E-05
Fluoranthene b,c	----	----	----	----	----	7.0E-08
Fluorene b,c	----	----	----	----	----	6.5E-08
Formaldehyde b	----	----	----	----	----	1.7E-03
Hexane b	----	----	----	----	----	4.2E-02
Indeno(1,2,3-cd)pyrene b,c	----	----	----	----	----	4.2E-08
Naphthalene b	----	----	----	----	----	1.4E-05
Phenanathrene b,c	----	----	----	----	----	4.0E-07
Pyrene b,c	----	----	----	----	----	1.2E-07
HAP Total	**121.1 T/yr**					
Single HAP (Xylene), Max	**31.4 T/yr**					

1 Cobalt Compound
2 Includes Chromium, Chromium III and Chromium IV

3 Manganese Compound
b Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act
c HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is an existing facility. However, since this is the first time the facility is receiving a permit, pre-project emissions are set to zero for all regulated air pollutants.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria air pollutants and GHG from emissions units at the facility.

Table 5 POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC	CO_2e	Lead
	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr
Welding	2.03E-02	2.03E-02	----	----	----	----	----	1.16E-05
Grinding	Insignificant	Insignificant	---	---	---	---	---	4.11E-03
Abrasive Blasting	0.12	0.012	----	----	----	----	----	1.53E-05
Painting	0.10	0.10	----	----	----	15.57	----	----
Metalizing Treatment	1.63E-04	1.63E-04	----	----	----	----	----	----
Natural Gas Combustion (19 units)	0.18	0.18	0.014	2.33	1.96	0.13	2788	1.16E-05
Totals	**0.42**	**0.31**	**0.01**	**2.33**	**1.96**	**15.69**	**2,788**	**4.15E-03**

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 6 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC	CO_2e
Source	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr	T/Yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	0.42	0.31	0.01	2.33	1.96	15.69	2,788
Changes in Potential to Emit	**0.42**	**0.31**	**0.01**	**2.33**	**1.96**	**15.69**	**2,788**

Toxic Air Pollutants (TAP) Emissions

In Yanke's 11/1/2013 EI, Yanke estimated hourly emissions rates for TAP. DEQ has reviewed and made some changes to them as discussed in Appendix A of this Statement of Basis. Hourly emissions rates for TAP are listed in the following table. TAP lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogenic TAP.

Table 7 POST PROJECT POTENTIAL TO EMIT FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutants (TAP)	lb/hr [1]	EL (lb/hr)	Exceeds EL - Modeling Required
PAH HAPs			
2-Methylnaphthalene	1.28E-07	9.10E-05	No
3-Methylchloranthrene	9.58E-09	2.50E-06	No
Acenaphthene	9.58E-09	9.10E-05	No
Acenaphthylene	9.58E-09	9.10E-05	No

Toxic Air Pollutants (TAP)	lb/hr [1]	EL (lb/hr)	Exceeds EL - Modeling Required
Anthracene	1.28E-08	9.10E-05	No
Benzo(a)anthracene	9.58E-09	9.10E-05	See POM
Benzo(a)pyrene	6.38E-09	2.00E-06	See POM
Benzo(b)fluoranthene	9.58E-09		See POM
Benzo(g,h,i)perylene	6.38E-09	9.10E-05	No
Benzo(k)fluoranthene	9.58E-09		See POM
Chrysene	9.58E-09		See POM
Dibenzo(a,h)anthracene	6.38E-09		See POM
Dichlorobenzene	6.38E-06	9.10E-05	No
Fluoranthene	1.60E-08	9.10E-05	No
Fluorene	1.49E-08	9.10E-05	No
Indeno(1,2,3-cd)pyrene	9.58E-09		See POM
Naphthalene	3.24E-06	3.33	No
Naphthalene (as carcinogen)	3.24E-06	9.10E-05	No
Phenanathrene	9.04E-08	9.10E-05	No
Pyrene	2.66E-08	9.10E-05	No
Polycyclic Organic Matter (POM) 7-PAH Group	6.06E-08	2.00E-06	No
Non-PAH HAPs			
Benzene	1.12E-05	8.00E-04	No
Formaldehyde	3.99E-04	5.10E-04	No
Hexane	9.58E-03	12	No
Toluene	2.26E+01	2.50E+01	No
Ethylbenzene	2.22E+01	2.90E+01	No
Trimethylbenze and mixed isomers	1.95E+00	8.20E+00	No
Cumene	6.84E-03	1.63E+01	No
Methanol	4.41E+00	1.73E+01	No
Non-HAP Organic Compounds			
Pentane	1.38E-02	118	No
Methyl Isobutyl Ketone	6.76E+00	1.37E+01	No
n-Butyl Acetate	4.22E-01	4.73E+01	No
Zinc Oxide	4.36E-01	6.67E-01	No
Zinc Compound (Fumes)	2.47E-01	3.33E-01	No
Carbon Black	2.11E-01	2.30E-01	No
Ethyl Alcohol	8.40E-02	1.25E+02	No
Isophoronediamine	1.57E-01	1.87E+00	No
Mica	7.28E-02	2.00E-01	No
Propylene Glycol Monomethyl Ether	3.95E-01	2.40E+01	No
2-Butoxyethanol	5.94E-01	8.00E+00	No
Ethyl Silicate	2.71E-02	5.67	No
Manganese Dioxide	0.00E+00	3.33E-01	No
Quartz w/o grinding [2]	6.01E-03	6.70E-03	No
VM&P Naphtha	7.43E+01	9.13E+01	No
Xylene and mixed iosmers	2.25E+01	2.90E+01	No
Iron Oxide w/o welding and grinding [2]	0.00E+00	3.33E-01	No
Magnesium (fume)	2.30E-02	6.67E-01	No

Toxic Air Pollutants (TAP)	lb/hr [1]	EL (lb/hr)	Exceeds EL - Modeling Required
Silicon	2.93E-01	6.67E-01	No
Aluminum Oxide	9.87E-02	6.67E-01	No
Kaolin	3.83E-03	1.33E-01	No
Tungsten w/o welding and grinding [2]	0.00E+00	6.70E-02	No
Zirconium Compounds	3.65E-02	3.33E-01	No
Calcium Carbonate	2.81E-02	6.67E-01	No
Amphorous Silica (includes silicates and mineral silicates)	7.19E-02	6.67E-01	No
Silicon Carbide	4.38E-02	6.67E-01	No
Metals (HAPs)			
Arsenic w/out grinding and abrasive [2]	1.06E-06	1.50E-06	No
Barium	2.34E-05	0.033	No
Beryllium	7.29E-08	2.80E-05	No
Cadmium	5.85E-06	3.70E-06	YES
Chromium	1.72E+00	3.30E-02	---
Chromium w/out welding and grinding and abrasive	9.07E-04	3.30E-02	No
Cobalt (includes cobalt oxide and cobalt 2-ethylhexanote from paint) w/o grinding [2]	1.46E-04	3.30E-03	No
Copper w/o welding, grinding, and abrasive	1.47E-05	1.30E-02	No
Manganese	3.94E-01	6.70E-02	---
Manganese w/out welding and grinding	1.25E-02	6.70E-02	No
Mercury	1.38E-06	3.00E-03	No
Molybdenum	2.20E-03	3.33E-01	No
Nickel w/o welding, grinding, and abrasive [2]	2.69E-05	2.70E-05	No
Selenium	1.28E-07	1.30E-02	No
Vanadium w/out grinding [2]	1.22E-05	3.00E-03	No
Zinc	1.76E-01	6.67E-01	No
Aluminum	1.37E-01	0.667	No
Chromium III	7.53E-06	3.30E-02	No
Chromium IV	1.51E-07	5.60E-07	No
Tin	8.80E-03	1.33E-01	No
Fluoride as F	1.44E-02	1.67E-01	No
Yttrium	9.38E-05	6.67E-01	No
Furfural	4.17E-05	5.33E-01	No
Paraffin Wax fumne	8.33E-05	1.33E-01	No
Fibrous Glass Dust	4.17E-05	6.67E-01	No
Calcium Silicate	3.72E-02	6.67E-01	No
Calcium Oxide	4.17E-05	1.33E-01	No
Calcium Sulfate	3.96E-03	6.67E-01	No
Isopropanol	8.67E-02	6.53E+01	No
Cyclohexanol	5.41E-03	1.33E+01	No
Acetone	4.01E+00	1.19E+02	No
Tantalum	8.04E-03	3.33E-01	No
Boron	1.32E-01	6.67E-01	No
Bismuth	4.39E-02	6.67E-01	No
Antimony	8.78E-03	3.30E-02	No
Barium	3.05E-04	3.30E-02	No
Phosphorus	1.76E-02	7.00E-03	YES

[1] with imposed operation limit(s).

[2] The grinding and abrasive operations are subject to 40 CFR 63, Subpart XXXXXX that regulates metal fabricating or finishing metal HAP (MFHAP). Emissions from these operations are required to be captured and vented to filtration control devices.

Welding operation is also subject to 40 CFR 63, Subpart XXXXXX . In the application, Yanke has chosen to capture emissions and to vent the emissions to the filtration control devices with 95% control efficiency, one of the control options in the regulation.

The particulates emit from grinding, abrasive, and welding operations consist of chemicals, such as MFHAP regulated in 40 CFR 63, Subpart XXXXXX and metal TAP regulated in IDAPA 58.01.01.585 or 586. Once the particulate emissions are captured and controlled as required by 40 CFR 63, Subpart XXXXXX, all chemicals including MFHAP and metal TAP are captured and controlled. Therefore, the metal TAP emissions are inherently addressed by 40 CFR 63, Subpart XXXXXX as the same way as MFHAP. No further analysis will be required for the metal TAP (i.e., quartz, tungsten, arsenic, cobalt, copper, and vanadium from grinding, abrasive, and welding operations) for this particular project; these emissions are not included in the calculations in accordance with IDAPA 58.01.01.210.20.

In accordance with IDAPA 58.01.01.210 no further procedures for demonstrating compliance will be required for MFHAP (i.e., cadmium, chromium, nickel and manganese) because welding, grinding, and abrasive operations at Yanke are subject to 40 CFR Part 63 Subpart XXXXXX National Emission Standards for Hazardous Air Pollutants for Area Source Standards for Metal Fabrication Source Categories that has addressed cadmium, chromium, nickel and manganese emissions.

HAP Emissions

The following table presents the potential to emit for HAP pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff.

Table 8 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT

Source	Grinding	Metalizing	Painting	Welding	Abrasive	Natural Gas [d]	Total Single HAP
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Cobalt Oxide [1]	1.3E-06	----	----	----	----	----	1.3E-06
Nickel	0.31	7.0E-05	----	7.0E-04	----	4.9E-05	0.31
Chromium [2]	1.3E-06	1.1E-05	----	0.11	----	3.3E-05	0.11
Cobalt	0.23	1.6E-08	----	----	----	2.0E-06	0.23
Manganese	0.08	1.6E-08	----	1.1E-03	----	8.9E-06	8.0E-02
Lead	4.1E-03	----	----	1.7E-08	----	----	4.1E-03
Beryllium	----	----	----	1.1E-10	----	2.8E-07	2.8E-07
Ethylbenzene	----	----	3.24	----	----	----	3.24
Cumene	----	----	4.3E-03	----	----	----	4.3E-03
Toluene	----	----	3.39	----	----	----	3.39
Methanol	----	----	0.66	----	----	----	0.66
Methyl Isobutyl Ketone	----	----	0.97	----	----	----	0.97
Xylene	----	----	6.99	----	----	----	6.99
[1]Cobalt 2-Ethylhexanote	----	----	1.2E-03	----	----	----	1.2E-03
[3] Manganese Dioxide	----	----	3.4E-02	----	----	----	3.4E-02
Selenium	3.2E-04	----	----	----	----	5.6E-07	3.2E-04
Antimony	2.7E-03				----		2.7E-03
Mercury	----	----	----	----	----	6.1E-06	6.1E-06
Cadmium	----	----	----	----	----	2.6E-05	2.6E-05
Arsenic	2.7E-03	----	----	----	4.2E-05	4.7E-06	2.8E-03
2-Methylnaphthalene b,c	----	----	----	----	----	5.6E-07	5.6E-07
3-Methylchloranthrene b,c	----	----	----	----	----	4.2E-08	4.2E-08
7,12-Dimethylbenz(a)anthracene b,c	----	----	----	----	----	3.7E-07	3.7E-07
Acenaphthene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Acenaphthylene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Anthracene b,c	----	----	----	----	----	5.6E-08	5.6E-08
Benzo(a)anthracene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Benzene b	----	----	----	----	----	4.9E-05	4.9E-05

Source	Grinding	Metalizing	Painting	Welding	Abrasive	Natural Gas [d]	Total Single HAP
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Benzo(a)pyrene b,c	----	----	----	----	----	2.8E-08	2.8E-08
Benzo(b)fluoranthene b,c	----	----	----	----	----	2.8E-08	2.8E-08
Benzo(g,h,i)perylene b,c	----	----	----	----	----	2.8E-08	2.8E-08
Benzo(k)fluoranthene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Chrysene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Dibenzo(a,h)anthracene b,c	----	----	----	----	----	2.8E-05	2.8E-05
Dichlorobenzene b	----	----	----	----	----	2.8E-05	2.8E-05
Fluoranthene b,c	----	----	----	----	----	7.0E-08	7.0E-08
Fluorene b,c	----	----	----	----	----	6.5E-08	6.5E-08
Formaldehyde b	----	----	----	----	----	1.7E-03	1.7E-03
Hexane b	----	----	----	----	----	4.2E-02	4.2E-02
Indeno(1,2,3-cd)pyrene b,c	----	----	----	----	----	4.2E-08	4.2E-08
Naphthalene b	----	----	----	----	----	1.4E-05	1.4E-05
Phenanathrene b,c	----	----	----	----	----	4.0E-07	4.0E-07
Pyrene b,c	----	----	----	----	----	1.2E-07	1.2E-07
HAP Total	0.63	8.0E-05	15.29	0.11	1.8E-04	4.4E-02	**<16.07**
Single HAP, Max	**<6.99 T/yr**						

1 Cobalt Compound
2 Includes Chromium, Chromium III and Chromium IV
3 Manganese Compound
b Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act
c HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act
d To keep facility-wide Nickle emissions less than the EL, the total annual natural gas usage of the space heaters is limited to 70% of the maximum capacities in the permit though the emission rates here were estimated based on the maximum capacities of the space heaters.

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this project will not cause or significantly contribute to a violation of any ambient air quality standard.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document (i.e., the modeling memo) will be part of the final permit package for this permitting action.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

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

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions > 25 T/yr.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits > 8 T/yr of a single HAP or ⩾ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are > 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ⩾ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 9 UNCONTROLLED PTE AND PTE FOR REGULATED AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Pollutant	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold / PTE Exceeds the Major Source Threshold?	AIRS/AFS Classification
PM_{10}	79.6	0.42	100	No/No	B
$PM_{2.5}$	52.2	0.31	100	No/No	B
SO_2	0.014	0.01	100	No/No	B
NO_x	2.3	2.3	100	No/No	B
CO	2.0	2.0	100	No/No	B
VOC	70.1	15.69	100	No/No	B
HAP (single)	> 10	< 10	10	Yes/No	SM
HAP (total)	> 25	< 25	25	Yes/No	SM

Table 10 UNCONTROLLED PTE AND PTE FOR HAZARDOUS AIR POLLUTANTS COMPARED TO THE MAJOR SOURCE THRESHOLDS

Hazardous Air Pollutants	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold / PTE Exceeds the Major Source Threshold?
Cobalt Oxide	1.3E-06	1.3E-06	10	No/No
Nickel	16.11	0.31	10	Yes/No
Chromium	5.39	0.11	10	No/No

Hazardous Air Pollutants	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold / PTE Exceeds the Major Source Threshold?
Cobalt	11.66	0.23	10	Yes/No
Manganese	4.00	8.0E-02	10	No/No
Lead	0.21	4.1E-03	10	No/No
Beryllium	2.9E-07	2.8E-07	10	No/No
Ethylbenzene	14.54	3.24	10	Yes/No
Cumene	0.02	4.3E-03	10	No/No
Toluene	15.25	3.39	10	Yes/No
Methanol	2.95	0.66	10	No/No
Methyl Isobutyl Ketone	4.37	0.97	10	No/No
Xylene	31.40	6.99	10	Yes/No
Cobalt 2-Ethylhexanote	0.01	1.2E-03	10	No/No
Manganese Dioxide	15.06	3.4E-02	10	Yes/No
Selenium	0.02	3.2E-04	10	No/No
Mercury	2.7E-03	2.7E-03	10	No/No
Cadmium	6.1E-06	6.1E-06	10	No/No
Arsenic	2.6E-05	2.6E-05	10	No/No
2-Methylnaphthalene	0.15	2.8E-03	10	No/No
3-Methylchloranthrene	5.6E-07	5.6E-07	10	No/No
7,12-Dimethylbenz(a)anthracene	4.2E-08	4.2E-08	10	No/No
Acenaphthene	3.7E-07	3.7E-07	10	No/No
Acenaphthylene	4.2E-08	4.2E-08	10	No/No
Anthracene	4.2E-08	4.2E-08	10	No/No
Benzo(a)anthracene	5.6E-08	5.6E-08	10	No/No
Benzene	4.2E-08	4.2E-08	10	No/No
Benzo(a)pyrene	4.9E-05	4.9E-05	10	No/No
Benzo(b)fluoranthene	2.8E-08	2.8E-08	10	No/No
Benzo(g,h,i)perylene	2.8E-08	2.8E-08	10	No/No
Benzo(k)fluoranthene	2.8E-08	2.8E-08	10	No/No
Chrysene	4.2E-08	4.2E-08	10	No/No
Dibenzo(a,h)anthracene	4.2E-08	4.2E-08	10	No/No
Dichlorobenzene	2.8E-05	2.8E-05	10	No/No
Fluoranthene	2.8E-05	2.8E-05	10	No/No
Fluorene	7.0E-08	7.0E-08	10	No/No
Formaldehyde	6.5E-08	6.5E-08	10	No/No
Hexane	1.7E-03	1.7E-03	10	No/No

Hazardous Air Pollutants	Uncontrolled PTE (T/yr)	PTE (T/yr)	Major Source Thresholds (T/yr)	Uncontrolled PTE Exceeds the Major Source Threshold / PTE Exceeds the Major Source Threshold?
Indeno(1,2,3-cd)pyrene	0.04	4.2E-02	10	No/No
Naphthalene	4.2E-08	4.2E-08	10	No/No
Phenanathrene	1.4E-05	1.4E-05	10	No/No
Pyrene	4.0E-07	4.0E-07	10	No/No
Toluene	1.2E-07	1.2E-07	10	No/No
Total	121.1	16.1	25	**Yes/No**

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 ..... Permit to Construct Required

The consent order requires the facility to submit a PTC application within 90 days of the effective date of the consent order. (Enforcement Case No. E-2012.0020). This permitting action is 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 facility is not subject to IDAPA 58.01.01.300-399, and the applicant did not apply for a Tier II operating permit in accordance with IDAPA 58.01.01.401.

Open Burning (IDAPA 58.01.01.600-624)

IDAPA 58.01.01.600-624 ..... Open Burning

Although it is unlikely this facility will conduct open burning operations, the open burning rules still apply and are included in the permit. No specific monitoring and recordkeeping are required with regard to these rules.

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 assured by the requirements in the Facility-Wide section of the permit that require the permittee to conduct periodic inspections of potential sources of visible emissions and to maintain records of the inspection findings.

Rules for Control Fugitive Dust Emissions (IDAPA 58.01.01.650-651)

IDAPA 58.01.01.650-651 ..... Fugitive Dust Emissions

All sources of fugitive dust emissions at the facility are subject to the State of Idaho rules for controlling fugitive dust. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne. This requirement is assured by the requirements in the Facility-Wide Section of the permit including those for periodic inspections of potential sources of fugitive dust and for maintaining specific records.

Fuel Burning Equipment, PM Standards for New Sources (IDAPA 58.01.01.677)

IDAPA 58.01.01.677 ..... Particulate Matter (PM) Standards for Minor and Existing 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. These requirements apply to space heaters using indirect heat transfer. Compliance with this requirement is assured by combusting only natural gas fuel; a permit condition has been added to Space Heaters section of the permit for this purpose.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 ..... Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment's process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979 and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following four equations:

IDAPA 58.01.01.701.01.a: If PW is $< 9{,}250$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.701.01.b: If PW is $\geq 9{,}250$ lb/hr; $E = 1.10\ (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

IDAPA 58.01.01.702.01.a: If PW is $< 17{,}000$ lb/hr; $E = 0.045\ (PW)^{0.60}$

IDAPA 58.01.01.702.01.b: If PW is $\geq 17{,}000$ lb/hr; $E = 1.12\ (PW)^{0.27}$

Yanke complies with the limitations because Yanke's emissions calculation shows that the PM emissions from the processes are below the respective process weight limitations.

Sulfur Content of Fuels (IDAPA 58.01.01.725)

IDAPA 58.01.01.725 ..... Rules for Sulfur Content of Fuels

The rules for sulfur content in fuels apply to distillate fuel oils used at the facility. To demonstrate compliance the documentation must be maintained on an annual basis from all fuel suppliers to verify that the fuel supplied complies with specified fuel sulfur content limits.

As discussed in the permit application, Yanke has decided to remove the diesel-burning power washer to reduce the overall facility-wide emissions to meet the standards. However, in Yanke's November 5, 2015 comments on the draft permit, Yanke indicates that diesel burning power washer will be disabled and diesel power components will be separated from equipment and that the remaining power washing equipment will be used but will be powered by electricity from power grid. Yanke should not have any combustion source to burn fuel oil after removing the diesel-burning power components of the power washer. Therefore, permit conditions regarding sulfur content in the fuel are not included in the Facility-Wide section for this permit.

Odors (IDAPA 58.01.01.775-776)

IDAPA 58.01.01.775-776 ..... Odors

In accordance with Sections 775-776 of the Rules, 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. To demonstrate compliance, the permittee is required to do the following: maintain records of all odor complaints

received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The records shall, at a minimum, include the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

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

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

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for any regulated air pollutants (i.e., $PM_{2.5}$, PM_{10}, SO_2, NOx, CO, and VOC) or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. 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 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 in 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

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

NESHAP Applicability (40 CFR 63)

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

Operations of welding, machining, grinding, and abrasive blasting at Yanke are subject to this subpart. Detailed analysis, conducted by Yanke and reviewed by DEQ, can be found in Appendix E.

Yanke's painting operation is not subject to this subpart because Yanke has chosen to use painting materials that do not contain metal fabrication and finishing HAP (MFHAP), such as 6304 Flat Black - Stove Bright High temp.

Metal fabrication and finishing HAP (MFHAP) means any compound of the following metals: Cadmium, chromium, lead, manganese, or nickel, or any of these metals in the elemental form, with the exception of lead as defined in the subpart.

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

Yanke performs spray application of coatings to mobile equipment. Therefore, Yanke is subject to 40 CFR 63, Subpart HHHHHH. However, because Yanke has chosen to use painting materials without target HAP as defined in 40 CFR 63.11180, Yanke is required in the permit to petition the Administrator (i.e., EPA) for an exemption from this subpart.

Non-applicability determination

40 CFR 63, Subpart MMMM ..... National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

Yanke is not a major source of HAP. Therefore, in accordance with 40 CFR 63.3881, Yanke is not subject to 40 CFR 63, Subpart MMMM.

40 CFR 63, Subpart DDDDD ..... National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Yanke is not a major source of HAP. Therefore, in accordance with 40 CFR 63.7480, Yanke is not subject to 40 CFR 63, Subpart DDDDD.

40 CFR 63, Subpart JJJJJJ ..... National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Yanke's space heaters are not boilers and are not subject to 40 CFR 63, Subpart JJJJJJ.

Chemical Accident Prevention Applicability (40 CFR 68)

The requirements under 40 CFR Part 68 will apply if the facility has more than a threshold quantity of a regulated substance in a process as determined under 40 CFR 68.115. According to the application, Yanke does not have listed chemicals on site. Therefore, requirements of 40 CFR 68 are not included in the Facility-Wide section of this permit.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

Permit Scope; Permit Section 1

This section indicates that this is the initial permit for this facility and includes a list of regulated sources.

Facility-Wide Permit Conditions; Permit Section 2

Unless specified, permit conditions in this section apply to all emissions units at the facility.

Permit Conditions 2.1 - 2.4, Fugitive Dust

All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651. Compliance with the fugitive requirements is assured by following the operating, monitoring and recordkeeping requirements listed in Permit Conditions 2.1 - 2.4 (fugitive dust monitoring).

Because welding, grinding, and abrasive blasting operations have been regulated under 40 CFR 63, Subpart XXXXXX, a quarterly fugitive inspection, as a facility-wide requirement, is considered adequate.

Permit Conditions 2.5 - 2.6, Odors

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 per IDAPA 58.01.01.775-776. Compliance with this requirement is demonstrated by maintaining records of all odor complaints received and the corrective action taken in response to the complaint.

Permit Conditions 2.7 - 2.9, Visible Emissions

The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to

comply with the requirements of this section. Compliance with this requirement is demonstrated by conducting a periodic (i.e., quarterly) facility-wide inspection of potential sources of visible emissions to determine if visible emissions are present, and maintaining records of the inspections and any corrective actions taken.

Because welding, grinding, and abrasive blasting operations have been regulated under 40 CFR 63, Subpart XXXXXX, and the space heaters are limited to burn natural gas only, a quarterly visible emissions evaluation, as a facility-wide requirement, is considered adequate.

Permit Condition 2.10, Open Burning

This is a standard permit condition. The open burning rules apply to all facilities throughout the state at all times. No specific monitoring or recordkeeping is necessary to demonstrate compliance with this requirement for this facility.

Permit Condition 2.11, Reports and Certifications

This permit condition establishes generally applicable requirements for submittal of reports, certifications, and notifications to DEQ and/or EPA as specified.

Permit Condition 2.12, Incorporation of Federal Requirements by Reference

This is a standard permit condition to make it clear that the federal regulations take precedence over text presented in a DEQ-issued permit condition. Often times federal regulations are paraphrased in order to fit them into a permit, and there is a chance that the meaning of the regulation might be altered. In the event that this occurs, the text, as printed in the federal regulations, must be followed.

Permit Condition 2.13, Material Purchase Records and Safety Data Sheet (SDS)

The analyses in the application and for this permitting action have been based on the specific materials and their quantities used or to be used in the facility. Permit Condition 2.13 is a recordkeeping requirement documenting that the materials and quantities used at the facility are consistent with what has been used for analyses and permitting.

Permit Condition 2.14, Obligation to Comply

Permit Condition 2.14 states that receiving a PTC shall not relieve any owner or operator of the responsibility to comply with all applicable local, state, and federal rules and regulations.

The permittee is allowed to use equivalent new materials as defined in the permit. If a new material contains new TAP or HAP, it is not an equivalent new material as defined in the permit. The permittee is required to document compliance with the Rules when using new materials containing new TAP or HAP. That could mean permits, or exemption documents.

Permit Condition 2.15, Power Washing

As discussed in the permit application, Yanke has decided to remove the diesel-burning power washer to reduce the overall facility-wide emissions to meet the standards (TAP ELs, etc.). Consistent with the proposal, Yanke's EI did not include emissions from the diesel-burning power washer. Yanke has been using a diesel-burning Alkota 518X4 high pressure power washer to clean equipment. The power washer has a rated capacity of 540,000 Btu/hr (0.54 MMBtu/hr). The power washer has an electric motor driven pump with an atomizing burner. The atomizing burner burns diesel fuel which in-turn heats the water for power washing. The power washer is located in an enclosed room behind the repair shop building with a single exhaust stack. After the issuance of the permit, Yanke would not be permitted to use the diesel-burning power washer and would be required to remove it.

However, in Yanke's November 5, 2015 comments on the draft permit, Yanke indicates that diesel burning power washer will be disabled and diesel power components will be separated from equipment and that the remaining power washing equipment will be used but will be powered by electricity. PC 2.15 is revised to reflect the change, and it reads as follows:

"The permittee shall have disabled the diesel burning power washer and separated the diesel power components from the equipment. The remaining power washing equipment shall only be powered by electricity through power grid."

Welding and Grinding; Permit Section 3

Permit Conditions 3.1 and 3.2

Permit Conditions 3.1 and 3.2 describe the process and emissions control of welding and grinding operations.

Table 3.1

Table 3.1 summarizes the features of the welding and grinding operations, the controls, and the emissions points of the operations. The information on filtration control devices are taken from Yanke's work plan submitted to DEQ on 10/1/2013 during the site visit.

Permit Condition 3.3

Permit Condition 3.3 specifies the welding rod type and usage and the welding type because they were used in Yanke's 11/1/2013 EI to demonstrate compliance with the standards. Permit Condition 3.3 allows Yanke to use new materials equivalent to what listed in Table 3.2. For the purposes of Table 3.2, "or equivalent" is defined in PC 3.3. Discussions on emissions estimation from the welding operation can be found in Appendix A of the Statement of Basis, under Welding section.

Permit Condition 3.4

Permit Condition 3.4 specifies the grinding base materials usages. They are used in the EI to demonstrate compliance with the standards. Discussions on emissions estimation from the grinding operation can be found in Appendix A of the Statement of Basis, under Grinding section.

Permit Condition 3.5

According to Yanke's November 5, 2015 comments on the draft permit, Yanke no longer metalizes material. Yanke discontinued the process of metalizing material in 2013. Therefore, PC 3.5 is changed to "reserved".

Permit Condition 3.6

Permit Condition 3.6 includes control measures used in the EI to demonstrate compliance with the standards. Discussions on emissions estimation and related control measures can be found in Appendix A of the Statement of Basis, under Welding and Grinding sections, respectively.

This permit is supported by the EI and modeling analysis based on 100% capture efficiency (completely enclosed buildings or all bay doors remain closed) and 95% control efficiency of the filtration control devices. Yanke has expressed interest in opening bay doors during operation. To accommodate that, Permit Condition 3.6 has included "or the permittee shall achieve the overall 95% capture and control efficiency using DEQ approved alternatives."

Permit Conditions 3.7, 3.8 and 3.9

Permit Conditions 3.7, 3.8, and 3.9 are monitoring requirements to demonstrate compliance with the material type and throughput limits in the permit. In Permit Condition 2.13 of Facility-Wide Conditions Section, Yanke is also required to keep the materials purchase records and their SDS. All records shall be kept as specified in General Provision 10.

Permit Condition 3.10

Permit Condition 3.10 is a standard permit condition taken from DEQ's internal guidance for baghouse/filter system. Because the welding and grinding operating are subject to visible emissions monitoring in 40 CFR 63, Subpart XXXXXX, only quarterly see-no-see frequency is required here.

Permit Condition 3.11

Permit Condition 3.11 is a bookkeeping requirement to show that the bags/filters have 95% or greater control efficiency for $PM_{2.5}$ and PM_{10} or to show control efficiency of the filtration control devices in DEQ approved alternatives as required in PC 3.6.

Abrasive Blasting; Permit Section 4

Permit Conditions 4.1 and 4.2

Permit Conditions 4.1 and 4.2 describe abrasive blasting operation and control.

Table 4.1

Table 4.1 summarizes the features of the abrasive blasting operation, such as the capacity, control, and emissions point of the abrasive blasting operation.

Permit Condition 4.3

Permit Condition 4.3 specifies the composition of the abrasive media. It is for compliance with TAP standards. Permit Condition 4.3 allows Yanke to use Kleen Blast or its equivalent. "Its Equivalent" is defined in PC 4.3.

Refer to the discussions on emissions estimation for abrasive operation in Appendix A of the Statement of Basis, under Abrasive Blasting section.

Permit Condition 4.4

Permit Condition 4.4.1 limits the daily abrasive media usage. It is for compliance with non-carcinogenic TAP standards.

PC 4.4.2 limits total abrasive media purchased in a year. This limit is established based on the operating information provided by Yanke that the abrasive media is recycled twice. PC 4.4.2 is for keeping $PM_{10}/PM_{2.5}$ annual emissions rate BRC to avoid the requirement of $PM_{10}/PM_{2.5}$ modeling analysis.

Alternately, Yanke can comply with the annual blasting media throughput limit. The throughput limit includes the recycled abrasive media and is three times of the annual blasting media purchase limit. If Yanke is not allowed to recycle the abrasive media twice due to requirements in 40 CFR 63, Subpart XXXXXX, Yanke can choose to comply with this throughput limit.

Refer to discussions on emissions estimation for abrasive operation in Appendix A of the Statement of Basis, under Abrasive Blasting section.

Permit Condition 4.5

Permit Condition 4.5 includes control measures used in the EI to demonstrate compliance with the standards. Discussions on emissions estimation and related control measures can be found in Appendix A of the Statement of Basis, under Abrasive Blasting section.

Permit Condition 4.6

Permit Condition 4.6 includes the monitoring and record keeping requirements to demonstrate compliance with the limits in PC 4.2. In Permit Condition 2.13 of Facility-Wide Conditions Section, Yanke is also required to keep the materials purchase records and their SDS. All records shall be kept as specified in General Provision 10.

Permit Condition 4.7

Permit Condition 4.7 is a standard permit condition taken from DEQ's internal guidance for baghouse/filter system. The baghouse already exists; therefore, within 60 days of the permit issuance, Yanke is expected to have developed a Baghouse/Filter System Procedures document.

Permit Condition 4.8

Permit Condition 4.8 is a bookkeeping requirement to show that the bags/filters have 99% or greater control efficiency for $PM_{2.5}$ and PM_{10} as required in PC 4.5.

Painting Operation; Permit Section 5

Permit Conditions 5.1 and 5.2

Permit Conditions 5.1 and 5.2 describe the painting operation and control.

Table 5.1

Table 5.1 summarizes the features of the painting operation, such as paint booth, guns, control, and emissions point of the painting operation.

Permit Condition 5.3 and Table 5.2

Permit Condition 5.3.1 and Table 5.2 specify the material types and usages because they were used in Yanke's 11/1/2013 EI to demonstrate compliance with the standards. PC 5.3.1 allows Yanke to use new materials equivalent to what listed in Table 5.2. For the purposes of Table 5.2, "or equivalent" is defined in PC 5.3.1.

Annual throughput limits are not required because they are inherently limited by the bi-weekly limits.

Discussions on emissions estimation from the painting operation can be found in Appendix A of the Statement of Basis, under Painting section.

Permit Condition 5.3.2 prevents Yanke from using paints containing metal fabrication or finishing metal HAP (MFHAP), such as 6304 Flat Black - Stove Bright High temp. According to Yanke's 12/10/2013 submittal, Yanke has elected to remove 6304 Flat Black - Stove Bright High temp that contains 10% (wt%) of Manganese Dioxide so that Yanke's spray painting operation won't considered to be an affected source in accordance with 40 CFR 63.11514(b)(4) and won't be subject to 40 CFR 63, Subpart XXXXXX.

Permit Condition 5.4

Permit Condition 5.4 includes control measures used in Yanke's EI to demonstrate compliance with the standards. Discussions on emissions estimation and related control measures can be found in Appendix A of the Statement of Basis, under Painting section.

Permit Condition 5.6

Permit Condition 5.6 is a monitoring requirement to demonstrate compliance with the material types and throughput limits in the permit. In Permit Condition 2.13 of Facility-Wide Conditions Section, Yanke is also required to keep the materials purchase records and their SDS. All records shall be kept as specified in General Provision 10.

Permit Condition 5.7

Permit Condition 5.7 is a standard permit condition taken from DEQ's internal guidance for baghouse/filter system.

Permit Condition 5.8

Permit Condition 5.8 is a bookkeeping requirement to show that the bags/filters have 99% or greater control efficiency for $PM_{2.5}$ and PM_{10} as required in PC 5.4.

Permit Condition 5.9

Yanke performs spray application of coatings to mobile equipment. Therefore, Yanke is subject to 40 CFR 63, Subpart HHHHHH. However, because Yanke has chosen to use paints without target HAP according to the information in Yanke's federal regulation review for 40 CFR 63, Subpart XXXXXX, Yanke is required in the permit to petition the Administrator (i.e., EPA) for an exemption from this subpart. Otherwise, Yanke will need to comply with this subpart.

Space Heaters; Permit Section 6

Permit Conditions 6.1 and 6.2

Permit Conditions 6.1 and 6.2 describe the space heaters and their controls.

Table 6.1

Table 6.1 summarizes the features of the space heaters, such as the manufacturers, rated capacities, and fuel type.

Permit Condition 6.3

Permit Condition 6.3 is the PM grain loading standard for fuel burning equipment from IDAPA 58.01.01.677. It

applies to the space heaters using indirect heat transfer. No specific monitoring is required for this permit condition, and compliance is demonstrated by burning natural gas only in the space heaters as specified in the permit.

Permit Condition 6.4

Permit Condition 6.4 limits the fuel type to be natural gas exclusively for the space heaters to comply with the grain loading standard for combustion equipment under Permit Condition 6.3.

Permit Condition 6.5

Permit Condition 6.5 limits total fuel usage of all the space heaters. This is 70% of the total maximum annual fuel usage based on design capacity of each heater and using 8,760 hr/yr. With this limit, the facility-wide Ni emissions are below its EL; modeling is not required.

Permit Condition 6.6

Permit Condition 6.6 is a monitoring requirement for demonstrating compliance with the natural gas usage limit.

40 CFR 63, Subpart XXXXXX; Permit Section 7

Yanke's operations, including abrasive blasting, machining, a dry grinding and dry polishing with machines, and welding, are subject to the requirements in 40 CFR 63, Subpart XXXXXX. The requirements are included in Permit Section 7. Detailed regulatory analysis can be found in Appendix D of this Statement of Basis. In addition, PC 2.12 in Facility-Wide Conditions states that should there be a conflict between permit and 40 CFR 63, the federal regulation governs.

Each permit condition of Permit Section 7 includes the original citation from 40 CFR 63, Subpart XXXXXX.

General Provisions; Permit Section 9

General Provisions 1

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.

General Provisions 2

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.

General Provisions 3

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.

General Provisions 4

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

General Provisions 5

The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

General Provisions 6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

General Provisions 7

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.

General Provisions 8

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.

General Provisions 9

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.

General Provisions 10

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.

General Provisions 11

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

General Provisions 12

The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

General Provisions 13

The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

General Provisions 14

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

General Provisions 15

The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

General Provisions 16

The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

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 not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – DISCUSSIONS ON EMISSIONS ESTIMATION

Welding

Calculation of Criteria Air Pollutants

To keep the $PM_{10}/PM_{2.5}$ Potential to Emit (PTE, T/yr) below regulatory concern (BRC) to avoid the requirement of an ambient analysis (i.e., modeling), Yanke has requested to limit the production to 1.5 times of the 2011 production and to limit to the same welding rods and welding types used in 2011, to totally enclose the buildings, and to vent emissions from the buildings through filtration control devices with 95% or greater $PM_{10}/PM_{2.5}$ control efficiency.

The annual $PM_{10}/PM_{2.5}$ emissions from each welding rod are calculated as: (the actual welding rod usage in 2011, lb/yr) * 1.5 * (the respective EF in lb/1,000 lb rod consumed for that specific rod) * (1-95%)* (T / 2,000 lb). Total annual $PM_{10}/PM_{2.5}$ emissions from welding operation are the sum of annual $PM_{10}/PM_{2.5}$ emissions from each welding rod. The EFs are taken from AP-42, Chapter 12.19 Electric Arc Welding. In instances where the welding rod does not have a specific particulate emission factor, the highest rated particulate emission factor is used for that welding group. Yanke assumed that PM_{10} emissions are the same $PM_{2.5}$ emissions for welding.

Yanke calculated emissions lb/hr rate as: (emissions in T/yr) * (2000 lb/T) / (3,510 hrs/yr). This is an annualized lb/hr emissions rate that can be different from lb/hr emissions rate based on 24-hr average period. Since lb/hr emissions rate for $PM_{10}/PM_{2.5}$ is not used in the permit analysis for this permit, it has no impact to this permit.

Calculation of Hazardous Air Pollutants (HAP)

HAP PTE calculation for welding operation in Yanke's 11/1/2013 emissions inventory (EI) greatly overestimated the HAP that are non-carcinogenic toxic air pollutants (TAP) and slightly underestimated the HAP that are carcinogenic TAP. Emissions of each HAP from each welding rod were calculated in Yanke's 11/1/2013 EI as: (lb/hr of a HAP) * (3,510 hr/yr) / (2000 lb/T). However, for a HAP that is non-carcinogenic TAP, the lb/hr rate was based on an assumption that the rod annual usage was consumed in a day (i.e., annual usage averaging over 24 hrs) and for a HAP that is carcinogenic TAP, the lb/hr rate was based on an assumption that annual rod usage was consumed in 8,760 hours for a year.

For each HAP from each rod, it could be calculated as: (proposed annual usage of the rod, lb/yr) * (respective $PM_{10}/PM_{2.5}$ EF of the rod, lb/1,000 lb rod consumed) * (wt% of the solid HAP in the rod) *(1-95%, filtration system control efficiency) * (1 T/2000 lb).

Corrections have been made to Yanke's 11/1/2013 EI spreadsheet, "Welding Emissions Summary" worksheet, column D. Detailed explanation on corrections can be found in the footnote of the worksheet.

Because Chromium compounds are HAP, Chromium III and VI are added to HAP emissions rates. The correction has been made to Yanke's 11/1/2013 EI spreadsheet, "Welding HAPs" worksheet, cell B5. However, the impact of this change is insignificant.

Calculation of TAP

Screening emissions levels (EL) and acceptable ambient concentrations (AAC) of non-carcinogenic TAP are based on 24-hour average. EL and acceptable ambient concentrations (AACC) of carcinogenic TAP are based on annual average.

In Yanke's 11/1/2013 submittal, Yanke has calculated emissions from each rod for each non-carcinogenic TAP as: (proposed annual usage of the rod, lb/yr) * (respective $PM_{10}/PM_{2.5}$ EF of the rod, lb/1,000 lb rod consumed) * (wt% of the metal TAP in the rod) *(1-95%) / (24 hr/day). For that non-carcinogenic TAP from welding process, Yanke has then summed the emissions from each rod. Yanke has assumed that all rods to-be-used in a year would be used up in one day; therefore daily rod usage limits are not needed.

In Yanke's 11/1/2013 submittal, Yanke has calculated emissions from each rod for each carcinogenic TAP as: (proposed annual usage of the rod, lb/yr) * (respective $PM_{10}/PM_{2.5}$ EF of the rod, lb/1,000 lb rod consumed) * (wt% of the metal in the rod) *(1-95%) / (8,760 hr/yr). Yanke has then summed the emissions for that

carcinogenic TAP from each rod.

For welding, besides what are already required for complying with $PM_{10}/PM_{2.5}$ standards, no additional operating limits are imposed in the permit solely due to TAP compliance.

Grinding

Calculation of Criteria Air Pollutants

Yanke states in the application that the particles from the grinding process are larger than PM_{10} and settle on the floor near the grinding machines, and $PM_{10}/PM_{2.5}$ emissions from grinding are considered insignificant.

However, in the Federal Register (FR Vol.73, No.142, July 23, 2008) for 40 CFR 63, Subpart XXXXX that Yanke is subject to, it states: *"Dry grinding and dry polishing with machines operations often emit significant PM, which is a surrogate for MFHAP. This final rule requires owners or operators of affected new and existing dry grinding and dry polishing with machines operations to capture PM emissions, as a surrogate for MFHAP, and vent the exhaust to a cartridge, fabric, or HEPA filter."* Yanke's pedestal grinders are subject to 40 CFR 63, Subpart XXXXXX.

HAP and TAP emissions in PM form from grinding are required to be included in the emissions inventory.

EPA PM Calculator has been checked and no information on grinding similar to Yanke's was found.

Calculation of Hazardous Air Pollutants (HAP)

HAP PTE calculation for grinding operation in Yanke's 11/1/2013 EI greatly overestimated the HAP that are also non-carcinogenic TAP. Emissions from each material were calculated in Yanke's 11/1/2013 EI as: (lb/hr of a HAP) * (3,510 hr/yr) / (2,000 lb/T). However, for HAP that are also non-carcinogenic TAP, the lb/hr rates were based on an assumption that annual material usages for grinding belts, grinding wheels, and stainless steel were consumed in a day (i.e., annual usage averaging over 24 hours) and that the bi-weekly usage of carbon & alloy steel was consumed in a day (i.e., by-weekly usage averaging over 24 hours).

For each HAP, the emissions from the grinding operation could be calculated as:

A HAP from grinding belts and wheels + from carbon & alloy steel + from stainless steel

= [(proposed annual usage of the belt/wheel, lb/yr) * (wt% of the HAP in the belt/wheel) + (proposed carbon & alloy steel annual usage, lb/yr) *(2% of the carbon & alloy steel grounded off) * (wt% of HAP in carbon & alloy steel) + (proposed stainless steel annual usage, lb/yr) *(2% of the stainless steel grounded off) * (wt% of HAP in stainless steel)] * (1-95%, filtration system control efficiency) * (1 T/2,000 lb)

Corrections have been made to Yanke's 11/1/2013 EI spreadsheet, "Grinding Summary Emissions" worksheet, column D. Detailed explanations on the corrections can be found in the footnote of the worksheet.

Calculation of TAP

- Grinding belts and wheels

In Yanke's 11/1/2013 EI, Yanke calculated emissions from each grinding belt/wheel for each non-carcinogenic TAP as: (proposed annual usage of the belt/wheel, lb/yr) * (wt% of the TAP in the belt/wheel) *(1-95% filtration system control efficiency) / (24 hr/day). Yanke assumed that all belts and wheels to-be-used in a year, about 125 lb/yr, would be used up in one day; therefore daily belts/wheels usage limits are not needed. Because TAP emissions from grinding belts and wheels are relatively low, no throughput limits of grinding belts and wheels are imposed in the permit. Grinding belts and wheels used at Yanke do not contain carcinogenic TAP.

- Carbon & alloy steel

In Yanke's 11/1/2013 EI, Yanke estimated non-carcinogenic TAP emissions from carbon & alloy steel as: (600 lbs/day) *(2% of the material grounded off) / (10 hrs/day) * (3,510 hrs/yr) * (1-95% filtration system control efficiency) * (wt% of solid TAP in carbon & alloy steeel) /(24 hr/day). Yanke assumed that all carbon & alloy steel to-be-used in a year would be used up in one day; therefore daily usage limit for carbon & alloy steel are not needed.

Based on Yanke's 11/1/2013 EI, the annual limit for carbon & alloy steel would be: (600 lbs/day) / (10 hrs/day) * (3,510 hrs/yr) = 210,600 lb/yr. However, according to Yanke's 12/24/2013 email, Yanke expects to purchase/process carbon & alloy steel at the level of 4,737,123 lb/yr. Limiting carbon & alloy steel annual usage to 210,600 lb/yr as proposed in Yanke's 11/1/2013 EI would put Yanke in violation. To accommodate the 4,737,123 lb/yr annual production rate, 210,600 lb carbon & alloy steel is assumed to be processed in 2 weeks and as a bi-weekly limit in the permit. 5,475,600 lb/yr calculated by (210,600 lb / 2 wk) * (52 wk/yr) is included in the permit as an annual throughput limit.

Non-carcinogenic TAP emissions are based on 210,000 lb processed in one day so that only bi-weekly limit and monitoring will be needed for carbon & alloy steel. For each non-carcinogenic TAP, its emissions could be calculated as: (210,000 lbs/bi-week carbon & alloy steel) *(2% of the material grounded off) * (1-95% filtration system control efficiency) * (wt% of TAP in carbon & alloy steeel) /(24 hr/day).

The carcinogenic TAP emissions are based on annual throughput limit of 5,475,600 lb/yr. This is about 115% of 4,737,123 lb/yr. For each carcinogenic TAP, its emissions could be calculated as: (5,475,600 lb/yr carbon & alloy steel) *(2% of the material grounded off) * (1-95% filtration system control efficiency) * (wt% of solid TAP in carbon & alloy steel) /(8,760 hr/day).

- Stainless steel

In Yanke's 11/1/2013 submittal, Yanke estimated non-carcinogenic TAP emissions from stainless steel as: (600 lbs/day stainless steel) *(2% of the material grounded off) / (10 hrs/day) * (3,510 hrs/yr) * (1-95%, filtration system control efficiency) * (wt% of TAP in stainless steel) /(24 hr/day). Yanke assumed that all stainless steel to-be-used in a year would be used up in one day; therefore daily usage limit for stainless steel is not needed. Annual throughput was calculated as: (600 lbs/day) / (10 hrs/day) * (3,510 hrs/yr) = 210,600 lb/yr for stainless steel. However, according to Yanke's 12/24/2013 email, Yanke expects to purchase/process stainless steel at the level of 10,517 lb/yr.

For each carcinogenic TAP, its emissions could be calculated as: (210,600 lb/yr stainless steel) *(2% of the material grounded off) * (1-95% filtration system control efficiency) * (wt% of TAP in stainless steel) /(8,760 hr/day).

DEQ has assumed that an average monthly production (210600/12 = 17550 lb/month) happens in a day to avoid daily monitoring.

Abrasive Blasting

Calculation of Criteria Air Pollutants

To keep the $PM_{10}/PM_{2.5}$ PTE BRC to avoid the ambient analysis requirement, Yanke has requested to limit annual purchase of abrasive media to 628,304 pounds per year (50% increase of 2011 production), to totally enclose the abrasive blasting booth, and to capture and control abrasive booth emissions with a baghouse having a control efficiency of 99% for PM_{10} and $PM_{2.5}$.

Because the abrasive media is recycled twice, the abrasive media, including recycled abrasive media, through the abrasive gun(s) is calculated as: the proposed annual abrasive media to be purchased (628,304 lb/yr) * 3 = 1,884,912 lb/yr. The emissions for PM_{10} and $PM_{2.5}$ are calculated as: (628,303 lb/yr) * 3 * (respective PM_{10} or $PM_{2.5}$ EF (lb/1,000 lb abrasive, AP-42, Table 13.2.6-1)) * (T / 2,000 lb) * (1-99%, baghouse control efficiency) = 0.12 T/yr for PM_{10} and 0.01 T/yr for $PM_{2.5}$.

For Lead emissions calculation, Yanke's 11/1/2013 EI used control efficiency of 99.9%. Because 99% control efficiency was used for $PM_{10}/PM_{2.5}$ emissions calculation from abrasive blasting, to be consistent, 99.9% is corrected to 99% in the "Facility-Wide Emission Summary" worksheet by multiplying [(1-0.99)/(1-0.999)].

According to the application, the abrasive blasting operation has a daily capacity of 5,940 lb/day based on guns' capacity or 6,000 pounds abrasive media per day based on the hopper capacity. This is supported by the factor that the total gun capacity is 11 pounds abrasive media per minute for two guns total and that the shop operates 9 hours per day. Yanke operated 9 hours per day, five days per week, and 52 weeks per year and purchased 418,869 pounds abrasive media in 2011.

Calculation of HAP

In Yanke's 11/1/2013 submittal, Yanke estimated HAP emissions from abrasive blasting as: (lb/hr of a HAP) * (3,510 hr/yr) / (2000 lb/T). It is incorrect because the lb/hr rates were calculated by averaging emissions from 9 hr/day operation over 24 hr/day for HAP that are also non-carcinogenic TAP and were based on that the filtration system has a control efficiency of 99.9%.

Each HAP from abrasive blasting operation could be calculated as:

(proposed annual total abrasive media purchased, lb/yr) * (40% of Kleen Blast) * (wt% of the HAP in Kleen Blast) (1-99%, filtration system control efficiency) * (1 T/2,000 lb)

Corrections are made to the "Facility-Wide HAPS" worksheet for HAP that are also non-carcinogenic TAP by multiplying (24 hr / 9 hr). In addition, because 99% control efficiency was used for $PM_{10}/PM_{2.5}$ emissions calculation from abrasive blasting, to be consistent, 99.9% is corrected to 99% in the "Facility-Wide HAPS" worksheet by multiplying [(1-0.99)/(1-0.999)]. The impact of these changes is not significant for total HAP emissions.

Calculation of TAP

Blasting material is composed by 60% crushed glass and 40% kleen blast. Crushed glass contains no TAP. Only Kleen blast contains TAP.

In Yanke's 11/1/2013 EI, Yanke estimated non-carcinogenic TAP emissions from Kleen blast as: (11 lb/min, abrasive guns capacity) * (60 min/hr) * (9 hr/day, daily operating hours) * (40% of Kleen blast) * (1-99.9%) * (the respective TAP content, mg /kg Kleen) * (10^{-6} , lb/lb) / (24 hr/day) = (5,940 lb/day) * 40% *(1-99.9%) * (TAP content, lb/lb Kleen) / (24 hr/day). Because 99% control efficiency was used for $PM_{10}/PM_{2.5}$ emissions calculation from abrasive blasting, to be consistent, 99.9% is corrected to 99% in the facility-wide emissions summary worksheet by *(1-0.99)/(1-0.999). For worst case, it is assumed that non-recycled abrasive media is used in a day.

In Yanke's 11/1/2013 EI, Yanke estimated carcinogenic TAP emissions from abrasive blasting as: (11 lb/min, abrasive gun capacity) * (60 min/hr) * (9 hr/day, daily operating hours) * (40% of Kleen blast) * (1-99.9%) * (TAP content, mg /kg Kleen) * (10^{-6} , lb/lb) / (24 hr/day) * [(3,510 hrs/yr) / (8760 hrs/yr)]. Minor correction is made to the facility-wide emissions summary worksheet by * (24 hr / 9 hr) for carcinogenic TAP in addition to *(1-0.99)/(1-0.999) as discussed above. Abrasive media is recycled twice; 5,940 lb/day include recycled media. It does not alter the outcome of TAP compliance when assuming that abrasive media are not recycled, for worst case.

Daily throughput and annual throughput limits will be imposed because the analysis is based on these proposed throughputs.

Painting

Calculation of Criteria Air Pollutants

In Yanke's 11/1/2013 EI, $PM_{10}/PM_{2.5}$ emissions from painting are estimated as: sum of (each paint usage gal/yr in 2011) / (1,300 hr/yr operating hour in 2011) * 1.5 * (solid content in the paint in lb/gal) * (1-65%, gun transfer efficiency) * (1-99%, filters control efficiency) * (1,950 hr/yr, proposed) /(2,000 lb/T). The calculation used 1.5 times factor and the factor of (1,950 hr/proposed)/(1,300 hr/yr in 2011); the emissions were overestimated by 1.5 times.

To keep the $PM_{10}/PM_{2.5}$ PTE BRC to avoid the ambient analysis requirement, Yanke has requested to limit the materials and their amounts as listed in the permit (50% increase of the 2011 production) and to use paint booth exhaust filters with a control efficiency of 99% for both PM_{10} and $PM_{2.5}$.

In Yanke's 11/1/2013 EI, VOC emissions from painting are estimated as: sum of (each paint usage gal/yr in 2011) / (1,300 hr/yr operating hour in 2011) * 1.5 * (VOC in the paint in lb/gal) * (1,950 hr/yr, proposed) /(2,000 lb/T). The calculation used 1.5 times factor and the factor of (1,950 hr/proposed)/(1,300 hr/yr in 2011); the emissions were overestimated by 1.5 times.

Corrections have been made to Yanke's 11/1/2013 EI spreadsheet, "Facility-Wide Emissions Summary" worksheet, Cells D10 and N10.

Calculation of HAP

In Yanke's 11/1/2013 EI, emissions of a HAP from painting are the sum of the HAP from each paint calculated as: (2011 paint usage in gal/yr for a paint * 1.5) * (the paint density in lb/gal) * (wt% of the HAP in the paint) / (2,000 lb/T).

In Yanke's 11/1/2013 EI, "Facility-Wide HAPS" worksheet, Yanke unintentionaly included the hourly toluene emissions rate (i.e., cell E51) from painting operation to calculate HAP PTE. It is now removed.

Calculation of TAP

In Yanke's 11/1/2013 EI, emissions of each non-carcinogenic TAP with 24-hr average standard from each paint are calculated as: (2011 paint usage in gal/yr * 1.5) * (paint density in lb/gal) * (TAP wt%) / (52 wk/yr) / (24 hr/day). Yanke assumed that the annual usage averaged over 52 weeks will be used in a day. Because this requires weekly monitoring for each paint and because a few paints use less than 0.5 gal/week, monitoring that amount could be difficult, DEQ has revised the emissions in "Facility-Wide Emission Summary" by multiplying Yanke's emissions with [(52 wk/yr) /(26 bi-week/yr)]. This assumes that the annual usage averaged 26 weeks or annual average bi-weekly usage will be used up in a day; only bi-weekly paint monitoring will be required in the permit. With this bi-weekly usage assumption, the emissions of Xylene and mixed iosmers, the limiting factor, are below the EL.

For TAP in solid form, spray gun transfer efficiency of 65% and filter control efficiency of 99% have been applied to the emissions calculation in "Facility-Wide Emission Summary" worksheet by multiplying Yanke's emissions with [(1-65%) * (1-99%)].

According to Yanke's 11/1/2013 EI, Yanke's spray painting process does not emit carcinogenic TAP.

According to Yanke's 12/10/2013 submittal, Yanke has elected to remove 6304 Flat Black - Stove Bright High temp that contains 10% (wt%) of Manganese Dioxide so that Yanke's spray painting operation won't considered to be an affected source in accordance with 40 CFR 63.11514(b)(4) and won't be subject to 40 CFR 63, Subpart XXXXXX. Therefore, DEQ is to revise the Flat Black paint usage from 83 gal/yr to zero in the EI spreadsheet, worksheet "Falt Black".

Metalizing Treatment

Calculation of Criteria Air Pollutants

To keep the $PM_{10}/PM_{2.5}$ PTE BRC to avoid the ambient analysis requirement, Yanke has requested to limit the materials and their amounts as listed in the permit.

In Yanke's 11/1/2013 EI, $PM_{10}/PM_{2.5}$ emissions are calculated as: sum of [(each material consumed as listed in the permit, in lb/yr)] *(1- 95%, the material transfer efficiency) * (1-95%, filtration control efficiency) * (1 T/ 2,000 lb). Yanke assumed that PM_{10} emissions are the same as $PM_{2.5}$ emissions for metalizing operation.

Calculation of Hazardous Air Pollutants (HAP)

HAP PTE calculation in Yanke's 11/1/2013 EI is incorrect for metalizing operation. It was underestimated. Emissions from each material were calculated in the Yanke's 11/1/2013 EI as: (lb/hr of a HAP) * (20 hr/yr) / (2,000 lb/T). For HAP that are also non-carcinogenic TAP, lb/hr rates were based on an assumption that annual material usages were consumed over 24 hours. For HAP that are also carcinogenic TAP, lb/hr rates were based on an assumption that annual material usages were consumed over 8,760 hours. In addition, control efficiency (95%) and material transfer efficiency (95%) were unintentionally missed when estimating emissions from using Metcoloy 5. Nickel emissions in lb/hr were missed from "Metcology 5" worksheet Cell P23 and "Metco 16C" worksheet Cell P20.

Corrections have been made to Yanke's 11/1/2013 EI spreadsheet, "Metcology 5" worksheet Cell P23, "Metco 16C" worksheet Cell P20, and "Facility-Wide HAPS" worksheet, cells D9 through D12. The impact of these changes is insignificant for the total HAP emissions.

Calculation of TAP

In Yanke's 11/1/2013 EI, Yanke calculated emissions from each metalizing material for each non-carcinogenic TAP as: (proposed annual usage of the material, lb/yr) * (wt% of the TAP in the material) *(1-95%, material transfer efficiency)*(1-95%, filtration system control efficiency) / (24 hr/day). Yanke assumed that all metalizing materials to-be-used in a year would be used up in one day to avoid daily material usage monitoring.

In Yanke's 11/1/2013 EI, Yanke calculated emissions from each metalizing material for each carcinogenic TAP as: (proposed annual usage of the material, lb/yr) * (wt% of the TAP in the material) *(1-95%, material transfer efficiency)*(1-95%, filtration system control efficiency) / (8760 hr/yr) because the standards for carcinogenic TAP are based on averaging over 8,760 hr/hr period.

Therefore only material types and annual materials usages will be limited in the permit.

Natural gas combustion sources

All space heater emissions are vented from roof-top exhaust vents. Emissions from the combustion of natural gas were calculated utilizing EPA AP-42-emission factors for nitrogen oxides and carbon monoxide (Table 1.4-1), emission factors for criteria pollutants (Table 1.4-2), emission factors for speciated organic compounds, and emission factors for metals (Table 1.4-4). For PTE, 70% of the total maximum annual fuel usage based on design capacity of each heater is imposed in the Permit Condition 6.5. With this limit, the facility-wide Ni emissions are below its EL; modeling is not required. Greenhouse gas emissions from the combustion of natural gas were calculated utilizing emission factors from the California Climate Action Registry-General Reporting Protocol (version 2.2, March 2007).

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

(Refer to modeling memo, 2015AAG1646)

MEMORANDUM

DATE: October 14, 2015

TO: Shawnee Chen Permit Writer, Air Program

FROM: Kevin Schilling, Stationary Source Modeling Coordinator, Air Program

PROJECT: P-2013.0032 PROJ 61197, PTC for Existing Yanke Machine Shop, Inc. Facility in Boise, ID

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

Contents

Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
acfm	Actual cubic feet per minute
AERMAP	The terrain data preprocessor for AERMOD
AERMET	The meteorological data preprocessor for AERMOD
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
Centra	Centra Consulting
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEM	Digital Elevation Map
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
GEP	Good Engineering Practice
Hildebrand	Hildebrand & Associates
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
ISCST3	Industrial Source Complex Short Term 3 dispersion model
K	Kelvin
m	Meters
m/sec	Meters per second
NAAQS	National Ambient Air Quality Standards
NAD27	North American Datum of 1927
NED	National Elevation Dataset
NO	Nitrogen Oxide
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
NWS	National Weather Service
Pb	Lead
PM_{10}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
$PM_{2.5}$	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per million
PRIME	Plume Rive Model Enhancement
PTC	Permit to Construct
SIL	Significant Impact Level
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
USGS	United States Geological Survey

UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
Yanke	Yanke Machine Shop, Inc.
$\mu g/m^3$	Micrograms per cubic meter of air

1.0 Summary

Yanke Machine Shop, Inc. (Yanke) submitted a Permit to Construct (PTC) application for their existing machine shop facility located northeast of the Boise Airport in Boise, Idaho. The original PTC application was received on May 6, 2013. DEQ determined the application was incomplete on May 22 and again on June 21, 2013, primarily because of issues with the emissions inventory and the air impact analyses. The application was determined complete on July 26, 2013, following several submittals of revised analyses. A draft permit was then issued on September 20, 2013. Yanke submitted revised emissions inventory information on November 1, 2013, and continued to adjust/correct information and data through February 2014. A DEQ decision was then made by DEQ to use the submitted information to rework the emissions inventory and air impact analyses.

This memorandum provides a summary of the submitted information and DEQ's verification ambient air impact analyses.

Project-specific air quality analyses involving atmospheric dispersion modeling of estimated emissions associated with the facility were submitted to DEQ, and subsequent corrected analyses were performed by DEQ, to demonstrate that the facility would not cause or significantly contribute to a violation of any ambient air quality standard as required by the Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03).

Centra Consulting (Centra) and Hildebrand & Associates, LLC (Hildebrand), on behalf of Yanke, prepared the PTC application and performed the initial ambient air impact analyses for this project to demonstrate compliance with National Ambient Air Quality Standards (NAAQS) and Toxic Air Pollutants (TAPs). The DEQ review of submitted data and analyses and DEQ performance of analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emissions estimates was the responsibility of the permit writer and is addressed in the main body of the DEQ Statement of Basis, and emissions calculation methods were not evaluated in this modeling review memorandum.

The submitted information and analyses, in combination with DEQ's verification analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data (review of emissions estimates was addressed by the DEQ permit writer); 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration; b) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or c) that predicted pollutant concentrations from emissions associated with the project as modeled, when appropriately combined with co-contributing sources and background concentrations, were below applicable NAAQS at ambient air locations where and when the project has a significant impact; 5) showed that TAP emissions increases associated with the project will 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.

Idaho Air Rules require air impact analyses be conducted according to methods outlined in 40 CFR 51, Appendix W *Guideline on Air Quality Models* (Appendix W). Appendix W requires that air quality

impacts be assessed by atmospheric dispersion models using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition. The submitted information and analyses, in combination with DEQ's analyses, demonstrated to the satisfaction of the Department that operation of the proposed facility 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. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure the requirements of Appendix W are met with regard to emissions representing design capacity or permit allowable rates.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
General Emissions Rates. Emissions rates used in the dispersion modeling analyses, as listed in this memorandum, must represent maximum potential emissions as given by design capacity or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emissions rates greater than those used in the modeling analyses.
Below Regulatory Concern for Criteria Pollutant Emissions. Maximum non-fugitive annual emissions of PM_{10}[a], $PM_{2.5}$[b], oxides of nitrogen (NOx), carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb) are below levels identified as below regulatory concern (BRC) as per Idaho Air Rules Section 221, and the project would be exempt from permitting if it were not for uncontrolled emissions of some criteria pollutants exceeding 100 ton/year.	Idaho Air Rules Section 203.02, requiring air impact analyses demonstrating compliance with NAAQS, is not applicable to pollutants having a project-emissions increase that is less than BRC levels, provided the project would have qualified for a BRC permitting exemption except for the emissions levels of another criteria pollutant exceeding the ton/year BRC threshold.

[a.] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
[b.] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

2.0 Background Information

This section provides background information applicable to the project and the site where the facility is located. It also provides a brief description of the applicable air impact analyses requirements for the project.

2.1 Project Description

Yanke is an existing unpermitted metal fabrication and industrial machining facility. Process performed at the facility include equipment assembly, metal forming, welding and grinding, abrasive blasting, and painting. Yanke has applied for a PTC to address the unpermitted status of the facility. The PTC will address all air pollutant emitting activities at the site.

2.2 Proposed Location and Area Classification

The facility is located northeast of the Boise Airport, in Ada County, Idaho. This area is designated as an attainment or unclassifiable area for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), lead (Pb), ozone (O_3), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$). The area is not classified as non-attainment for any criteria pollutants.

2.3 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

> *No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:*
>
> ***02. NAAQS.*** *The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*
>
> ***03. Toxic Air Pollutants.*** *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.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

> ***03. Estimates of Ambient Concentrations.*** *All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. 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.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in 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. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emissions sources associated with a new facility or modification exceed the SILs, 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 for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from facility-wide emissions, and emissions from any nearby co-contributing sources, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period 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 for the modeling domain.

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]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st 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. The O_3 standard was revised (the notice was signed by the EPA Administrator on October 1, 2015) to 70 ppb. However, this standard will not be applicable for permitting purposes until it is incorporated by reference *sine die* into Idaho Air Rules.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. This evaluation is made specific to both time and space. As an example, consider a hypothetical case where the SIL analysis indicates the project (new source or modification) has impacts exceeding the SIL and the cumulative impact analysis indicates a violation of the NAAQS. If project-specific impacts are below the SIL at the specific receptors showing the violations during the time periods when modeled violations occurred, then the facility does not have a significant contribution to the specific violations.

Compliance with Idaho Air Rules Section 203.02 is generally demonstrated if: a) applicable specific criteria pollutant emissions increases are at a level defined as BRC, using the criteria established by DEQ regulatory interpretation[1]; or b) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or c) modeled design values of the cumulative NAAQS impact analysis (modeling all 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 d) 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.

2.5 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 (TAPs) 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 (ELs) 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 (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) 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.

3.0 Analytical Methods and Data

This section describes the methods and data used in analyses to demonstrate compliance with applicable air quality impact requirements.

3.1 Emission Source Data

Emissions of criteria pollutants and TAPs resulting from operation of the Yanke facility were provided by Hildebrand for various applicable averaging periods. After several revisions of the emissions inventory, the DEQ permit writer substantially reworked the emissions inventory. The DEQ-corrected emissions inventory was then used to generate emissions rates for the air impact modeling analyses.

Review and approval of estimated emissions is the responsibility of the DEQ permit writer, and the representativeness and accuracy of emissions estimates is not addressed in this modeling memorandum. DEQ air impact analyses review included verification that the potential emissions rates provided in the emissions inventory were properly used in the model. The rates listed must represent the maximum allowable rate as averaged over the specified period.

Emissions rates used in the dispersion modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emissions inventory. All modeled criteria air pollutant and TAP emissions rates must be equal to or greater than the facility's potential emissions calculated in the PTC emissions inventory or proposed permit allowable emissions rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emissions Rates

Facility-wide potential to emit (PTE) values for all criteria pollutants would qualify for a below regulatory concern (BRC) permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of volatile organic compounds (VOCs) exceeding the BRC threshold of 10 percent of emissions defined as significant. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant.[1]" The interpretation policy also states that the exemption criteria of uncontrolled PTE not to exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year.

The DEQ revised emissions inventory asserts that facility-wide controlled PTE emissions of specific criteria pollutants are below BRC levels, as listed in Table 3.

Table 3. CRITERIA POLLUTANT NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY

Criteria Pollutant	BRC Level (ton/year)	Applicable Facility Wide PTE Emissions (ton/year)	Air Impact Analyses Required?
PM_{10}[a]	1.5	0.42	No
$PM_{2.5}$[b]	1.0	0.31	No
Carbon Monoxide (CO)	10.0	1.96	No
Sulfur Dioxide (SO_2)	4.0	0.01	No
Nitrogen Oxides (NOx)	4.0	2.33	No
Lead (Pb)	0.06	0.004	No

a. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
b. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

Ozone (O_3) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. O_3 is formed in the atmosphere through reactions of VOCs, NOx, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses (see Section 3.3.3) cannot be used to estimate O_3 impacts resulting from VOC and NOx emissions from an industrial facility. O_3 concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting.

Addressing secondary formation of O_3 has been somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

> *. . . footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."*
>
> *The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY."*

DEQ determined it was not appropriate or necessary to require a quantitative source specific O_3 impact analysis because allowable emissions estimates of VOCs and NOx are below the 100 tons/year threshold.

Secondary Particulate Formation

The impact from secondary particulate formation resulting from emissions of NOx, SO_2, and/or VOCs was assumed by DEQ to be negligible on the basis of the magnitude of emissions and the short distance from emissions sources to modeled receptors where maximum PM_{10} and $PM_{2.5}$ impacts were predicted.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 210 are only applicable for new or modified sources constructed after July 1, 1995. TAP compliance for the Yanke facility was demonstrated on a facility-wide basis.

Many of the TAP emissions sources at the Yanke facility are regulated under 40 CFR 60, 61, or 63. These sources are exempt from TAP rules as per Idaho Air Rules Section 210 and were excluded from the TAP modeling applicability calculation.

After excluding emissions from sources exempt from the TAPs rules, emissions of phosphorus and cadmium still exceeded the applicable emissions screening levels (ELs) of Idaho Air Rules Section 585 and 586. Air impact modeling analyses were then required to demonstrate that maximum impacts of phosphorus and cadmium are below applicable ambient increment standards expressed in Idaho Air Rules Section 585 and 586 as AACs and AACCs.

Table 4 lists the TAP modeled emissions rates for phosphorus and cadmium.

Emissions of phosphorus occur from welding operations inside of the fabrication building and the machine shop building. Emissions are controlled by a filtration system that filters room air, so the emissions occur as fugitives from the building whenever doors are opened to transport materials to and from the building.

Phosphorus is non-carcinogen TAP and is regulated on a 24-hour basis. Therefore, the appropriate emissions rate to use in the impact analysis is the maximum 24-hour emissions, expressed as an average pound/hour value over a 24-hour period. Facility wide phosphorus emissions were calculated at 0.0176 pound/hour, with $10/16^{ths}$ of those emissions (0.0110 pound/hour) occurring in the fabrication building (the north-most large building) and $6/16^{ths}$ (0.0066 pound/hour) of those emissions occurring in the machine shop (immediately source of the fabrication building). Emissions were modeled from each building as two volume sources with 50 percent of the building's emissions in each modeled source.

Emissions of Cadmium occur from the combination of natural gas in various heating units in the buildings. All emissions are exhausted through roof stacks and are uncontrolled.

Cadmium is a carcinogen TAP and is regulated on an annual basis. Therefore, the appropriate emissions rate to use in the impact analysis is the maximum annual emissions, expressed as an average pound/hour value over 8,760 hours/year. Emissions of cadmium only occur from natural gas combustion sources, consisting of various heaters in both main buildings. Emissions from these sources are vented from stacks on the building roof.

Table 4. EMISSIONS RATES MODELED FOR TAP IMPACT ANALYSES

Source ID	Description	Emission Rates (lb/hr[a])	
		Phosphorus 24-hour	Cadmium Annual
FABVOL1	volume source 1 for the fabrication building	0.0055	
FABVOL2	volume source 2 for the fabrication building	0.0055	
MACHVOL1	volume source 1 for the machine shop building	0.0033	
MACHVOL2	volume source 2 for the machine shop building	0.0033	
STK3_EPB	East paint booth heater		1.08E-7
STK4_WPB	West paint booth heater		1.08E-7
STK5_FAB	Fabrication shop heater		3.89E-7
STK6_FAB	Fabrication shop heater		3.89E-7
STK7_FAB	Fabrication shop heater		3.89E-7
STK8_FAB	Fabrication shop heater		3.89E-7
STK9_FAB	Fabrication shop heater		3.89E-7
STK10FAB	Fabrication shop heater		3.89E-7
STK11FAB	Fabrication shop heater		3.89E-7
STK12FAB	Fabrication shop heater		3.89E-7
STK13FAB	Fabrication shop heater		3.89E-7
STK14FAB	Fabrication shop heater		3.89E-7
STK15MS1	Machine shop heater #1		2.44E-7
STK16MS2	Machine shop heater #2		2.44E-7
STK17MS3	Machine shop heater #3		2.44E-7
STK18MS4	Machine shop heater #4		2.44E-7
STK19MS5	Machine shop heater #5		2.44E-7
STK20WH1	Warehouse heater #1		1.35E-7
STK21WH2	Warehouse heater #2		2.44E-7

a. Pounds per hour for listed averaging period.

3.1.3 Emissions Release Parameters

Table 5 provides emissions release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity for emissions sources modeled in the air impact analyses.

Table 5. POINT SOURCE STACK PARAMETERS USED IN MODELING

Point Source Parameters

Release Point	Description	UTM[a] Coordinates		Stack Height (m)	Stack Gas Flow Temp. (K)[c]	Stack Flow Velocity (m/sec)[d]	Stack Dia. (m)
		Easting (m)[b]	Northing (m)				
STK3_EPB	East paint booth heater	565996	4823621	8.53	322	9.87[e]	0.583
STK4_WPB	West paint booth heater	566014	4823621	8.53	322	2.13	0.583
STK5_FAB	Fabrication shop heater	566030	4823619	8.23	339	0.001	0.2032
STK6_FAB	Fabrication shop heater	566030	4823607	8.23	339	0.001	0.2032
STK7_FAB	Fabrication shop heater	566030	4823595	8.23	339	0.001	0.2032
STK8_FAB	Fabrication shop heater	566030	4823582	8.23	339	0.001	0.2032
STK9_FAB	Fabrication shop heater	566030	48235683	8.23	339	0.001	0.2032
STK10FAB	Fabrication shop heater	565984	4823619	8.23	339	0.001	0.2032
STK11FAB	Fabrication shop heater	565984	48236067	8.23	339	0.001	0.2032
STK12FAB	Fabrication shop heater	565984	48235941	8.23	339	0.001	0.2032
STK13FAB	Fabrication shop heater	565984	4823571	8.23	339	0.001	0.2032
STK14FAB	Fabrication shop heater	565984	4823559	8.23	339	0.001	0.2032
STK15MS1	Machine shop heater #1	566018	4823441	7.32	339	0.001	0.2032
STK16MS2	Machine shop heater #2	566018	4823441	7.32	333	0.001	0.2032
STK17MS3	Machine shop heater #3	566020	4823441	7.32	333	0.001	0.2032
STK18MS4	Machine shop heater #4	566021	4823441	7.32	333	0.001	0.1016
STK19MS5	Machine shop heater #5	566021	4823441	7.32	333	0.001	0.1016
STK20WH1	Warehouse heater #1	565985	4823545	8.23	322	0.001	0.0762
STK21WH2	Warehouse heater #2	566031	4823546	8.23	333	0.001	0.1010

Volume Source Parameters

Release Point	Description	UTM Coordinates		Release Height (m)	Int. Hor. Dimension σ_{yo} (m)	Int. Vert. Dimension σ_{yo} (m)
		Easting	Easting			
FABVOL1	Fab shop volume source 1	566008	4823610	3.36	22.30	3.54
FABVOL2	Fab shop volume source 2	566008	4823562	3.36	22.30	3.54
MACHVOL1	Machine shop volume source 1	566009	4823483	2.44	43.72	3.12
MACHVOL2	Machine shop volume source 2	566009	4823436	2.44	73.72	3.12

a. Universal Transverse Mercator.
b. Meters.
c. Kelvin.
d. Meters per second.
e. The submitted modeling files used a flow velocity of 50 m/sec. DEQ recalculated the flow velocity from the size of the duct opening and the volumetric flow. Duct size = 23 inch x 18 inch, giving an effective diameter of 22.96 inches = 0.583 meters. 5,585 acfm → 9.87 m/sec
f. The submitted modeling files used a flow velocity of 50 m/sec. DEQ recalculated the flow velocity from the size of the duct opening and the volumetric flow. Duct size = 23 inch x 18 inch, giving an effective diameter of 22.96 inches = 0.583 meters. 1,205 acfm → 2.13 m/sec

Documentation and justification of stack parameters provided in the application was not adequate. DEQ found that some sources had claimed exit velocities clearly outside of reasonable values for the type of source. DEQ also found that some emissions stacks were modeled using incorrect location coordinates, with one stack located on the wrong building. DEQ adjusted stack locations using descriptions of the

source and photographic representation from GoogleEarth. Although there may still be errors in the stack release parameters and in the exact locations of some sources, DEQ contends that compliance is still demonstrated because the maximum impact of cadmium is only about 29 percent of the AACC. Corrections of any stack parameters would be very unlikely to result in a change in impacts that would lead to impacts exceeding the AACC.

3.2 Background Concentrations

Background concentrations are used if a cumulative NAAQS impact analysis is needed to demonstrate compliance with applicable NAAQS. Cumulative NAAQS analyses were not required for this project because emissions of all criteria pollutants, except VOCs, were below levels defined as BRC, and as such, air impact analyses were not required for these emissions.

3.3 NAAQS Impact Modeling Methodology

This section describes the modeling methods used by the applicant and DEQ to demonstrate preconstruction compliance with applicable air quality standards.

3.3.1 General Overview of Impact Analyses

Hildebrand performed the initial project-specific air pollutant emissions inventory and air impact analyses that were submitted with the application and several subsequent corrections/revisions. DEQ then reworked the emissions inventory after attempts to instruct and guide the consultant on the requirements of an emissions inventory were unsuccessful and subsequent submittals were unresponsive to DEQ's guidance and requests. DEQ also performed subsequent air impact analyses that involved a complete rework from what was submitted by Hildebrand. Results of the submitted information/analyses, in combination with DEQ's verification analyses, demonstrate 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 6 provides a brief description of parameters used in the modeling analyses.

Table 6. MODELING PARAMETERS

Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Boise, Idaho	The area is an attainment or unclassified area for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 12345. DEQ verification analyses used 15181.
Meteorological Data	Boise surface data, Boise upper air data	See Section 3.3.4 of this memorandum for additional details of the meteorological data.
Terrain	Considered	3-dimensional receptor coordinates were obtained from 1 arc-second DEM files (NAD27). DEQ verification analyses used USGS National Elevation Dataset (NED) files to establish elevations of ground level receptors. AERMAP was used to determine each receptor elevation and hill height scale.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
Receptor Grid	Grid 1	DEQ: 5-meter spacing along the property boundary out to 25 meters
	Grid 2	DEQ: 10-meter spacing out to 100 meters.
	Grid 3	DEQ: 25-meter spacing out to 200 meters.
	Grid 4	DEQ: 50-meter spacing out to 1,000 meters.

3.3.2 Modeling protocol and Methodology

A modeling protocol, describing data and methods proposed for the project, was submitted to DEQ via email on March 20, 2013. The protocol was submitted by Hildebrand on behalf of Yanke. Conditional protocol approval was provided to Hildebrand on April 22, 2013. Final project-specific modeling and other required impact analyses were generally conducted using data and methods described in the protocol and in the *Idaho Air Quality Modeling Guideline*[2].

3.3.3 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 version 12345 was used by Hildebrand for the modeling analyses to evaluate impacts of the facility. This version was the current version at the time the application was received by DEQ. DEQ verification analyses were performed using AERMOD version 15181, which was the current version when DEQ performed final verification analyses. DEQ contends that differences between the two versions are unlikely to affect conclusions of the NAAQS compliance demonstration.

3.3.4 Meteorological Data

DEQ provided Hildebrand with model-ready meteorological data processed from the Boise Airport National Weather Service (NWS) surface and upper air station data for 2008-2012. These data were processed by DEQ using AERMET version 12345, AERMINUTE version 11325, and AERSURFACE version 13016. DEQ determined these data were reasonably representative for the Yanke site.

3.3.5 Effects of Terrain on Modeled Impacts

Hildebrand used 1 arc-second Digital Elevation Map (DEM) files in the NAD27 datum to extract elevations of terrain, building bases, and base elevations of emissions sources. DEQ verification analyses used terrain data extracted from United States Geological Survey (USGS) National Elevation Dataset (NED) files in the WGS84 datum (approximately equal to the NAD83 datum). DEQ requires NED data rather than DEM data because DEM data are no longer updated and may be less accurate.

The terrain preprocessor AERMAP Version 11103 was used by DEQ to extract the elevations from the NED files and assign them to receptors in the modeling domain in a format usable by AERMOD. AERMAP also determined the hill-height scale for each receptor. The hill-height scale is an elevation value based on the surrounding terrain which has the greatest effect on that individual receptor. AERMOD uses those heights to evaluate whether the emissions plume has sufficient energy to travel up and over the terrain or if the plume will travel around the terrain.

A single elevation was used for the building base elevations and base elevations of all emissions sources for each building in the DEQ analyses. The elevation was obtained from a point at the center of the building location. This approach prevents inconsistencies between stack release points and building rooftops.

3.3.6 Facility Layout

DEQ verified proper identification of buildings on the site by comparing a graphical representation of the modeling input file to aerial photographs on Google Earth. DEQ performed minor adjustments to the building layout and ambient air boundary used in the model based on the GoogleEarth representation.

3.3.7 Effects of Building Downwash on Modeled Impacts

Potential downwash effects on emissions plumes were accounted for in the model by using building dimensions and locations (locations of building corners, base elevation, and building heights). Dimensions and orientation of proposed buildings were used as input to the Building Profile Input Program for the Plume Rise Model Enhancements downwash algorithm (BPIP-PRIME) to calculate direction-specific dimensions and Good Engineering Practice (GEP) stack height information for input to AERMOD.

3.3.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as "that portion of the atmosphere, external to buildings, to which the general public has access." Ambient air was considered areas external to the Yanke property boundary. The application asserts the following for the ambient air boundary: "The ambient air boundary is established in part by the facility's capability and responsibility for restricting public access for the sake of public safety. YMS (Yanke) ambient air boundary is considered the fence-line of the property. Access to the fabrication building and machine shop is delineated by be (sic) a chain-link fence and private parking lot. Access to the blasting booth is delineated by a chain-link fence to the east, Interstate 84 to the west, and railroad tracks to the north. The general public is not invited into YMS production areas as part of normal business."

Hildebrand's ambient air boundary justification was not acceptable to DEQ. An obligation to preclude access does not demonstrate that access will effectively be precluded. However, on further review of the facility and the surrounding area, DEQ determined that the property boundary was an appropriate ambient air boundary based on the following:

1. The area inside the property line is obviously not public property or an area where the public would be welcomed. The entire area is recognizably an industrial area.

2. The facility is not located in an area were people would be reasonably encouraged to access the property for purposes such as a short cut for pedestrians, a play area for children, a picnic area, hunting or fishing, or other recreation purposes.

3. The facility is not so large that Yanke owners/employees could not notice and react to most trespassers.

3.3.9 Receptor Network

Table 6 describes the receptor grid used in the submitted analyses. The receptor grid used in DEQ's verification analyses met the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*[2] and DEQ determined that it was adequate to resolve maximum modeled impacts. A receptor grid extending out beyond 1,000 meters from the facility boundary was not necessary for these analyses because pollutants are emitted from relatively short stacks that will cause maximum impacts to be located very close to the source, typically at the ambient air boundary. Also, the surrounding area is relatively

free from complex terrain (terrain above stack height) that could cause a high groundlevel impact at a more distant location.

3.3.10 Good Engineering Practice Stack Height

An allowable good engineering practice (GEP) stack height may be established using the following equation in accordance with Idaho Air Rules Section 512.03.b:

H = S + 1.5L, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.

S = height of the nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of the nearby structure.

All Yanke sources are below GEP stack height. Therefore, it is important to account for plume downwash caused by structures at the facility.

4.0 NAAQS Impact Modeling Results

4.1 Results for NAAQS Analyses

A NAAQS analysis was not performed for the Yanke facility.

Idaho Air Rules Section 203.02, requiring air impact analyses demonstrating compliance with NAAQS, is not applicable to pollutants having a project-emissions increase that is less than BRC levels, provided the project would have qualified for a BRC permitting exemption except for the emissions levels of another criteria pollutant exceeding the ton/year BRC threshold.

4.2 Results for TAPs Impact Analyses

Dispersion modeling was required to demonstrate compliance with TAP increments specified by Idaho Air Rules Section 585 and 586 for those TAPs with facility-wide emissions exceeding emissions screening levels (ELs). The results of the TAPs analyses are listed in Table 7. The predicted ambient TAPs impacts were considerably below any TAPs increments.

Table 7. RESULTS OF TAPs ANALYSES

Toxic Air Pollutant	Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)[a]	AAC/AACC[b] ($\mu g/m^3$)	Percent of AAC/AACC
Non-Carcinogenic TAPs				
phosphorus	24-hour	1.78	5.0	36
Carinogenic TAPs				
Cadmium	Annual	1.65E-4	5.6E-4	29

[a] Micrograms per cubic meter

[b] Acceptable ambient concentration for non-carcinogens/acceptable ambient concentration for carcinogens

5.0 Conclusions

The information submitted with the PTC application, combined with DEQ air impact verification and sensitivity analyses, demonstrated to DEQ's satisfaction that emissions from the Yanke facility will not cause or significantly contribute to a violation of any ambient air quality standard.

References

1. *Policy on NAAQS Compliance Demonstration Requirements.* Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.

2. *State of Idaho Guideline for Performing Air Quality Impact Analyses.* Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf.

APPENDIX C – FACILITY DRAFT COMMENTS

THE FOLLOWING COMMENTS WERE RECEIVED FROM THE FACILITY ON NOVEMBER 5, 2015:

All requested changes are made except for the changes requiring engineering analyses, or modeling analyses. Please refer to DEQ Response under Facility Comment No. 4 for discussions about this approach.

Facility Comment No. 1: "*Pg. 4., Table 1.1: Spray Paint Booth Manufacturer, Model and Type. YMS designed and fabricated the spray paint booth. There is no model number or type reference assigned to the structure.*"

DEQ Response: The changes are made to Tables 1.1 and 5.1 of the permit and Table 1 of the SOB.

Facility Comment No. 2: "*Pg.8., 2.15: Diesel burning power washer will be disabled and diesel power components separated from equipment. The remaining power washing equipment will be used but will be powered by electricity.*"

DEQ Response: Permit Condition 2.15 is revised to include the above comment and read as follows:

"The permittee shall have disabled the diesel burning power washer and separated the diesel power components from the equipment. The remaining power washing equipment shall only be powered by electricity through power grid."

Facility Comment No. 3: "*Pg. 9., Sec. 3.1 - Welding, Grinding, and Metalizing - Process Description: YMS agrees that welding and grinding operations occur within operating work areas that have twenty-three (23) bay doors. It is incorrect, however, to say that welding and grinding emissions are vented through these openings. No effort is made to "vent" emissions through these openings.*

In regard to YMS engaging in the process of giving "metalizing" treatment to some structures, that statement is no longer correct and no authorization/permitting for metalizing materials needs to be included in any permit issued to YMS. Metalizing operations were discontinued in 2013 and such processes will not be undertaken in the future by YMS. YMS will remove the associated "metalizing" equipment from all operating areas."

DEQ Response: The application and associated materials and correspondence received from YMS implies that welding and grinding emissions would only vent from the bay doors. Given the description of operations and emissions control equipment, there was no other point identified where emissions could occur; however, the application materials did not provide a detailed description of how emissions would be handled, controlled, and vented. There was no other point identified in the application indicating where emissions could vent to the atmosphere.

Second paragraph of Permit Condition 3.1 is revised and reads as follows:

"… At time of the permit issuance, welding and grinding emissions have not been captured and controlled by filtration system nor been vented out of any exhaust stacks. Instead, welding and grinding emissions ~~are vent~~ **leave the building** through ~~20~~ **23** bay doors located in the fabrication building and in the machine shop and repair shop building."

Information and requirements related to the metalizing operation are removed from the draft permit. Permit Conditions 3.5 and 3.9 are changed to "reserved".

Facility Comment No. 4: "*Pg. 9., Sec. 3.2, Table 3.1., Control Devices: "Completely Enclosed Buildings with Filtration Control Devices" is unduly restrictive. YMS requests that a modeling run be conducted with the assumption that bay doors to operations areas will be open sixty percent (60%) of the time during the period extending from April 1st through October 31st and forty percent (40%) of the time during the period extending from November 1st through March 31st to allow for moving product(s) in/out of work areas and climate control.*"

DEQ Response: The permit was composed on the basis of information and analyses submitted by YMS or YMS's consultants. The information provided with the current permitting action did not demonstrate that claimed emissions capture efficiencies and controls could be accomplished for a scenario involving open building ventilation. Given the description of how such controls will operate in relation to emissions generating activities, it was apparent that such a system requires the building to be completely enclosed. With an unenclosed building, emissions can be swept from the building prior to capture and control by the filtration system.

If YMS believes that completely enclosing the building is "unduly restrictive," then it is YMS's responsibility to perform conclusive analyses that clearly demonstrate adequate emissions capture and control can be achieved when operating in such a manner, and YMS must demonstrate that emissions occurring will meet applicable air quality standards.

The requested change requires engineering and modeling analyses. DEQ recommends YMS request the change through a permit modification. This recommendation is based on the following factor:

- Yanke's proposal is a scope change to the original permit application for which no supporting emissions analyses or modeling analyses was submitted to support the change. Therefore, DEQ cannot accommodate the change. DEQ does, however, strongly recommend that Yanke call DEQ to schedule a pre-application meeting to modify the initial permit to accommodate the proposal as provided in Facility Comment No. 4.

Facility Comment No. 5: "*Pg. 10., Table 3.2: YMS discontinued the use of the Welding Rod Type: ESAB Dual Shield 7100LC (a copy of the associated MSDS is attached) in 2012 and in its place is using the Welding Rod Type: Hobart Element 71T1C (a copy of the associated MSDS is attached). Please adjust inputs for a revised model run.*"

DEQ Response: The requested change alters the scope of the original permit application. The change will be made through a separate permit application, as per DEQ's established permitting process. Please refer to DEQ Response under Facility Comment No. 4 for a recommended approach.

Facility Comment No. 6: "*Pg. 10., 3.4.1: Carbon and alloy steel usage seems to reflect total tonnage (in pounds) of material that moves through shop. The actual amount of material that is addressed through grinding, cutting and/or welding is significantly less.*"

DEQ Response: For monitoring convenience, the permit limits the throughput or the total tonnage (in pounds) of material that moves through the shop. However, only 2% of this

throughput is assumed to be addressed through grinding. Yanke has used the 2% value in the EI spreadsheet.

More detail discussions on how emissions were calculated can be found in Appendix A of the Statement of Basis, under Section Grinding, Calculation of TAP, Carbon & Alloy Steel.

Facility Comment No. 7: "*Pg. 11., 3.5: Metalizing material does not apply because YMS no longer metalizes material. YMS discontinued the process of metalizing material in 2013.*"
Facility Comment No. 8: "*Pg. 11., 3.5.1: N/A. See comment above regarding Section 3.5.*"
Facility Comment No. 9: "*Pg. 11., 3.5.2: N/A. See comment above regarding Section 3.5.*"
Facility Comment No. 10: "*Pg. 11., 3.5.3: N/A. See comment above regarding Section 3.5.*"

DEQ Response: Information and requirements related to the metalizing operation are removed from the draft permit. Permit Conditions 3.5 and 3.9 are changed to "reserved".

Facility Comment No. 11: "*Pg. 11., 3.6: Metalizing operations were discontinued in 2013 and such processes will not be undertaken in the future by YMS. YMS requests a modeling run to evaluate operations with bay doors to operations areas being open sixty percent (60%) of the time during the period extending from April 1st through October 31st and forty percent (40%) of the time during the period extending from November 1st through March 31st to allow for moving product(s) in/out of work areas and for climate control.*"

DEQ Response: Refer to DEQ Response under Facility Comment No. 4.

Facility Comment No. 13: "*Pg. 12., 3.9: N/A due to cessation of metalizing process.*"

DEQ Response: Information and requirements related to the metalizing operation are removed from the draft permit. Permit Conditions 3.5 and PC 3.9 are changed to "reserved".

Facility Comment No. 12: "*Pg. 12., 3.8.1: Suggest change from "Bi-weekly" to "Monthly" in accordance with quarterly permit limits.*"

DEQ Response: As stated in Permit Condition 3.8.1, the "Bi-weekly" monitoring is for demonstrating compliance with the "bi-weekly" throughput limit in Permit Condition 3.4.1. The bi-weekly throughput limit is to assurance compliance with non-carcinogenic TAP 24-hour standards, specifically, to keep emissions less than TAP ELs. To avoid daily monitoring, it was assumed that the bi-weekly throughput will be used up in one day so that only bi-weekly monitoring is needed. Monthly limits and monthly monitoring are not adequate to ensure compliance with the non-carcinogenic TAP 24-hour standards. Furthermore, regulations require that emissions rates used in the modeling analyses be representative of design capacity or as limited by an enforceable permit condition. However, YMS may investigate modeling revised TAP emissions to demonstrate compliance with TAP AACs in support of different throughput limits or monitoring frequencies. The requested change can be included in the application for the permit modification.

For additional information, refer to the discussions in Appendix A of the SOB, under Section Grinding, Calculation of TAP, Carbon & Alloy Steel.

Facility Comment No. 14: "*Pg. 17., 5.2-Table 5.1: Spray Paint Booth: Manufacturer, YMS; Model, N/A; Type, N/A. YMS designed and fabricated the spray paint booth. There is no model number or type reference assigned to the structure. Control Devices: Manufacturer, YMS;*

Model, N/A; Type, Updraft air filtration system. YMS designed and fabricated the Control Devices. The updraft air filtration system includes installed MERV 11 box filters. The filters are monitored by a magnahelic gauge. The filters are changed according to gauge readings."

DEQ Response: Changes are made to Table 5.1.

Facility Comment No. 15: *"Pg. 18., 5.3, Table 5.2: Bi-weekly limits are problematic due to variations in workload. Since the stated limits are annual, then YMS proposes quarterly limits based on the same formula used to derive bi-weekly limits.*

Also, YMS is investigating alternative paints for utilization in their process to reduce HAPs/TAPs emissions. Specifically, YMS proposes switching from Forrest Paint Co. - product name: Forrest Stove Bright High Temp Black, product code: 6304 (see attached copy of MSDS) to Valley Paint Manufacturing - product name: High Heat Black, product code: 2530 (see attached copy of MSDS) and requests that this change be reflected in the permit along with a new modeling run."

DEQ Response: The bi-weekly limits are used to ensure compliance with the non-carcinogenic TAP 24-hour standards, specifically, to keep emissions less than TAP ELs. To avoid daily monitoring, it was assumed that the bi-weekly throughput will be used up in one day so that only bi-weekly monitoring is needed. Quarterly limits and quarterly monitoring are not adequate to ensure compliance with the non-carcinogenic TAP 24-hour standards. However, Yanke may investigate modeling revised TAP emissions to demonstrate compliance with TAP AACs in support of different throughput limits or monitoring frequencies. The requested change can be included in the application for the permit modification.

For additional information, refer to the discussions in Appendix A of the SOB, under Section Painting, Calculation of TAP.

For requested painting material change, please refer to DEQ Response under Facility Comment No. 4.

Facility Comment No. 16: *"Pg. 25., 7.4: Does the model reflect actual operation time or is it based on a 24hr/365 days per year assumption?"*

DEQ Response: As per Idaho Air Rules, the emissions rates used in modeling analyses must be representative of design capacity or as limited by an enforceable permit limit. Additionally, it is YMS's (or their consultant's) responsibility to generate permit-allowable emissions rates that meet YMS's needs and still demonstrate compliance with applicable standards. If YMS operates less than 24-hours per day, the allowable emissions can be calculated accordingly and modeled as such. Emissions rates used in the model can be adjusted by time of day and/or time of year. However, such refinements would need to be incorporated into the permit as a restriction.

APPENDIX A

Facility Comment No. 17: *"1. Welding: Total enclosure of the building(s) is impractical and would create significant bottlenecks as product is moved in/out of the work area. In addition, high heat/climatic conditions would be exacerbated during summer months."*

DEQ Response: Currently, the permit is supported by the modeling analyses based on 100% capture efficiency and 95% control efficiency of the filtration control devices. The requested

change requires engineering and modeling analyses. DEQ recommends Yanke to request these changes through a permit modification once the permit is issued by the end of November. Please refer to DEQ Response under Facility Comment No. 4 for additional discussions.

Facility Comment No. 18: "*2. Grinding: Bi-weekly limits are problematic because they are based on an overly conservative estimate on actual material being worked on and do not allow for potential increases in workload due to special project demands. Quarterly limits would alleviate this problem.*"

DEQ Response: Please refer to DEQ Response under Facility Comment No. 12.

Facility Comment No. 19: "*3. Metalizing Treatment: N/A due to YMS discontinuing the use of that process in 2013.*"

DEQ Response: Information and requirements related to the metalizing operation are removed from the draft permit. Permit conditions 3.5 and 3.9 are changed to "Reserved."

Facility Comment No. 20: "*4. Painting: YMS proposes switching from Forrest Paint Co. - product name: Forrest Stove Bright High Temp Black, product code: 6304 (see attached copy of MSDS) to Valley Paint Manufacturing - product name: High Heat Black, product code: 2530 (see attached copy of MSDS) and requests that this change be reflected in the permit along with a new modeling run.*"

DEQ Response: The requested change needs engineering and modeling analyses. DEQ recommends Yanke to request the change through a permit modification once the permit is issued by the end of November. Please refer to DEQ Response under Facility Comments No. 4 for more discussions.

APPENDIX D – PROCESSING FEE

In accordance with IDAPA 58.01.01.225

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	2.3	0	2.3
SO_2	0.0	0	0.0
CO	2.0	0	2.0
PM_{10}	0.4	0	0.4
VOC	15.7	0	15.7
TAPS/HAPS	16.1	0	16.1
Total:	0.0	0	**36.5**
Fee Due	**$ 5,000.00**		

APPENDIX E – 40 CFR 63, SUBPART XXXXXX

Refer to Yanke's 12-9-2013 FRA submittal with DEQ's comment. (2014AAG476)

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

National Emission Standards for Hazardous Air Pollutants - 40 CFR Part 63 Subpart XXXXXX (NESHAP for Area Source Standards for Nine Metal Fabrication and Finishing Source Categories)

e-CFR Data is current as of April 26, 2013

Applicability and Compliance Dates

§ 63.11514 Am I subject to this subpart?

(a)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. Descriptions of these source categories are shown in Table 1 of this subpart. "Primarily engaged" is defined in § 63.11522, "What definitions apply to this subpart?"

(1) Electrical and Electronic Equipment Finishing Operations, SIC 3612, NAICS 335312;

(2) Fabricated Metal Products, SIC 3499, NAICS 332117 & 322999;

(3) Fabricated Plate Work (Boiler Shops), SIC 3443, NAICS 332313, 332410 & 32420;

(4) Fabricated Structural Metal Manufacturing, SIC 3441, NAICS 332312;

(5) Heating Equipment, except Electric, SIC 3433, NAICS 333414;

(6) Industrial Machinery and Equipment Finishing Operations, SIC 3531, 3533 & 3561, NAICS 333120, 333132 & 333911;

(7) Iron and Steel Forging, SIC 3462, NAICS 332111;

(8) Primary Metal Products Manufacturing, SIC 3399, NAICS 332618 and

(9) Valves and Pipe Fittings, SIC 3494, NAICS 332919.

Yanke Machine Shop, Inc. (YMS) is primarily engaged in metal fabrication and industrial machining services to the mining, agricultural and food processing industries. YMS's SIC and NAICS does fall under one of the above codes. Therefore, 40 CFR Part 63 Subpart XXXXXX does apply to operations at YMS.

(b)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 non-carcinogens. 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.

YMS utilizes a crushed glass and copper slag abrasive manufactured by Keen Blast and Environmental Abrasives Warehouse. According to manufacturer MSDS, the copper slag abrasive does contain chromium, lead, and nickel which is considered a metal fabrication or finishing metal HAP (MFHAP). In addition, some of the materials being blasted could contain MFHAP which could be released into the air as a result of blasting. Therefore, dry abrasive blasting is an affected source.

(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.

YMS does perform machining operations which uses materials that contain MFHAP as defined in this subpart. Therefore, machining is an affected source under this subpart.

(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.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

YMS does perform dry grinding on various carbon steel and metallic material with handheld and pedestal grinders. Some of these material could potentially contain MFHAP. Therefore, it is assumed that grinding operations could potentially be an affected source. YMS does not perform polishing.

(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."

YMS does perform spray painting activities. The company historically used a paint named 6304 Flat Black - Stove Bright High temp with product code of 51H200. This paint contains 10% (wt%) of Manganese Dioxide. Manganese Dioxide is defined as a metal fabrication and finishing HAP (MFHAP) in 40 CFR 63.11522. Therefore, YMS has elected to remove this paint product, therefore YMS spray painting operation is not considered to be an affected source in accordance with 40 CFR 63.11514(b)(4).

(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.

The welding operations at YMS utilize welding rods which contain MFHAP as defined in this subpart. The welding operations are an affected source under this subpart.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source, as defined in § 63.2, "General Provisions" to part 63, before April 3, 2008.

YMS commenced construction before April 3, 2008. Therefore, YMS is an existing affected source.

(d) An affected source is new if you commenced construction or reconstruction of the affected source, as defined in § 63.2, "General Provisions" to part 63, on or after April 3, 2008.

(e) This subpart does not apply to research or laboratory facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(f) This subpart does not apply to tool or equipment repair operations, facility maintenance, or quality control activities as defined in § 63.11522, "What definitions apply to this subpart?"

(g) This subpart does not apply to operations performed on site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such state), the National Aeronautics and Space Administration, or the National Nuclear Security Administration.

(h) This subpart does not apply to operations that produce military munitions, as defined in § 63.11522, "What definitions apply to this subpart?", manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such state), or equipment directly and exclusively used for the purposes of transporting military munitions.

(i) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR70.3(a) or CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart

Parts (d) through (i) do not apply to YMS.

§ 63.11515 What Are My Compliance Dates

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart by July 25, 2011.

YMS recently became aware of the requirements to be in compliance with this subpart. YMS will work to become fully compliant with the applicable provisions of this subpart in a timely manner.

(b) 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.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

YMS is an existing source and this does not apply.

§ 63.11516 What are my standards and management practices

(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 un-vented 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.

YMS's dry abrasive blasting is enclosed on three sides and is vented to a bag house and filter. YMS needs to enclose the abrasive blasting process. "Confined abrasive blasting enclosure" is defined in 40 CFR 63.11522 as an enclosure that includes a roof and at least two complete walls, with side curtains and ventilation as needed to insure that no air or PM exits the enclosure while dry abrasive blasting is performed. Apertures or slots may be present in the roof or walls to allow for mechanized transport of the blasted objects with overhead cranes, or cable and cord entry into the dry abrasive blasting chamber.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(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?

YMS's abrasive blasting booth has filtration control consisting of a bag house and filter with a 99.9% control efficiency. YMS will operate the bag house according to manufacturer's instructions. The company will demonstrate compliance with this requirement by maintaining a record of the manufacturer's specifications for the bag house, as specified by the requirements in § 63.11519(c)(4).

(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.

YMS will implement the management practices to minimize emissions of MFHAP as specified in paragraphs (a)(2)(ii)(A) through (C) of this section. The company will take measures necessary to minimize excess dust in the surrounding area to reduce potential MFHAP emissions, as practicable;

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

YMS will enclose dusty abrasive material storage areas and holding bins, seal chutes and conveyors that transport abrasive materials; and it will 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

YMS will implement the management practices to minimize emissions of MFHAP as specified in paragraphs (a)(3)(i)(A) through (E) of this section. The company will take measures necessary to minimize excess dust in the surrounding area to reduce potential MFHAP emissions, as practicable; YMS will enclose dusty abrasive material storage areas and holding bins, seal chutes and conveyors that transport abrasive materials; and it will operate all equipment associated with dry abrasive blasting operations according to manufacturer's instructions.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(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

YMS will re-use abrasive material only after it is has been cycled through the bag-house and filter.

(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.

YMS currently utilizes low PM emitting crushed glass as blasting media.

(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 fence-line or property border nearest to the outdoor dry abrasive blasting operation.

YMS will not conduct abrasive blasting outdoors, abrasive blasting will only be conducted inside the blast booth.

(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?"

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(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."

If abrasive blasting is done on objects greater than 8 feet, YMS will perform visual determinations of fugitive dust, keep records of all inspections and will perform corrective action as necessary to eliminate fugitive emissions.

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. These requirements do not apply when machining operations are being performed that do not use any materials containing MFHAP and do not have the potential to emit MFHAP.

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

(2) You must operate all equipment associated with machining according to manufacturer's instructions.

YMS acknowledges the standards for machining. YMS will implement the management practices listed above at the facility.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(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.

YMS has submitted a Corrective Action Plan to DEQ. The plan describes how YMS will install and operate 2-stage air filtration devices with Merv 15 filters. Filtration devices will be operated according to manufacturer specifications.

(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.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(1) Standards for spray painting for MFHAP control. All spray-applied painting of objects must meet the requirements of paragraphs (d)(1)(i) through (iii) of this section. These requirements do not apply to affected sources located at Fabricated Structural Metal Manufacturing facilities, as described in Table 1, "Description of Source Categories Affected by this Subpart," or affected sources that spray paint objects greater than 15 feet (4.57 meters), that are not spray painted in spray booths or spray rooms.
(i) Spray booths or spray rooms must have a full roof, at least two complete walls, and one or two complete side curtains or other barrier material so that all four sides are covered. The spray booths or spray rooms must be ventilated so that air is drawn into the booth and leaves only though the filter. The roof may contain narrow slots for connecting fabricated products to overhead cranes, and/or for cords or cables.

(ii) All spray booths or spray rooms must be fitted with a type of filter technology that is demonstrated to achieve at least 98 percent capture of MFHAP. The procedure used to demonstrate filter efficiency must be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992" (incorporated by reference, see § 63.14). The test coating for measuring filter efficiency shall be a high-solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non-High Volume Low Pressure) air-atomized spray gun operating at 40 psi air pressure; the air flow rate across the filter shall be 150 feet per minute. Owners and operators may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement.
(iii) You must perform regular inspection and replacement of the filters in all spray booths or spray rooms according to manufacturer's instructions, and maintain documentation of these activities, as detailed in § 63.11519(c)(5), "Notification, recordkeeping, and reporting requirements."
(iv) As an alternative compliance requirement, spray booths or spray rooms equipped with a water curtain, called "waterwash" or "waterspray" booths or spray rooms that are operated and maintained according to the manufacturer's specifications and that achieve at least 98 percent control of MFHAP, may be used in lieu of the spray booths or spray rooms requirements of paragraphs (d)(1)(i) through (iii) of this section.

(2) Standards for spray painting application equipment of all objects painted for MFHAP control. All paints applied via spray-applied painting must be applied with a high-volume, low-pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated to achieve transfer efficiency comparable to one of these spray gun technologies for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002", Revision 0 (incorporated by reference, see § 63.14).

(3) Spray system recordkeeping. You must maintain documentation of the HVLP or other high transfer efficiency spray paint delivery methods, as detailed in § 63.11519(c)(7), "Notification, recordkeeping, and reporting requirements."

(4) Spray gun cleaning. All cleaning of paint spray guns must be done with either non-HAP gun cleaning solvents, or in such a manner that an atomized mist of spray of gun cleaning solvent and paint residue is not created outside of a container that collects the used gun cleaning solvent. Spray gun cleaning may be done with, for example, by hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of these non-atomizing methods may also be used.

(5) Spray painting worker certification. All workers performing painting must be certified that they have completed training in the proper spray application of paints and the proper setup and maintenance of spray equipment. The minimum requirements for training and certification are described in paragraph (d)(6) of this section. The spray application of paint is prohibited by persons who are not certified as having completed the training described in paragraph (d)(6) of this section. The requirements of this paragraph do not apply to the students of an accredited painting training program who are under the direct supervision of an instructor who meets the requirements of this paragraph. The requirements of this paragraph do not apply to operators of robotic or automated painting operations.

(6) Spray painting training program content. Each owner or operator of an affected spray painting affected source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply paints are trained in the proper application of paints as required by paragraph (d)(5) of this section. The training program must include, at a minimum, the items listed in paragraphs (d)(6)(i) through (iii) of this section.

(i) A list of all current personnel by name and job description who are required to be trained;

(ii) Hands-on, or in-house or external classroom instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (d)(6)(ii)(A) through (D) of this section.

(A) Spray gun equipment selection, set up, and operation, including measuring paint viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.

(B) Spray technique for different types of paints to improve transfer efficiency and minimize paint usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.

(C) Routine spray booth and filter maintenance, including filter selection and installation.

(D) Environmental compliance with the requirements of this subpart.

(iii) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Alternatively, owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (d)(6)(ii) of this section are not required to provide the initial training required by that paragraph to these painters.

(7) Records of spray painting training. You must maintain records of employee training certification for use of HVLP or other high transfer efficiency spray paint delivery methods as detailed in § 63.11519(c)(8), "Notification, recordkeeping, and reporting requirements."
(8) Spray painting training dates. As required by paragraph (d)(5) of this section, all new and existing personnel at an affected spray painting affected source, including contract personnel, who spray apply paints must be trained by the dates specified in paragraphs (d)(8)(i) and (ii) of this section.

(i) If your source is a new source, all personnel must be trained and certified no later than January 20, 2009, 180 days after startup, or 180 days after hiring, whichever is later. Training that was completed within 5 years prior to the date training is required, and that meets the requirements specified in paragraph (d)(6)(ii) of this section satisfies this requirement and is valid for a period not to exceed 5 years after the date the training is completed.

YMS is considered an existing source.

(ii) If your source is an existing source, all personnel must be trained and certified no later than July 25, 2011, or 180 days after hiring, whichever is later. Worker training that was completed within 5 years prior to the date training is required, and that meets the requirements specified in paragraph (d)(6)(ii) of this section, satisfies this requirement and is valid for a period not to exceed 5 years after the date the training is completed.

(9) Duration of training validity. Training and certification will be valid for a period not to exceed 5 years after the date the training is completed. All personnel must receive refresher training that meets the requirements of this section and be re-certified every 5 years.

YMS does perform spray painting activities. The company historically used a paint named 6304 Flat Black - Stove Bright High temp with product code of 51H200. This paint contains 10% (wt%) of Manganese Dioxide. Manganese Dioxide is defined as a metal fabrication and finishing HAP (MFHAP) in 40 CFR 63.11522. Therefore, the YMS has elected to remove this paint product, therefore the spray painting operation is not considered to be an affected source in accordance with 40 CFR 63.11514(b)(4).

(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.

YMS is an existing welding affected source and utilizes more than 2,000 lbs of welding wire per year.

(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;

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(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

YMS acknowledges the above standards for welding. To minimize the emissions of MFHAP, as practicable, while maintaining the required welding quality through the application of sound engineering judgment, YMS utilizes welding processes with reduced fume generation capabilities (e.g., gas metal arc welding (GMAW)—also called metal inert gas welding (MIG)). YMS will also install and operate 2-stage air filtration control devices to capture and scrub welding emissions.

(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."

YMS will perform visual determinations of welding fugitive emissions at the opening near bay doors. YMS will keep a record of all visual determinations along with any corrective actions taken.

(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."

YMS acknowledges that conditions f (3) through (8) of this section apply if the welding affected source uses 2,000 pounds or more per year of welding rod containing one or more MFHAP (calculated on a 12-month rolling basis). YMS did use more than 2,000 pounds of welding rod containing one or more MFHAP in 2012 and is subject to these requirements.

§ 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.

(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.

YMS did use more than 2,000 pounds of welding rod containing MFHAP in 2012 and is subject to the opacity monitoring requirements and will comply and report as applicable.

§ 63.11519 What are my notifications, 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 25, 2011. 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

YMS is an existing source and acknowledges that it must comply with this initial notification requirement(s). YMS just recently became aware that is subject to this subpart. YMS will submit a notification to the administrator per the requirements of this subpart in a timely manner.

(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

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

YMS is an existing affected source and acknowledges that it must submit a notification of compliance status and will do so in a timely manner.

(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

Spray painting operations are not an affected source, paint does not contain MFHAP.

(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.

YMS acknowledges that it is required to submit an annual certification report in accordance with the conditions above and will submit certifications in a timely manner.

(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 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 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.

YMS is not subject to Title V and this standard does not apply.

(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.

YMS acknowledges that the annual certification and compliance report must contain the information listed above.

(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.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

YMS did use more than 2, 000 pounds of welding rod containing MFHAP in 2012 and is subject to the above annual certification and compliance report requirements.

(7) [Reserved]

(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.

YMS acknowledges that the annual certification and compliance report must include the above opacity exceedance information.

(9) Site-specific Welding Emissions Management Plan reporting. You 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.

YMS acknowledges that the site-specific welding emissions management plan must be submitted as part of the annual certification and compliance report.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

(c) What records must I keep? You 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.

YMS acknowledges the above record keeping requirement(s) and will comply as applicable.

(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.

YMS acknowledges and will implement the above record keeping requirement(s).

(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.

YMS acknowledges and will implement the opacity monitoring requirements.

(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?"

YMS acknowledges that is must keep records of the manufacturers specifications for the control device to comply with §63 .11516.

(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. 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.

Spray painting operations do not contain MFHAP and therefore is not an affected source.

(9) - (10) [Reserved]

(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.

YMS acknowledges the above record keeping requirements and will have them readily available for agency 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.

YMS will maintain records of manufacturer's instructions and will have them readily available for agency 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.

YMS acknowledges the record keeping requirements for welding rod usage and will maintain these records accordingly.

(15) Your records must be maintained according to the requirements in paragraphs (c)(15)(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.

YMS acknowledges and will implement the above record keeping requirements.

§ 63.11521 Who implements and enforces this subpart

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency, in addition to EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emissions standard under § 63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under § 63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under § 63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in § 63.90.

(4) Approval of a major change to monitoring under § 63.8(f), of the General Provisions of this part. A "major change to monitoring" under is defined in § 63.90.

(5) Approval of a major change to recordkeeping and reporting under § 63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in § 63.90

YMS acknowledges the above implementation and enforcement information.

§ 63.11522 What definitions apply to this subpart

The terms used in this subpart are defined in the CAA; and in this section as follows:
Adequate emission capture methods are hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans designed to draw greater than 85 percent of the airborne dust generated from the process into the control device.

The text underlined sets forth the regulations and standards that are applicable to Yanke Machine Shop, Inc. (YMS). The responses of YMS are ***italicized and bold.***

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere.

A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Cartridge collector means a type of control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge collectors can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

Confined abrasive blasting enclosure means an enclosure that includes a roof and at least two complete walls, with side curtains and ventilation as needed to insure that no air or PM exits the enclosure while dry abrasive blasting is performed. Apertures or slots may be present in the roof or walls to allow for mechanized transport of the blasted objects with overhead cranes, or cable and cord entry into the dry abrasive blasting chamber.

Control device means equipment installed on a process vent or exhaust system that reduces the quantity of a pollutant that is emitted to the air.

Dry abrasive blasting means cleaning, polishing, conditioning, removing or preparing a surface by propelling a stream of abrasive material with compressed air against the surface. Hydro-blasting, wet abrasive blasting, or other abrasive blasting operations which employ liquids to reduce emissions are not dry abrasive blasting.

Dry grinding and dry polishing with machines means grinding or polishing without the use of lubricating oils or fluids in fixed or stationary machines. Hand grinding, hand polishing, and bench top dry grinding and dry polishing are not included under this definition.

Fabric filter means a type of control device used for collecting PM by filtering a process exhaust stream through a filter or filter media; a fabric filter is also known as a bag-house.

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Facility maintenance means operations performed as part of the routine repair or renovation of process equipment, machinery, control equipment, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity. Facility maintenance also includes operations associated with the installation of new equipment or structures, and any processes as part of janitorial activities. Facility maintenance includes operations on stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Facility maintenance also includes operations performed on mobile equipment, such as fork trucks, that are used in a manufacturing facility and which are maintained in that same facility. Facility maintenance does not include spray-applied coating of motor vehicles, mobile equipment, or items that routinely leave and return to the facility, such as delivery trucks, rental equipment, or containers used to transport, deliver, distribute, or dispense commercial products to customers, such as compressed gas canisters.

Filtration control device means a control device that utilizes a filter to reduce the emissions of MFHAP and other PM.

Grinding means a process performed on a workpiece to remove undesirable material from the surface or to remove burrs or sharp edges. Grinding is done using belts, disks, or wheels consisting of or covered with various abrasives.

Machining means dry metal turning, milling, drilling, boring, tapping, planing, broaching, sawing, cutting, shaving, shearing, threading, reaming, shaping, slotting, hobbing, and chamfering with machines. Shearing operations cut materials into a desired shape and size, while forming operations bend or conform materials into specific shapes. Cutting and shearing operations include punching, piercing, blanking, cutoff, parting, shearing and trimming. Forming operations include bending, forming, extruding, drawing, rolling, spinning, coining, and forging the metal. Processes specifically excluded are hand-held devices and any process employing fluids for lubrication or cooling.

Material containing MFHAP means a material containing one or more MFHAP. Any material that contains cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), and contains manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing MFHAP.

Metal fabrication and finishing HAP (MFHAP) means any compound of the following metals: Cadmium, chromium, lead, manganese, or nickel, or any of these metals in the elemental form, with the exception of lead.

Metal fabrication and finishing source categories are limited to the nine metal fabrication and finishing source categories with the activities described in Table 1, "Description of Source Categories Affected by this Subpart." Metal fabrication or finishing operations means dry abrasive blasting, machining, spray painting, or welding in any one of the nine metal fabrication and finishing area source categories listed in Table 1, "Description of Source Categories Affected by this Subpart."

Military munitions means all ammunition products and components produced or used by or for the U.S. Department of Defense (DoD) or for the U.S. Armed Services for national defense and security, including military munitions under the control of the DoD, the U.S. Coast Guard, the National Nuclear Security Administration (NNSA), U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: Confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DoD components, including bulk explosives and chemical warfare agents, chemical munitions, biological weapons, rockets, guided and ballistic missiles, bombs, warheads, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, nonnuclear components of nuclear weapons, wholly inert ammunition products, and all devices and components of any items listed in this definition.

Paint means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, coatings, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective

oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered paints for the purposes of this subpart.

Polishing with machines means an operation which removes fine excess metal from a surface to prepare the surface for more refined finishing procedures prior to plating or other processes. Polishing may also be employed to remove burrs on castings or stampings. Polishing is performed using hard-faced wheels constructed of muslin, canvas, felt or leather, and typically employs natural or artificial abrasives.

Polishing performed by hand without machines or in bench top operations are not considered polishing with machines for the purposes of this subpart.

Primarily engaged means the manufacturing, fabricating, or forging of one or more products listed in one of the nine metal fabrication and finishing source category descriptions in Table 1, "Description of Source Categories Affected by this Subpart," where this production represents at least 50 percent of the production at a facility, and where production quantities are established by the volume, linear foot, square foot, or other value suited to the specific industry. The period used to determine production should be the previous continuous 12 months of operation. Facilities must document and retain their rationale for the determination that their facility is not "primarily engaged" pursuant to § 63.10(b)(3) of the General Provisions.

Quality control activities means operations that meet all of the following criteria:
(1) The activities are intended to detect and correct defects in the final product by selecting a limited number of samples from the operation, and comparing the samples against specific performance criteria.
(2) The activities do not include the production of an intermediate or final product for sale or exchange for commercial profit; for example, parts that are not sold and do not leave the facility.
(3) The activities are not a normal part of the operation;
(4) The activities do not involve fabrication of tools, equipment, machinery, and structures that comprise the infrastructure of the facility and that are necessary for the facility to function in its intended capacity; that is, the activities are not facility maintenance.

Responsible official means responsible official as defined in 40 CFR 70.2.

Spray-applied painting means application of paints using a hand-held device that creates an atomized mist of paint and deposits the paint on a substrate. For the purposes of this subpart, spray-applied painting does not include the following materials or activities:

(1) Paints applied from a hand-held device with a paint cup capacity that is less than 3.0 fluid ounces (89 cubic centimeters).

(2) Surface coating application using powder coating, hand-held, non-refillable aerosol containers, or non-atomizing application technology, including, but not limited to, paint brushes, rollers, hand wiping, flow coating, dip coating, electrode position coating, web coating, coil coating, touch-up markers, or marking pens.

(3) Painting operations that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; the application of paints that contain fillers that adversely affect atomization with HVLP spray guns, and the application of paints that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

(4) Thermal spray operations (also known as metallizing, flame spray, plasma arc spray, and electric arc spray, among other names) in which solid metallic or non-metallic material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact.

Spray booth or spray room means an enclosure with four sides and a roof where spray paint is prevented from leaving the booth during spraying by the enclosure. The roof of the spray booth or spray room may contain narrow slots for connecting the parts and products to overhead cranes, or for cord or cable entry into the spray booth or spray room.

Tool or equipment repair means equipment and devices used to repair or maintain process equipment or to prepare molds, dies, or other changeable elements of process equipment.

Totally enclosed and unvented means enclosed so that no air enters or leaves during operation.

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Totally enclosed and unvented dry abrasive blasting chamber means a dry abrasive blasting enclosure which has no vents to the atmosphere, thus no emissions. A typical example of this sort of abrasive blasting enclosure is a small "glove box" enclosure, where the worker places their hands in openings or gloves that extend into the box and enable the worker to hold the objects as they are being blasted without allowing air and blast material to escape the box.

Vented dry abrasive blasting means dry abrasive blasting where the blast material is moved by air flow from within the chamber to outside the chamber into the atmosphere or into a control device.
Welding means a process which joins two metal parts by melting the parts at the joint and filling the space with molten metal.

Welding rod containing MFHAP means a welding rod that contains cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), or that contains manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the welding rod.

YMS has read and understands these definitions and used them in providing this regulatory analysis.

§ 63.11523 What general provisions apply to this subpart

The provisions in 40 CFR part 63, subpart A, applicable to sources subject to §63.11514(a) are specified in Table 2 of this subpart.

YMS acknowledges that it is subject to the requirements as listed in 40 CFR Part 63 Subpart A.