September 24, 2020

Mr. Rod Schober
TrueNorth Steel
TrueNorth Steel Billings
1501 S 30th Street W
Billings, MT 59102

Dear Mr. Schober:

Sent via email to: Rod.Schober@TrueNorthSteel.com

Montana Air Quality Permit #5249-00 is deemed final as of September 24, 2020, by the Department of Environmental Quality (Department). This permit is for the operation of a corrugated steel pipe and structural steel manufacturing facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

Julie Ackerlund
Air Quality Engineer
Air Quality Bureau
(406) 444-4267

JM:JA
Enclosure

CC: Denise.Nerby@TrueNorthSteel.com

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #5249-00

TrueNorth Steel
TrueNorth Steel Billings
1501 S 30th Street W
Billings, MT 59102

September 24, 2020

MONTANA AIR QUALITY PERMIT

Issued To: TrueNorth Steel
1501 S 30th Street W
Billings, MT 59102

MAQP: #5249-00
Application Complete: 7/8/2020
Preliminary Determination Issued: 7/30/2020
Department's Decision Issued: 9/8/2020
Permit Final: 9/24/2020

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to TrueNorth Steel (TNS), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Permitted Equipment

TNS operation includes both a Corrugated Steel Pipe (CSP) Division and a Structural Steel Division (SSD). Sources of air emissions at the facility include surface coating operations, natural gas and propane fired heaters, abrasive shot blasting and sandblasting, a gasoline tank, a diesel fuel tank, welding, and plasma cutting. A summary of permitted equipment is contained in Section I.A of the Permit Analysis.

B. Plant Location

TNS operates a corrugated steel pipe and structural steel manufacturing facility located at 1501 S 30th Street W, Billings, MT. The legal description of the site location is the SESW portion of Section 13, Township 1S, Range 25E, in Yellowstone County, MT (45.742, -108.591).

Section II: Conditions and Limitations

A. Emission Limitations

1. Emissions from all surface coating operations shall not exceed the following tons per year (tpy), per 12-month rolling total, for each of the following pollutants:

   a. 20 tpy for volatile organic compounds (VOC);
   b. 20 tpy for particulate matter (PM);
   c. 20 tpy of particulate matter less than 10 microns in diameter (PM10);
   d. 20 tpy of particulate matter less than 2.5 microns in diameter (PM2.5);
   e. 20 tpy of total hazardous air pollutants (HAP); and
   f. 9 tpy of any single HAP (ARM 17.8.1204).

2. Abrasive sandblasting operations shall not exceed 4,550 hours of operation per 12-month rolling total (ARM 17.8.1204).

3. TNS shall not operate or have onsite more than two plasma cutting wet tables and one plasma cutting plate processor with baghouse control, each

with a manufacturer's rated cutting speed for ½ inch plate of no more than 145 inches per minute (ARM 17.8.749).

4. TNS shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

5. TNS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. TNS shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.749).

7. TNS shall comply with all applicable management practices, standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 Code of Federal Regulations (CFR) 63, Subpart XXXXXX *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories* (ARM 17.8.342 and 40 CFR 63, Subpart XXXXXX).

8. TNS shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 Code of Federal Regulations (CFR) 63, Subpart CCCCCC *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities* (ARM 17.8.342 and 40 CFR 63, Subpart CCCCCC).

B. Testing Requirements

1. TNS shall conduct visual determination of fugitive emissions and perform corrective actions if visible fugitive emissions are detected as required in Subpart XXXXXX (ARM 17.8.342 and 40 CFR 63 Subpart XXXXXX).

2. TNS shall conduct all required 40 CFR 63 Subpart CCCCCC testing, as applicable (ARM 17.8.342 and 40 CFR 63 Subpart CCCCCC).

3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. TNS shall prepare and submit annual certification and compliance reports for each affected source according to the requirements of 40 CFR 63, Subpart XXXXXX. (ARM 17.8.342 and 40 CFR 63, Subpart XXXXXX).

2. TNS shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). TNS shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

   a. For surface coating operations:
      i. The number of gallons of each surface coating product used monthly during the calendar year;
      ii. The specific gravity, of each surface coating product used;
      iii. The VOC content, in lbs/gallon, of each surface coating product used;
      iv. The total and individual HAP content, as a percentage, of each surface coating product used;
      v. The rolling, 12-month PM/PM10/PM2.5 emissions in tons from surface coating operations;
      vi. The rolling, 12-month VOC emissions in tons from surface coating operations;
      vii. The rolling, 12-month total HAP emissions in tons from surface coating operations;
      viii. The rolling, 12-month single HAP of highest emissions in tons from surface coating operations.

   b. The annual total hours of abrasive shot blasting operations;

   c. The rolling 12-month total hours of abrasive sandblasting operations;

   d. The annual total pounds of welding rod used;

   e. Total million cubic feet (MMCF) of natural gas combusted by facility heaters;

   f. Total MMCF of propane combusted by facility heaters;

   g. The rolling 12-month throughput of gallons of gasoline; and

h. Total throughput of gallons of diesel.

3. TNS shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit,* change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. All records compiled in accordance with this permit must be maintained by TNS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

5. TNS shall document, by month, the surface coating operations PM emissions in tons. By the 25th day of each month, TNS shall total the tons of PM emissions for the previous month from surface coating operations. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. TNS shall document, by month, the surface coating operations VOC emissions in tons. By the 25th day of each month, TNS shall total the tons of VOC emissions for the previous month from surface coating operations. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. TNS shall document, by month, the total surface coating operations emissions of each individual HAP, in tons. By the 25th day of each month, TNS shall total the tons of each individual HAP emissions for the previous month from surface coating operations. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

8. TNS shall document, by month, the total surface coating operations emissions from combined HAPs, in tons. By the 25th day of each month, TNS shall total the tons of HAP emissions for the previous month from surface coating operations. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The

information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

9. TNS shall document, by month, the rolling 12-month total hours of abrasive sandblasting operations. By the 25th day of each month, TNS shall total the hours of operation for the previous month from abrasive sandblasting operations. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

10. TNS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

In accordance with 40 CFR 63, Subpart XXXXXX, TNS shall provide written notifications and reports to the Department as required by 40 CFR 63, Subpart XXXXXX (ARM 17.8.749 and 40 CFR 63, Subpart XXXXXX)

Section III: General Conditions

A. Inspection – TNS shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system (CEMS) or continuous emissions rate monitoring system (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if TNS fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving TNS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request

for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by TNS may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit Analysis
TrueNorth Steel
MAQP #5249-00

I. Introduction/Process Description

This is initial permitting of existing equipment for TrueNorth Steel (TNS) who owns and operates a corrugated steel pipe and structural steel manufacturing facility in Billings, MT. The facility is known as TrueNorth Steel Billings (TNS Billings). TNS Billings has been manufacturing steel products since 1977. TNS is requesting operational limits to reduce the facility's potential to emit of particulate matter (PM), particulate matter of 10 microns in diameter (PM10), particulate matter of 2.5 microns in diameter (PM2.5), volatile organic compounds (VOC) and hazardous air pollutants (HAPs) to below the major source thresholds.

A. Permitted Equipment

TNS operates the following equipment:

- surface coating operations, both in spray booths with particulate control filters, and outdoors;
- multiple natural gas-fired heaters/boilers totaling 10.60 MMBtu/hr;
- propane-fired heaters totaling 0.16 MMBtu/hr;
- a 500 gallon gasoline storage tank;
- a 1,500 gallon diesel storage tank;
- abrasive shot blasting operations;
- abrasive sandblasting operations;
- welding with rods and wire in fume hoods with baghouse control;
- two wet plasma cutting tables; and
- one dry plasma cutting table with baghouse.

B. Source Description

The TNS Billings facility primarily engages in fabricating structural metal products, identified by North American Industry Classification System (NAICS) Code 332312. The facility operates two steel production divisions, the Corrugated Steel Pipe (CSP) Division and the Structural Steel Division (SSD).

Material for the CSP Division enters the building as coiled material which can be milled for processing into corrugated pipe in one processing line, or it can go to the sheet mill for corrugation, then to rolls for rolling, then to assembly into corrugated pipe. Finished corrugated pipe is staged in the yard. Additional fabrication of the corrugated pipe can also take place in the building before storage in the yard. Any additional coatings needed are applied outside the building.

Material for the SSD arrive via truck or rail by crane. Rail cars are offloaded at the north bridge crane and material is staged under the crane for use. Trucks are offloaded at either end of the north bridge crane. Material unloaded from the trucks flows to the Cold Storage Building and may receive fabrication or plasma cutting in

this building. Completed material exits to the east for loadout and material requiring additional fabrication exits to the west. Material traveling west from the rail spur or the Cold Storage Building enters the Saw/Drill Building to the north of the bridge crane or enters the Fabrication Shop to the south of the bridge crane for additional processing. Materials that go to the Saw/Drill Building enter traveling north through the saws and exit to the north of the building. From the north side of the building, material travels east or west to the drill line in the center of the Saw/Drill Building and then travels south through the drill line. Drilled material continues to travel south into the Fabrication Shop for additional processing. Most material travels south through the Fabrication Shop and exits the south end of the shop for finishes or loadout. Some smaller material will travel east in the shop to a miscellaneous fabrication area. Miscellaneous materials exit the east side of the building for finishes or loadout. Materials requiring finish processes travel to the South Crane area for abrasive shot blasting and coating or travels to the paint area for coating if blasting is not required. Once coating is complete, material is staged outside for loadout.

C. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response
Rod Schober/True North Steel	II.C.2	According to 40 CFR 63.11116(b), facilities with gasoline throughput of less than 10,000 gallons per month are not required to submit notifications or reports specified in §63.11125 or §63.11126 or 40 CFR 63 Subpart A. Request to remove this permit condition.	The Department concurs with the removal of condition II.C.2 and renumbering the section. TNS is still required by §63.11116(b) to have records available within 24 hours of a request to document your gasoline throughput.
	Permit Analysis, I.A.	There are 2 propane-fired heaters totaling 0.16 MMBtu/hr.	The Department has revised the list of equipment operated by TNS to indicated that propane-fired heaters totaling 0.16 MMBtu/hr are operated.
	Permit Analysis, III, Surface Coating Operations *Calculation*	The equation for PM needs to be corrected to include the transfer efficiency of the spray gun and use percent solids in the paint instead of (1-%VOC).	The equation for estimating the PM emissions has been revised to include the transfer efficiency and percent solids. These changes reduce the overestimation of PM emissions.
	Permit Analysis, III, Heater/Boiler – Natural Gas and Propane *Calculation*	The term "surface coating" needs to be changed to "combustion."	The Department agrees and has made this change.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   TNS shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available on the Department's website.

4. ARM 17.8.110 Malfunctions. In Part (2), the Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. In Part (1), no person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. In Part (2), no equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide

3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}
11. ARM 17.8.230 Fluoride in Forage

TNS must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. In Part (1), this rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. In Part (2), under this rule, TNS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

7. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. In Part (3), no person shall load or permit the loading of gasoline into any stationary tank

with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in Part (1) of this rule.

8. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

   a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:

   b. 40 CFR 63, Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities. The TNS Billings facility is subject to this subpart as a gasoline dispensing facility (GDF) located at an area source of HAP emissions. The monthly throughput of gasoline at TNS Billings is far less than the 10,000 gallon per month applicability threshold; therefore, facility is only subject to the management practices under 40 CFR 63.1116. Management practices in Subpart CCCCCC include but are not limited to:

      - minimize gasoline spills;
      - clean up spills as expeditiously as practicable;
      - cover all open gasoline containers and all gasoline storage tank fill pipes with a gasketed seal when not in use; and
      - minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices.

   c. 40 CFR 63, Subpart XXXXXX - National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories. Owners or operators of 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, including (a)(4) Fabricated Structural Metal Manufacturing, are subject to this subpart. 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. TNS Billings is subject to this subpart because they engage in fabricated structural metal manufacturing. The affected sources are defined as the collection of all equipment and activities necessary to perform dry

abrasive blasting, machining operations, dry grinding and dry polishing, spray painting, or welding, which use materials that contain MFHAP or have the potential to emit MFHAP. TNS Billings is considered an existing source since construction or reconstruction commenced before April 3, 2008.

d. 40 CFR 63, Subpart HHHHHH - National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. Owners or operators of an area sources involved in any activity described in 63.1169(a) through (c) are subject to this subpart. The activities described in (a) through (c) are:

- Paint stripping operations that use methylene chloride-containing paint stripping formulations;
- Spray application of coatings to motor vehicles and mobile equipment; and
- Spray application of coatings to a plastic and/or metal substrate where the coatings contain compounds of chromium, lead, manganese, nickel, or cadmium.

Painting operations at the facility do not include stripping operations that use methylene chloride, coating of motor vehicles or mobile equipment, or application of target HAPs (chromium, lead, manganese, nickel, or cadmium) to plastic and or metal substrate; therefore, the facility **not** subject to Subpart HHHHHH per §63.11169(c).

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. TNS submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. TNS Billings has an uncontrolled PTE greater than 25 tons per year (tpy) of particulate matter (PM), PM with an aerodynamic diameter of 10 microns or less (PM_{10}), PM with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), volatile organic compounds (VOC), and hazardous air pollutants (HAP). Therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. Part (1) of this rule requires that a permit application be submitted prior to installation, modification, or use of a source. TNS submitted the required permit application for the current permit action. Part (7) of this rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. TNS submitted an affidavit of publication of public notice for the June 12th, 13th , and 14th of 2020, issue of the *The Billings Gazette*, a newspaper of general circulation in the Town of Billings in Yellowstone County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this Permit Analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving TNS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. In Part (23), a Major Source under Section 7412 of the FCAA is defined as any source having:

   a. PTE > 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. In Part (1), Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #5249-00 for TNS Billings, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is subject to two current NESHAP (40 CFR 63, Subpart 63, Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, and Subpart XXXXXX – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories).

   f. This source is not a Title IV affected source, or a solid waste combustion unit.

g. This source is not an EPA designated Title V source.

h. As allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's potential to emit.

i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's potential to emit, does not require the source to obtain an air quality operating permit.

ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

TNS has taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness.

TNS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the Department determined that TNS Billings will be a minor source of emissions as defined under Title V based on requested federally enforceable permit limits on annual PM, PM10, PM2.5, VOC, individual HAP, and combined HAP emissions.

III. BACT Determination

A BACT determination is required for each new or modified source.

TNS has been in operation since 1977 and its emitting units qualify as "existing emitting units" under ARM 17.8.740 because each emitting unit was in existence and operating on March 16, 1979. BACT must be utilized for existing emitting units when any modification to the emitting unit requires an MAQP, and the BACT is only applicable to the specific emitting unit whose modification qualifies for an MAQP, per ARM 17.8.752. The TNS application is an initial application and does not identify any new or modified sources since operations began in 1977; therefore, a BACT review and determination is not required for any of the emitting units.

III. Emission Inventory

Emission Unit Name	Allowable Emission Rate (tpy)								
	VOC	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_x**	**CO**	**Total HAP**	**Single HAP (Toluene)**
Coating Operations	20.00	20.00	20.00	20.00	--	--	--	20.00	9.00
Heaters - Natural Gas	0.25	0.35	0.35	0.35	0.03	4.55	3.82	8.59E-02	1.55E-04
Heaters – Propane	0.01	0.01	0.01	0.01	1.38E-03	0.10	0.06	1.30E-03	2.34E-06
Gasoline Fuel Dispensing	0.29	--	--	--	--	--	--	7.65E-03	2.69E-03
Gasoline Storage Tank	0.37	--	--	--	--	--	--	5.94E-03	2.09E-03
Diesel Fuel Dispensing	0.02	--	--	--	--	--	--	6.10E-03	1.25E-03
Diesel Storage Tank	9.90E-04	--	--	--	--	--	--	2.90E-04	5.92E-05
Abrasive Shot Blasting	--	0.12	0.12	0.12	--	--	--	--	--
Abrasive Sand Blasting	--	40.04	9.46	0.95	--	--	--	--	--
Welding	--	1.97	1.97	1.97	--	--	--	2.96E-01	--
Plasma Cutting - Burn Table	--	0.81	0.81	0.81	--	--	--	--	--
Plasma Cutting – Plate	--	2.02	2.02	2.02	--	--	--	--	--
Total Facility Allowable Emissions	**20.94**	**65.31**	**34.74**	**26.22**	**0.03**	**4.65**	**3.88**	**20.40**	**9.01**

Note: Where appropriate, TNS requested voluntary limits on maximum allowable emissions to avoid triggering major source classification.

Surface Coating Operations

TNS requested several voluntary limits on the maximum allowable emissions for several pollutants to avoid triggering major source classification. These requested limits are for PM, PM10, PM2.5, VOC, HAPs (both total and individual). These emissions will be calculated monthly by TNS to demonstrate the rolling 12-month emissions are below the requested limits. These limits will calculated using the following methods:

PM/PM10/PM2.5 Calculation:
TNS has proposed that all PM emissions from surface coatings shall be representative of PM10 and PM2.5 emissions as well. On a monthly basis, TNS shall calculate the PM emissions from each product used by the surface coating operations during the month. PM emissions from each product shall be calculated using the following method:

$$\boldsymbol{PM}\left(\frac{\boldsymbol{tons}}{\boldsymbol{month}}\right) = \frac{\left(\left(\frac{\boldsymbol{gallons}}{\boldsymbol{month}}\right)*(\boldsymbol{specific\ gravity})*\left(\boldsymbol{8.3453}\ \frac{\boldsymbol{lbs}}{\boldsymbol{gallon}}\right)*\left(\frac{\boldsymbol{\%Solids}}{\boldsymbol{100}}\right)*\left(\boldsymbol{1}-\frac{\boldsymbol{\%Transfer\ Efficiency}}{\boldsymbol{100}}\right)\right)}{\left(\boldsymbol{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

TNS shall calculate the total of the PM emissions as the sum of each product used by the surface coating operations and add the monthly PM total to the previous 11 months' emissions to calculate the 12-month rolling total PM emissions. The PM emissions shall remain below the proposed 20 tpy rolling 12-month limit.

VOC Calculations

On a monthly basis, TNS shall calculate the VOC emissions from each product used by the surface coating operations during the month. VOC emissions from each product shall be calculated using the following method:

$$\boldsymbol{VOC}\left(\frac{\boldsymbol{tons}}{\boldsymbol{month}}\right) = \frac{\left(\left(\frac{\boldsymbol{gallons}}{\boldsymbol{month}}\right)*(\boldsymbol{specific\ gravity})*\left(\mathbf{8.3453}\,\frac{\boldsymbol{lbs}}{\boldsymbol{gallon}}\right)*\left(\frac{\boldsymbol{\%VOC\ by\ Weight}}{\mathbf{100}}\right)\right)}{\left(\mathbf{2000}\,\frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

TNS shall calculate the total of the VOC emissions as the sum of VOC emissions from each product used by the surface coating operations and add the monthly total to the previous 11 months' emissions to calculate the 12-month rolling total VOC emissions. The VOC emissions shall remain below the proposed 20 tpy rolling 12-month limit.

Total HAPs Calculations

On a monthly basis, TNS shall calculate the total HAP emissions from each product used by the surface coating operations during the month. HAP emissions from each product shall be calculated using the following method:

$$\boldsymbol{Total\ HAPs}\left(\frac{\boldsymbol{tons}}{\boldsymbol{month}}\right) = \frac{\left(\left(\frac{\boldsymbol{gallons}}{\boldsymbol{month}}\right)*(\boldsymbol{specific\ gravity})*\left(\mathbf{8.3453}\,\frac{\boldsymbol{lbs}}{\boldsymbol{gallon}}\right)*\left(\frac{\boldsymbol{\%Total\ HAPs\ by\ Weight}}{\mathbf{100}}\right)\right)}{\left(\mathbf{2000}\,\frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

TNS shall calculate the total of the HAP emissions as the sum of total HAPs from each product used by the surface coating operations and add the monthly total to the previous 11 months' emissions to calculate the 12-month rolling total HAP emissions. The total HAP emissions shall remain below the proposed 20 tpy rolling 12-month limit.

Largest Single HAP Calculations

On a monthly basis, TNS shall calculate the emissions of each individual HAP from all products used by the surface coating operations during the month. It's important to note, that emissions from each individual HAP shall be calculated, because the content of each surface coating product used can change over time and the same individual HAP may not always produce the largest single HAP emissions. Individual HAP emissions from each product shall be calculated using the following method:

Total Pounds of Individual HAP Emissions per Product Used = (Monthly Pounds of Product Used) * (%Individual HAP_{wt}/100)

$$\boldsymbol{Individual\ HAPs}\left(\frac{\boldsymbol{tons}}{\boldsymbol{month}}\right) = \frac{\left(\left(\frac{\boldsymbol{gallons}}{\boldsymbol{month}}\right)*(\boldsymbol{specific\ gravity})*\left(\mathbf{8.3453}\,\frac{\boldsymbol{lbs}}{\boldsymbol{gallon}}\right)*\left(\frac{\boldsymbol{\%Individual\ HAPs\ by\ Weight}}{\mathbf{100}}\right)\right)}{\left(\mathbf{2000}\,\frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

TNS shall calculate the monthly emissions of each individual HAP and add the monthly total to the previous 11 months emissions of each individual HAP to calculate the 12-month rolling total of

each individual HAP emissions. The largest emissions of any individual HAP shall remain below the proposed 9 tpy rolling 12-month limit.

Heaters/Boilers – Natural Gas and Propane

Potential emissions from the natural gas and propane heaters/boilers are based on unlimited operations of the current total rated capacity of the heaters and AP-42, Table 1.4-1 emission factors. The total rating of natural gas fired heaters is 10.60 MMBtu/hr and the propane heaters total 0.16 MMBtu/hr.

The natural gas fuel heating rate of 1,020 MMBtu/MMscf is assumed. The propane heaters/boilers heating value of 91.5 MMBtu/10^3 gallon is assumed.

NOX, CO, SO2, PM, VOC Calculation:
AP-42, Table 1.4-1 and 1.5-1 emissions factors are used to calculate the heater emissions for natural-gas fired and propane fired heaters, respectively. TNS has proposed that all PM emissions from combustion shall be representative of PM10 and PM2.5 emissions as well. The following method has been used to calculate emissions:

Natural Gas-fired Heaters:

$$\boldsymbol{Pollutant}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(E.F._{\frac{lb}{MMscf}}\right)*\left(\left(10.60\,\frac{MMBtu}{hour}\right)/\left(1{,}020\,\frac{MMBtu}{MMscf}\right)\right)*\left(8{,}760\,\frac{hours}{year}\right)\right)}{\left(2000\,\frac{lb}{ton}\right)}$$

Propane-fired Heaters:

$$\boldsymbol{Pollutant}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(E.F._{\frac{lb}{1{,}000\ gal}}\right)*\left(\left(0.16\,\frac{MMBtu}{hour}\right)/\left(91.5\,\frac{MMBtu}{1{,}000\ gal}\right)\right)*\left(8{,}760\,\frac{hours}{year}\right)\right)}{\left(2000\,\frac{lb}{ton}\right)}$$

Pollutant	Natural Gas-fired Heaters/Boilers Emission Factors (Source AP-42, Table 1.4-1)	Units	Propane-fired Heaters/Boilers Emission Factors (Source AP-42, Table 1.5-1)	Units
NOx	100	lb/MMscf	13.00	lb/10^3 gal
SO_2	0.60	lb/MMscf	0.18	lb/10^3 gal
CO	84	lb/MMscf	7.50	lb/10^3 gal
PM/PM10/PM2.5 (Filterable)	5.7	lb/MMscf	0.70	lb/10^3 gal
PM/PM10/PM2.5 (Condensable)	1.9	lb/MMscf	-	-
VOC	5.5	lb/MMscf	1.00	lb/10^3 gal

HAP Emissions

Using the equations above the individual HAP emissions can be calculated and the total HAP emissions is based on the sum of all individual HAPs.

Pollutant	Heaters/Boilers Emission Factors (Source AP-42, Table 1.4-3 and 1.4-4)[1]	Units
Lead	5.00E-04	lb/MMscf
Benzene	2.10E-03	lb/MMscf
Dichlorobenzene	1.20E-03	lb/MMscf
Formaldehyde	7.50E-02	lb/MMscf
Hexane	1.80E+00	lb/MMscf
Naphthalene	6.10E-04	lb/MMscf
Toluene	3.40E-03	lb/MMscf
PAH	8.82E-05	lb/MMscf
Arsenic	2.00E-04	lb/MMscf
Beryllium	1.20E-05	lb/MMscf
Cadmium	1.10E-03	lb/MMscf
Chromium	1.40E-03	lb/MMscf
Cobalt	8.40E-05	lb/MMscf
Manganese	3.80E-04	lb/MMscf
Mercury	2.60E-04	lb/MMscf
Nickel	2.10E-03	lb/MMscf
Selenium	2.40E-05	lb/MMscf

[1] Assumes HAP emissions are the same, on a heat input basis, as for natural gas combustion. Use heat contents of 91.5 MMBtu/10^3 gal for propane and 1,020 MMBtu/MMscf for methane to convert natural gas emission factors from AP-42 Tables 1.4-3 and 1.4-4 factors for use with propane. For example:

$$EF\left(\frac{lb\ HAP}{1{,}000\ gal\ propane}\right) = \frac{\left(\left(E.F.\frac{lb}{MMscf}\right) * \left(\left(91.5\ \frac{MMBtu}{1{,}000\ gal}\right)\right)\right)}{\left(1{,}020\ \frac{MMBtu}{MMscf}\right)}$$

Diesel Fueling

VOC and HAP Emissions:

TNS has calculated potential fueling emissions based on the EPA calculator at https://www.epa.gov/sites/production/files/2016-06/gasolinedispensingcalculator032315.xlsx assuming a throughput of 385,440 gal/yr and shown below in the table.

Diesel Fueling Emissions	Potential	Units
Diesel Fueling	385,440	gal/year
Emission Rate	0.11	lb VOC/1,000 gal
VOC Emissions	0.02	tpy
Hexane (n)	2.70E-03	tpy
Isooctane	1.95E-04	tpy
Benzene	2.19E-04	tpy
Toluene	1.25E-03	tpy
Xylene (m)	1.00E-03	tpy
Ethylbenzene	2.54E-04	tpy
Isopropyl benzene	1.23E-04	tpy
Trimethylbenzene (1,2,4)	3.28E-04	tpy
Naphthalene	3.14E-05	tpy
Biphenyl	1.31E-06	tpy
Total HAPs	6.10E-03	tpy

Actual VOC and HAP emissions are estimated based on the ratio of the annual diesel usage to the potential diesel usage of 385,440 gal/yr. For example:

$$\boldsymbol{Hexane}\ (\mathbf{tpy}) = \frac{\left(\left(\mathbf{2.70E-03}\ \frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) * \left(\left(\boldsymbol{X}\ \frac{\boldsymbol{gallons}}{\boldsymbol{year}}\right)\right)\right)}{\left(\mathbf{385,440}\ \frac{\boldsymbol{gallons}}{\boldsymbol{year}}\right)}$$

Diesel Storage Tank

VOC and HAP Emissions:
TNS has calculated potential storage tank emissions based on AP-42, Fifth Edition, Volume I Chapter 7.1, November 2006 for the 1,500 gallon diesel tank assuming a throughput of 385,440 gallons per year.

Diesel Storage Tank	Potential Annual Emissions (tpy)
VOC	9.90E-04
Hexane (n)	1.28E-04
Isooctane	9.26E-06
Benzene	1.04E-05
Toluene	5.92E-05
Xylene (m)	4.78E-05
Ethylbenzene	1.21E-05
Isopropyl benzene	5.87E-06
Trimethylbenzene (1,2,4)	1.56E-05
Naphthalene	1.50E-06
Biphenyl	6.23E-08

Total HAPs	2.90E-04

Actual diesel storage VOC and HAP emissions are calculated using the ratio of actual throughput to potential throughput (385,440 gal/yr). For example:

$$\textbf{Hexane (tpy)} = \frac{\left(\left(\mathbf{1.28E-04}\,\frac{\textbf{tons}}{\textbf{year}}\right) * \left(\left(X\,\frac{\textbf{gallons}}{\textbf{year}}\right)\right)\right)}{\left(\mathbf{385,440}\,\frac{\textbf{gallons}}{\textbf{year}}\right)}$$

Gasoline Fueling

VOC and HAP Emissions:
TNS has calculated potential fueling emissions based on the EPA calculator at https://www.epa.gov/sites/production/files/2016-06/gasolinedispensingcalculator032315.xlsx assuming a throughput of 385,440 gal/yr and shown below in the table.

Gasoline Fueling Emissions	Potential	Units
Gasoline Fueling	385,440	gal/year
Emission Rate	1.49	lb VOC/1,000 gal
VOC Emissions	0.29	tpy
Benzene	2.13E-03	tpy
Biphenyl	2.77E-09	tpy
Cyclohexane	3.30E-04	tpy
Ethylbenzene	1.87E-04	tpy
Hexane (n)	2.18E-03	tpy
Naphthalene	1.20E-06	tpy
Phenol	1.81E-07	tpy
Toluene	2.69E-03	tpy
Trimethylbenzene (1,2,4)	5.75E-05	tpy
Xylene	7.32E-05	tpy

Actual VOC and HAP emissions are estimated based on the ratio of the annual gasoline usage to the potential gasoline usage of 385,440 gal/yr. For example:

$$\textbf{Benzene (tpy)} = \frac{\left(\left(\mathbf{2.13E-03}\,\frac{\textbf{tons}}{\textbf{year}}\right) * \left(\left(X\,\frac{\textbf{gallons}}{\textbf{year}}\right)\right)\right)}{\left(\mathbf{385,440}\,\frac{\textbf{gallons}}{\textbf{year}}\right)}$$

Gasoline Storage Tank

VOC and HAP Emissions:
TNS has calculated potential storage tank emissions based on AP-42, Fifth Edition, Volume I Chapter 7.1, November 2006 for the 500 gallon gasoline tank assuming a throughput of 385,440 gallons per year.

Gasoline Storage Tank	PTE (tpy)
VOC	0.37
Benzene	1.66E-03
Biphenyl	2.15E-09
Cyclohexane	2.56E-04
Ethylbenzene	1.45E-04
Hexane (n)	1.69E-03
Naphthalene	9.35E-07
Phenol	1.41E-07
Toluene	2.09E-03
Trimethylbenzene (1,2,4)	4.47E-05
Xylene	5.69E-05
HAP Total	5.94E-03

Actual gasoline storage VOC and HAP emissions are calculated using the ratio of actual throughput to potential throughput (385,440 gal/yr). For example:

$$\boldsymbol{Benzene}\ (\mathbf{tpy}) = \frac{\left(\left(\mathbf{1.66E-03}\ \frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) * \left(\left(\boldsymbol{X}\ \frac{\boldsymbol{gallons}}{\boldsymbol{year}}\right)\right)\right)}{\left(\mathbf{385,440}\ \frac{\boldsymbol{gallons}}{\boldsymbol{year}}\right)}$$

Abrasive Shot Blasting

PM/PM10/PM2.5 Calculation:
TNS has proposed that all PM emissions from abrasive shot blasting shall be representative of PM10 and PM2.5 emissions as well. Potential emissions from abrasive shot blasting is based on the manufacturer's rated capacity of 40 lb/hr of shot usage and 8,760 hrs/yr of operation. PTE emissions are calculated using the AP-42, 13.2.6-1 emission factor of 0.69 lb PM/1,000 lb shot, and the following method:

$$\boldsymbol{PM}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(\frac{\mathbf{0.69}\ \boldsymbol{lb\ PM}}{\mathbf{1,000}\ \boldsymbol{lb\ shot}}\right) * \left(\mathbf{40}\ \frac{\boldsymbol{lb\ shot}}{\boldsymbol{hr}}\right) * \left(\mathbf{8,760}\ \frac{\boldsymbol{hrs}}{\boldsymbol{yr}}\right)\right)}{\left(\mathbf{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

Abrasive Sandblasting

PM/PM10/PM2.5 Calculation:
Potential emissions from abrasive sandblasting is based on the manufacturer's rated capacity of 320 lb/hr and TNS's requested operating limit of 4,550 hrs/yr of operation. PTE emissions are calculated using the AP-42, 13.2.6-1 emission factor for mild steel panels. The emission factors are:
PM EF = 55 lb/1,000 lb abrasive (10 mph wind speed)
PM10 EF = 13 lb/1,000 lb abrasive
PM2.5 EF = 1.3 lb/1,000 lb abrasive

Emissions are calculated using the following method:

$$\boldsymbol{PM}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(\frac{\boldsymbol{55\ lb\ PM}}{\boldsymbol{1,000\ lb\ sand}}\right) * \left(\boldsymbol{320}\ \frac{\boldsymbol{lb\ sand}}{\boldsymbol{hr}}\right) * \left(\boldsymbol{4,550}\ \frac{\boldsymbol{hrs}}{\boldsymbol{yr}}\right)\right)}{\left(\boldsymbol{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

Welding

PM/PM10/PM2.5 Calculation:
Potential emissions were calculated based on the worst-case emission factor from AP-42, Table 12.19-1 for shield metal arc welding applicable for the electrode types used by TNS Billings (E6013, 19.7 lb PM10/1,000 lb rod). PM10 emission factors are the only values available in AP-42 and are used to represent PM and PM2.5 emissions. TNS Billings indicated that 200,000 lb of welding rod is the maximum potential usage for the facility. Emission are calculated using the following method:

$$\boldsymbol{PM10}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(\frac{\boldsymbol{19.7\ lb\ PM10}}{\boldsymbol{1,000\ lb\ rod}}\right) * \left(\boldsymbol{200,000}\ \frac{\boldsymbol{lb\ rod}}{\boldsymbol{yr}}\right)\right)}{\left(\boldsymbol{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

HAP Calculation:
Potential emissions were calculated based on the welding rod and wire with the highest concentration of nickel and manganese according to the Safety Data Sheets for the welding rod types used by TNS Billings (Lincoln UltraCore 81NI2C-H at 0.05 wt fraction, and Lincolnweld 860/960 Flux at 0.1 wt. fraction, respectively). Assuming TNS Billings has a maximum potential usage of 200,000 lb of welding rod, emission are calculated using the following method:

$$\boldsymbol{Ni}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left(\left(\frac{\boldsymbol{0.05\ lb\ Ni}}{\boldsymbol{lb\ PM}}\right) * \left(\frac{\boldsymbol{19.7\ lb\ PM10}}{\boldsymbol{1,000\ lb\ rod}}\right) * \left(\boldsymbol{200,000}\ \frac{\boldsymbol{lb\ rod}}{\boldsymbol{yr}}\right)\right)}{\left(\boldsymbol{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

Potential emissions were calculated based on the worst-case emission factor from AP-42, Table

Plasma Cutting

TNS Billings operates two plasma cutting stations controlled by water tables and one plasma cutting plate processor controlled by a baghouse. Potential emissions are based on the maximum processing rate from the manufacturer and *Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of stainless and Mild Steel (*https://www3.epa.gov/ttn/chief/efdocs/welding.pdf).

PM/PM10/PM2.5
Conservatively, all fume emissions are considered to be PM and represent PM10 and PM2.5 emissions as well. Potential emissions are based on continuous operation year-round. Emissions for the two plasma cutting stations with water tables are calculated using the values in the table below and equation below. These plasma cutting stations with water tables have no additional fume control. The dry plasma cutting plate processor has a baghouse for control of its fumes. The following tables and equations demonstrate the potential emission calculations for both types of plasma cutting.

Plasma Cutting Station with Water Table

Stations	Metal Thickness (inches)	Kerf (cut width, inches)	Feed Rate (inches/minute)	Steel Density (lb/in³)	Fume Generated (% of cut material)	PM Uncontrolled Emissions (tpy)
#1	0.50	0.15	145	0.28	0.05	0.40
#2	0.50	0.15	145	0.28	0.05	0.40

$$\boldsymbol{PM}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left((\mathbf{0.50}\ \boldsymbol{in\ thick})*(\mathbf{0.15}\ \boldsymbol{in\ cut})*\left(\frac{\mathbf{145}\ \boldsymbol{inches}}{\boldsymbol{min}}\right)*\left(\frac{\mathbf{0.28}\ \boldsymbol{lb\ PM}}{\boldsymbol{cubic\ inches}}\right)*\left(\frac{\mathbf{0.05}}{\mathbf{100}}\boldsymbol{fraction\ in\ fume}\right)*\left(\mathbf{60}\frac{\boldsymbol{min}}{\boldsymbol{hr}}\right)*\left(\mathbf{8{,}760}\frac{\boldsymbol{hr}}{\boldsymbol{yr}}\right)\right)}{\left(\mathbf{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

Plasma Cutting Plate Processor

Metal Thickness (inches)	Kerf (cut width, inches)	Feed Rate (inches/minute)	Steel Density (lb/in³)	Fume Generated (% of cut material)	Baghouse Control Efficiency (%)	PM Uncontrolled Emissions (tpy)
0.50	0.15	145	0.28	5.00	95	2.02

$$\boldsymbol{PM}\left(\frac{\boldsymbol{tons}}{\boldsymbol{year}}\right) = \frac{\left((\mathbf{0.50}\ \boldsymbol{in\ thick})*(\mathbf{0.15}\ \boldsymbol{in\ cut})*\left(\frac{\mathbf{145}\ \boldsymbol{inches}}{\boldsymbol{min}}\right)*\left(\frac{\mathbf{0.28}\ \boldsymbol{lb\ PM}}{\boldsymbol{cubic\ inches}}\right)*\left(\frac{\mathbf{5}}{\mathbf{100}}\boldsymbol{fraction\ in\ fume}\right)*\left(\mathbf{60}\frac{\boldsymbol{min}}{\boldsymbol{hr}}\right)*\left(\mathbf{8{,}760}\frac{\boldsymbol{hr}}{\boldsymbol{yr}}\right)*\left(\frac{\mathbf{100-95}}{\mathbf{100}}\right)\right)}{\left(\mathbf{2000}\ \frac{\boldsymbol{lb}}{\boldsymbol{ton}}\right)}$$

Stations	PM Emissions (tpy)
Two Plasma Cutting Station with Water Tables	0.80
One Plasma Cutting Plate Processor	2.02
Total	**2.28**

V. Existing Air Quality

TNS is located at 1501 S 30th Street W, Billings, MT. The legal description of the site location is the Southeast Southwest portion of Section 13, Township 1S, Range 25E, in Yellowstone County, MT. As of June 16, 2020, the area is designated unclassified/attainment with all ambient air quality standards.

VI. Ambient Air Impact Analysis

The Department determined, based on the information provided and the conditions established in MAQP #5249-00, that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
		7a. Is the impact of government action direct, peculiar, and significant?

YES	NO	
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Analysis Prepared By: J. Ackerlund
Date: 09/8/2020

DEPARTMENT OF ENVIRONMENTAL QUALITY
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ENVIRONMENTAL ASSESSMENT (EA)

Issued To: TrueNorth Steel

Montana Air Quality Permit Number (MAQP): MAQP #5249-00

EA Draft: July 30, 2020
EA Final: September 8, 2020
Permit Final: September 24, 2020

1. *Legal Description of Site*: The TrueNorth Steel (TNS) Billings facility is located at 1501 S 30th Street W, Billings, MT. The legal description of the site location is SESW quarter of Section 13, Township 1S, Range 25E, in Yellowstone County, MT (47.742, -108.591).

2. *Description of Project*: This is initial permitting for TNS Billings which has been in operation since 1977. The TNS Billings facility consists of coating operations, heaters, fuel storage tanks, abrasive blasting operations, welding activities, and the plasma cutting operations.

3. *Objectives of Project*: This initial permit brings TNS into compliance with Montana air quality regulations for when an MAQP is required and establishes operating limits to keep the TNS Billings facility's potential to emit below the major source thresholds.

4. *Alternatives Considered*: In addition to the proposed action, the Department of Environmental Quality (Department) also considered the "no-action" alternative. This facility has been operating since 1977 without limitations on its emission sources. The "no-action" alternative would deny issuance of the MAQP to the facility. The Department does not consider the "no-action" alternative to be appropriate because TNS demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions are included in MAQP #5249-00.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

No impacts to terrestrial and aquatic life and habitats would occur. The TNS Billings facility is located in an industrial/commercial area. There are no proposed increases to production capacity or air emissions associated with this action.

B. Water Quality, Quantity and Distribution

This project would not impact water quality, water quantity, and distribution. The facility is regulated by a general stormwater industrial permit. Further, no impacts to the surrounding area from the air emissions would be realized due to dispersion of pollutants.

C. Geology and Soil Quality, Stability and Moisture

No new land would be disturbed by permitting this existing facility. It's an industrial site located in an industrial/commercial area. There would be no change to the geology or soil quality, stability and moisture.

D. Vegetation Cover, Quantity, and Quality

There would be no impacts with respect to vegetative cover, quality, and quantity because the facility operates within the defined TNS Billings property where vegetation has been previously disturbed. During operations, the facility would be a minor source of emissions and the pollutants widely dispersed (as described in Section 7.F of this EA); therefore, no impacts to vegetation from the proposed project would be expected.

E. Aesthetics

No impacts to the aesthetic nature of the area would result from permitting this existing facility located within an industrial/commercial area. Any aesthetic impacts would be consistent with current industrial land use of the area.

F. Air Quality

The facility is located in an area designated as unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria air pollutants. MAQP #5249-00 would contain conditions limiting the impacts of the emissions of air pollution from the facility. Overall, this permit action would have minor impacts on air quality, but would ensure all future modifications with significant air quality impacts would be reviewed by the Department.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department previously contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS) in an effort to identify any species of special concern associated with the proposed site location. In this case, the area was defined by

the section, township, and range of the facility with an additional 1-mile buffer zone. The following table summarizes identified occurrences of species of concern within the search radius.

Birds
Bald Eagle
Great Blue Heron
Pinyon Jay
Plants
Bractless Hedge-hyssop
Mammals
Spotted Bat
Fish
Sauger
Reptiles
Snapping Turtle
Spiny Softshell
Western Milksnake
Plains Hog-nosed Snake
Greater Short-horned Lizard
Other
Bat Roost (Non-Cave)

MNHP identified occurrences of two animal species of concern with recent sightings near the project location which include the bald eagle and great blue heron. The U.S. Forest Service classified the bald eagle as sensitive. The Department believes that any impacts would be minor due to the relatively small amount of the above listed pollutants emitted, dispersion characteristics of the pollutants and the atmosphere, and conditions placed in MAQP #5249-00.

H. Demands on Environmental Resource of Water, Air and Energy

Deposition of pollutants would continue to occur as a result of permitting the facility, however the Department determined that any impacts on air and water resources from the pollutants (including deposition) would be minor.

I. Historical and Archaeological Sites

According to State Historical Preservation Office (SHPO) records, there have been four previously recorded sites near TrueNorth Steel Billings. These sites include two historic irrigation systems and two historic railroad that are more than one decade old. SHPO's position is that if structures are over fifty years of age they should be recorded. These four sites are believed to be adjacent to TrueNorth Steel Billings, but not within their facility boundary. SHPO does not recommend a cultural resource inventory because of the low likelihood cultural resources will be impacted. The Department determined that there would be no impacts to any historical and archaeological sites in the area due to the fact that this is an existing facility with no new ground disturbance and no additional equipment is being proposed.

J. Cumulative and Secondary Impacts

Overall, any cumulative and secondary impacts from the proposed permit on the physical and biological resources of the human environment in the immediate area would be minor since the predominant use of the surrounding area would not change. The manufacturing of corrugated steel pipe and structural steel at the TNS Billings facility would result in a minor impact to the physical environment. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #5249-00. Therefore, it is not expected that the proposed permit, in conjunction with current operations, would result in any significant cumulative impact to the physical environment.

8. SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The manufacturing activities would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area. The source is a minor industrial source on property privately owned by TNS, and manufacturing activities would not change the predominant use of the surrounding area.

B. Cultural Uniqueness and Diversity

The manufacturing activities would not impact the cultural uniqueness and diversity of the surrounding area because the activities occur at an existing industrial site, in an area surrounded by industrial and commercial properties. The nature of the site would not be changed and additional employment is not expected.

C. Local and State Tax Base and Tax Revenue

The proposed permit would result in no impacts to the local and state tax base and tax revenue because no new employees would be hired since the facility is already operational.

D. Agricultural or Industrial Production

The proposed permit would not displace or otherwise affect any agricultural land or practices since TNS Billings is already an industrial site.

E. Human Health

As explained in Section 7.F. of this EA, deposition of pollutants would continue to occur; however, MAQP #5249-00 would incorporate conditions to ensure that the facility would be operated in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. Therefore, no additional impacts would be expected on human health from the proposed permit.

F. Access to and Quality of Recreational and Wilderness Activities

Based on the information received from TNS, there is no hunting access, recreational activities or wilderness areas near the existing facility. Therefore, no impacts to the access to and quality of recreational and wilderness activities would be expected.

G. Quantity and Distribution of Employment

The proposed change would have no impact on the quality and distribution of employment because no new permanent employees would be hired as a result of the proposed permit. Current TNS employees would continue to be responsible for the day-to-day operation of the facility.

H. Distribution of Population

This permitting action does not involve any change that would be expected to affect the location, distribution, density or growth rate of the human population. The distribution of population would not be expected to change as a result of this action.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits and to verify compliance with the permits that would be issued. However, demands for government services would be expected to be minor.

J. Industrial and Commercial Activity

No notable change to the industrial and commercial activity is expected from the proposed permit action.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would be affected by issuing MAQP #5249-00, which would contain limits for protecting air quality and keeping facility emissions in compliance with state and federal air quality standards.

L. Cumulative and Secondary Impacts

Overall, no cumulative and secondary impacts from the proposed permit action would occur to the economic and social resources of the human environment in the immediate area.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the manufacturing of corrugated steel pipe and structural steel. MAQP #5249-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: J. Ackerlund
Date: 07/30/2020