From:	efilingmail@tylerhost.net
To:	Hamre, John G.
Subject:	Filing Accepted for Case: 08-2018-CV-02937; Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.; Envelope Number: 3293100
Date:	Friday, February 01, 2019 8:23:08 AM

Filing Accepted

Envelope Number: 3293100
Case Number: 08-2018-CV-02937
Case Style: Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.

The filing below was reviewed and has been accepted by the clerk's office. You may access the file stamped copy of the document filed by clicking on the below link.

Filing Details	
Court	Burleigh County - South Central District
Case Number	08-2018-CV-02937
Case Style	Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.
Date/Time Submitted	1/31/2019 4:47 PM CST
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Accepted Comments	
Filing Type	Exhibit
Filing Description	CR Exhibit 1 Supporting Exhibit B, part 4 of 6
Activity Requested	EFileAndServe
Filed By	John Hamre
Filing Attorney	Illona Jeffcoat-Sacco

Document Details	
Lead Document	CR Exhibit 1 Supporting Exhibit B, part 4 of 6.pdf
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SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***3,710,736.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,573.18 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.5***	Gas Velocity at Exit (Avg. ft/sec) ***26.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***3,464.12***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***4.67E-02***	***2.05E-01***
PM_{10} Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Total	***4.67E-02***	***2.05E-01***
$PM_{2.5}$ Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Condensable	***3.50E-02***	***1.53E-01***
Sulfur Dioxide	***6.87E-03***	***3.01E-02***
Nitrogen Oxides	***3.50E-01***	***1.53E+00***
Carbon Monoxide	***3.27E-01***	***1.43E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***5.72E-06***	***2.51E-05***
Metal HAP (Total)	***8.54E-05***	***3.74E-04***
Organic HAPs (Total)	***5.71E-03***	***2.50E-02***
VOC	***6.30E-02***	***2.76E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Medium Pressure Utility Boiler A

SECTION B – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.5***	Gas Velocity at Exit (ft/sec) ***26.5***	Gas Volume (scfm) ***2,404.61***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***516.5 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0201A***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***2,404.61***	Drift Velocity (ft/sec) ***26.5***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***6.13×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***4.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***2.16x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***5.26x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***1.75x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***9.64 x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***7.30x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.24x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***6.07x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***$2.34x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.44x10^{-5}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***$1.52x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$4.56x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***$1.28x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.09x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***$3.27x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.70x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***1.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***9.58x10^{-7}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***4.32x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***2.92x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***$2.45x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.13x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***$1.03x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.52x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0201B***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ % Process Heat ***100*** %	Power Generation _____ % Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***3,710,736.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,573.18 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.5***	Gas Velocity at Exit (Avg. ft/sec) ***26.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***3,464.12***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

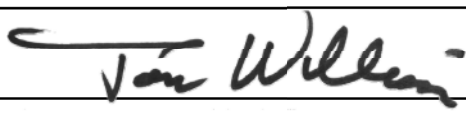
SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***4.67E-02***	***2.05E-01***
PM_{10} Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Total	***4.67E-02***	***2.05E-01***
$PM_{2.5}$ Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Condensable	***3.50E-02***	***1.53E-01***
Sulfur Dioxide	***6.87E-03***	***3.01E-02***
Nitrogen Oxides	***3.50E-01***	***1.53E+00***
Carbon Monoxide	***3.27E-01***	***1.43E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***5.72E-06***	***2.51E-05***
Metal HAP (Total)	***8.54E-05***	***3.74E-04***
Organic HAPs (Total)	***5.71E-03***	***2.50E-02***
VOC	***6.30E-02***	***2.76E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Medium Pressure Utility Boiler B

SECTION B – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.5***	Gas Velocity at Exit (ft/sec) ***26.5***	Gas Volume (scfm) ***2,404.61***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***516.5 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0201B***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***2,404.61***	Drift Velocity (ft/sec) ***26.5***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***6.13×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***4.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***2.16x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***5.26x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***1.75x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***9.64 x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***7.30x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.24x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***6.07x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***2.34x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.44x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***1.52x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.56x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***1.28x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.09x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***3.27x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***1.70x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***1.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

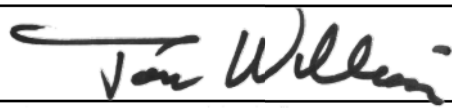
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***9.58x10^{-7}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***4.32x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***2.92x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***$2.45x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.13x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***$1.03x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.52x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0201C***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ % Process Heat ***100*** %	Power Generation _____ % Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***3,710,736.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,573.18 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.5***	Gas Velocity at Exit (Avg. ft/sec) ***26.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***3,464.12***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

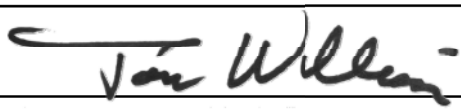
SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***4.67E-02***	***2.05E-01***
PM_{10} Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Total	***4.67E-02***	***2.05E-01***
$PM_{2.5}$ Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Condensable	***3.50E-02***	***1.53E-01***
Sulfur Dioxide	***6.87E-03***	***3.01E-02***
Nitrogen Oxides	***3.50E-01***	***1.53E+00***
Carbon Monoxide	***3.27E-01***	***1.43E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***5.72E-06***	***2.51E-05***
Metal HAP (Total)	***8.54E-05***	***3.74E-04***
Organic HAPs (Total)	***5.71E-03***	***2.50E-02***
VOC	***6.30E-02***	***2.76E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

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918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
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PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
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SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Medium Pressure Utility Boiler C

SECTION B – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.5***	Gas Velocity at Exit (ft/sec) ***26.5***	Gas Volume (scfm) ***2,404.61***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***516.5 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0201C***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***2,404.61***	Drift Velocity (ft/sec) ***26.5***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***6.13×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***4.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***2.16x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***5.26x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***1.75x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***9.64 x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***7.30x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.24x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***6.07x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***$2.34x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.44x10^{-5}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***$1.52x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$4.56x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***$1.28x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.09x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***$3.27x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.70x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***1.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***9.58x10^{-7}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***4.32x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***2.92x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***$2.45x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.13x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***$1.03x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.52x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0201A***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ %	Power Generation _____ %
Process Heat ***100*** %	Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***3,710,736.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,573.18 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.5***	Gas Velocity at Exit (Avg. ft/sec) ***26.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***3,464.12***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***4.67E-02***	***2.05E-01***
PM_{10} Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Total	***4.67E-02***	***2.05E-01***
$PM_{2.5}$ Filterable	***1.17E-02***	***5.12E-02***
$PM_{2.5}$ Condensable	***3.50E-02***	***1.53E-01***
Sulfur Dioxide	***6.87E-03***	***3.01E-02***
Nitrogen Oxides	***3.50E-01***	***1.53E+00***
Carbon Monoxide	***3.27E-01***	***1.43E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***5.72E-06***	***2.51E-05***
Metal HAP (Total)	***8.54E-05***	***3.74E-04***
Organic HAPs (Total)	***5.71E-03***	***2.50E-02***
VOC	***6.30E-02***	***2.76E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Medium Pressure Utility Boiler D

SECTION B – STACK DATA

Inside Diameter (ft) ***1.7***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.5***	Gas Velocity at Exit (ft/sec) ***26.5***	Gas Volume (scfm) ***2,404.61***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***516.5 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0201D***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***2,404.61***	Drift Velocity (ft/sec) ***26.5***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***6.13×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***3.50×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***4.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***2.16x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***5.26x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***1.75x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***9.64 x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***7.30x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.24x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***6.07x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***$2.34x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.44x10^{-5}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***$1.52x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$4.56x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***$1.28x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.09x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***$3.27x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.70x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***1.64x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

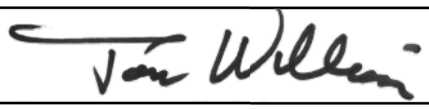
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***9.58x10^{-7}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***4.32x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***2.92x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***$2.45x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.13x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***$1.03x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.52x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		

City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0202A***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ %	Power Generation _____ %
Process Heat ***100*** %	Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***6,986,976.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,582.75 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***2***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.4***	Gas Velocity at Exit (Avg. ft/sec) ***34.6***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***6,523.00***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***8.80E-02***	***3.85E-01***
PM_{10} Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Total	***8.80E-02***	***3.85E-01***
$PM_{2.5}$ Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Condensable	***6.60E-02***	***2.89E-01***
Sulfur Dioxide	***1.29E-02***	***5.67E-02***
Nitrogen Oxides	***6.60E-01***	***2.89E+00***
Carbon Monoxide	***6.16E-01***	***2.70E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***1.08E-05***	***4.72E-05***
Metal HAP (Total)	***1.61E-04***	***7.05E-04***
Organic HAPs (Total)	***1.08E-02***	***4.71E-02***
VOC	***1.19E-01***	***5.20E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / High Pressure Utility Boiler A

SECTION B – STACK DATA

Inside Diameter (ft) ***2.0***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.4***	Gas Velocity at Exit (ft/sec) ***34.6***	Gas Volume (scfm) ***4,528.52***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***560.3 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0202A***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***4,528.52***	Drift Velocity (ft/sec) ***34.6***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***6.60×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-3}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***1.16×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***6.60×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***8.80x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***4.07x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***9.90x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***3.30x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***1.82 x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***1.38x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***2.34x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***1.14x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***4.40x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.44x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***2.86x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.56x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***2.42x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.09x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***6.16x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***1.70x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***3.08x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***1.80x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***8.14x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***5.50x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***4.62x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***1.94x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0202B***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ % Process Heat ***100*** %	Power Generation _____ % Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***6,986,976.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,582.75 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***2***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.4***	Gas Velocity at Exit (Avg. ft/sec) ***34.6***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***6,523.00***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***8.80E-02***	***3.85E-01***
PM_{10} Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Total	***8.80E-02***	***3.85E-01***
$PM_{2.5}$ Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Condensable	***6.60E-02***	***2.89E-01***
Sulfur Dioxide	***1.29E-02***	***5.67E-02***
Nitrogen Oxides	***6.60E-01***	***2.89E+00***
Carbon Monoxide	***6.16E-01***	***2.70E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***1.08E-05***	***4.72E-05***
Metal HAP (Total)	***1.61E-04***	***7.05E-04***
Organic HAPs (Total)	***1.08E-02***	***4.71E-02***
VOC	***1.19E-01***	***5.20E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
Jon Wilson	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / High Pressure Utility Boiler B

SECTION B – STACK DATA

Inside Diameter (ft) ***2.0***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.4***	Gas Velocity at Exit (ft/sec) ***34.6***	Gas Volume (scfm) ***4,528.52***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***566.6 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0202B***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***4,528.52***	Drift Velocity (ft/sec) ***34.6***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***6.60×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-3}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***1.16×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***6.60×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***8.80x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***4.07x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***9.90x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***3.30x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***1.82 x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***1.38x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***2.34x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***1.14x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***$4.40x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.44x10^{-5}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***$2.86x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$4.56x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***$2.42x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.09x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***$6.16x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.70x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***3.08x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***1.80x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***8.14x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***5.50x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***4.62x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***1.94x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR FUEL BURNING EQUIPMENT FOR INDIRECT HEATING

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8518 (09-12)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Facility Address (Street & No.) ***37th Street***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***

County ***Billings***	Latitude (Nearest Second) ***46°52'45"N***	Longitude (Nearest Second) ***103°14'55" W***

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***	Land Area at Facility Site ***261 Acres***	MSL Elevation at Facility ***2,685 feet***

SECTION B – EQUIPMENT

Source ID No. (From form SFN 8516) ***202-B-0202C***	Name of Manufacturer ***TBD***
Rated Capacity/Maximum Input ***TBD***	Model Number ***TBD***
Purpose Space Heat _____ % Process Heat ***100*** %	Power Generation _____ % Other (Specify % if Multi Purpose) _____ %

SECTION C – TYPE OF COMBUSTION UNIT AND FUEL FEEDING METHOD

Coal (If other solid fuel, specify here)	
☐Pulverized	☐Spreader Stoker with Fly Ash Reinjection
☐General	☐Spreader Stoker without Fly Ash Reinjection
☐Dry Bottom	☐Fluidized Bed
☐Wet Bottom with Fly Ash Reinjection	☐Cyclone
☐Wet Bottom without Fly Ash Reinjection	☐Hand-Fired
☐Other – Specify:	
Fuel Oil	Gas
☐Horizontally Fired	☐Horizontally Fired
☐Tangentially Fired	☐Tangentially Fired
☐Other – Specify:	☐Other – Specify: ***TBD***

SECTION D – NORMAL SCHEDULE OF OPERATION

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year Total	Peak Season (Specify Months)
24	***7***	***52***	***8760***	***N/A***

SECTION E – FUEL USE EXPECTED IN A CALENDAR YEAR

Year ***2017-2018***

Primary Fuels			Standby Fuels		
Type ***Fuel Gas***			Type ***None***		
Quantity Per Year ***6,986,976.00***	Units of Measure ***lb/yr***		Quantity Per Year	Units of Measure	
Percent Ash (Solid Fuels Only)					
Minimum	Maximum	Average	Minimum	Maximum	Average
Percent Sulfur					
Minimum ***0***	Maximum ***0***	Average ***0***	Minimum	Maximum	Average
Btu Per Unit of Measure (e.g. lb, gal, etc. - Specify)					
Minimum ***TBD***	Maximum ***TBD***	Average ***27,582.75 BTU/lb***	Minimum	Maximum	Average

Describe Fuel Transport and Storage Methods:
N/A, fuel gas to be generated within the refinery

SECTION F – COMBUSTION AIR

☐Natural Draft ☐Induced ☐Forced ☐Other – Specify: ***TBD***

SECTION G – STACK DATA

Inside Diameter (ft) ***2***	Height Above Grade (ft) ***100***
Gas Temperature at Exit (Avg. °F) ***300.4***	Gas Velocity at Exit (Avg. ft/sec) ***34.6***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***1,872.75***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***6,523.00***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

SECTION H – NEARBY BUILDINGS

Attach drawings which show the plan and elevation views of any nearby buildings including the building that houses the fuel-fired equipment.
Plant layout drawings attached to this permit application.

SECTION I – AIR CONTAMINANTS EMITTED

Pollutant	Maximum Pounds Per Hour	Tons Per Year
PM_{10} Total	***8.80E-02***	***3.85E-01***
PM_{10} Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Total	***8.80E-02***	***3.85E-01***
$PM_{2.5}$ Filterable	***2.20E-02***	***9.64E-02***
$PM_{2.5}$ Condensable	***6.60E-02***	***2.89E-01***
Sulfur Dioxide	***1.29E-02***	***5.67E-02***
Nitrogen Oxides	***6.60E-01***	***2.89E+00***
Carbon Monoxide	***6.16E-01***	***2.70E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***1.08E-05***	***4.72E-05***
Metal HAP (Total)	***1.61E-04***	***7.05E-04***
Organic HAPs (Total)	***1.08E-02***	***4.71E-02***
VOC	***1.19E-01***	***5.20E-01***

Basis and Calculations for Quantities:
Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / High Pressure Utility Boiler C

SECTION B – STACK DATA

Inside Diameter (ft) ***2.0***	Height Above Grade (ft) ***100***	
Gas Temperature at Exit (°F) ***300.4***	Gas Velocity at Exit (ft/sec) ***34.6***	Gas Volume (scfm) ***4,528.52***
Basis of any Estimates (attach separate sheet if necessary) ***Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility building***	Distance (ft) ***0 ft***	Direction ***N/A***
Nearest Property Line ***Fenceline***	Distance (ft) ***516.5 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***202-B-0202C***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***4,528.52***	Drift Velocity (ft/sec) ***34.6***
Stream Temperature (°F) ***300.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***1.93×10^{-1}***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***6.60×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***2.15×10^{-3}***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1 \times 10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***1.16×10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.12×10^{-4}***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water 1.79×10^{3} mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***6.60×10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***6.45×10^{-5}***	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***8.80x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.19x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***4.07x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.95x10^{-2}***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***9.90x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.65x10^{-1}***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***3.30x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.70x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***1.82 x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.83x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***1.38x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***1.86x10^{-3}***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***2.34x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.45x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Pollutant Emitted ***Antimony***	Chemical Abstract Services (CAS) Number ***7740-36-0***
Proposed Emission Rate (lb/hr) ***1.14x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/particulate***
Concentration in Emission Stream (ppmv) ***1.35x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***121.76***
Absorptive Properties -	

Pollutant Emitted ***Arsenic***	Chemical Abstract Services (CAS) Number ***7440-38-2***
Proposed Emission Rate (lb/hr) ***$4.40x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.44x10^{-5}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Beryllium***	Chemical Abstract Services (CAS) Number ***7440-41-7***
Proposed Emission Rate (lb/hr) ***$2.86x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$4.56x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***9.01***
Absorptive Properties -	

Pollutant Emitted ***Cadmium***	Chemical Abstract Services (CAS) Number ***7440-43-9***
Proposed Emission Rate (lb/hr) ***$2.42x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$3.09x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg@ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted ***Chromium (hexavalent)***	Chemical Abstract Services (CAS) Number ***1333-82-0***
Proposed Emission Rate (lb/hr) ***$6.16x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.70x10^{-4}$***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @77°F***
Solubility ***1,660 g/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Chromium***	Chemical Abstract Services (CAS) Number ***7440-47-3***
Proposed Emission Rate (lb/hr) ***3.08x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***8.51x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***1.80x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.40x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.93***
Absorptive Properties	

Pollutant Emitted ***Manganese***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***8.14x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***2.13x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***54.94***
Absorptive Properties -	

Pollutant Emitted ***Mercury***	Chemical Abstract Services (CAS) Number ***7439-97-6***
Proposed Emission Rate (lb/hr) ***5.50x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.94x10^{-5}***	Vapor Pressure (in. Hg @ °F) ***7.85x10^{-5} in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***200.59***
Absorptive Properties -	

Pollutant Emitted ***Nickel***	Chemical Abstract Services (CAS) Number ***7044-02-0***
Proposed Emission Rate (lb/hr) ***4.62x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg Q 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***58.69***
Absorptive Properties -	

Pollutant Emitted ***Selenium***	Chemical Abstract Services (CAS) Number ***7782-49-2***
Proposed Emission Rate (lb/hr) ***1.94x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.52x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0.29 in Hg @ 807***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***78.96***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0301***		
Capacity	Barrels ***110,999***		Gallons ***4,661,958***	
Dimensions	Diameter ***115'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Crude Oil, (RVP 6.8 – 7 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere ☐Vapor Recovery Unit ☐Flare ☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure **-**	Maximum Reid Vapor Pressure ***6.8 - 7***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***770,000***	Tank Turnovers per Year ***60.25***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
Benzene	***4.58 x10^{-3}***	***2.01x10^{-2}***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Biphenyl	***9.17 x10^{-5}***	***4.02 x10^{-4}***	
Cresol	***2.75 x10^{-4}***	***1.20 x10^{-3}***	
Cumene	***2.29 x10^{-4}***	***1.00 x10^{-3}***	
Ethylbenzene	***7.33 x10^{-4}***	***3.21 x10^{-3}***	
Hexane	***3.85 x10^{-2}***	***1.69 x10^{-1}***	
Naphthalene	***2.75 x10^{-4}***	***1.20 x10^{-3}***	
Phenol	***4.13 x10^{-4}***	***1.81 x10^{-3}***	
Toluene	***3.44 x10^{-3}***	***1.51 x10^{-2}***	
Xylene	***2.84 x10^{-3}***	***1.24 x10^{-2}***	
VOC	***2.80 x10^{-1}***	***1.22***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0302***		
Capacity	Barrels ***110,999***		Gallons ***4,661,958***	
Dimensions	Diameter ***115'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Crude Oil, (RVP 6.8 – 7 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere ☐Vapor Recovery Unit ☐Flare ☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure **-**	Maximum Reid Vapor Pressure ***6.8 - 7***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***770,000***	Tank Turnovers per Year ***60.25***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
Benzene	***4.58 x10^{-3}***	***2.01x10^{-2}***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Biphenyl	***9.17 x10^{-5}***	***4.02 x10^{-4}***	
Cresol	***2.75 x10^{-4}***	***1.20 x10^{-3}***	
Cumene	***2.29 x10^{-4}***	***1.00 x10^{-3}***	
Ethylbenzene	***7.33 x10^{-4}***	***3.21 x10^{-3}***	
Hexane	***3.85 x10^{-2}***	***1.69 x10^{-1}***	
Naphthalene	***2.75 x10^{-4}***	***1.20 x10^{-3}***	
Phenol	***4.13 x10^{-4}***	***1.81 x10^{-3}***	
Toluene	***3.44 x10^{-3}***	***1.51 x10^{-2}***	
Xylene	***2.84 x10^{-3}***	***1.24 x10^{-2}***	
VOC	***2.80 x10^{-1}***	***1.22***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0305***		
Capacity	Barrels ***64,996***		Gallons ***2,729,832***	
Dimensions	Diameter ***88'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Desulfurized Heavy Naphtha, (RVP 1.2 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***1.2***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***81,285***	Tank Turnovers per Year ***26.78***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.8E-04***	***1.7E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.6E-05***	***1.1E-04***	
Benzene	***7.6E-03***	***3.3E-02***	
Biphenyl	***1.8E-05***	***8.0E-05***	
Chrysene	***2.3E-05***	***9.9E-05***	
Cresol	***1.4E-03***	***6.2E-03***	
Cumene	***1.6E-03***	***7.1E-03***	
Ethylbenzene	***3.3E-03***	***1.5E-02***	
Fluorene	***3.9E-05***	***1.7E-04***	
Hexane	***4.5E-02***	***2.0E-01***	
Methanol	***4.1E-04***	***1.8E-03***	
Methyl isobutyl ketone	***3.5E-02***	***1.5E-01***	
Methyl tertiary-butyl ether	***3.3E-02***	***1.5E-01***	
Naphthalene	***8.2E-04***	***3.6E-03***	
Phenanthrene	***1.6E-04***	***7.1E-04***	
Phenol	***9.7E-05***	***4.3E-04***	
Pyrene	***4.2E-05***	***1.8E-04***	
Styrene	***7.1E-03***	***3.1E-02***	
Toluene	***1.9E-02***	***8.5E-02***	
Xylene	***1.5E-02***	***6.6E-02***	
VOC	***2.26E-02***	***9.92E-02***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

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Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0331***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Light Naphtha, (RVP 15 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***15***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***139,810***	Tank Turnovers per Year ***35.61***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***1.9E-04***	***8.5E-04***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.3E-05***	***5.8E-05***	
Benzene	***3.9E-03***	***1.7E-02***	
Biphenyl	***9.4E-06***	***4.1E-05***	
Chrysene	***1.2E-05***	***5.1E-05***	
Cresol	***7.2E-04***	***3.2E-03***	
Cumene	***8.3E-04***	***3.6E-03***	
Ethylbenzene	***1.7E-03***	***7.5E-03***	
Fluorene	***2.0E-05***	***8.7E-05***	
Hexane	***2.3E-02***	***1.0E-01***	
Methanol	***2.1E-04***	***9.2E-04***	
Methyl isobutyl ketone	***1.8E-02***	***7.8E-02***	
Methyl tertiary-butyl ether	***1.7E-02***	***7.5E-02***	
Naphthalene	***4.2E-04***	***1.8E-03***	
Phenanthrene	***8.3E-05***	***3.6E-04***	
Phenol	***5.0E-05***	***2.2E-04***	
Pyrene	***2.2E-05***	***9.5E-05***	
Styrene	***3.7E-03***	***1.6E-02***	
Toluene	***1.0E-02***	***4.4E-02***	
Xylene	***7.8E-03***	***3.4E-02***	
VOC	***8.59E-02***	***3.76E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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Bismarck, ND 58501-1947
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PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0332***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Light Naphtha, (RVP 15 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***15***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***139,810***	Tank Turnovers per Year ***35.61***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***1.9E-04***	***8.5E-04***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.3E-05***	***5.8E-05***	
Benzene	***3.9E-03***	***1.7E-02***	
Biphenyl	***9.4E-06***	***4.1E-05***	
Chrysene	***1.2E-05***	***5.1E-05***	
Cresol	***7.2E-04***	***3.2E-03***	
Cumene	***8.3E-04***	***3.6E-03***	
Ethylbenzene	***1.7E-03***	***7.5E-03***	
Fluorene	***2.0E-05***	***8.7E-05***	
Hexane	***2.3E-02***	***1.0E-01***	
Methanol	***2.1E-04***	***9.2E-04***	
Methyl isobutyl ketone	***1.8E-02***	***7.8E-02***	
Methyl tertiary-butyl ether	***1.7E-02***	***7.5E-02***	
Naphthalene	***4.2E-04***	***1.8E-03***	
Phenanthrene	***8.3E-05***	***3.6E-04***	
Phenol	***5.0E-05***	***2.2E-04***	
Pyrene	***2.2E-05***	***9.5E-05***	
Styrene	***3.7E-03***	***1.6E-02***	
Toluene	***1.0E-02***	***4.4E-02***	
Xylene	***7.8E-03***	***3.4E-02***	
VOC	***8.59E-02***	***3.76E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0306***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Reformate, (RVP 3 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***3***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***217,342***	Tank Turnovers per Year ***46.90***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***1.9E-04***	***8.5E-04***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.3E-05***	***5.8E-05***	
Benzene	***3.9E-03***	***1.7E-02***	
Biphenyl	***9.4E-06***	***4.1E-05***	
Chrysene	***1.2E-05***	***5.1E-05***	
Cresol	***7.2E-04***	***3.2E-03***	
Cumene	***8.3E-04***	***3.6E-03***	
Ethylbenzene	***1.7E-03***	***7.5E-03***	
Fluorene	***2.0E-05***	***8.7E-05***	
Hexane	***2.3E-02***	***1.0E-01***	
Methanol	***2.1E-04***	***9.2E-04***	
Methyl isobutyl ketone	***1.8E-02***	***7.8E-02***	
Methyl tertiary-butyl ether	***1.7E-02***	***7.5E-02***	
Naphthalene	***4.2E-04***	***1.8E-03***	
Phenanthrene	***8.3E-05***	***3.6E-04***	
Phenol	***5.0E-05***	***2.2E-04***	
Pyrene	***2.2E-05***	***9.5E-05***	
Styrene	***3.7E-03***	***1.6E-02***	
Toluene	***1.0E-02***	***4.4E-02***	
Xylene	***7.8E-03***	***3.4E-02***	
VOC	***6.39E-02***	***2.80E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0307***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Reformate, (RVP 3 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***3***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***217,342***	Tank Turnovers per Year ***46.90***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***1.9E-04***	***8.5E-04***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.3E-05***	***5.8E-05***	
Benzene	***3.9E-03***	***1.7E-02***	
Biphenyl	***9.4E-06***	***4.1E-05***	
Chrysene	***1.2E-05***	***5.1E-05***	
Cresol	***7.2E-04***	***3.2E-03***	
Cumene	***8.3E-04***	***3.6E-03***	
Ethylbenzene	***1.7E-03***	***7.5E-03***	
Fluorene	***2.0E-05***	***8.7E-05***	
Hexane	***2.3E-02***	***1.0E-01***	
Methanol	***2.1E-04***	***9.2E-04***	
Methyl isobutyl ketone	***1.8E-02***	***7.8E-02***	
Methyl tertiary-butyl ether	***1.7E-02***	***7.5E-02***	
Naphthalene	***4.2E-04***	***1.8E-03***	
Phenanthrene	***8.3E-05***	***3.6E-04***	
Phenol	***5.0E-05***	***2.2E-04***	
Pyrene	***2.2E-05***	***9.5E-05***	
Styrene	***3.7E-03***	***1.6E-02***	
Toluene	***1.0E-02***	***4.4E-02***	
Xylene	***7.8E-03***	***3.4E-02***	
VOC	***6.39E-02***	***2.80E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0308***		
Capacity	Barrels ***64,996***		Gallons ***2,729,832***	
Dimensions	Diameter ***88'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Gasoline, (RVP 13-15 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure **-**	Maximum Reid Vapor Pressure ***13-15***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***361,200***	Tank Turnovers per Year ***55.73***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.8E-04***	***1.7E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.6E-05***	***1.1E-04***	
Benzene	***7.6E-03***	***3.3E-02***	
Biphenyl	***1.8E-05***	***8.0E-05***	
Chrysene	***2.3E-05***	***9.9E-05***	
Cresol	***1.4E-03***	***6.2E-03***	
Cumene	***1.6E-03***	***7.1E-03***	
Ethylbenzene	***3.3E-03***	***1.5E-02***	
Fluorene	***3.9E-05***	***1.7E-04***	
Hexane	***4.5E-02***	***2.0E-01***	
Methanol	***4.1E-04***	***1.8E-03***	
Methyl isobutyl ketone	***3.5E-02***	***1.5E-01***	
Methyl tertiary-butyl ether	***3.3E-02***	***1.5E-01***	
Naphthalene	***8.2E-04***	***3.6E-03***	
Phenanthrene	***1.6E-04***	***7.1E-04***	
Phenol	***9.7E-05***	***4.3E-04***	
Pyrene	***4.2E-05***	***1.8E-04***	
Styrene	***7.1E-03***	***3.1E-02***	
Toluene	***1.9E-02***	***8.5E-02***	
Xylene	***1.5E-02***	***6.6E-02***	
VOC	***1.15E-01***	***5.02E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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918 E Divide Ave., 2nd Floor
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PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0309***		
Capacity	Barrels ***64,996***		Gallons ***2,729,832***	
Dimensions	Diameter ***88'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Gasoline, (RVP 13-15 psi)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure **-**	Maximum Reid Vapor Pressure ***13-15***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***361,200***	Tank Turnovers per Year ***55.73***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.8E-04***	***1.7E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.6E-05***	***1.1E-04***	
Benzene	***7.6E-03***	***3.3E-02***	
Biphenyl	***1.8E-05***	***8.0E-05***	
Chrysene	***2.3E-05***	***9.9E-05***	
Cresol	***1.4E-03***	***6.2E-03***	
Cumene	***1.6E-03***	***7.1E-03***	
Ethylbenzene	***3.3E-03***	***1.5E-02***	
Fluorene	***3.9E-05***	***1.7E-04***	
Hexane	***4.5E-02***	***2.0E-01***	
Methanol	***4.1E-04***	***1.8E-03***	
Methyl isobutyl ketone	***3.5E-02***	***1.5E-01***	
Methyl tertiary-butyl ether	***3.3E-02***	***1.5E-01***	
Naphthalene	***8.2E-04***	***3.6E-03***	
Phenanthrene	***1.6E-04***	***7.1E-04***	
Phenol	***9.7E-05***	***4.3E-04***	
Pyrene	***4.2E-05***	***1.8E-04***	
Styrene	***7.1E-03***	***3.1E-02***	
Toluene	***1.9E-02***	***8.5E-02***	
Xylene	***1.5E-02***	***6.6E-02***	
VOC	***1.15E-01***	***5.02E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0311***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Jet Fuel, (TVP 0.04 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.04***	Maximum Reid Vapor Pressure *-*

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***88,883***	Tank Turnovers per Year ***23.28***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

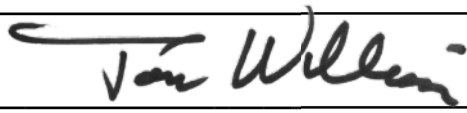
SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.6E-04***	***1.6E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.4E-05***	***1.1E-04***	
Benzene	***5.5E-03***	***2.4E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***2.1E-05***	***9.4E-05***	
Cresol	***1.9E-05***	***8.5E-05***	
Cumene	***1.0E-03***	***4.5E-03***	
Ethylbenzene	***1.8E-03***	***8.0E-03***	
Fluorene	***3.7E-05***	***1.6E-04***	
Hexane	***4.9E-02***	***2.1E-01***	
Methanol	***3.9E-04***	***1.7E-03***	
Methyl isobutyl ketone	***3.3E-02***	***1.4E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***4.1E-04***	***1.8E-03***	
Phenanthrene	***1.5E-04***	***6.7E-04***	
Phenol	***6.8E-05***	***3.0E-04***	
Pyrene	***4.0E-05***	***1.7E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***1.0E-02***	***4.5E-02***	
Xylene	***7.1E-03***	***3.1E-02***	
VOC	***1.40E-02***	***6.12E-02***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0312***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☒With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Jet Fuel, (TVP 0.04 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.04***	Maximum Reid Vapor Pressure *-*

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***88,883***	Tank Turnovers per Year ***23.28***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.6E-04***	***1.6E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.4E-05***	***1.1E-04***	
Benzene	***5.5E-03***	***2.4E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***2.1E-05***	***9.4E-05***	
Cresol	***1.9E-05***	***8.5E-05***	
Cumene	***1.0E-03***	***4.5E-03***	
Ethylbenzene	***1.8E-03***	***8.0E-03***	
Fluorene	***3.7E-05***	***1.6E-04***	
Hexane	***4.9E-02***	***2.1E-01***	
Methanol	***3.9E-04***	***1.7E-03***	
Methyl isobutyl ketone	***3.3E-02***	***1.4E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***4.1E-04***	***1.8E-03***	
Phenanthrene	***1.5E-04***	***6.7E-04***	
Phenol	***6.8E-05***	***3.0E-04***	
Pyrene	***4.0E-05***	***1.7E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***1.0E-02***	***4.5E-02***	
Xylene	***7.1E-03***	***3.1E-02***	
VOC	***1.40E-02***	***6.12E-02***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0313***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Straight Run Diesel, (TVP 0.004 psia)

SECTION D – VAPOR DISPOSAL

☐Atmosphere	☒Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.004***	Maximum Reid Vapor Pressure *-*

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***41.67***
Average Throughput (gallons per day) ***88,208.4***	Tank Turnovers per Year ***27.61***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.6E-04***	***1.6E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.4E-05***	***1.1E-04***	
Benzene	***5.5E-03***	***2.4E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***2.1E-05***	***9.4E-05***	
Cresol	***1.9E-05***	***8.5E-05***	
Cumene	***1.0E-03***	***4.5E-03***	
Ethylbenzene	***1.8E-03***	***8.0E-03***	
Fluorene	***3.7E-05***	***1.6E-04***	
Hexane	***4.9E-02***	***2.1E-01***	
Methanol	***3.9E-04***	***1.7E-03***	
Methyl isobutyl ketone	***3.3E-02***	***1.4E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***4.1E-04***	***1.8E-03***	
Phenanthrene	***1.5E-04***	***6.7E-04***	
Phenol	***6.8E-05***	***3.0E-04***	
Pyrene	***4.0E-05***	***1.7E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***1.0E-02***	***4.5E-02***	
Xylene	***7.1E-03***	***3.1E-02***	
VOC	***0.00E+00***	***0.00E+00***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0315***		
Capacity	Barrels ***64,996***		Gallons ***2,729,832***	
Dimensions	Diameter ***88'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Ultra Low Sulfur Diesel, (TVP 0.004 psia)

SECTION D – VAPOR DISPOSAL

☐Atmosphere	☒Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.004***	Maximum Reid Vapor Pressure *-*

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***12.00***
Average Throughput (gallons per day) ***465,360***	Tank Turnovers per Year ***56.44***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

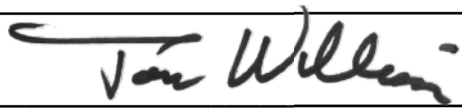
SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***7.0E-04***	***3.1E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***4.8E-05***	***2.1E-04***	
Benzene	***1.1E-02***	***4.7E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***4.2E-05***	***1.8E-04***	
Cresol	***3.8E-05***	***1.7E-04***	
Cumene	***2.0E-03***	***8.7E-03***	
Ethylbenzene	***3.6E-03***	***1.6E-02***	
Fluorene	***7.2E-05***	***3.1E-04***	
Hexane	***9.6E-02***	***4.2E-01***	
Methanol	***7.6E-04***	***3.3E-03***	
Methyl isobutyl ketone	***6.4E-02***	***2.8E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***8.0E-04***	***3.5E-03***	
Phenanthrene	***3.0E-04***	***1.3E-03***	
Phenol	***1.3E-04***	***5.8E-04***	
Pyrene	***7.8E-05***	***3.4E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***2.0E-02***	***8.7E-02***	
Xylene	***1.4E-02***	***6.1E-02***	
VOC	***0.00E+00***	***0.00E+00***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

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Division of Air Quality
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Bismarck, ND 58501-1947
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PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0316***		
Capacity	Barrels ***64,996***		Gallons ***2,729,832***	
Dimensions	Diameter ***88'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Ultra Low Sulfur Diesel, (TVP 0.004 psia)

SECTION D – VAPOR DISPOSAL

☐Atmosphere	☒Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.004***	Maximum Reid Vapor Pressure *-*

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***12.00***
Average Throughput (gallons per day) ***465,360***	Tank Turnovers per Year ***56.44***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***7.0E-04***	***3.1E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***4.8E-05***	***2.1E-04***	
Benzene	***1.1E-02***	***4.7E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***4.2E-05***	***1.8E-04***	
Cresol	***3.8E-05***	***1.7E-04***	
Cumene	***2.0E-03***	***8.7E-03***	
Ethylbenzene	***3.6E-03***	***1.6E-02***	
Fluorene	***7.2E-05***	***3.1E-04***	
Hexane	***9.6E-02***	***4.2E-01***	
Methanol	***7.6E-04***	***3.3E-03***	
Methyl isobutyl ketone	***6.4E-02***	***2.8E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***8.0E-04***	***3.5E-03***	
Phenanthrene	***3.0E-04***	***1.3E-03***	
Phenol	***1.3E-04***	***5.8E-04***	
Pyrene	***7.8E-05***	***3.4E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***2.0E-02***	***8.7E-02***	
Xylene	***1.4E-02***	***6.1E-02***	
VOC	***0.00E+00***	***0.00E+00***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

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NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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Applicant´s Name ***Tom Williams***		
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County ***Billings***		Source ID Number ***203-T-0314***		
Capacity	Barrels ***33,312***		Gallons ***2,729,832***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Fuel Oil, (TVP 0.000028 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.000028***	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***11,7 ft***
Average Throughput (gallons per day) ***141,053***	Tank Turnovers per Year ***21.16***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.6E-04***	***1.6E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.4E-05***	***1.1E-04***	
Benzene	***5.5E-03***	***2.4E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***2.1E-05***	***9.4E-05***	
Cresol	***1.9E-05***	***8.5E-05***	
Cumene	***1.0E-03***	***4.5E-03***	
Ethylbenzene	***1.8E-03***	***8.0E-03***	
Fluorene	***3.7E-05***	***1.6E-04***	
Hexane	***4.9E-02***	***2.1E-01***	
Methanol	***3.9E-04***	***1.7E-03***	
Methyl isobutyl ketone	***3.3E-02***	***1.4E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***4.1E-04***	***1.8E-03***	
Phenanthrene	***1.5E-04***	***6.7E-04***	
Phenol	***6.8E-05***	***3.0E-04***	
Pyrene	***4.0E-05***	***1.7E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***1.0E-02***	***4.5E-02***	
Xylene	***7.1E-03***	***3.1E-02***	
VOC	***9.13E-04***	***4.00E-03***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0323***		
Capacity	Barrels ***33,312***		Gallons ***1,399,104***	
Dimensions	Diameter ***63'***	Height ***60'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Vacuum Gasoil, (TVP 0,00002 – 0,00003)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0,00002 – 0,00003***	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***11.7 ft***
Average Throughput (gallons per day) ***141,053***	Tank Turnovers per Year ***39.05***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***3.6E-04***	***1.6E-03***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***2.4E-05***	***1.1E-04***	
Benzene	***5.5E-03***	***2.4E-02***	
Biphenyl	***0.0E+00***	***0.0E+00***	
Chrysene	***2.1E-05***	***9.4E-05***	
Cresol	***1.9E-05***	***8.5E-05***	
Cumene	***1.0E-03***	***4.5E-03***	
Ethylbenzene	***1.8E-03***	***8.0E-03***	
Fluorene	***3.7E-05***	***1.6E-04***	
Hexane	***4.9E-02***	***2.1E-01***	
Methanol	***3.9E-04***	***1.7E-03***	
Methyl isobutyl ketone	***3.3E-02***	***1.4E-01***	
Methyl tertiary-butyl ether	***0.0E+00***	***0.0E+00***	
Naphthalene	***4.1E-04***	***1.8E-03***	
Phenanthrene	***1.5E-04***	***6.7E-04***	
Phenol	***6.8E-05***	***3.0E-04***	
Pyrene	***4.0E-05***	***1.7E-04***	
Styrene	***0.0E+00***	***0.0E+00***	
Toluene	***1.0E-02***	***4.5E-02***	
Xylene	***7.1E-03***	***3.1E-02***	
VOC	***9.13E-04***	***4.00E-03***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0328***		
Capacity	Barrels ***2,620***		Gallons ***110,040***	
Dimensions	Diameter ***25'***	Height ***30'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☒Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☐ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☐Double Deck	☐Pontoon	☒Other – Specify: ***Cone Roof***
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Heavy Slops, (TVP 0.000028 – 0.004 psia)

SECTION D – VAPOR DISPOSAL

☒Atmosphere	☐Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure ***0.000028 – 0.004 psia***	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***3,7 ft***
Average Throughput (gallons per day) ***5,775***	Tank Turnovers per Year ***22.96***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

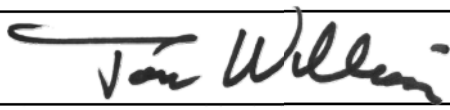
SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***2.81E-05***	***1.2E-04***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.93E-06***	***8.4E-06***	
Benzene	***4.33E-04***	***1.9E-03***	
Biphenyl	***0.00E+00***	***0.0E+00***	
Chrysene	***1.69E-06***	***7.4E-06***	
Cresol	***1.53E-06***	***6.7E-06***	
Cumene	***8.03E-05***	***3.5E-04***	
Ethylbenzene	***1.44E-04***	***6.3E-04***	
Fluorene	***2.89E-06***	***1.3E-05***	
Hexane	***3.85E-03***	***1.7E-02***	
Methanol	***3.05E-05***	***1.3E-04***	
Methyl isobutyl ketone	***2.57E-03***	***1.1E-02***	
Methyl tertiary-butyl ether	***0.00E+00***	***0.0E+00***	
Naphthalene	***3.21E-05***	***1.4E-04***	
Phenanthrene	***1.20E-05***	***5.3E-05***	
Phenol	***5.38E-06***	***2.4E-05***	
Pyrene	***3.13E-06***	***1.4E-05***	
Styrene	***0.00E+00***	***0.0E+00***	
Toluene	***8.03E-04***	***3.5E-03***	
Xylene	***5.62E-04***	***2.5E-03***	
VOC	***4.73E-03***	***2.07E-02***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUNDS STORAGE TANK

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

SECTION A – FACILITY INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant´s Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – TANK DATA

Legal Description of Facility Site ***Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W***				
County ***Billings***		Source ID Number ***203-T-0327***		
Capacity	Barrels ***2,620***		Gallons ***110,040***	
Dimensions	Diameter ***25'***	Height ***30'***	Length	Width
Shape	☒Cylindrical	☐Spherical	☐Other – Specify:	
Materials of Construction	***Carbon Steel***			
Construction	☐Riveted	☒Welded	☐Other – Specify:	
Color	***Beige***			
Condition	☒Good	☐Fair	☐Poor	
Status	☒New Construction	☐Alteration	☐Existing (Give Date Constructed):	
Type of Tank	☐Fixed Roof ☐Variable Vapor Space ☐Pressure (low or high)		☐External Floating ☒ Internal Floating ☐Other – Specify:	
Type of Roof	☐Pan	☒Double Deck	☐Pontoon	☐Other – Specify:
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	☐Primary Seal Only ☐With Rim Mounted Seal ☒With Shoe Mounted Secondary Seal	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	☐Primary Seal Only ☐With Rim Mounted Seal ☐With Weather Shield	

SECTION C – TANK CONTENTS

Light Slops, (RVP 10 psia)

SECTION D – VAPOR DISPOSAL

☐Atmosphere	☒Vapor Recovery Unit	☐Flare	☐Other – Specify:

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure ***10 psia***

SECTION F – OPERATIONAL DATA

Maximum Filling Rate (barrels per hour or gallons per hour) ***TBD***	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) ***N/A***
Average Throughput (gallons per day) ***5,775***	Tank Turnovers per Year ***22.96***

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:	
Name of Solvent ***N/A***	Name of Material Dissolved ***N/A***
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) ***N/A***	

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	***1.52E-05***	***6.7E-05***	***VOC from TANKS 4.0.9d software modeled runs.*** ***HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries*** ***See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
Anthracene	***1.05E-06***	***4.6E-06***	
Benzene	***3.05E-04***	***1.3E-03***	
Biphenyl	***7.40E-07***	***3.2E-06***	
Chrysene	***9.15E-07***	***4.0E-06***	
Cresol	***5.66E-05***	***2.5E-04***	
Cumene	***6.53E-05***	***2.9E-04***	
Ethylbenzene	***1.35E-04***	***5.9E-04***	
Fluorene	***1.57E-06***	***6.9E-06***	
Hexane	***1.83E-03***	***8.0E-03***	
Methanol	***1.66E-05***	***7.2E-05***	
Methyl isobutyl ketone	***1.39E-03***	***6.1E-03***	
Methyl tertiary-butyl ether	***1.35E-03***	***5.9E-03***	
Naphthalene	***3.31E-05***	***1.4E-04***	
Phenanthrene	***6.53E-06***	***2.9E-05***	
Phenol	***3.92E-06***	***1.7E-05***	
Pyrene	***1.70E-06***	***7.4E-06***	
Styrene	***2.87E-04***	***1.3E-03***	
Toluene	***7.84E-04***	***3.4E-03***	
Xylene	***6.10E-04***	***2.7E-03***	
VOC	***7.19E-02***	***3.15E-01***	

* Include an estimate of greenhouse gas emissions (CO_2e)

SECTION I – STANDARDS OF PERFORMANCE

Tank subject to:	☐40 CFR 60, Subpart K	☐40 CFR 60, Subpart Ka	☒40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? ☒Yes ☐ No – Explain:			

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Storage Tanks (Tank farm)

SECTION B – STACK DATA

Inside Diameter (ft) ***N/A***	Height Above Grade (ft) ***N/A***	
Gas Temperature at Exit (°F) ***N/A***	Gas Velocity at Exit (ft/sec) ***N/A***	Gas Volume (scfm) ***N/A***
Basis of any Estimates (attach separate sheet if necessary) ***Emission factors from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532	Yes ☒	No ☐
Nearest Residences or Building ***Administrative building***	Distance (ft) ***1,230 ft***	Direction ***East***
Nearest Property Line ***Fenceline***	Distance (ft) ***310 ft***	Direction ***South***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***Storage Tanks***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***N/A***	Drift Velocity (ft/sec) ***TBD***
Stream Temperature (°F) ***N/A***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Halogens***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***TBD***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***TBD***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***2-Methyl naphthalene***	Chemical Abstract Services (CAS) Number ***91-57-6***
Proposed Emission Rate (lb/hr) ***$8.89x10^{-4}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***$2.17x10^{-3}$ in Hg @ 77 °F***
Solubility ***In water mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***142.08***
Absorptive Properties -	

Pollutant Emitted ***Anthracene***	Chemical Abstract Services (CAS) Number ***120-12-7***
Proposed Emission Rate (lb/hr) ***$6.09x10^{-5}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Process Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***$2.17x10^{-5}$ in Hg @ 77 °F***
Solubility ***In water 1.29 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***178.23***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***$1.73x10^{-2}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water $1.79x10^{3}$ mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Biphenyl***	Chemical Abstract Services (CAS) Number ***95-52-4***
Proposed Emission Rate (lb/hr) ***3.79x10^{-5}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***3.51x 10^{-4} in Hg @ 77 °F***
Solubility ***In water 0.0004 g/100mL @ 68 °F***	Molecular Weight (lb/lb-mole) ***154.21***
Absorptive Properties -	

Pollutant Emitted ***Chrysene***	Chemical Abstract Services (CAS) Number ***218-01-9***
Proposed Emission Rate (lb/hr) ***1.76x10^{-4}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***2.45 x10^{-10}in Hg @ 77 °F***
Solubility ***In water 0.002 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***228.29***
Absorptive Properties -	

Pollutant Emitted ***Cresols***	Chemical Abstract Services (CAS) Number ***106-44-5***
Proposed Emission Rate (lb/hr) ***3.03x10^{-3}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.004 in Hg @ 77°F***
Solubility ***In water 2.15x10^{+4}@77°F***	Molecular Weight (lb/lb-mole) ***108.14***
Absorptive Properties -	

Pollutant Emitted ***Cumene***	Chemical Abstract Services (CAS) Number ***98-82-8***
Proposed Emission Rate (lb/hr) ***9.50x10^{-3}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.17 in Hg @ 77°F***
Solubility ***61.3 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***120.19***
Absorptive Properties -	

Pollutant Emitted ***Ethylbenzene***	Chemical Abstract Services (CAS) Number ***100-41-4***
Proposed Emission Rate (lb/hr) ***1.80x10^{-2}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.37 in Hg @ 77°F***
Solubility ***In water 0.014 g/100mL @ 59 °F***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Fluorene***	Chemical Abstract Services (CAS) Number ***86-73-7***
Proposed Emission Rate (lb/hr) ***3.02x10^{-4}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***1.26x10 $^{-5}$ in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***166.22***
Absorptive Properties -	

Pollutant Emitted ***Hexane***	Chemical Abstract Services (CAS) Number ***110-54-5***
Proposed Emission Rate (lb/hr) ***3.89x10^{-1}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***5.90 in Hg @ 68 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***86.1***
Absorptive Properties -	

Pollutant Emitted ***Methanol***	Chemical Abstract Services (CAS) Number ***67-56-1***
Proposed Emission Rate (lb/hr) ***3.19x10^{-3}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***5.0 in Hg @ 77 °F***
Solubility ***Miscible in water***	Molecular Weight (lb/lb-mole) ***32.04***
Absorptive Properties -	

Pollutant Emitted ***Methyl isobutyl Ketone***	Chemical Abstract Services (CAS) Number ***108-10-1***
Proposed Emission Rate (lb/hr) ***$2.68x10^{-1}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.78 in Hg @ 77 °F***
Solubility ***In water 19,000 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***100.16***
Absorptive Properties -	

Pollutant Emitted ***Methyl tertiary-butyl ether***	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) ***$6.92x10^{-2}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***2.95 in Hg @ 154 °F***
Solubility ***In water 4.2 g/100mL @ 68°F***	Molecular Weight (lb/lb-mole) ***88.15***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***$4.16x10^{-3}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Phenanthrene***	Chemical Abstract Services (CAS) Number ***85-01-8***
Proposed Emission Rate (lb/hr) ***$1.26x10^{-3}$***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***$4.76x10^{-6}$ in Hg @ 77 °F***
Solubility ***In water 1.15 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***178.23***
Absorptive Properties -	

Pollutant Emitted ***Phenol***	Chemical Abstract Services (CAS) Number ***108-95-2***
Proposed Emission Rate (lb/hr) ***6.03x10^{-4}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.013 in Hg @ 77°F***
Solubility ***In water 1 g/15mL***	Molecular Weight (lb/lb-mole) ***94.11***
Absorptive Properties -	

Pollutant Emitted ***Pyrene***	Chemical Abstract Services (CAS) Number ***129-00-0***
Proposed Emission Rate (lb/hr) ***3.27x10^{-4}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***1.77x10^{-7} in Hg @ 77 °F***
Solubility ***In water 0.135 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***202.25***
Absorptive Properties -	

Pollutant Emitted ***Styrene***	Chemical Abstract Services (CAS) Number ***100-42-5***
Proposed Emission Rate (lb/hr) ***1.47x10^{-2}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.25 in Hg @ 77 °F***
Solubility ***In water 300 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***104.15***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***1.02x10^{-1}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***1.11 in Hg @ 77 °F***
Solubility ***In water 526 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***7.43x10^{-2}***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77 °F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***106.17***
Absorptive Properties -	

Pollutant Emitted ***Volatile Organic Compounds (VOC)***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.22***	Emission Source (describe) ***Tank Farm***
Source Classification (process point, process fugitive, area fugitive) ***Area Fugitive***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic/Vapor***
Concentration in Emission Stream (ppmv) ***N/A***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***-***	Molecular Weight (lb/lb-mole) ***0.11***
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR INTERNAL COMBUSTION ENGINES AND TURBINES

NORTH DAKOTA DEPARTMENT OF
HEALTH DIVISION OF AIR QUALITY
SFN 8891 (09-12)

SECTION A – GENERAL INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – FACILITY AND UNIT INFORMATION

Facility Location ***37th Street, Belfield, ND. ZIP: 58622***		
County ***Billings***	Source ID Number (From SFN 8516) ***212-P-1201 A/B/C***	
Type of Unit (check all that apply)	☐Stationary Natural Gas-Fired Engine ☒Stationary Diesel and Dual Fuel ☐Engine Stationary Gasoline Engine ☐Stationary Natural Gas-Fired Turbine	☒Emergency Use ☐Only Non- Emergency ☐Use Peaking ☐Demand Response
	Other – Specify: ***Firewater Diesel Pump***	

SECTION C – MANUFACTURER DATA

Make ***TBD***	Model ***TBD***		Date of Manufacture ***TBD***
Reciprocating Internal Combustion Engine			
☒ Spark Ignition ☐Compression Ignition			
☐ 4 Stroke ☐ 2 Stroke		☐Rich Burn ☐ Lean Burn	
Maximum Rating (BHP @ rpm) ***TBD***		Operating Capacity (BHP @ rpm) ***600 HP each***	
Engine Subject to: ☒ 40 CFR 60, Subpart IIII ☒ 40 CFR 60, Subpart JJJJ ☒ 40 CFR 63, Subpart ZZZZ			
Turbine		Dry Low Emissions? ☐ Yes ☐ No	
Heat Input (MMBtu/hr)	Maximum Rating (HP)	75% Rating (HP)	Efficiency
Turbine Subject to: ☐ 40 CFR 60, Subpart GG ☐ 40 CFR 60, Subpart KKKK			

SECTION D – FUELS USED

Natural Gas (10^6 cu ft/year)	Percent Sulfur	Percent H_2S
Oil (gal/year)	Percent Sulfur	Grade No.
LP Gas (gal/year)	Other – Specify: ***Diesel <0.05% sulfur. 3,334 gal/year***	

SECTION E – NORMAL OPERATING SCHEDULE

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Peak Production Season (if any)
N/A	***N/A***	***N/A***	***100 (emergency)***	***N/A***

SECTION F – STACK PARAMETERS

Emission Point		Stack Height Above Ground Level (feet)	
212-P-1201 A/B/C		***TBD***	
Stack Diameter (feet at top)	Gas Discharged (SCFM)	Exit Temp (°F)	Gas Velocity (FPS)
TBD	***TBD***	***TBD***	***TBD***

SECTION G – EMISSION CONTROL EQUIPMENT

Is any emission control equipment installed on this unit?

☒ No ☐ Yes – Complete and attach form SFN 8532

SECTION H – MAXIMUM AIR CONTAMINANTS EMITTED

Emission Point	Pollutant	Maximum Pounds Per Hour	Amount (Tons Per Year)	Basis of Estimate*
	NO_X	***23.40***	***1.17***	***Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
	CO	***9.90***	***0.50***	
	PM	***1.26***	***0.06***	
	PM 10 (Total)	***7.85E-01***	***3.93E-02***	
	PM 10 (Filterable)	***6.80E-01***	***3.40E-02***	
	PM 2.5 (Total)	***6.56E-01***	***3.28E-02***	
	PM 2.5(Filterable)	***6.56E-01***	***3.28E-02***	
	PM (Condensable)	***1.06E-01***	***5.28E-03***	
	SO_2	***7.28E-03***	***3.64E-04***	
	VOC	***1.27***	***6.35E-02***	
	GHG (as CO_2e)	***N/A***	***N/A***	
	Formaldehyde	***1.08E-03***	***5.41E-05***	
	Total HAPS**	***5.98E-02***	***2.99E-03***	

* If performance test results are available for the unit, submit a copy of test with this application

** Total HAPS includes formaldehyde

IS THIS UNIT IN COMPLIANCE WITH ALL APPLICABLE AIR POLLUTION RULES AND REGULATIONS? ☒YES ☐NO	If "NO" a Compliance Schedule must be completed and attached.

Signature of Applicant	Date
	04/03/17

Attach and label separate sheet(s) if you need more space to explain any system or answers or to provide complete listings of Emissions, Contaminants, or other items.

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Firewater Diesel Pump

SECTION B – STACK DATA

Inside Diameter (ft) ***TBD***	Height Above Grade (ft) ***TBD***	
Gas Temperature at Exit (°F) ***TBD***	Gas Velocity at Exit (ft/sec) ***TBD***	Gas Volume (scfm) ***TBD***
Basis of any Estimates (attach separate sheet if necessary) ***Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Utility***	Distance (ft) ***7.21 ft***	Direction ***East***
Nearest Property Line ***Fenceline***	Distance (ft) ***656.0 ft***	Direction ***Sowtheast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***212-P-1201 A/B/C***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***TBD***	Drift Velocity (ft/sec) ***TBD***
Stream Temperature (°F) ***TBD***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***N/A***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***TBD***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***$3.45x10^{-4}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1x10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Acrolein***	Chemical Abstract Services (CAS) Number ***107-02-8***
Proposed Emission Rate (lb/hr) ***$1.08x10^{-4}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***10.79 in Hg @ 77 °F***
Solubility ***In water 2.12 x 10^5 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***56.06***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***$1.06x10^{-2}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water $1.79x10^3$ mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***1.08x10^{-3}***	Emission Source (describe) ***Processo Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***1.78x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Propylene***	Chemical Abstract Services (CAS) Number ***115-07-1***
Proposed Emission Rate (lb/hr) ***3.82x10^{-2}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***342.12 in Hg @ 77 °F***
Solubility ***In water 200 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***42.08***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***3.85x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***2.64x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.12x10^{-3}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR INTERNAL COMBUSTION ENGINES AND TURBINES

NORTH DAKOTA DEPARTMENT OF
HEALTH DIVISION OF AIR QUALITY
SFN 8891 (09-12)

SECTION A – GENERAL INFORMATION

Name of Firm or Organization ***Meridian Energy Group – Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning & Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***
Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***

SECTION B – FACILITY AND UNIT INFORMATION

Facility Location ***37th Street, Belfield, ND. ZIP: 58622***		
County ***Billings***	Source ID Number (From SFN 8516) ***216-EG-1601 A/B/C***	
Type of Unit (check all that apply)	☒Stationary Natural Gas-Fired Engine ☒Stationary Diesel and Dual Fuel ☐Engine Stationary Gasoline Engine ☐Stationary Natural Gas-Fired Turbine	☒Emergency Use ☐Only Non- Emergency ☐Use Peaking ☐Demand Response
	Other – Specify: ***Diesel/Natural gas-fired emergency generator set***	

SECTION C – MANUFACTURER DATA

Make ***TBD***	Model ***TBD***		Date of Manufacture ***TBD***
Reciprocating Internal Combustion Engine			
☒ Spark Ignition ☐Compression Ignition			
☐ 4 Stroke ☐ 2 Stroke		☐Rich Burn ☐ Lean Burn	
Maximum Rating (BHP @ rpm) ***TBD***		Operating Capacity (BHP @ rpm) ***3.5 MW each (4,700 HP each)***	
Engine Subject to: ☒ 40 CFR 60, Subpart IIII ☒ 40 CFR 60, Subpart JJJJ ☒ 40 CFR 63, Subpart ZZZZ			
Turbine		Dry Low Emissions? ☐ Yes ☐ No	
Heat Input (MMBtu/hr)	Maximum Rating (HP)	75% Rating (HP)	Efficiency
Turbine Subject to: ☐ 40 CFR 60, Subpart GG ☐ 40 CFR 60, Subpart KKKK			

SECTION D – FUELS USED

Natural Gas (10^6 cu ft/year) ***TBD***	Percent Sulfur	Percent H_2S
Oil (gal/year)	Percent Sulfur	Grade No.
LP Gas (gal/year)	Other – Specify: ***Diesel <0.05% sulfur. 4,230 gal/year***	

SECTION E – NORMAL OPERATING SCHEDULE

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Peak Production Season (if any)
N/A	***N/A***	***N/A***	***100 (emergency)***	***N/A***

SECTION F – STACK PARAMETERS

Emission Point		Stack Height Above Ground Level (feet)	
216-EG-1601 A/B/C		***TBD***	
Stack Diameter (feet at top)	Gas Discharged (SCFM)	Exit Temp (°F)	Gas Velocity (FPS)
TBD	***TBD***	***TBD***	***TBD***

SECTION G – EMISSION CONTROL EQUIPMENT

Is any emission control equipment installed on this unit?

☒ No ☐ Yes – Complete and attach form SFN 8532

SECTION H – MAXIMUM AIR CONTAMINANTS EMITTED

Emission Point	Pollutant	Maximum Pounds Per Hour	Amount (Tons Per Year)	Basis of Estimate*
	NO_X	***183.05***	***9.15***	***Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***
	CO	***77.44***	***3.87***	
	PM	***9.86***	***0.49***	
	PM 10 (Total)	***9.96***	***4.98E-01***	
	PM 10 (Filterable)	***8.62***	***4.31E-01***	
	PM 2.5 (Total)	***8.33***	***4.16E-01***	
	PM 2.5(Filterable)	***8.33***	***4.16E-01***	
	PM (Condensable)	***1.34***	***6.69E-02***	
	SO_2	***5.70E-02***	***2.85E-03***	
	VOC	***9.93***	***4.96E-01***	
	GHG (as CO_2e)	***N/A***	***N/A***	
	Formaldehyde	***1.37E-02***	***6.86E-04***	
	Total HAPS**	***7.59E-01***	***3.79E-02***	

* If performance test results are available for the unit, submit a copy of test with this application

** Total HAPS includes formaldehyde

IS THIS UNIT IN COMPLIANCE WITH ALL APPLICABLE AIR POLLUTION RULES AND REGULATIONS? ☒YES ☐NO	If "NO" a Compliance Schedule must be completed and attached.

Signature of Applicant	Date
	04/03/17

Attach and label separate sheet(s) if you need more space to explain any system or answers or to provide complete listings of Emissions, Contaminants, or other items.

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health
Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

PERMIT APPLICATION FOR
HAZARDOUS AIR POLLUTANT (HAP) SOURCES
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8329 (09-12)

SECTION A1 - APPLICANT INFORMATION

Name of Firm or Organization ***Meridian Energy Group - Davis Refinery***		
Applicant's Name ***Tom Williams***		
Title ***VP of Planning &Permitting***	Telephone Number ***(707) 299-0182***	E-mail Address ***twilliams@meridianenergygroup.inc***
Mailing Address (Street & No.) ***2062 Business Center Drive, Suite 115***		
City ***Irvine***	State ***CA***	ZIP Code ***92612***

SECTION A2 - FACILITY INFORMATION

Contact Person for Air Pollution Matters ***Tom Johnson***		
Title ***Vice President of Operations***	Telephone Number ***(409)795-0792***	E-mail Address ***tjohnson@meridianenergygroup.inc***
Facility Address (Street & No. or Lat/Long to Nearest Second) ***37th Street / 46°52'45"N/103°14'55" W***		
City ***Belfield***	State ***ND***	ZIP Code ***58622***
County ***Billings***	Number of Employees at Location ***TBD***	
Land Area at Plant Site ***261*** Acres (or) Sq. Ft.	MSL Elevation at Plant ***2,685 feet***	

Describe Nature of Business/Process

Petroleum Refining / Diesel/Natural gas-fired emergency generator set

SECTION B – STACK DATA

Inside Diameter (ft) ***TBD***	Height Above Grade (ft) ***TBD***	
Gas Temperature at Exit (°F) ***TBD***	Gas Velocity at Exit (ft/sec) ***TBD***	Gas Volume (scfm) ***TBD***
Basis of any Estimates (attach separate sheet if necessary) ***Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"***		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes ☐ No ☒
Nearest Residences or Building ***Main Control Room***	Distance (ft) ***17.9 ft***	Direction ***East***
Nearest Property Line ***Fenceline***	Distance (ft) ***456.4 ft***	Direction ***East***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***216-EG-1601 A/B/C***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***TBD***	Drift Velocity (ft/sec) ***TBD***
Stream Temperature (°F) ***TBD***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***N/A***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***TBD***
Heat Content (Btu/scfm) ***TBD***	O_2 Content (%) ***N/A***

SECTION D – POLLUTANT SPECIFIC DATA
(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted ***Acetaldehyde***	Chemical Abstract Services (CAS) Number ***75-07-0***
Proposed Emission Rate (lb/hr) ***$4.38x10^{-3}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***35.51 in Hg @ 68°C***
Solubility ***$1x10^{+6}$ mg/L in water @ 77°F***	Molecular Weight (lb/lb-mole) ***44.05***
Absorptive Properties -	

Pollutant Emitted ***Acrolein***	Chemical Abstract Services (CAS) Number ***107-02-8***
Proposed Emission Rate (lb/hr) ***$1.37x10^{-3}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***10.79 in Hg @ 77 °F***
Solubility ***In water 2.12 x 10^5 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***56.06***
Absorptive Properties -	

Pollutant Emitted ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***$1.35x10^{-1}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***3.73 in Hg @ 77 °F***
Solubility ***In water $1.79x10^3$ mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***78.11***
Absorptive Properties -	

Pollutant Emitted ***Formaldehyde***	Chemical Abstract Services (CAS) Number ***50-00-0***
Proposed Emission Rate (lb/hr) ***1.37x10^{-2}***	Emission Source (describe) ***Processo Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.15 in Hg @ 77 °F***
Solubility ***In water 4.00 x10^{5} mg/L @ 68°F***	Molecular Weight (lb/lb-mole) ***30.03***
Absorptive Properties -	

Pollutant Emitted ***Naphthalene***	Chemical Abstract Services (CAS) Number ***91-20-3***
Proposed Emission Rate (lb/hr) ***2.26x10^{-2}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.003 in Hg @ 77 °F***
Solubility ***In water 31 mg/L @ 77 °F***	Molecular Weight (lb/lb-mole) ***128.17***
Absorptive Properties -	

Pollutant Emitted ***Propylene***	Chemical Abstract Services (CAS) Number ***115-07-1***
Proposed Emission Rate (lb/hr) ***4.85x10^{-1}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***342.12 in Hg @ 77 °F***
Solubility ***In water 200 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***42.08***
Absorptive Properties -	

Pollutant Emitted ***Toluene***	Chemical Abstract Services (CAS) Number ***108-88-3***
Proposed Emission Rate (lb/hr) ***4.89 x10^{-2}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***1.12 in Hg @ 77°F***
Solubility ***In water 526 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***92.14***
Absorptive Properties -	

Pollutant Emitted ***Xylene***	Chemical Abstract Services (CAS) Number ***95-47-6***
Proposed Emission Rate (lb/hr) ***3.36x10^{-2}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***0.26 in Hg @ 77°F***
Solubility ***In water 178 mg/L @ 77°F***	Molecular Weight (lb/lb-mole) ***106.16***
Absorptive Properties -	

Pollutant Emitted ***PAH***	Chemical Abstract Services (CAS) Number ***N/A***
Proposed Emission Rate (lb/hr) ***1.42x10^{-2}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***TBD***	Vapor Pressure (in. Hg @ °F) ***N/A***
Solubility ***N/A***	Molecular Weight (lb/lb-mole) ***TBD***
Absorptive Properties -	

Signature of Applicant	Date
	04/03/17

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of
Health Division of Air Quality
918 E Divide Ave., 2nd Floor
Bismarck, ND 58501-1947
(701) 328-5188

Exhibit B: Emissions Inventory

Meridian Energy Group Inc.	EMISSIONS INVENTORY	VEPICA CODE: P-5715043-01-001-18042-I001	vepica USA
		COMPANY CODE: TBD	
		ISSUE: 1 DATE: 03/23/17	
		SHEET: 1 OF 35	

VEPICA CODE : P-5715043-01-001-18042-I001 **SHEET** 1 **OF** 35

COMPANY CODE: TBD

TITLE: EMISSIONS INVENTORY

PROJECT Nº : P-5715043

NAME : PERMITTING SUPPORT – DAVIS REFINERY

CLIENT : MERIDIAN ENERGY GROUP INC.

LOCATION : BILLINGS COUNTY, NORTH DAKOTA

1	03/23/17	ISSUED FOR PTC AMMENDMENT	G. AVALOS J. SOLANO	A. PEÑA	C. GARCÍA	T. JOHNSON
0	09/23/16	ISSUED FOR PTC	J. GOMEZ J. SOLANO	A. PEÑA	C. GARCÍA	T. JOHNSON
ISSUE	**DATE**	**DESCRIPTION**	**PREPARED**	**REVIEWED**	**APPROVED VEPICA**	**APPROVED CLIENT**

TABLE OF CONTENTS

1. INTRODUCTION

Meridian Energy Group (MEG) has engaged VEPICA to develop an air permit application for construction of the 55,000 BPD (barrels per day) Davis Refinery in Billings County, North Dakota. The present document comprises the Emissions Inventory for the proposed Davis Refinery, based on guidelines stablished in EPA *Emissions Estimation Protocol for Petroleum Refineries, Version 3* (RTI International, April 2015) and the engineering, licensor, vendor data available to date.

The initial Permit to Construct (PTC) application was submitted to NDDoH on October 17th, 2016, based on Rev.0 of this document which reflected a cracking refinery configuration with a Fluid Catalytic Cracking (FCC) and downstream units for conversion of atmospheric bottoms into higher value products. After submittal of the initial PTC application, and upon further evaluation by Meridian of the market conditions and off taker agreements for the Davis Refinery products, in which production of jet and diesel fuel will be important, the hydrocracking (HYK) refining process was chosen as an attractive alternative to FCC.

The replacement of the initially proposed FCC unit and downstream units (alkylation, hydrotreating, sweetening and isomerization) by the HYK process, and changes to the catalytic reforming technology to improve hydrogen yields has both economic and environmental advantages for the Davis Refinery. With the revised process scheme Meridian can ensure better conversion of low-quality vacuum gas oil into high-quality, clean burning middle distillates and reformer feed full range naphtha, while also improving the Refinery's environmental footprint. This revision of the Emissions Inventory reflects the emission units and equipment configuration for the HYK process scheme, and its implications in the Potential To Emit (PTE) of the proposed Davis Refinery.

2. REVISIONS TO THE PROCESS SCHEME

The Bakken crude is a very light and sweet feedstock that will allow the Davis Refinery to produce about two thirds of the incoming feed as gasoline and middle distillates (jet fuel and diesel) that will meet the current stringent fuel environmental standards with minimal hydrotreatment. During the initial phase of the Davis Refinery atmospheric distillation unit residue will be produced as fuel oil. To allow for conversion of heavy distillates into more valuable lighter products Meridian will install vacuum distillation and conversion units during the second phase of the Davis Refinery.

This revision of the Emissions Inventory for the Davis Refinery replaces emissions associated to the FCC and downstream units included in Rev. 0 of this document, with emissions associated with a HYK Unit, catalytic reforming technology changes and adjustments to hydrotreatment and sulfur recovery capacities, tankage and loading facilities. The proposed changes to the refinery processes will provide the facility with the

flexibility to adjust the ratio of intermediate distillates to naphtha produced to meet changing market demands, while ensuring the quality of the products. Naphtha produced will be desulphurized reformer feed quality that will undergo further processing prior to being added to the gasoline pool, while Diesel produced will meet ULSD specifications.

The main changes from the Rev. 0 process scheme to the current Rev. 1 process scheme are summarized in Table 1 below. Further, changes in heaters/boilers and tankage, are summarized in Tables 2 and 3, respectively.

Table 1: Summary of main changes from original process scheme to actual scheme

Unit Number	Original Unit	Current Unit	Main change
101	Atmospheric Distillation Unit #1	Atmospheric Distillation Unit #1	Increased heater duty
102	Atmospheric Distillation Unit #2	Atmospheric Distillation Unit #2	Increased heater duty
103	Vacuum Distillation Unit	Vacuum Distillation Unit	Decreased capacity from 26,000 BPD to 16,800 BPD. Decreased heater duty.
105	Naphtha Hydrotreater Unit	Naphtha Hydrotreater	Increased capacity from 12,108 BPD to 16,128 BPD. Increased heater duty.
106	Catalytic Reformer #1	SR/CCR Catalytic Reformer	Substituted for transformable SR to CCR unit. New capacity of 16,128 BPD. Increased heater duty.
107	Catalytic Reformer #2	N/A	Eliminated.
110	Diesel Hydrotreater	Distillates Hydrotreater	Increased capacity from 11,539 BPD to 19,850 BPD to process both kerosene and diesel cuts. Increased heater duty.
111	Light Naphtha Hydrotreater	N/A	Eliminated.
112	Fluid Catalytic Cracker (FCC)	Hydrocracker	Substituted by a Hydrocracker Unit with a processing capacity of 14,380 BPD and increased heater duty.
114	FCC Naphtha Hydrotreater	N/A	Eliminated.
117	Isomerization Unit	N/A	Eliminated.

Meridian Energy Group Inc.	EMISSIONS INVENTORY	VEPICA CODE: P-5715043-01-001-18042-I001	vepica USA
		COMPANY CODE: TBD	
		ISSUE: 1 DATE: 03/23/17	
		SHEET: 5 OF 35	

Unit Number	Original Unit	Current Unit	Main change
118	Alkylation Unit	N/A	Eliminated.
120 & 122	SRU & Thermal Oxidizer	SRU & Thermal Oxidizer	Increased SRU capacity from 10.2 to 11.2 LTPD. No changes to thermal oxidizer.
125	Kerosene Hydrotreater	N/A	Eliminated.
202	Boilers	Boilers	Decreased overall total steam generation capacity from 180 MMBTU of medium pressure steam to 114 MMBTU of combined medium/high pressure steam.
203	Tank Farm	Tank Farm	Reduction of on-site storage capacity which resulted in elimination of 7 feedstock, intermediates and finished product storage tanks.
206	Wastewater Treatment Plant	Wastewater Treatment Plant	Increased design capacity from 140 gpm to 180 gpm.
207	Flare System	Flare System	No changes.
208	Truck Loading-Unloading System	Truck Loading-Unloading System	Increased capacity to handle about half of the full refinery's production. Balance via future pipelines.
	Rail Loading-Unloading System	Rail Loading-Unloading System	Eliminated.
212	Firewater Pumps	Firewater Pumps	No changes
215	Cooling Towers	Cooling Towers	Increased capacity from 3-1,500 gpm cooling tower cells to 5-2,500 gpm cooling tower cells.
216	Emergency Power Generator (EPS) System	Emergency Power Generator (EPS) System	No changes
FUGITIVES	Process equipment leaks in VOC and Natural Gas service	Process equipment leaks in VOC and Natural Gas service	Adjusted to units in current process scheme.