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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 8:23:03 AM

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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.



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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.
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Filing Attorney	Illona Jeffcoat-Sacco

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**PERMIT APPLICATION FOR
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 795-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Process equipment leaks in VOC and Natural Gas service		
Make N/A	Model N/A	Date Installed N/A
Capacity (manufacturer's or designer's guaranteed maximum) N/A	Operating Capacity (specific units) N/A	
Brief description of operation of unit or process: VOC leaks (fugitive) from process equipment throughout the Refinery, emission point FUG-1, controlled by a strict Leak Detection and Repair (LDAR) Program with a threshold of 500 ppmv for leak detection, with automated corrective action.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
N/A	N/A	N/A	N/A	N/A	N/A

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
N/A	N/A	N/A	N/A	N/A	N/A

SECTION G – FUELS USED

Coal (Tons/Yr) N/A	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) N/A	LP Gas (Gal/Yr) N/A		Other (Specify) N/A		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
FUG-1	N/A	N/A	N/A	N/A	N/A

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
FUG-1	VOC	3.81	16.70	<i>Emission factors from Tables 2-5, 2-6 and 2-7 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"</i>	
FUG-1	HAPs	0.35	1.51		

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device

SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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 / Process Leaks (Fugitive) - FUG-1

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 Tables 2-5, 2-6 and 2-7 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "Control Technology Review"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) N/A	Direction N/A
Nearest Property Line Fenceline	Distance (ft) N/A	Direction N/A

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 FUG-1	Mean Particle Diameter (µm) N/A
Flow Rate (scfm) N/A	Drift Velocity (ft/sec) N/A
Stream Temperature (°F) N/A	Particulate Concentration (gr/dscf) N/A
Moisture Content (%) N/A	Halogens or Metals Present? No
Pressure (in. Hg) N/A	Organic Content (ppmv) N/A
Heat Content (BTU/scfm) N/A	O ₂ Content (%) N/A

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

Pollutant Emitted 1,3-Butadiene	Chemical Abstract Services (CAS) Number 106-99-0
Proposed Emission Rate (lb/hr) 2.63x10⁻⁴	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 72.34 in Hg @ 68 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 54.09
Absorptive Properties -	

Pollutant Emitted 2,2,4-trimethylpentane	Chemical Abstract Services (CAS) Number 540-84-1
Proposed Emission Rate (lb/hr) 6.90 x10⁻³	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 1.50 in Hg @ 68 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 114.22
Absorptive Properties -	

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 3.36x10⁻²	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 3.73 in Hg @ 77 °F

Solubility In water 1.79x10³ 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) 2.40x10⁻³	Emission Source (describe) Fugitive
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) 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 1,2,4- Trimethyl benzene	Chemical Abstract Services (CAS) Number 95-63-6
Proposed Emission Rate (lb/hr) 3.03x 10⁻³	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 0.28 in Hg @ 111.92°F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 72.15
Absorptive Properties -	

Pollutant Emitted Cumene	Chemical Abstract Services (CAS) Number 98-82-8
Proposed Emission Rate (lb/hr) 3.04x10⁻³	Emission Source (describe) Fugitive
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) 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) 2.17x10⁻²	Emission Source (describe) Fugitive

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) 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 Hexane	Chemical Abstract Services (CAS) Number 110-54-5
Proposed Emission Rate (lb/hr) 6.83x10⁻²	Emission Source (describe) Fugitive
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) 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 Naphthalene	Chemical Abstract Services (CAS) Number 91-20-3
Proposed Emission Rate (lb/hr) 7.95x10⁻³	Emission Source (describe) Fugitive
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) 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 Toluene	Chemical Abstract Services (CAS) Number 108-88-3
Proposed Emission Rate (lb/hr) 8.34x10⁻²	Emission Source (describe) Fugitive
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) 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) 8.77×10^{-2}	Emission Source (describe) Fugitive
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) N/A	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 -	

Signature of Applicant 	Date 04/03/17
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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
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 796-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Catalytic Reforming Unit		
Make N/A	Model N/A	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) 8,760 bbl/d	Operating Capacity (specific units) 16,128 bbl/d	
Brief description of operation of unit or process: Catalytic Reforming Unit (CRU) – Unit 106 in Continuous Catalytic Regeneration (CCR) configuration with emission points 106-H-0601 and 106-H-0605 for heaters and 106-VS-0601 regeneration emissions.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown TBD
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Heavy Naphtha	181,464	66,699	TBD	181,464	NA

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
LPG	TBD	TBD	TBD	TBD	TBD
Light Reformate	TBD	TBD	TBD	TBD	TBD
Heavy Reformate	TBD	TBD	TBD	TBD	TBD
Hydrogen	TBD	TBD	TBD	TBD	TBD
Off gas	TBD	TBD	TBD	TBD	TBD

SECTION G – FUELS USED

Coal (Tons/Yr) N/A	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) N/A	LP Gas (Gal/Yr) N/A		Other (Specify) Refinery fuel gas: 5,172 lb/h		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
106-H-0601	130	7.4	70,944.82	790.2	27.2
106-H-0605	42	2	2,953.89	790.2	15.7
106-VS-0601	40	4	347.92	110	25

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above				
Number	Pollutant	Amount		Basis of Estimate
		Pounds/Hr	Tons/Yr	
106-H-0601	CO	3.83E+00	1.68E+01	<p><i>Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources.</i></p> <p><i>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"</i></p>
106-H-0601	Pb	6.71E-05	2.94E-04	
106-H-0601	PM 10 Total	5.48E-01	2.40E+00	
106-H-0601	PM 10 Filterable	1.37E-01	6.00E-01	
106-H-0601	PM 2.5 Total	5.48E-01	2.40E+00	
106-H-0601	PM 2.5 Filterable	1.37E-01	6.00E-01	
106-H-0601	PM 2.5 Condensable	4.11E-01	1.80E+00	
106-H-0601	NOx	8.62E-01	3.78E+00	
106-H-0601	SO ₂	8.05E-02	3.53E-01	
106-H-0601	VOC	7.38E-01	3.23E+00	
106-H-0601	Metal HAPs	1.00E-03	4.38E-03	
106-H-0601	Organic HAPs	6.69E-02	2.93E-01	

SECTION I – AIR CONTAMINANTS EMITTED (CONT.)

Known or Suspected - Use same identification number as above				
Number	Pollutant	Amount		Basis of Estimate
		Pounds/Hr	Tons/Yr	
106-H-0605	CO	1.60E-01	6.99E-01	<p><i>Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources.</i></p> <p><i>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "Control Technology Review"</i></p>
106-H-0605	PD	2.79E-06	1.22E-05	
106-H-0605	PM 10 Total	2.28E-02	9.99E-02	
106-H-0605	PM 10 Filterable	5.70E-03	2.50E-02	
106-H-0605	PM 2.5 Total	2.28E-02	9.99E-02	
106-H-0605	PM 2.5 Filterable	5.70E-03	2.50E-02	
106-H-0605	PM 2.5 Condensable	1.71E-02	7.49E-02	
106-H-0605	NOx	1.71E-01	7.49E-01	
106-H-0605	SO ₂	3.35E-03	1.47E-02	
106-H-0605	VOC	3.07E-02	1.35E-01	
106-H-0605	Metal HAPs	4.17E-05	1.83E-04	
106-H-0605	Organic HAPs	2.79E-03	1.22E-02	
106-VS-0601	HAPs (regenerator)	1.58E-02	6.91E-02	

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device


SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen Size)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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)

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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

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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 / Continuous Reformer Unit

SECTION B – STACK DATA

Inside Diameter (ft) 6.0	Height Above Grade (ft) 40.0	
Gas Temperature at Exit (°F) 110.0	Gas Velocity at Exit (ft/sec) 25.0	Gas Volume (scfm) 322.27
Basis of any Estimates (attach separate sheet if necessary) Engineering Calculation Notes and emission factors from Table 5-6 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 1150.4 ft	Direction Southwest
Nearest Property Line Fenceline	Distance (ft) 933.7 ft	Direction Northwest

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 106-VS-0601	Mean Particle Diameter (µm) TBD
Flow Rate (scfm) 322.27	Drift Velocity (ft/sec) 25.0
Stream Temperature (°F) 790.2	Particulate Concentration (gr/dscf) TBD
Moisture Content (%) N/A	Halogens or Metals Present? Halogens
Pressure (in. Hg) TBD	Organic Content (ppmv) 2.67×10^{-8}
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 Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 2.69×10^{-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) 6.68×10^{-1}	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 Naphthalene	Chemical Abstract Services (CAS) Number 91-20-3
Proposed Emission Rate (lb/hr) 2.35×10^{-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) 3.66×10^{-3}	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) 2.69×10^{-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) 6.86×10^{-1}	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) 4.70×10^{-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) 8.84×10^{-1}	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 Poly Aromatic Hydrocarbons (PAH)	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 1.62×10^{-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) 2.06×10^{-4}	Vapor Pressure (in. Hg @ °F) TBD
Solubility TBD	Molecular Weight (lb/lb-mole) TBD
Absorptive Properties -	

Pollutant Emitted Hydrogen Chloride	Chemical Abstract Services (CAS) Number 7647-01-0
Proposed Emission Rate (lb/hr) 1.74×10^{-3}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/ Vapor
Concentration in Emission Stream (ppmv) 9.50×10^{-1}	Vapor Pressure (in. Hg @ °F) 1.39 in Hg @ 77 °F
Solubility 67.3 g/100 mL of water @ 86 °F	Molecular Weight (lb/lb-mole) 36.46
Absorptive Properties -	

Pollutant Emitted Chlorine	Chemical Abstract Services (CAS) Number 7782-50-5
Proposed Emission Rate (lb/hr) 1.78×10^{-4}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/ Vapor
Concentration in Emission Stream (ppmv) 5.00×10^{-2}	Vapor Pressure (in. Hg @ °F) 229.52 in Hg @ 77°F
Solubility 6.30 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 70.91
Absorptive Properties -	

Pollutant Emitted Dioxin Toxic Equivalents (TEQ)<i>b</i>	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 3.83×10^{-9}	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) N/A	Vapor Pressure (in. Hg @ °F) TBD
Solubility TBD	Molecular Weight (lb/lb-mole) TBD
Absorptive Properties	

Pollutant Emitted Total Polychlorinated biphenyls (PCB)	Chemical Abstract Services (CAS) Number 1336-36-3
Proposed Emission Rate (lb/hr) 1.75×10^6	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) N/A	Vapor Pressure (in. Hg @ °F) TBD
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 291.98
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17
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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
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 796-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Sulfur Recovery Unit (SRU)		
Make N/A	Model N/A	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) 11.2 tons of sulfur / day	Operating Capacity (specific units) 11.2 tons of sulfur / day	
Brief description of operation of unit or process: LO-CAT® Sulfur Recovery technology (Unit 122), with two vents (from oxidizer and flash drum units), directed to a Thermal Oxidizer for a single emission point: 122-H-2201.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Acid and Sour Gas	10.3 MMSCFD	TBD	TBD	3,759.5 MMSCF	N/A

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Elemental Sulphur	1,045.3	TBD	TBD	4,088 Iton	N/A
Treated flue gas	17,658	TBD	TBD	154,684,080 lb (3,745.3 MMACF)	N/A

SECTION G – FUELS USED

Coal (Tons/Yr) N/A	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) N/A	LP Gas (Gal/Yr) N/A		Other (Specify)		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
122-H-2201	60	1.7	7,125.7 ACFM	414.5	50

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
122-H-2201	VOC	0.377	1.65	Engineering data from vendor and Table 6-2 from 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"	
122-H-2201	SO₂	0.049	0.22		

SECTION I – AIR CONTAMINANTS EMITTED (CONT.)

Known or Suspected - Use same identification number as above				
Number	Pollutant	Amount		Basis of Estimate
		Pounds/Hr	Tons/Yr	
122-H-2201	CO	0.539	2.360	<i>Engineering data from vendor and Table 6-2 from Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "Control Technology Review"</i>
122-H-2201	NOx	0.118	0.518	

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device

SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
If 'Yes' attach form SFN 8532

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					

Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process

Signature of Applicant 	Date 04/03/17
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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 / Sulfur Recovering Unit / Oxidizer Vent (OV) and Flash Drum Vent (FDV), both directed to a thermal oxidizer (122-H-2201)
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SECTION B - STACK DATA

Inside Diameter (ft) TBD	Height Above Grade (ft) TBD	
Gas Temperature at Exit (°F) 125 (OV) / 125 (FDV)	Gas Velocity at Exit (ft/sec) TBD	Gas Volume (acfm) 3,725.69 (OV) / 53.47 (FDV)
Basis of any Estimates (attach separate sheet if necessary) Engineering data from vendor.		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Nearest Residences or Building Utility building	Distance (ft) 618 ft	Direction Southeast
Nearest Property Line Fenceline	Distance (ft) 820 ft	Direction Northwest

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 Not listed (directed to 122-H-2201)	Mean Particle Diameter (µm) N/A
Flow Rate (scfm) 4,091 (OV)/ 58,7 (FDV)	Drift Velocity (ft/sec) TBD
Stream Temperature (°F) 125 (OV)/ 125 (FDV)	Particulate Concentration (gr/dscf) N/A
Moisture Content (%) 9.55%(OV)/ 5.88% (FDV)	Halogens or Metals Present? None
Pressure (in. Hg) 29.92 (OV) / 50.28 (FDV)	Organic Content (ppmv) 0.39% molar (OV) / 81.46% molar (FDV)
Heat Content (Btu/scfm) TBD	O ₂ Content (%) 16.16% (OV)/ 0% (FDV)

SECTION D – POLLUTANT SPECIFIC DATA

(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted Volatile Organic Compounds (VOC)	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 272.7 (OV) / 3.9 (FDV)	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 -	Molecular Weight (lb/lb-mole) N/A
Absorptive Properties -	

Pollutant Emitted Hydrogen Sulfide	Chemical Abstract Services (CAS) Number 7783-06-4
Proposed Emission Rate (lb/hr) - (OV) / - (FDV)	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/Vapor
Concentration in Emission Stream (ppmv) <1 ppmv (OV) / <10 ppmv (FDV)	Vapor Pressure (in. Hg @ °F) 1.55x10⁻⁷ in Hg @ 77 °F
Solubility Insoluble in water; soluble in carbon disulfide	Molecular Weight (lb/lb-mole) 34.08
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17
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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
AIR POLLUTION CONTROL EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8532 (09-12)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.

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

SECTION B – FACILITY INFORMATION

Facility Name Davis Refinery / SRU Thermal Oxidizer		
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 Location 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		Source ID No. 122-H-2201

SECTION C – EQUIPMENT

Type: <input type="checkbox"/> Cyclone <input type="checkbox"/> Multicyclone <input type="checkbox"/> Baghouse <input type="checkbox"/> Electrostatic Precipitator			
<input type="checkbox"/> Wet Scrubber <input type="checkbox"/> Spray Dryer <input checked="" type="checkbox"/> Other – Specify: Thermal Oxidizer			
Name of Manufacturer TBD	Model Number TBD	Date to Be Installed TBD	
Application: <input type="checkbox"/> Boiler <input type="checkbox"/> Kiln <input type="checkbox"/> Engine <input checked="" type="checkbox"/> Other – Specify: Process Vent			
Pollutants Removed	VOC	H₂S	
Design Efficiency (%)	99.9	99.9	
Operating Efficiency (%)	TBD	TBD	
Describe method used to determine operating efficiency: TBD			

SECTION D – GAS CONDITIONS

Gas Conditions		Inlet	Outlet
Gas Volume (SCFM; 68°F; 14.7 psia)		4,149.7	4,301.3
Gas Temperature (°F)		125	414.5
Gas Pressure (in. H ₂ O)		TBD	406.8
Gas Velocity (ft/sec)		TBD	50
Pollutant Concentration (Specify Pollutant and Unit of Concentration)	Pollutant	Unit of Concentration	
	VOC	ppmv	1.54% (molar)
	SO₂	ppmv	1.13 (H₂S)
	CO	ppmv	0
	NO_x	ppmv	0
Pressure Drop Through Gas Cleaning Device (in. H ₂ O)			
TBD			

Signature of Applicant		Date
		04/03/17



**PERMIT APPLICATION FOR
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 795-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Truck Loading-Unloading System		
Make N/A	Model N/A	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) TBD	Operating Capacity (specific units) TBD	
Brief description of operation of unit or process: Truck Loading-Unloading Operations, emission point 208TL, equipped with vapor recovery or a dedicated flare for vapor control.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Butane/LPG	2,000 bbl	2,000 bbl	2,000 bbl	730,000 bbl	N/A

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Gasoline	9,100 bbl/d	9,100 bbl/d	9,100 bbl/d	3,321,500 bbl	N/A
Diesel / Jet	9,550 bbl/d	9,550 bbl/d	9,550 bbl/d	3,485,750 bbl	N/A
Fuel Oil	8,400 bbl/d	8,400 bbl/d	8,400 bbl/d	3,066,000 bbl	N/A

SECTION G – FUELS USED

Coal (Tons/Yr) N/A	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) N/A	LP Gas (Gal/Yr) N/A		Other (Specify) N/A		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
208TL	N/A	N/A	N/A	N/A	N/A

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
208TL	VOC	1.06	4.65	Emission factors from AP-42 Chapter 5, Table 5.2-5. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "Control Technology Review"	

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device


SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 796-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Wastewater Treatment Plant		
Make N/A	Model N/A	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) 259,200 gal/d (180 gpm)	Operating Capacity (specific units) 216,000 gal/d (150 gpm)	
Brief description of operation of unit or process: Wastewater Treatment Plant - 206WWT (Fugitive), BWON compliant		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Refinery wastewater (oily effluents)	75,060	90,072	75,060	216,000 gal/d	N/A

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
Treated wastewater	60,048	72,058	60,048	172,800 gal/d	N/A

SECTION G – FUELS USED

Coal (Tons/Yr) N/A	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) N/A	LP Gas (Gal/Yr) N/A		Other (Specify) N/A		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
206WWT (Fugitive)	N/A	N/A	N/A	N/A	N/A

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
206WWT (Fugitive)	VOC	3.32	14.54	Engineering data and * Table 7-8. Table 7-9. and Table 7-10 from 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"	
206WWT (Fugitive)	HAPs	1.65E-01	7.24E-01		

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device


SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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 / WasteWater Treatment Plant - 206WWT (Fugitive)

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) Engineering data and * Table 7-8. Table 7-9. and Table 7-10 from 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) 1,434 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 963 ft	Direction Northwest

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 206WWT (Fugitive)	Mean Particle Diameter (µm)
Flow Rate (scfm) N/A	Drift Velocity (ft/sec) N/A
Stream Temperature (°F) N/A	Particulate Concentration (gr/dscf) N/A
Moisture Content (%) N/A	Halogens or Metals Present? No
Pressure (in. Hg) N/A	Organic Content (ppmv) N/A
Heat Content (Btu/scfm) N/A	O ₂ Content (%) N/A

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

Pollutant Emitted 2,2,4-trimethylpentane	Chemical Abstract Services (CAS) Number 540-84-1
Proposed Emission Rate (lb/hr) 3.33x10⁻²	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 1.50 in Hg @ 68 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 114.22
Absorptive Properties -	

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 7.68x10⁻³	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 3.73 in Hg @ 77 °F
Solubility In water 1.79x10³ 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) 3.24x10⁻⁵	Emission Source (describe) Fugitive
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) 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 Cresols	Chemical Abstract Services (CAS) Number 106-44-5
Proposed Emission Rate (lb/hr) 0	Emission Source (describe) Fugitive
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) 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) 2.73x10⁻³	Emission Source (describe) Fugitive
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) 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) 5.95x10⁻³	Emission Source (describe) Fugitive
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) 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 Hexane	Chemical Abstract Services (CAS) Number 110-54-5
Proposed Emission Rate (lb/hr) 5.92x10⁻²	Emission Source (describe) Fugitive
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) 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 Methyl tertiary-butyl ether	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) 1.62×10^{-3}	Emission Source (describe) Fugitive
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) 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) 8.73×10^{-4}	Emission Source (describe) Fugitive
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) 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 Phenol	Chemical Abstract Services (CAS) Number 108-95-2
Proposed Emission Rate (lb/hr) 0	Emission Source (describe) Fugitive
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) 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 Styrene	Chemical Abstract Services (CAS) Number 100-42-5
Proposed Emission Rate (lb/hr) 1.14×10^{-2}	Emission Source (describe) Fugitive
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) 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) 1.93×10^{-2}	Emission Source (describe) Fugitive
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) 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) 2.32×10^{-2}	Emission Source (describe) Fugitive
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) N/A	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 1,3-Butadiene	Chemical Abstract Services (CAS) Number 106-99-0
Proposed Emission Rate (lb/hr) 1.38×10^{-5}	Emission Source (describe) Fugitive
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) N/A	Vapor Pressure (in. Hg @ °F) 72.34 in Hg @ 68 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 54.09
Absorptive Properties -	

Signature of Applicant 	Date 04/03/17
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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
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

SECTION A – GENERAL INFORMATION

Equipment items operating as a functional unit may be grouped as one application		
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 B - FACILITY INFORMATION

Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 796-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Cooling Tower A		
Make Cooling Tower Depot, Inc.	Model CFD-241820-5I-14	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) 2,500 gpm	Operating Capacity (specific units) 2,500 gpm	
Brief description of operation of unit or process: Water cooling tower, 2,500 gpm capacity, five cells in total, four operating one on standby, equipped with drift eliminators for a drift rate of 0.001%. Emission point 215-CT-1501A.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
<i>Warm water from various processes</i>	<i>5,004,000</i>	<i>5,004,000</i>	<i>5,004,000</i>	<i>5,256,000,000 gal</i>	<i>N/A</i>

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

SECTION G – FUELS USED

Coal (Tons/Yr) <i>N/A</i>	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) <i>N/A</i>	LP Gas (Gal/Yr) <i>N/A</i>		Other (Specify) <i>N/A</i>		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
<i>215-CT-1501A</i>	<i>26</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
<i>215-CT-1501A</i>	<i>VOC</i>	<i>9.00E-02</i>	<i>3.94E-01</i>	<i>Engineering data from vendor, and emission factors from Table 8-5 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"</i>	
<i>215-CT-1501A</i>	<i>PM 10</i>	<i>4.73E-01</i>	<i>2.07E+00</i>		

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device


SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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
(701) 328-5188



**PERMIT APPLICATION FOR
MANUFACTURING OR PROCESSING EQUIPMENT**
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF AIR QUALITY
SFN 8520 (09-12)

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Equipment items operating as a functional unit may be grouped as one application		
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

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Facility Name Davis Refinery		
ND Air Pollution Control Permit No. (If Applicable) N/A		
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409) 796-0792	E-mail Address tjohnson@meridianenergygrou
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	MSL Elevation at Facility 2,685 feet	Ref. Datum

SECTION C – EQUIPMENT INFORMATION

Type of Unit or Process (rotary dryer, cupola furnace, crusher, pelletizer, etc.) Cooling Tower A		
Make Cooling Tower Depot, Inc.	Model CFD-241820-5I-14	Date Installed TBD
Capacity (manufacturer's or designer's guaranteed maximum) 2,500 gpm	Operating Capacity (specific units) 2,500 gpm	
Brief description of operation of unit or process: Water cooling tower, 2,500 gpm capacity, five cells in total, four operating one on standby, equipped with drift eliminators for a drift rate of 0.001%. Emission point 215-CT-1501B.		

SECTION D – NORMAL OPERATING SCHEDULE

Hours Per Day 24	Days Per Week 7	Weeks Per Year 52	Peak Production Season (if any) N/A	Dates of Annual Shutdown N/A
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SECTION E – RAW MATERIALS INTRODUCED INTO UNIT OR PROCESS

Include solid fuels such as coke or coal. <i>Exclude</i> indirect heat exchangers from this section For indirect heat exchangers, complete form SFN 8518					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
<i>Warm water from various processes</i>	<i>5,004,000</i>	<i>5,004,000</i>	<i>5,004,000</i>	<i>5,256,000,000 gal</i>	<i>N/A</i>

SECTION F – PRODUCTS OF UNIT OR PROCESS

Include all, even those not usable because they do not meet specifications					
Material	Hourly Process Weight (Pounds Per Hour)			Average Annual (Specify Units)	Intermittent Operation Only (Average Hours Per Week)
	Average	Maximum	Minimum		
<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

SECTION G – FUELS USED

Coal (Tons/Yr) <i>N/A</i>	% Sulfur	% Ash	Oil (Gal/Yr)	% Sulfur	Grade No.
Natural Gas (Thousand CF/Yr) <i>N/A</i>	LP Gas (Gal/Yr) <i>N/A</i>		Other (Specify) <i>N/A</i>		

SECTION H – EMISSION POINTS

List each point separately, number each and locate on attached flow chart					
Number	Stack Height (ft)	Stack Diameter (ft at top)	Gas Volume (ACFM)	Exit Temp (°F)	Gas Velocity (fps)
<i>215-CT-1501B</i>	<i>26</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

SECTION I – AIR CONTAMINANTS EMITTED

Known or Suspected - Use same identification number as above					
Number	Pollutant	Amount		Basis of Estimate	
		Pounds/Hr	Tons/Yr		
<i>215-CT-1501B</i>	<i>VOC</i>	<i>9.00E-02</i>	<i>3.94E-01</i>	<i>Engineering data from vendor, and emission factors from Table 8-5 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"</i>	
<i>215-CT-1501B</i>	<i>PM 10</i>	<i>4.73E-01</i>	<i>2.07E+00</i>		

SECTION J – VOLATILE ORGANIC COMPOUNDS

Are any volatile organic compounds (VOCs) stored on premises? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List Below See 40 CFR 51.100(s) for classes of compounds covered		
Material Stored	Size Tank (Gallons)	Vapor Control Device


SECTION K – ORGANIC SOLVENTS

Are any organic solvents used or produced? <input checked="" type="checkbox"/> No (None or less than 50 gal/yr) <input type="checkbox"/> Yes – List Below			
Type	Principal Use	Gallons/Yr Consumed	Gallons/Yr Produced

SECTION L – AIR POLLUTION CONTROL EQUIPMENT

Is any air pollution control equipment installed on this unit or process? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If 'Yes' attach form SFN 8532
--

SECTION M – MATERIAL STORAGE

Does the input material or product from this process contain finely divided material which could become airborne? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					
Describe storage methods used:					
Storage Piles	Type of Material	Particle Diameter (Avg. or Screen)	Pile Size Average Tons	Pile Wetted	Pile Covered
Describe any fugitive dust problems:					
Attach additional sheets if needed to explain any answers. Use separate form for each contaminant emitting process					
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