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: 3293199
Date: Friday, February 01, 2019 9:18:09 AM

Filing Accepted

Envelope Number: 3293199
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 6:34 PM CST
Date/Time Accepted	2/1/2019 9:17 AM CST
Accepted Comments	
Filing Type	Exhibit
Filing Description	CR Exhibit 25 Record Addition 8 part 2 air permit application
Activity Requested	EFileAndServe
Filed By	John Hamre
Filing Attorney	Illona Jeffcoat-Sacco

Document Details	
Lead Document	CR Exhibit 25 Record Addition 8 part 2 air permit application.pdf
Lead Document Page Count	150

File Stamped Copy	View Stamped Document
This link is active for 30 days. If the link above is not accessible, copy this URL into your browser's address bar to view the document: https://northdakota.tylerhost.net/ViewDocuments.aspx?FID=8916dbcc-15e3-48a7-9d9a-976111382a30	

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) ***101-H-0101***	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 ☐General ☐Dry Bottom ☐Wet Bottom with Fly Ash Reinjection ☐Wet Bottom without Fly Ash Reinjection ☐Other – Specify:	 ☐Spreader Stoker with Fly Ash Reinjection ☐Spreader Stoker without Fly Ash Reinjection ☐Fluidized Bed ☐Cyclone ☐Hand-Fired
Fuel Oil ☐Horizontally Fired ☐Tangentially Fired ☐Other – Specify:	Gas ☐Horizontally Fired ☐Tangentially Fired ☐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 ***22,869,732***	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 ***27,578.81***	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) ***6.3***	Height Above Grade (ft) ***127.6***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***20.1***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***37,427.14***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***2,88E-01***	***1,26E+00***
PM_{10} Filterable	***7,20E-02***	***3,15E-01***
$PM_{2.5}$ Total	***2,88E-01***	***1,26E+00***
$PM_{2.5}$ Filterable	***7,20E-02***	***3,15E-01***
$PM_{2.5}$ Condensable	***2,16E-01***	***9,46E-01***
Sulfur Dioxide	***4,24E-02***	***1,86E-01***
Nitrogen Oxides	***4,54E-01***	***1,99E+00***
Carbon Monoxide	***2,02E+00***	***8,83E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***3,53E-05***	***1,55E-04***
Metal HAP (Total)	***5,26E-04***	***2,31E-03***
Organic HAPs (Total)	***3,52E-02***	***1,54E-01***
VOC	***3,88E-01***	***1,70E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	9/26/2016

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) ***102-H-0201***	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 ***22,869,732***	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 ***27,578.81***	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) ***6.3***	Height Above Grade (ft) ***127.6***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***20.1***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***37,427.14***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

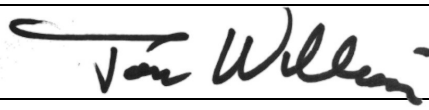
SECTION H – NEARBY BUILDINGS

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	***2,88E-01***	***1,26E+00***
PM_{10} Filterable	***7,20E-02***	***3,15E-01***
$PM_{2.5}$ Total	***2,88E-01***	***1,26E+00***
$PM_{2.5}$ Filterable	***7,20E-02***	***3,15E-01***
$PM_{2.5}$ Condensable	***2,16E-01***	***9,46E-01***
Sulfur Dioxide	***4,24E-02***	***1,86E-01***
Nitrogen Oxides	***4,54E-01***	***1,99E+00***
Carbon Monoxide	***2,02E+00***	***8,83E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***3,53E-05***	***1,55E-04***
Metal HAP (Total)	***5,26E-04***	***2,31E-03***
Organic HAPs (Total)	***3,52E-02***	***1,54E-01***
VOC	***3,88E-01***	***1,70E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	9/26/2016

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) ***103-H-0301***	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 ***24,295,860***	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 ***27,571.66***	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) ***6.5***	Height Above Grade (ft) ***125***
Gas Temperature at Exit (Avg. °F) ***600.4***	Gas Velocity at Exit (Avg. ft/sec) ***16.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***33,610.60***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***3,06E-01***	***1,34E+00***
PM_{10} Filterable	***7,65E-02***	***3,35E-01***
$PM_{2.5}$ Total	***3,06E-01***	***1,34E+00***
$PM_{2.5}$ Filterable	***7,65E-02***	***3,35E-01***
$PM_{2.5}$ Condensable	***2,29E-01***	***1,00E+00***
Sulfur Dioxide	***4,50E-02***	***1,97E-01***
Nitrogen Oxides	***4,82E-01***	***2,11E+00***
Carbon Monoxide	***2,14E+00***	***9,38E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***3,75E-05***	***1,64E-04***
Metal HAP (Total)	***5,59E-04***	***2,45E-03***
Organic HAPs (Total)	***3,74E-02***	***1,64E-01***
VOC	***4,12E-01***	***1,81E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***103-H-0302***	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 ***18,313,656***	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 ***27,575.82***	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) ***5.1***	Height Above Grade (ft) ***120***
Gas Temperature at Exit (Avg. °F) ***600.1***	Gas Velocity at Exit (Avg. ft/sec) ***20.8***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***25,334.29***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

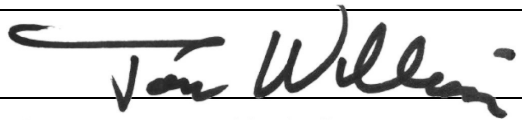
SECTION H – NEARBY BUILDINGS

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	***2,31E-01***	***1,01E+00***
PM_{10} Filterable	***5,77E-02***	***2,53E-01***
$PM_{2.5}$ Total	***2,31E-01***	***1,01E+00***
$PM_{2.5}$ Filterable	***5,77E-02***	***2,53E-01***
$PM_{2.5}$ Condensable	***1,73E-01***	***7,58E-01***
Sulfur Dioxide	***3,39E-02***	***1,49E-01***
Nitrogen Oxides	***3,63E-01***	***1,59E+00***
Carbon Monoxide	***1,61E+00***	***7,07E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***2,82E-05***	***1,24E-04***
Metal HAP (Total)	***4,22E-04***	***1,85E-03***
Organic HAPs (Total)	***2,82E-02***	***1,23E-01***
VOC	***3,11E-01***	***1,36E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***105-H-0501***	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 ***4,366,860***	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***	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) ***3***	Height Above Grade (ft) ***91***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***16.2***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***6,866.55***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

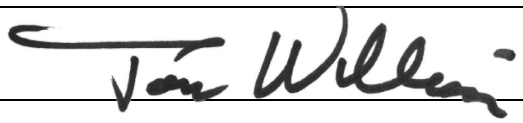
SECTION H – NEARBY BUILDINGS

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	***5,50E-02***	***2,41E-01***
PM_{10} Filterable	***1,38E-02***	***6,02E-02***
$PM_{2.5}$ Total	***5,50E-02***	***2,41E-01***
$PM_{2.5}$ Filterable	***1,38E-02***	***6,02E-02***
$PM_{2.5}$ Condensable	***4,13E-02***	***1,81E-01***
Sulfur Dioxide	***8,09E-03***	***3,54E-02***
Nitrogen Oxides	***4,13E-01***	***1,81E+00***
Carbon Monoxide	***3,85E-01***	***1,69E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***6,74E-06***	***2,95E-05***
Metal HAP (Total)	***1,01E-04***	***4,40E-04***
Organic HAPs (Total)	***6,72E-03***	***2,94E-02***
VOC	***7,41E-02***	***3,25E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***105-H-0502***	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 ***5,161,392***	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 ***27,579.77***	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) ***3***	Height Above Grade (ft) ***91***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***19.1***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***8,115.32***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***6,50E-02***	***2,85E-01***
PM_{10} Filterable	***1,63E-02***	***7,12E-02***
$PM_{2.5}$ Total	***6,50E-02***	***2,85E-01***
$PM_{2.5}$ Filterable	***1,63E-02***	***7,12E-02***
$PM_{2.5}$ Condensable	***4,88E-02***	***2,14E-01***
Sulfur Dioxide	***9,56E-03***	***4,19E-02***
Nitrogen Oxides	***4,88E-01***	***2,14E+00***
Carbon Monoxide	***4,55E-01***	***1,99E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***7,96E-06***	***3,49E-05***
Metal HAP (Total)	***1,19E-04***	***5,20E-04***
Organic HAPs (Total)	***7,94E-03***	***3,48E-02***
VOC	***8,76E-02***	***3,84E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***106-H-0601***	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 ***13,253,880***	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 ***27,580.96***	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) ***4***	Height Above Grade (ft) ***42***
Gas Temperature at Exit (Avg. °F) ***786.2***	Gas Velocity at Exit (Avg. ft/sec) ***27.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***20,769.92***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***1,67E-01***	***7,31E-01***
PM_{10} Filterable	***4,17E-02***	***1,83E-01***
$PM_{2.5}$ Total	***1,67E-01***	***7,31E-01***
$PM_{2.5}$ Filterable	***4,17E-02***	***1,83E-01***
$PM_{2.5}$ Condensable	***1,25E-01***	***5,48E-01***
Sulfur Dioxide	***2,45E-02***	***1,08E-01***
Nitrogen Oxides	***2,63E-01***	***1,15E+00***
Carbon Monoxide	***1,17E+00***	***5,12E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***2,04E-05***	***8,96E-05***
Metal HAP (Total)	***3,05E-04***	***1,34E-03***
Organic HAPs (Total)	***2,04E-02***	***8,94E-02***
VOC	***2,25E-01***	***9,86E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***107-H-0701***	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 ***29,381,040***	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 ***27,579.01***	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) ***6***	Height Above Grade (ft) ***120***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***27.2***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***46,194.82***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

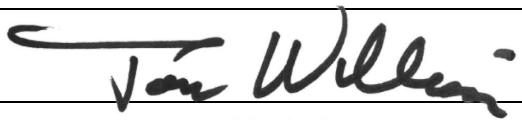
SECTION H – NEARBY BUILDINGS

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	***3,70E-01***	***1,62E+00***
PM_{10} Filterable	***9,25E-02***	***4,05E-01***
$PM_{2.5}$ Total	***3,70E-01***	***1,62E+00***
$PM_{2.5}$ Filterable	***9,25E-02***	***4,05E-01***
$PM_{2.5}$ Condensable	***2,78E-01***	***1,22E+00***
Sulfur Dioxide	***5,44E-02***	***2,38E-01***
Nitrogen Oxides	***5,83E-01***	***2,55E+00***
Carbon Monoxide	***2,59E+00***	***1,13E+01***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***4,53E-05***	***1,99E-04***
Metal HAP (Total)	***6,76E-04***	***2,96E-03***
Organic HAPs (Total)	***4,52E-02***	***1,98E-01***
VOC	***4,99E-01***	***2,18E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***110-H-1001***	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 ***6,902,880***	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 ***20,621.83***	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) ***2.5***	Height Above Grade (ft) ***96***
Gas Temperature at Exit (Avg. °F) ***764.3***	Gas Velocity at Exit (Avg. ft/sec) ***28.4***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***8,091.77***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***6,50E-02***	***2,85E-01***
PM_{10} Filterable	***1,63E-02***	***7,12E-02***
$PM_{2.5}$ Total	***6,50E-02***	***2,85E-01***
$PM_{2.5}$ Filterable	***1,63E-02***	***7,12E-02***
$PM_{2.5}$ Condensable	***4,88E-02***	***2,14E-01***
Sulfur Dioxide	***9,56E-03***	***4,19E-02***
Nitrogen Oxides	***4,88E-01***	***2,14E+00***
Carbon Monoxide	***4,55E-01***	***1,99E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***7,96E-06***	***3,49E-05***
Metal HAP (Total)	***1,19E-04***	***5,20E-04***
Organic HAPs (Total)	***7,94E-03***	***3,48E-02***
VOC	***8,76E-02***	***3,84E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***111-H-1101***	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 ***4,415,040***	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 ***27,579.37***	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) ***3.5***	Height Above Grade (ft) ***170***
Gas Temperature at Exit (Avg. °F) ***793.1***	Gas Velocity at Exit (Avg. ft/sec) ***12.1***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***6,964.97***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***5,56E-02***	***2,44E-01***
PM_{10} Filterable	***1,39E-02***	***6,09E-02***
$PM_{2.5}$ Total	***5,56E-02***	***2,44E-01***
$PM_{2.5}$ Filterable	***1,39E-02***	***6,09E-02***
$PM_{2.5}$ Condensable	***4,17E-02***	***1,83E-01***
Sulfur Dioxide	***8,18E-03***	***3,58E-02***
Nitrogen Oxides	***4,17E-01***	***1,83E+00***
Carbon Monoxide	***3,89E-01***	***1,70E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***6,81E-06***	***2,98E-05***
Metal HAP (Total)	***1,02E-04***	***4,45E-04***
Organic HAPs (Total)	***6,80E-03***	***2,98E-02***
VOC	***7,50E-02***	***3,28E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***112-H-1201***	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 ***9,005,280***	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 ***27,577.82***	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) ***5.5***	Height Above Grade (ft) ***72***
Gas Temperature at Exit (Avg. °F) ***785***	Gas Velocity at Exit (Avg. ft/sec) ***9.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***14,110.55***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***1,13E-01***	***4,97E-01***
PM_{10} Filterable	***2,84E-02***	***1,24E-01***
$PM_{2.5}$ Total	***1,13E-01***	***4,97E-01***
$PM_{2.5}$ Filterable	***2,84E-02***	***1,24E-01***
$PM_{2.5}$ Condensable	***8,51E-02***	***3,73E-01***
Sulfur Dioxide	***1,67E-02***	***7,30E-02***
Nitrogen Oxides	***8,51E-01***	***3,73E+00***
Carbon Monoxide	***7,94E-01***	***3,48E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***1,39E-05***	***6,08E-05***
Metal HAP (Total)	***2,07E-04***	***9,08E-04***
Organic HAPs (Total)	***1,39E-02***	***6,07E-02***
VOC	***1,53E-01***	***6,70E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***114-H-1401***	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 ***5,545,080***	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 ***27,614.53***	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) ***3***	Height Above Grade (ft) ***91***
Gas Temperature at Exit (Avg. °F) ***784.3***	Gas Velocity at Exit (Avg. ft/sec) ***20.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***8,699.78***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***6,99E-02***	***3,06E-01***
PM_{10} Filterable	***1,75E-02***	***7,66E-02***
$PM_{2.5}$ Total	***6,99E-02***	***3,06E-01***
$PM_{2.5}$ Filterable	***1,75E-02***	***7,66E-02***
$PM_{2.5}$ Condensable	***5,24E-02***	***2,30E-01***
Sulfur Dioxide	***1,03E-02***	***4,50E-02***
Nitrogen Oxides	***5,24E-01***	***2,30E+00***
Carbon Monoxide	***4,89E-01***	***2,14E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***8,57E-06***	***3,75E-05***
Metal HAP (Total)	***1,28E-04***	***5,60E-04***
Organic HAPs (Total)	***8,55E-03***	***3,74E-02***
VOC	***9,43E-02***	***4,13E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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***

Country ***USA***	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) ***117-H-1701***	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 ***523,848***	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 ***27,591.97***	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) ***2.7***	Height Above Grade (ft) ***36***
Gas Temperature at Exit (Avg. °F) ***823.8***	Gas Velocity at Exit (Avg. ft/sec) ***2.5***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***852.56***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***6,60E-03***	***2,89E-02***
PM_{10} Filterable	***1,65E-03***	***7,23E-03***
$PM_{2.5}$ Total	***6,60E-03***	***2,89E-02***
$PM_{2.5}$ Filterable	***1,65E-03***	***7,23E-03***
$PM_{2.5}$ Condensable	***4,95E-03***	***2,17E-02***
Sulfur Dioxide	***9,71E-04***	***4,25E-03***
Nitrogen Oxides	***4,95E-02***	***2,17E-01***
Carbon Monoxide	***4,62E-02***	***2,02E-01***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***8,09E-07***	***3,54E-06***
Metal HAP (Total)	***1,21E-05***	***5,28E-05***
Organic HAPs (Total)	***8,07E-04***	***3,53E-03***
VOC	***8,90E-03***	***3,90E-02***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***117-H-1702***	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 ***1,191,360***	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 ***27,573.53***	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) ***4.6***	Height Above Grade (ft) ***46***
Gas Temperature at Exit (Avg. °F) ***787.7***	Gas Velocity at Exit (Avg. ft/sec) ***1.9***
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) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

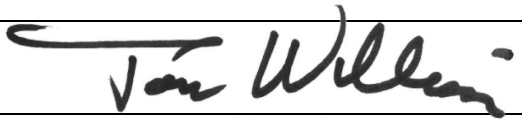
SECTION H – NEARBY BUILDINGS

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	***1,50E-02***	***6,57E-02***
PM_{10} Filterable	***3,75E-03***	***1,64E-02***
$PM_{2.5}$ Total	***1,50E-02***	***6,57E-02***
$PM_{2.5}$ Filterable	***3,75E-03***	***1,64E-02***
$PM_{2.5}$ Condensable	***1,13E-02***	***4,93E-02***
Sulfur Dioxide	***2,21E-03***	***9,66E-03***
Nitrogen Oxides	***1,13E-01***	***4,93E-01***
Carbon Monoxide	***1,05E-01***	***4,60E-01***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***1,84E-06***	***8,05E-06***
Metal HAP (Total)	***2,74E-05***	***1,20E-04***
Organic HAPs (Total)	***1,83E-03***	***8,03E-03***
VOC	***2,02E-02***	***8,86E-02***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***118-H-1801***	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 ***10,322,784***	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 ***71,444.33***	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) ***4***	Height Above Grade (ft) ***95***
Gas Temperature at Exit (Avg. °F) ***785.5***	Gas Velocity at Exit (Avg. ft/sec) ***22.4***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***16,894.20***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***3,37E-01***	***1,48E+00***
PM_{10} Filterable	***8,42E-02***	***3,69E-01***
$PM_{2.5}$ Total	***3,37E-01***	***1,48E+00***
$PM_{2.5}$ Filterable	***8,42E-02***	***3,69E-01***
$PM_{2.5}$ Condensable	***2,53E-01***	***1,11E+00***
Sulfur Dioxide	***4,95E-02***	***2,17E-01***
Nitrogen Oxides	***5,30E-01***	***2,32E+00***
Carbon Monoxide	***2,36E+00***	***1,03E+01***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***4,13E-05***	***1,81E-04***
Metal HAP (Total)	***6,16E-04***	***2,70E-03***
Organic HAPs (Total)	***4,12E-02***	***1,80E-01***
VOC	***4,54E-01***	***1,99E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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) ***125-H-2501***	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 ***5,317,320***	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 ***20,593.08***	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) ***2.5***	Height Above Grade (ft) ***96***
Gas Temperature at Exit (Avg. °F) ***764.3***	Gas Velocity at Exit (Avg. ft/sec) ***21.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***6,224.68***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***5,00E-02***	***2,19E-01***
PM_{10} Filterable	***1,25E-02***	***5,48E-02***
$PM_{2.5}$ Total	***5,00E-02***	***2,19E-01***
$PM_{2.5}$ Filterable	***1,25E-02***	***5,48E-02***
$PM_{2.5}$ Condensable	***3,75E-02***	***1,64E-01***
Sulfur Dioxide	***7,35E-03***	***3,22E-02***
Nitrogen Oxides	***3,75E-01***	***1,64E+00***
Carbon Monoxide	***3,50E-01***	***1,53E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***6,13E-06***	***2,68E-05***
Metal HAP (Total)	***9,14E-05***	***4,00E-04***
Organic HAPs (Total)	***6,11E-03***	***2,68E-02***
VOC	***6,74E-02***	***2,95E-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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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-PK-0201A***	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 ***20,144,496***	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 ***26,091.49***	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)	Height Above Grade (ft)
3	***100***
Gas Temperature at Exit (Avg. °F) ***294.2***	Gas Velocity at Exit (Avg. ft/sec) ***93.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***19,914.80***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***2,40E-01***	***1,05E+00***
PM_{10} Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Total	***2,40E-01***	***1,05E+00***
$PM_{2.5}$ Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Condensable	***1,80E-01***	***7,88E-01***
Sulfur Dioxide	***3,53E-02***	***1,55E-01***
Nitrogen Oxides	***1,80E+00***	***7,88E+00***
Carbon Monoxide	***1,68E+00***	***7,36E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***2,94E-05***	***1,29E-04***
Metal HAP (Total)	***4,39E-04***	***1,92E-03***
Organic HAPs (Total)	***2,93E-02***	***1,28E-01***
VOC	***3,24E-01***	***1,42E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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-PK-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 ***20,144,496***	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 ***26,091.49***	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)	Height Above Grade (ft)
3	***100***
Gas Temperature at Exit (Avg. °F) ***294.2***	Gas Velocity at Exit (Avg. ft/sec) ***93.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***19,914.80***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	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	***2,40E-01***	***1,05E+00***
PM_{10} Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Total	***2,40E-01***	***1,05E+00***
$PM_{2.5}$ Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Condensable	***1,80E-01***	***7,88E-01***
Sulfur Dioxide	***3,53E-02***	***1,55E-01***
Nitrogen Oxides	***1,80E+00***	***7,88E+00***
Carbon Monoxide	***1,68E+00***	***7,36E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***2,94E-05***	***1,29E-04***
Metal HAP (Total)	***4,39E-04***	***1,92E-03***
Organic HAPs (Total)	***2,93E-02***	***1,28E-01***
VOC	***3,24E-01***	***1,42E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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-PK-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 ***20,144,496***	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 ***26,091.49***	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)	Height Above Grade (ft)
3	***100***
Gas Temperature at Exit (Avg. °F) ***294.2***	Gas Velocity at Exit (Avg. ft/sec) ***93.9***
Are Emission Control Devices in Place? If YES – Complete SFN 8532 ☒ Yes ☐No	
Stack Exit Gas Flow Rate	
Average (ACFM) ***19,914.80***	Average (DSCFM) ***TBD***
Maximum (ACFM) ***TBD***	Maximum (DSCFM) ***TBD***
Are sampling ports available? ☐No ☒ Yes – Describe:	

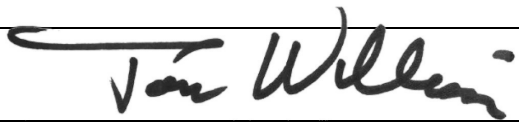
SECTION H – NEARBY BUILDINGS

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	***2,40E-01***	***1,05E+00***
PM_{10} Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Total	***2,40E-01***	***1,05E+00***
$PM_{2.5}$ Filterable	***6,00E-02***	***2,63E-01***
$PM_{2.5}$ Condensable	***1,80E-01***	***7,88E-01***
Sulfur Dioxide	***3,53E-02***	***1,55E-01***
Nitrogen Oxides	***1,80E+00***	***7,88E+00***
Carbon Monoxide	***1,68E+00***	***7,36E+00***
Greenhouse Gases (CO2e)	***N/A***	
Other – Specify		
Lead	***2,94E-05***	***1,29E-04***
Metal HAP (Total)	***4,39E-04***	***1,92E-03***
Organic HAPs (Total)	***2,93E-02***	***1,28E-01***
VOC	***3,24E-01***	***1,42E+00***

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 "BACT Analysis"

Signature of Applicant	Date
	09/26/2016

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 / Atmospheric Distillation Unit 1 / Crude Oil Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***6.3***	Height Above Grade (ft) ***127.6***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***20.1***	Gas Volume (scfm) ***37,427.14***
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) ***330.1 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***589 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***101-H-0101***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***37,427.14***	Drift Velocity (ft/sec) ***20.1***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***$1.79x10^{-1}$***
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) ***$2.16x10^{-4}$***	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) ***$1.99x10^{-3}$***	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***$3.78x10^{-5}$***	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) ***$1.96x10^{-4}$***	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***$2.16x10^{-5}$***	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) ***$5.97x10^{-5}$***	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) ***2.88x10^{-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) ***1.10x10^{-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) ***1.33x10^{-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) ***1.80x10^{-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) ***3.24x10^{-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) ***1.53x10^{-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) ***1.08x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.42x10^{-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) ***5.94x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.62x10^{-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) ***4.50x10^{-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) ***1.72x10^{-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) ***7.67x10^{-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) ***3.19x10^{-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) ***3.74x10^{-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) ***1.25x10^{-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) ***1.44x10^{-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) ***7.80x10^{-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) ***9.36x10^{-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) ***4.22x10^{-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) ***7.92x10^{-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) ***2.86x10^{-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) ***2.02x10^{-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) ***1.57x10^{-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) ***1.01x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***7.87x10^{-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) ***5.90x10^{-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) ***4.07x10^{-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) ***2.66x10^{-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) ***1.97x10^{-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) ***1.80x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.64x10^{-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) ***1.51x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***1.05x10^{-3}***	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) ***6.34x10^{-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) ***3.26x10^{-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 9/26/2016

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 / Atmospheric Distillation Unit 2 / Crude Oil Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***6.3***	Height Above Grade (ft) ***127.6***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***20.1***	Gas Volume (scfm) ***37,427.14***
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) ***402 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***500 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***102-H-0201***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***37,427.14***	Drift Velocity (ft/sec) ***20.1***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.79x10^{-1}***$
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) $***2.16x10^{-4}***$	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) $***1.99x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***3.78x10^{-5}***$	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) $***1.96x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***2.16x10^{-5}***$	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) $***5.97x10^{-5}***$	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) ***2.88x10^{-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) ***1.10x10^{-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) ***1.33x10^{-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) ***1.8x10^{-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) ***3.24x10^{-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) ***1.53x10^{-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) ***1.08x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.42x10^{-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) ***5.94x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***2.62x10^{-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) ***4.50x10^{-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) ***1.72x10^{-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) ***7.67x10^{-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) ***3.19x10^{-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) ***3.74x10^{-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) ***1.25x10^{-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) ***1.44x10^{-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) ***7.80x10^{-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) ***9.36x10^{-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) ***4.22x10^{-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) ***7.92x10^{-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) ***2.86x10^{-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) ***2.02x10^{-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) ***1.57x10^{-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) ***1.01x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***7.87x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

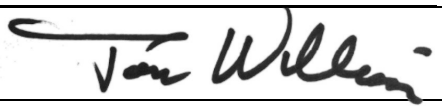
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***5.90x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.07x10^{-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) ***2.66x10^{-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) ***1.97x10^{-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) ***1.80x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***3.64x10^{-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) ***1.51x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***1.05x10^{-3}***	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) ***6.34x10^{-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) ***3.26x10^{-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 9/26/2016

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 / Vacuum Distillation Unit / Vacuum Heater 1

SECTION B – STACK DATA

Inside Diameter (ft) ***6.5***	Height Above Grade (ft) ***125***	
Gas Temperature at Exit (°F) ***600.4***	Gas Velocity at Exit (ft/sec) ***16.9***	Gas Volume (scfm) ***33,610.60***
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) ***815ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***905 ft***	Direction ***East***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***103-H-0301***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***33,610.60***	Drift Velocity (ft/sec) ***16.9***
Stream Temperature (°F) ***600.4***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.79x10^{-1}***$
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) $***2.29x10^{-4}***$	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) $***2.0x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***4.01x10^{-5}***$	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) $***1.97x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***2.29x10^{-5}***$	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) $***6.00x10^{-5}***$	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) ***3.06x10^{-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) ***1.11x10^{-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) ***1.41x10^{-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) ***1.81x10^{-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) ***3.44x10^{-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) ***1.53x10^{-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) ***1.15x10^{-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) ***3.44x10^{-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) ***6.31x10^{-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) ***2.63x10^{-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) ***4.78x10^{-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) ***1.73x10^{-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) ***8.14x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.21x10^{-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) ***3.98x10^{-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) ***1.25x10^{-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) ***1.53x10^{-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) ***7.84x10^{-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) ***9.94x10^{-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) ***4.24x10^{-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) ***8.41x10^{-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) ***2.87x10^{-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) ***2.14x10^{-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) ***1.58x10^{-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) ***1.07x10^{-4}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***7.91x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

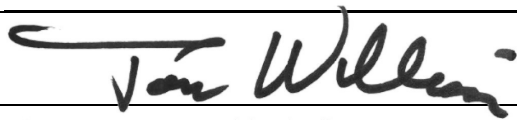
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***6.27x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.09x10^{-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) ***2.83x10^{-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) ***1.98x10^{-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) ***1.91x10^{-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) ***3.66x10^{-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) ***$1.61x10^{-4}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$1.05x10^{-3}$***	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) ***$6.73x10^{-5}$***	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) ***$3.27x10^{-4}$***	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 09/26/2016

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 / Vacuum Distillation Unit / Vacuum Heater 2

SECTION B – STACK DATA

Inside Diameter (ft) ***5.1***	Height Above Grade (ft) ***120***	
Gas Temperature at Exit (°F) ***600.1***	Gas Velocity at Exit (ft/sec) ***20.8***	Gas Volume (scfm) ***25,334.29***
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) ***402 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***509 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***103-H-0302***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***25,334.29***	Drift Velocity (ft/sec) ***20.8***
Stream Temperature (°F) ***600.1***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.79x10^{-1}***$
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) $***1.73x10^{-4}***$	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) $***2.00x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***3.03x10^{-5}***$	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) $***1.97x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***1.73x10^{-5}***$	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) $***5.99x10^{-5}***$	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) ***$2.31x10^{-4}$***	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) ***$1.11x10^{-3}$***	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) ***$1.07x10^{-3}$***	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) ***$1.81x10^{-2}$***	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) ***$2.59x10^{-2}$***	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) ***$1.53x10^{-1}$***	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) ***$8.65x10^{-6}$***	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) ***$3.44x10^{-5}$***	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) ***4.76 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) ***2.63x10^{-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) ***3.60x10^{-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) ***1.73x10^{-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) ***6.14x10^{-5}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***3.21x10^{-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) ***3.00x10^{-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) ***1.25x10^{-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) ***1.15x10^{-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) ***7.84x10^{-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) ***7.49x10^{-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) ***4.24x10^{-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) ***6.34x10^{-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) ***2.87x10^{-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) ***1.61x10^{-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) ***1.58x10^{-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) ***8.07x10^{-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) ***7.91x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

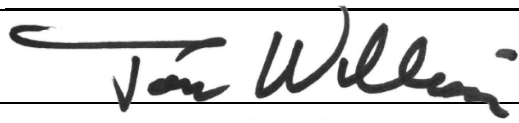
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***4.73x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.09x10^{-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) ***2.13x10^{-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) ***1.98x10^{-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) ***1.44x10^{-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) ***3.66x10^{-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) ***1.21x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***1.05x10^{-3}***	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) ***5.07x10^{-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) ***3.27x10^{-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 09/26/2016

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 / Heavy Naphtha Hydrotreater / Feed Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***3.0***	Height Above Grade (ft) ***91.0***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***16.2***	Gas Volume (scfm) ***6,866.55***
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) ***580 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***904 ft***	Direction ***Southwest***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***105-H-0501***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***6,866.55***	Drift Velocity (ft/sec) ***16.2***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.24x10^{-2}***$
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) $***4.13x10^{-5}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***7.22x10^{-6}***$	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) $***2.04x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***4.13x10^{-6}***$	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) $***6.21x10^{-5}***$	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) ***5.50x10^{-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) ***1.15x10^{-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) ***2.54x10^{-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) ***1.87x10^{-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) ***6.19x10^{-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) ***1.59x10^{-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) ***2.06x10^{-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) ***3.56x10^{-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) ***$1.13x10^{-5}$***	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) ***$2.72x10^{-4}$***	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) ***$8.59x10^{-5}$***	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) ***$1.79x10^{-3}$***	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) ***$1.46x10^{-5}$***	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) ***$3.32x10^{-4}$***	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) ***$7.15x10^{-6}$***	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) ***$1.30x10^{-4}$***	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) ***$2.75x10^{-6}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***$8.12x10^{-5}$***	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) ***$1.79x10^{-6}$***	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) ***$4.39x10^{-4}$***	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) ***$1.51x10^{-5}$***	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) ***$2.98x10^{-4}$***	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) ***$3.85x10^{-6}$***	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) ***$1.64x10^{-4}$***	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) ***1.93x10^{-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) ***8.19x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

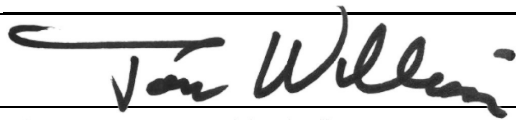
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***1.13x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.23x10^{-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) ***5.09x10^{-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) ***2.05x10^{-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) ***3.44x10^{-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) ***3.79x10^{-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) ***2.89x10^{-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) ***1.09x10^{-3}***	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) ***1.21x10^{-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) ***3.39x10^{-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
	09/26/2016

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 / Heavy Naphtha Hydrotreater / Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***3.0***	Height Above Grade (ft) ***91.0***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***19.1***	Gas Volume (scfm) ***8,115.32***
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) ***580 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***843 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***105-H-0502***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***8,115.32***	Drift Velocity (ft/sec) ***19.1***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***3.71x10^{-1}***$
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) $***4.88x10^{-5}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***8.53x10^{-6}***$	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) $***2.04x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***4.88x10^{-6}***$	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) $***6.21x10^{-5}***$	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) ***6.50x10^{-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) ***1.15x10^{-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) ***3.01x10^{-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) ***1.87x10^{-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) ***7.31x10^{-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) ***1.59x10^{-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) ***2.44x10^{-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) ***3.56x10^{-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) ***$1.34x10^{-5}$***	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) ***$2.72x10^{-4}$***	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) ***$1.02x10^{-4}$***	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) ***$1.79x10^{-3}$***	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) ***$1.73x10^{-5}$***	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) ***$3.32x10^{-4}$***	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) ***$8.45x10^{-6}$***	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) ***$1.30x10^{-4}$***	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) ***3.25x10^{-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) ***8.12x10^{-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) ***2.11x10^{-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) ***4.39x10^{-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) ***1.79x10^{-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) ***2.98x10^{-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) ***4.55x10^{-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) ***1.64x10^{-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) ***2.28x10^{-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) ***8.19x10^{-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) ***1.33x10^{-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) ***4.23x10^{-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) ***6.01x10^{-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) ***2.05x10^{-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) ***4.06x10^{-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) ***3.79x10^{-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) ***3.41x10^{-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) ***1.09x10^{-3}***	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) ***1.43x10^{-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) ***3.39x10^{-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 09/26/2016

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 / Catalytic Reformer Unit #2 heater

SECTION B – STACK DATA

Inside Diameter (ft) ***4.0***	Height Above Grade (ft) ***42.0***	
Gas Temperature at Exit (°F) ***786.2***	Gas Velocity at Exit (ft/sec) ***27.5***	Gas Volume (scfm) ***20,769.92***
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) ***228 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***657 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***106-H-0601***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***20,769.92***	Drift Velocity (ft/sec) ***27.5***
Stream Temperature (°F) ***786.2***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.86x10^{-1}***$
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) $***1.25x10^{-4}***$	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) $***2.08x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***2.19x10^{-5}***$	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) $***2.05x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***1.25x10^{-5}***$	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) $***6.22x10^{-5}***$	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) ***1.67x10^{-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) ***1.15x10^{-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) ***7.72x10^{-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) ***1.88x10^{-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) ***1.88x10^{-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) ***1.59x10^{-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) ***6.26x10^{-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) ***3.57x10^{-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) ***3.44 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) ***2.73x10^{-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) ***2.61x10^{-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) ***1.80x10^{-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) ***4.44x10^{-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) ***3.33x10^{-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) ***2.17x10^{-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) ***1.30x10^{-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) ***$8.35x10^{-6}$***	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) ***$8.14x10^{-5}$***	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) ***$5.42x10^{-6}$***	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) ***$4.40x10^{-4}$***	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) ***$4.59x10^{-5}$***	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) ***$2.98x10^{-4}$***	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) ***$1.17x10^{-5}$***	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) ***$1.64x10^{-4}$***	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) ***5.84x10^{-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) ***8.21x10^{-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) ***3.42x10^{-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) ***4.24x10^{-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) ***1.54x10^{-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) ***2.05x10^{-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) ***1.04x10^{-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) ***3.80x10^{-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) ***$8.76x10^{-5}$***	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) ***$1.09x10^{-3}$***	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) ***$3.67x10^{-5}$***	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) ***$3.40x10^{-4}$***	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 09/26/2016

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 / Catalytic Reformer Unit #1 heater

SECTION B – STACK DATA

Inside Diameter (ft) ***6.0***	Height Above Grade (ft) ***120.0***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***27.2***	Gas Volume (scfm) ***46,194.82***
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) ***268.4 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***810 ft***	Direction ***Southeast***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***107-H-0701***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***46,194.82***	Drift Velocity (ft/sec) ***27.2***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.86x10^{-1}***$
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) $***2.78x10^{-4}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***4.86x10^{-5}***$	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) $***2.04x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***2.78x10^{-5}***$	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) $***6.21x10^{-5}***$	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) ***3.70x10^{-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) ***1.15x10^{-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) ***1.71x10^{-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) ***1.87x10^{-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) ***4.16x10^{-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) ***1.59x10^{-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) ***1.39x10^{-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) ***3.56x10^{-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) ***7.63x10^{-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) ***2.72x10^{-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) ***5.78x10^{-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) ***1.79x10^{-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) ***9.85x10^{-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) ***3.32x10^{-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) ***4.81x10^{-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) ***1.30x10^{-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) ***1.85x10^{-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) ***8.12x10^{-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) ***1.20x10^{-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) ***4.39x10^{-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) ***1.02x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***2.98x10^{-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) ***2.59x10^{-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) ***1.64x10^{-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) ***1.30x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***8.19x10^{-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) ***7.59x10^{-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) ***4.23x10^{-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) ***3.42x10^{-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) ***2.05x10^{-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) ***2.31x10^{-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) ***3.79x10^{-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) ***1.94x10^{-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/Particulate***
Concentration in Emission Stream (ppmv) ***1.09x10^{-3}***	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) ***8.14x10^{-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) ***3.39x10^{-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 09/26/2016

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 Hydrotreater / Reactor Charge Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***2.5***	Height Above Grade (ft) ***96***	
Gas Temperature at Exit (°F) ***764.3***	Gas Velocity at Exit (ft/sec) ***28.4***	Gas Volume (scfm) ***8,091.77***
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) ***768 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***1048 ft***	Direction ***East***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***110-H-1001***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***8,091.77***	Drift Velocity (ft/sec) ***28.4***
Stream Temperature (°F) ***764.3***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.83x10^{-1}***$
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) $***4.88x10^{-5}***$	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) $***2.04x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***8.53x10^{-6}***$	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) $***2.01x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***4.88x10^{-6}***$	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) $***6.11x10^{-5}***$	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) ***6.50x10^{-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) ***1.13x10^{-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) ***3.01x10^{-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) ***1.84x10^{-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) ***7.31x10^{-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) ***1.56x10^{-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) ***2.44x10^{-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) ***3.50x10^{-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) ***$1.34x10^{-5}$***	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) ***$2.68x10^{-4}$***	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) ***$1.02x10^{-4}$***	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) ***$1.76x10^{-3}$***	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) ***$1.73x10^{-5}$***	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) ***$3.27x10^{-4}$***	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) ***$8.45x10^{-6}$***	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) ***$1.28x10^{-4}$***	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) ***3.25x10^{-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) ***7.99x10^{-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) ***2.11x10^{-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) ***4.32x10^{-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) ***1.79x10^{-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) ***2.93x10^{-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) ***4.55x10^{-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) ***1.61x10^{-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) ***2.28x10^{-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) ***8.06x10^{-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) ***1.33x10^{-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) ***4.17x10^{-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) ***6.01x10^{-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) ***2.02x10^{-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) ***4.06x10^{-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) ***3.73x10^{-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) ***3.41x10^{-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) ***1.07x10^{-3}***	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) ***1.43x10^{-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) ***3.34x10^{-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
	09/26/2016

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 / Light Naphtha Hydrotreater / Charge Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***3.5***	Height Above Grade (ft) ***170***	
Gas Temperature at Exit (°F) ***793.1***	Gas Velocity at Exit (ft/sec) ***12.1***	Gas Volume (scfm) ***6,964.97***
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) ***591 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***765 ft***	Direction ***Southwest***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***111-H-1101***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***6,964.97***	Drift Velocity (ft/sec) ***12.1***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) ***$1.86x10^{-1}$***
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) ***$4.17x10^{-5}$***	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) ***$2.07x10^{-3}$***	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) ***$7.30x10^{-6}$***	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) ***$2.05x10^{-4}$***	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) ***$4.17x10^{-6}$***	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) ***$6.21x10^{-5}$***	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) ***5.56x10^{-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) ***1.15x10^{-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) ***2.57x10^{-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) ***1.88x10^{-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) ***6.26x10^{-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) ***1.59x10^{-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) ***2.09x10^{-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) ***3.56x10^{-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) ***1.15 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) ***2.73x10^{-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) ***8.69x10^{-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) ***1.79x10^{-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) ***1.48x10^{-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) ***3.32x10^{-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) ***7.23x10^{-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) ***1.30x10^{-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) ***2.78x10^{-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) ***8.13x10^{-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) ***1.81x10^{-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) ***4.39x10^{-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) ***1.53x10^{-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) ***2.98x10^{-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) ***3.89x10^{-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) ***1.64x10^{-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) ***1.95x10^{-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) ***8.20x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

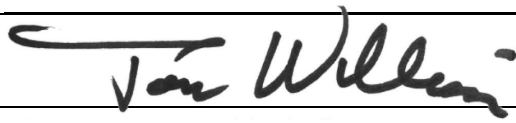
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***1.14x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.24x10^{-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) ***5.14x10^{-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) ***2.05x10^{-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) ***3.48x10^{-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) ***3.80x10^{-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) ***2.92x10^{-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) ***1.09x10^{-3}***	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) ***1.22x10^{-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) ***3.39x10^{-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 09/26/2016

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 / Fluid Catalytic Cracking / Raw Charger Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***5.5***	Height Above Grade (ft) ***72.0***	
Gas Temperature at Exit (°F) ***785.0***	Gas Velocity at Exit (ft/sec) ***9.9***	Gas Volume (scfm) ***14,110.55***
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) ***718 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***460 ft***	Direction ***South***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***112-H-1201***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***14,110.5***	Drift Velocity (ft/sec) ***9.9***
Stream Temperature (°F) ***785.0***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.86x10^{-1}***$
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) $***8.51x10^{-5}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***1.49x10^{-5}***$	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) $***2.05x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***8.51x10^{-6}***$	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) $***6.22x10^{-5}***$	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) ***1.13x10^{-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) ***1.15x10^{-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) ***5.24x10^{-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) ***1.88x10^{-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) ***1.28x10^{-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) ***1.59x10^{-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) ***4.25x10^{-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) ***3.56x10^{-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) ***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) ***2.73x10^{-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) ***1.77x10^{-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) ***1.79x10^{-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) ***3.02x10^{-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) ***3.32x10^{-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) ***1.47x10^{-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) ***1.30x10^{-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) ***5.67x10^{-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) ***8.13x10^{-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) ***3.69x10^{-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) ***4.39x10^{-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) ***3.12x10^{-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) ***2.98x10^{-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) ***7.94x10^{-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) ***1.64x10^{-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) ***3.97x10^{-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) ***8.20x10^{-4}***	Vapor Pressure (in. Hg @ °F) ***0 in Hg @ 77°F***
Solubility ***Insoluble in water***	Molecular Weight (lb/lb-mole) ***51.99***
Absorptive Properties -	

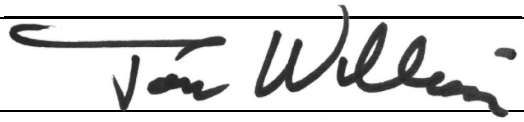
Pollutant Emitted ***Cobalt***	Chemical Abstract Services (CAS) Number ***7440-48-4***
Proposed Emission Rate (lb/hr) ***2.32x10^{-6}***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Inorganic/Particulate***
Concentration in Emission Stream (ppmv) ***4.24x10^{-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) ***1.05x10^{-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) ***2.05x10^{-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) ***7.09x10^{-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) ***3.80x10^{-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) ***5.95x10^{-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) ***1.09x10^{-3}***	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) ***2.49x10^{-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) ***3.39x10^{-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
	09/26/2016

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 / FCC Naphtha Hydrotreater / Heater

SECTION B – STACK DATA

Inside Diameter (ft) ***3.0***	Height Above Grade (ft) ***91.0***	
Gas Temperature at Exit (°F) ***784.3***	Gas Velocity at Exit (ft/sec) ***20.5***	Gas Volume (scfm) ***8,699.78***
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) ***696 ft***	Direction ***South***
Nearest Property Line ***Fenceline***	Distance (ft) ***744 ft***	Direction ***South***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***114-H-1401***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***8,699.78***	Drift Velocity (ft/sec) ***20.5***
Stream Temperature (°F) ***784.3***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***3.72x10^{-1}***$
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) $***5.24x10^{-5}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***9.18x10^{-6}***$	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) $***2.05x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***5.24x10^{-6}***$	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) $***6.21x10^{-5}***$	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) ***6.99x10^{-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) ***1.15x10^{-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) ***3.23x10^{-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) ***1.88x10^{-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) ***7.87x10^{-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) ***1.59x10^{-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) ***2.62x10^{-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) ***3.56x10^{-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) ***1.44x10^{-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) ***2.73x10^{-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) ***1.09x10^{-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) ***1.79x10^{-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) ***1.86x10^{-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) ***3.32x10^{-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) ***9.09x10^{-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) ***1.30x10^{-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) ***$3.50x10^{-6}$***	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) ***$8.13x10^{-5}$***	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) ***$2.27x10^{-6}$***	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) ***$4.39x10^{-4}$***	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) ***$1.92x10^{-5}$***	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) ***$2.98x10^{-4}$***	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) ***$4.89x10^{-6}$***	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) ***$1.64x10^{-4}$***	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) ***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) ***8.20x10^{-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) ***1.43x10^{-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) ***4.24x10^{-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) ***6.47x10^{-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) ***2.05x10^{-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) ***4.37x10^{-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) ***3.79x10^{-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) ***$3.67x10^{-5}$***	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) ***$1.09x10^{-3}$***	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) ***$1.54x10^{-5}$***	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) ***$3.39x10^{-4}$***	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 09/26/2016

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 / Isomerization heater #1

SECTION B – STACK DATA

Inside Diameter (ft) ***2.7***	Height Above Grade (ft) ***36.0***	
Gas Temperature at Exit (°F) ***823.8***	Gas Velocity at Exit (ft/sec) ***2.5***	Gas Volume (scfm) ***852.56***
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) ***959 ft***	Direction ***Southwest***
Nearest Property Line ***Fenceline***	Distance (ft) ***708 ft***	Direction ***East***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***117-H-1701***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***852.56***	Drift Velocity (ft/sec) ***2.5***
Stream Temperature (°F) ***823.8***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.85x10^{-1}***$
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) $***4.95x10^{-6}***$	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) $***2.06x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***8.66x10^{-7}***$	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) $***2.03x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***4.95x10^{-7}***$	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) $***6.17x10^{-5}***$	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) ***6.60x10^{-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) ***1.14x10^{-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) ***3.05x10^{-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^{-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) ***7.43x10^{-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) ***1.58x10^{-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) ***2.48x10^{-7}***	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) ***3.54x10^{-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) ***$1.36x10^{-6}$***	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) ***$2.71x10^{-4}$***	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) ***$1.03x10^{-5}$***	Emission Source (describe) ***Process Point***
Source Classification (process point, process fugitive, area fugitive) ***Process Point***	Pollutant Class and Form (organic/inorganic - particulate/vapor) ***Organic /Vapor***
Concentration in Emission Stream (ppmv) ***$1.78x10^{-3}$***	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) ***$1.76x10^{-6}$***	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) ***$3.30x10^{-4}$***	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) ***$8.58x10^{-7}$***	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) ***$1.29x10^{-4}$***	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) ***$3.30x10^{-7}$***	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) ***$8.08x10^{-5}$***	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) ***$2.15x10^{-7}$***	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) ***$4.37x10^{-4}$***	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) ***$1.82x10^{-6}$***	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) ***$2.96x10^{-4}$***	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) ***$4.62x10^{-7}$***	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) ***$1.63x10^{-4}$***	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) ***2.31x10^{-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) ***8.15x10^{-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) ***1.35x10^{-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) ***4.21x10^{-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) ***6.11x10^{-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) ***2.04x10^{-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) ***4.13x10^{-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) ***3.77x10^{-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) ***3.47x10^{-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) ***1.08x10^{-3}***	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) ***1.45x10^{-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) ***3.37x10^{-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
	09/26/2016

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 / Isomerization heater #2

SECTION B – STACK DATA

Inside Diameter (ft) ***4.6***	Height Above Grade (ft) ***46.0***	
Gas Temperature at Exit (°F) ***787.7***	Gas Velocity at Exit (ft/sec) ***1.9***	Gas Volume (scfm) ***1,872.75***
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) ***947 ft***	Direction ***Southwest***
Nearest Property Line ***Fenceline***	Distance (ft) ***708 ft***	Direction ***East***

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 ***117-H-1702***	Mean Particle Diameter (μm) ***TBD***
Flow Rate (scfm) ***1,872.75***	Drift Velocity (ft/sec) ***1.9***
Stream Temperature (°F) ***787.7***	Particulate Concentration (gr/dscf) ***TBD***
Moisture Content (%) ***TBD***	Halogens or Metals Present? ***Metals***
Pressure (in. Hg) ***TBD***	Organic Content (ppmv) $***1.86x10^{-1}***$
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) $***1.13x10^{-5}***$	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) $***2.07x10^{-3}***$	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 ***Benzene***	Chemical Abstract Services (CAS) Number ***71-43-2***
Proposed Emission Rate (lb/hr) $***1.97x10^{-6}***$	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) $***2.04x10^{-4}***$	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 ***Dichlorobenzene***	Chemical Abstract Services (CAS) Number ***Varies***
Proposed Emission Rate (lb/hr) $***1.13x10^{-6}***$	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) $***6.21x10^{-5}***$	Vapor Pressure (in. Hg @ °F) ***Varies***
Solubility ***Varies***	Molecular Weight (lb/lb-mole) ***147.00***
Absorptive Properties -	