2026 North Dakota Data Requirements Rule Report
North Dakota Department of Environmental Quality
Division of Air Quality

1. Background and History of the Data Requirements Rule

The Data Requirements Rule (DRR, 80 FR 51052) was promulgated to produce sulfur dioxide (SO_2) concentration data so that informed decisions may be made on designations for the 2010 1-hour SO_2 National Ambient Air Quality Standard (NAAQS). Because of the tendency of SO_2 concentrations to be highest near larger sources of SO_2, the Environmental Protection Agency (EPA) designed the DRR to require the collection of SO_2 data near these sources. The final version of the DRR allowed for States to fulfill their requirements using data based on either ambient monitoring or dispersion modeling. Of the sources required to produce SO_2 data for the DRR in North Dakota, only the Tioga Gas Plant owned and operated by Hess Corporation chose to use data based on ambient monitoring. All other DRR sources chose to produce SO_2 data using dispersion modeling. This annual DRR report addresses requirements for SO_2 sources that utilized data produced through dispersion modeling.

Because of a lawsuit filed by the Sierra Club and the Natural Resources Defense Council, requirements to produce SO_2 data for designations proceeded in stages. The outcome of that lawsuit was a Consent Decree (CD) with the EPA on March 2, 2015, which accelerated the data submission and designation schedule for certain sources. In North Dakota, the SO_2 sources that were required to submit SO_2 data earlier because of the CD were Coyote Station (Coyote), Coal Creek Station (CCS), and Leland Olds Station (LOS).

Table 1: Sources Modeled from Each Region in North Dakota, Time Span of Data Modeled for Each Region, Modeled Design Values, and Percent of 2010 NAAQS

Modeled Region	Sources Included	Year Span Modeled	Modeled Design Values ($\mu g/m^3$)	Percent of 2010 SO_2 NAAQS
McLean County / Eastern Mercer County Area	Coal Creek Station Leland Olds Station Stanton Station	2012–2014	167.3	85.4%
Central Mercer County Area	Coyote Station	2012–2014	115.9	59.1%
Northern Mercer County Area	Coyote Station Antelope Valley Station Great Plains Synfuels Plant	2013–2015	136.6	69.7%
Oliver County Area	Coal Creek Station Coyote Station Leland Olds Station Milton R. Young Station R.M. Heskett Station Stanton Station	2013–2015	77.8	39.7%
Burleigh County and Morton County	R.M. Heskett Station Mandan Refinery	2013–2015	156.3	79.7%

As documented in Table 1, the modeling conducted for the McLean County and Mercer County Area encompassed emissions from 2012 through 2014 and included CCS, LOS, and Stanton Station. Stanton Station permanently ceased operation in 2017. Modeling for the Central Mercer County area encompassed emissions from 2012 through 2014 and included Coyote Station. Modeling for the Northern Mercer County area encompassed emissions from 2013 through 2015 and included the Coyote Station, Antelope Valley Station (AVS), and Great Plains Synfuels Plant (GPSP). Modeling conducted for the Oliver County area encompassed emissions from 2013 through 2015 and included the CCS, Coyote Station, LOS, Milton R. Young Station (MRYS), R.M. Heskett Station (Heskett), and Stanton Station. Heskett Station coal units permanently ceased operation in the first quarter of 2023. The modeling conducted for the Burleigh County and Morton County area encompassed emissions from 2013 through 2015 and included Heskett and the Mandan Refinery.

The required modeling analyses for the sources were submitted to the EPA by the prescribed deadline. The EPA approved the modeling analyses and the SO_2 data. Based on the modeling analyses, the EPA made the decision to designate areas of North Dakota surrounding these sources as "attainment/unclassifiable" for the 1-hour SO_2 NAAQS.

2. Procedure used for the Data Requirements Rule

The scope of the DRR is depicted in Figure 1. Operating electric generating units (EGU) and coal consumers are pinned with a green marker and permanently shut down units are indicated by a red circle with a slash. The North Dakota Department of Environmental Quality's Ambient Air Monitoring sites are pinned in yellow. The three North Dakota State monitoring locations located within the scope of the DRR region are as follows: Beulah North (38-057-0004), Hannover (38-065-0002) and Bismarck (38-015-0003). All three sites are equipped with SO_2 monitoring equipment, which provides 1-hour SO_2 readings 24-hours a day, 365 days a year. All data from the Ambient Air Monitoring Sites are reported to the EPA's AQS (Air Quality System) database.

All the sources addressed in the modeling analyses used actual emissions (Coyote Station, CCS, AVS, GPSP, MRYS, Stanton Station, the Mandan Refinery, and Heskett Station), except for LOS, which used allowable emissions. LOS's owner, Basin Electric Power Cooperative, installed wet scrubbers and a new 600-foot stack in the middle of the modeled 3-year period (2012–2014) and therefore did not have three consecutive years of emissions data using the new wet scrubber, which would be representative of current and future emissions at the facility. Basin Electric used a Best Available Retrofit Technology (BART) permit allowable emission rate in the modeling analysis for LOS.

The DRR requires that each State must submit an annual report to the EPA for sources that demonstrated compliance with the NAAQS using modeling based on actual emissions. Since all North Dakota sources, except LOS, demonstrated compliance with the 1-hour SO_2 NAAQS using modeling and actual emissions data, the State must submit an annual report to EPA documenting each area's most recent annual emissions. The report must provide an assessment of the reason(s) for any emissions increase and provide a determination of whether air quality modeling would be needed to verify that the area around the source continues to comply with the 1-hour NAAQS.

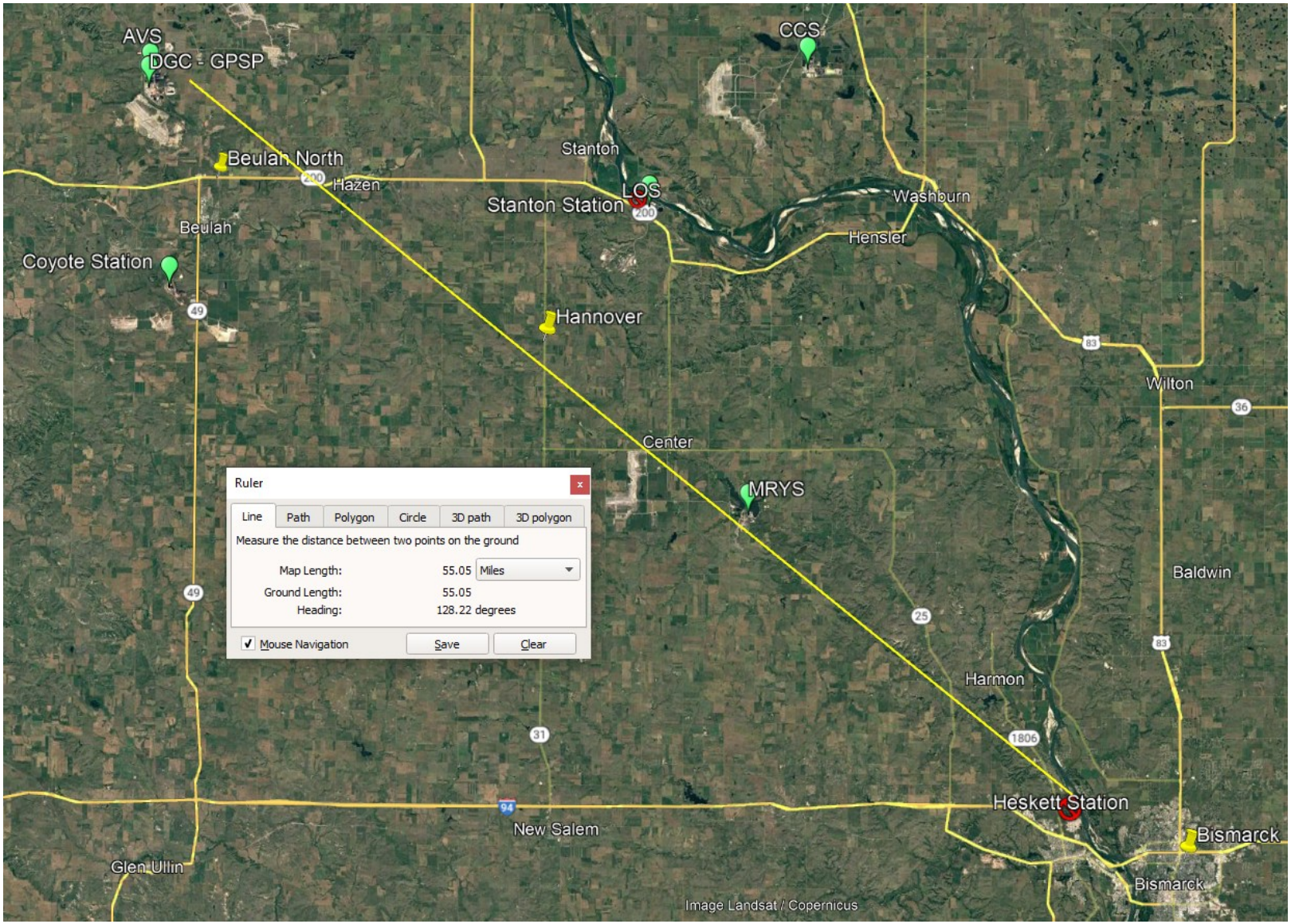


Figure 1: Scope for the sources reviewed in this report. Image from Google Earth.

The sources were modeled in each respective area, as denoted in Table 1, using hourly emissions from Continuous Emissions Monitoring System (CEMS) data. The most recent three years of data, at the time, were used in the modeling analyses. The DRR specifies that the total annual emissions in tons for the DRR sources should be compared in this report.

3. Results and Summary for the Data Requirements Rule

The Department accessed the Compliance Assurance Monitoring Air Markets Program Data (CAM AMPD) database and evaluated the annual SO_2 emissions. The data on the CAM AMPD include all North Dakota EGUs reporting for a given year, except for Mandan Refinery and GPSP. Data for these sources was taken from Annual Emission Inventory Reports submitted to the Department. Annual SO_2 emissions from individual DRR sources over the last 10 years are included in Table 2.

Table 3 contains SO_2 emissions information for the modeled regions and the individual sources within the modeled regions. Specifically, Table 3 includes each modeled region, the year span modeled for each region, the sources included in the region, the highest emitting round 3 modeled year, 2025 SO_2 emissions, the percent decrease in 2025 compared to the highest emitting round 3 modeled year, the 3-year average emissions of the modeled years, the percent decrease in 2025 compared to the 3-year average of round 3 modeled year emissions, the recent (2023-2025) 3-year average emissions, and the percent decrease from the recent 3-year average compared to the 3-year average of round 3 modeled emissions. The percent decrease calculation results are based on the recommendations of EPA Region 8 from August 13, 2019, and June 1, 2021.

The percentage decreases displayed in Table 3 were calculated using the following equations:

$$\text{Percent Decrease in 2025 Compared to Highest Emitting Round 3 Modeled Year} = \frac{\text{Highest Emitting Round 3 Modeled Year} - \text{2025 Emissions}}{\text{Highest Emitting Round 3 Modeled Year}} x\ 100\%$$

And,

$$\text{Percent Decrease in 2025 Compared to 3-Year Average of Round 3 Modeled Years} = \frac{\text{3-Year Average Modeled Years} - \text{2025 Emissions}}{\text{3-Year Average Modeled Years}} x\ 100\%$$

And,

$$\text{Percent Decrease in "2023-2025 3-Year Average Emissions" Compared to "3-Year Average of Round 3 Modeled Years"} = \frac{\text{"3-Year Average Modeled Years"} - \text{"2023-2025 3-Year Average Emissions"}}{\text{"3-Year Average Modeled Years"}} x\ 100\%$$

Table 2: Annual SO_2 Emissions (tons) for Each Individual Source for Recent 10-Years

Company	Source	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Basin Electric Power Coop.	AVS 1	7,254	5,259	5,911	6,045	5,420	4,241	5,949	5,971	4,767	5,943
Basin Electric Power Coop.	AVS 2	5,089	7,603	6,126	4,718	5,896	6,770	5,673	5,149	7,027	5,975
Basin Electric Power Coop.	Leland Olds 1 [A]	711	554	652	723	484	565	652	466	645	765
Basin Electric Power Coop.	Leland Olds 2 [A]	1,217	1,364	1,052	1,314	1,236	910	1,384	1,405	1,202	309
Minnkota Power Coop.	M.R. Young 1	909	905	518	636	504	223	222	194	206	217
Minnkota Power Coop.	M.R. Young 2	1,729	2,507	2,258	2,021	2,173	2,099	1,668	1,802	1,944	1,627
Ottertail Power Co.	Coyote Station	11,873	13,444	14,913	10,060	11,975	12,684	11,606	13,753	12,591	11,404
Mon. Dak. Utilities	Heskett 1 [B]	703	642	916	991	962	1,111	175.4	0	0	0
Mon. Dak. Utilities	Heskett 2 [B]	1,887	1,485	1,228	1,105	1,384	1,459	155	0	0	0
Rainbow Energy Center, LLC	Coal Creek 1	7,643	3,096	3,458	3,555	2,499	3,477	3,340	2,258	3,283	3,520
Rainbow Energy Center, LLC	Coal Creek 2	5,633	3,296	3,400	2,727	2,801	3,354	2,925	3,288	3,059	2,895
Great River Energy	Stanton 1 [B]	2,412	395	0	0	0	0	0	0	0	0
Great River Energy	Stanton 10 [B]	67	28	0	0	0	0	0	0	0	0
Dakota Gasification	GPSP	2,825	5,203	2,837	3,033	5,671	3,272	2,808	2,382	3,218	4,447
Tesoro Refining and Marketing Co.	Mandan Refinery	291	198	135	123	154	206	200	233	164	156

[A] Modeled with allowable emission rates.
[B] Permanently shut down and decommissioned.

Table 3: Multiple Scenarios Presented for Comparison of: Recent Emissions to Highest Modeled Year, Recent Emissions to 3-Year Average Modeled Years, and Recent 3-Year Average Emissions to 3-Year Average Modeled Years

Modeled Region	**Year Span Modeled**	**Sources Included**	**Highest Emitting Round 3 Modeled Year**	**2025 Emissions**	**Percent Decrease in 2025 Compared to Highest Emitting Round 3 Modeled Year**	**3-Year Average Modeled Years**	**Percent Decrease in 2025 Compared to 3-Year Average of Round 3 Modeled Years**	**2023-2025 3-Year Average Emissions**	**Percent Decrease in 2023-2025 3-Year Average Compared to 3-Year Average of Round 3 Modeled Years**
McLean County / Eastern Mercer County Area	2012–2014	Coal Creek Station	16,273	6,415	61%	15,893	60%	6,101	62%
		Leland Olds Station	38,324	1,074	97%	15,794	93%	1,597	90%
		Stanton Station	2,591	0	Shutdown	2,334	Shutdown	0	Shutdown
		Full Region	*57,188*	*7,489*	*87%*	*34,021*	*78%*	*7,698*	*77%*
Central Mercer County Area	2012–2014	Coyote Station	12,777	11,404	11%	11,999	5%	12,582	**-5%**
Northern Mercer County Area	2013–2015	Coyote Station	12,777	11,404	11%	11,381	**0%**	12,582	**-11%**
		Antelope Valley Station	13,654	11,918	13%	13,055	9%	11,611	11%
		Great Plains Synfuels Plant	3,818	4,447	**-16%**	3,245	**-37%**	3,349	**-3%**
		Full Region	*30,249*	*27,769*	*8%*	*27,681*	***0%***	*27,542*	*1%*

Modeled Region	Year Span Modeled	Sources Included	Highest Emitting Round 3 Modeled Year	2025 Emissions	Percent Decrease in 2025 Compared to Highest Emitting Round 3 Modeled Year	3-Year Average Modeled Years	Percent Decrease in 2025 Compared to 3-Year Average of Round 3 Modeled Years	2023-2025 3-Year Average Emissions	Percent Decrease in 2023-2025 3-Year Average Compared to 3-Year Average of Round 3 Modeled Years
Oliver County Area	2013–2015	Coal Creek Station	15,825	6,415	59%	15,617	59%	6,101	61%
		Coyote Station	12,777	11,404	11%	11,381	**0%**	12,582	**-11%**
		Leland Olds Station	7,622	1,074	86%	3,602	70%	1,597	56%
		Milton R. Young Station	2,735	1,844	33%	2,234	17%	1,997	11%
		R.M. Heskett Station	3,369	0	Shutdown	3,135	Shutdown	0	Shutdown
		Stanton Station	2,591	0	Shutdown	2,262	Shutdown	0	Shutdown
		Full Region	*44,919*	*20,738*	*54%*	*38,230*	*46%*	*22,278*	*42%*
Burleigh County and Morton County	2013–2015	R.M. Heskett Station	3,369	0	Shutdown	3,135	Shutdown	0	Shutdown
		Mandan Refinery	279	156	44%	262	40%	184	30%
		Full Region	*3,648*	*156*	*96%*	*3,397*	*95%*	*184*	*95%*

Notes:

The percentage decrease calculations are based on an EPA recommendation from August 13, 2019, and June 1, 2021.

-BOLD % represents an increase

-BOLD % represents a 15% or more increase

Table 2 shows that individual source emissions from 2025 were generally comparable to 2024 and 2023 emissions. Total SO_2 emissions were ~850 tons lower than 2024, and ~350 tons higher than 2023. Table 3 indicates that all but one of the modeled regions experienced a decrease in emissions from the 2023-2025 3-year average emissions compared to the average of the round 3 modeled years emissions. These decreases ranged from 1% in the Northern Mercer County Area to 95% in the Burleigh and Morton County Area. All the regions modeled experienced decreases in 2025 when compared to the average round 3 modeled year emissions ranging from 0% in Northern Mercer County Area to 95% in Burleigh and Morton County Area. Similarly, all regions modeled experienced decreases in 2025 when compared to the highest emitting round 3 modeled year. These reductions ranged from 8% in Northern Mercer County Area, to 96% in Burleigh and Morton County Area.

The only modeled region to show an increase in any category was Central Mercer County Area, which consists of a single source, Coyote Station. In 2025, the facility emitted 11,404 tons of SO_2 which is ~3,500 tons less than was emitted in 2018, the year of highest annual emissions within the last 10 years. 2025 emissions were the second lowest amount since 2016 and were lower than the 3-year average of the modeled years.

The only other facility to show increases in any category in Table 3 was Great Plains Synfuels Plant, which emitted 4,447 tons in 2025. This facility increased 16% when compared to the highest emitting round 3 modeled year, 37% when compared to the average round 3 modeled year emissions, and 3% in 2023-2025 3-year average compared to 3-year average of round 3 modeled years. Table 4 shows the SO_2 emissions from the highest emitting years the facility has had since 2012 along with the difference in emissions compared to 2025. Table 4 demonstrates that the 2025 SO_2 emissions from GPSP are not a concern as they remain below other previous high emitting years and continue to comply with the 1-hour NAAQS.

Table 4: GPSP Highest Emitting Years and Emission Limit

Year	SO_2 Emissions (tons)	2025 Emissions Difference
2012	5,777	-1,330
2017	5,203	-756
2020	5,671	-1,224

The increase in SO_2 emissions in 2025 was due to the flue gas desulfurization (FGD) unit being down on multiple occasions. In 2025, the facility was in bypass operation for approximately 20 days for planned maintenance, which resulted in 123 SO_2 bypass hours. As a result, the FGD system was active for only 39% of the operating hours for June of 2025. This event caused the facility's SO_2 emissions to be over three times greater than the average SO_2 emissions of several preceding months that year, showing that the increase in emissions for this period is an exception, rather than standard operating procedures. Furthermore, the FGD unit experienced an agitator failure for the main stack requiring repair of the agitator and once more requiring use of the bypass stack. This event occurred in late December carrying over into early 2026. This event caused the SO_2 emissions to be nearly double the rate documented over the four months prior, after the June

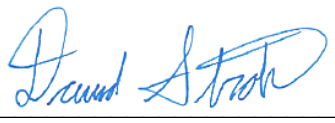
event had been fully resolved. Because of the FGD's downtime, the increase in emissions is not indicative of an upward trend due to the facility's normal operating process but has more to do with infrequent downtime periods. Furthermore, despite the increase in 2025 emissions at GPSP, the Northern Mercer County Area did not experience an increase in any category.

All other facilities showed decreases in every category in Table 3. The percent decrease in the 2023-2025 3-year average compared to the 3-year average of round 3 modeled years among locations that are still operational ranged from 11% at Milton R. Young Station and Antelope Valley Station to 90% at Leland Olds Station. The percent decrease in 2025 compared to the 3-year average modeled years ranged from 0% at Coyote Station to 93% at Leland Olds Station. The percent decrease in 2025 compared to the highest emitting round 3 modeled year ranged from 11% at Coyote Station to 97% at Leland Olds Station.

Given the above information, the Department's position is that the sources modeled using actual emissions in the DRR modeling analyses in North Dakota are not expected to exhibit significantly higher design values. The Department's review of the complete data set indicates that any increase in the design values would be minor and not threaten the SO_2 NAAQS using more recent years of data, thus maintaining compliance with the 1-hour SO_2 NAAQS is expected. Therefore, based on regulatory guidance, the Department's determination is that no additional modeling or monitoring is required under the Data Requirements Rule.

FOR THE NORTH DAKOTA DEPARTMENT
OF ENVIRONMENTAL QUALITY

Date 6/1/2026

By 

For James L. Semerad
Director
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