

MONTANA-DAKOTA UTILITIES CO.

Before the South Dakota Public Utilities Commission

Docket No. NG23-____

Direct Testimony

Of

Jesse Volk

1 **Q. Please state your name and business address.**

2 A. My name is Jesse Volk, and my business address is 705 West Fir
3 Avenue, Fergus Falls, Minnesota 56537.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am the System Integrity Manager for Montana-Dakota Utilities Co.
6 (“Montana-Dakota” or “Company”), Great Plains Natural Gas Co. (“Great
7 Plains”), Cascade Natural Gas Corporation (“Cascade”), and
8 Intermountain Gas Company (“Intermountain”).

9 **Q. Please describe your duties and responsibilities with Montana-**
10 **Dakota.**

11 A. I am responsible for the management of the Transmission and
12 Distribution Integrity Management programs and Integrity Replacement
13 projects, which include the System Safety and Integrity Program (SSIP).

14

1 **Q. Please outline your educational and professional background.**

2 A. I am a graduate of South Dakota School of Mines and Technology
3 with a Bachelor of Science Degree in Civil Engineering. I am also a
4 registered professional engineer with the State of North Dakota.

5 I began my career in 2007 as a gas engineer with Montana-Dakota
6 in Dickinson, North Dakota. Since that time, I have held various positions
7 of increasing responsibilities throughout the gas operations and
8 engineering departments across the eight states of Idaho, Minnesota,
9 Montana, North Dakota, Oregon, South Dakota, Washington, and
10 Wyoming.

11 **Q. Have you testified in other proceedings before regulatory bodies?**

12 A. Yes, I have testified before the Minnesota Public Utilities
13 Commission.

14 **Q. What is the purpose of your testimony?**

15 A. The purpose of my testimony is to: (1) provide an overview of the
16 Company's System Safety and Integrity Program (SSIP); and (2) provide
17 an overview of the Company's SSIP projects that were completed since
18 the last rate case and those currently in progress.

19 **OVERVIEW OF SYSTEM SAFETY AND INTEGRITY PROGRAM**

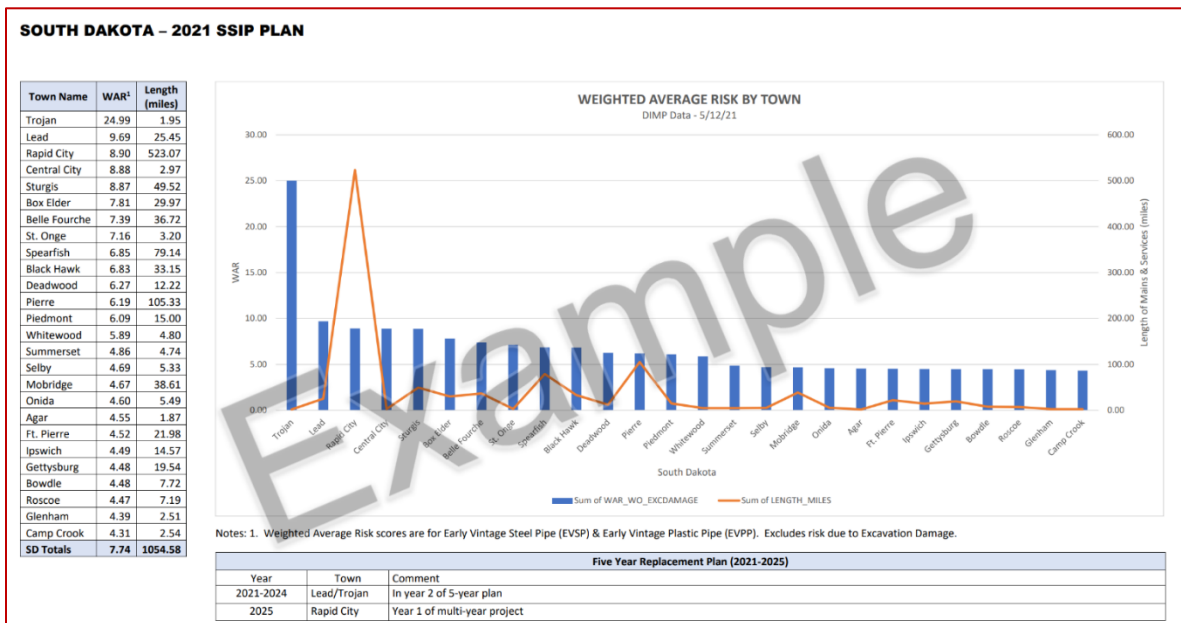
20 **Q. What is Montana-Dakota's System Safety and Integrity Program**
21 **(SSIP)?**

22 A. Montana-Dakota's SSIP is a pipeline replacement program that
23 accounts for a substantial portion of the Company's natural gas

1 distribution projects. The replacements are a direct result of the Integrity
 2 Management Program (IMP) mandated by the Pipeline and Hazardous
 3 Materials Safety Administration (PHMSA). IMP requires pipeline
 4 operators to implement a comprehensive and cost-effective process that
 5 analyzes pipelines through all stages, including engineering, design,
 6 construction, operation, inspection, repairs, and replacement.

7 **Q. How does the Company prioritize and select safety-related projects?**

8 A. Montana-Dakota's Distribution Integrity Management Program (DIMP)
 9 assigns weightings and consequence factors to each pipeline segment
 10 based on attributes and key IMP threats. The data is analyzed through
 11 the System Safety Integrity Program (SSIP) which identifies and prioritizes
 12 Montana-Dakota's highest risk systems by state, based on the Weighted
 13 Average Risk (WAR) scores of Early Vintage Steel Pipe (EVSP) and Early
 14 Vintage Plastic Pipe (EVPP) as shown below.



15

1 **Q. What types of projects are typically performed to address safety-**
2 **related concerns?**

3 A. Pipeline replacement is typically the most viable option to
4 remediate risks associated with corrosion, material, weld/joint, equipment
5 failure, incorrect operation, natural forces, outside forces, and missing
6 data threats. If Montana-Dakota determines that replacement is an
7 appropriate action to reduce the risk, the Company establishes a
8 replacement project.

9 **Q. Does the Company consider alternative ways or timeframes to meet**
10 **the need for this project?**

11 A. When feasible, Montana-Dakota works jointly with State, City,
12 County, or general contractors performing highway, road, and
13 underground infrastructure replacement projects within the same vicinity.
14 This collaboration ultimately eliminates duplication of work, provides cost
15 savings, and limits long-term interruptions to the public and Montana-
16 Dakota's customers.

17 **Q. How will the Company's customers benefit from the project?**

18 A. Montana-Dakota's SSIP replaces and eliminates early vintage steel
19 and plastic pipelines prone to bare or poor coating, industry documented
20 Aldyl-a plastic defects, unknown attributes, missing data, mechanical
21 fittings, inside gas meters, and non-reported third-party damages. The
22 Company's replacement of these high-risk systems ultimately increases

1 overall public safety, lowers operating and maintenance (O&M) costs, and
2 improves system reliability for Montana-Dakota's customers.

3 **Q. Would you please describe the major capital projects that have been**
4 **completed since the last rate case and the projects that are currently**
5 **underway?**

6 A. Yes. The following pages contain a description of each project,
7 including the need for each project.

8 **MAJOR CAPITAL PROJECTS**

9 **2018 - Belle Fourche SSIP Project**

10 **Q. Would you please describe the Belle Fourche SSIP project?**

11 A. The Belle Fourche SSIP project replaced Low Pressure Early
12 Vintage Steel Pipe (EVSP) natural gas mains and services with medium
13 and high-density polyethylene (MDPE & HDPE) lines. Project replacement
14 quantities and type are as follows:

15 **Mains**

16 2" MDPE – 11,250 feet

17 4" MDPE – 1,245 feet

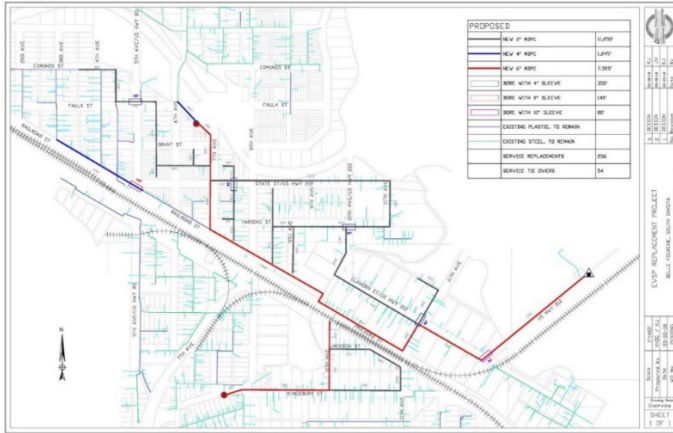
18 6" HDPE – 7,500 feet

19 **Services**

20 Service line quantity replaced or re-tested – 290

21 **District Regulator Stations (DRS)**

22 DRS Retired - 1



1 *Figure 1 – Belle Fourche*

2 **Q. Why did the Company undertake the Belle Fourche Replacement?**

3 A. Belle Fourche was identified in 2018 as Montana-Dakota’s highest
 4 risk EVSP and EVPP natural gas system in the state of South Dakota by
 5 the Company’s SSIP.



6

7 *Figure 3 – Belle Fourche DIMP Risk Comparison (Pre vs Post SSIP)*

1 **Q. What is the project timeline?**

2 A. The Belle Fourche SSIP project was started and completed in
3 2018.

4 **Q. What are the costs of the project?**

5 A. Project costs are as follows:

6 Main Replacements - \$979,010

7 Service Replacements - \$758,578

8 **2019 – Rapid City SSIP**

9 **Q. Would you please describe the Rapid City SSIP project?**

10 A. The Rapid City SSIP project replaced Low Pressure Early Vintage
11 Steel Pipe (EVSP) and Early Vintage Plastic Pipe (EVPP) natural gas
12 mains and services with medium density polyethylene (MDPE) line.

13 Project replacement quantities and type are as follows:

14 **Mains**

15 2" MDPE – 10,450 feet

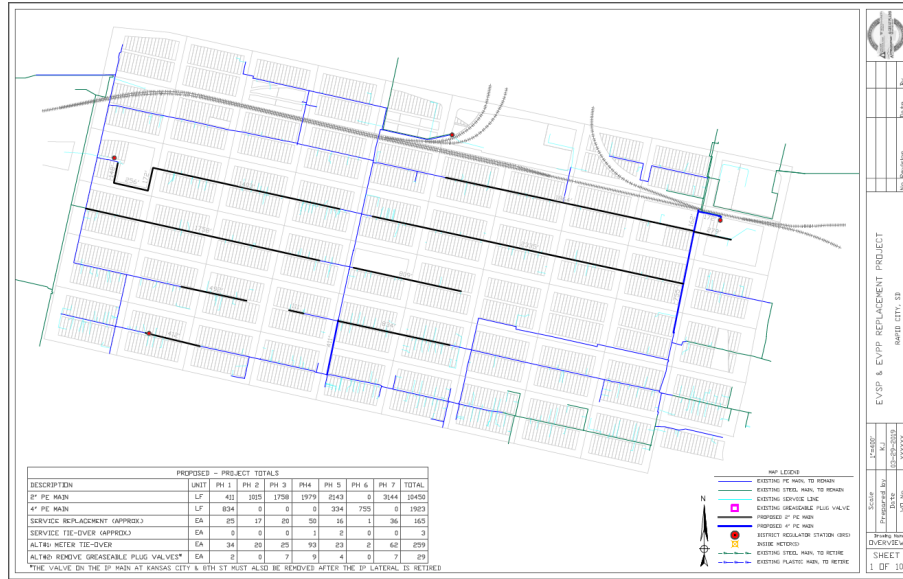
16 4" MDPE – 1,923 feet

17 **Services**

18 Service line quantity replaced or re-tested - 168

19 **District Regulator Stations (DRS)**

20 DRS Retired - 4

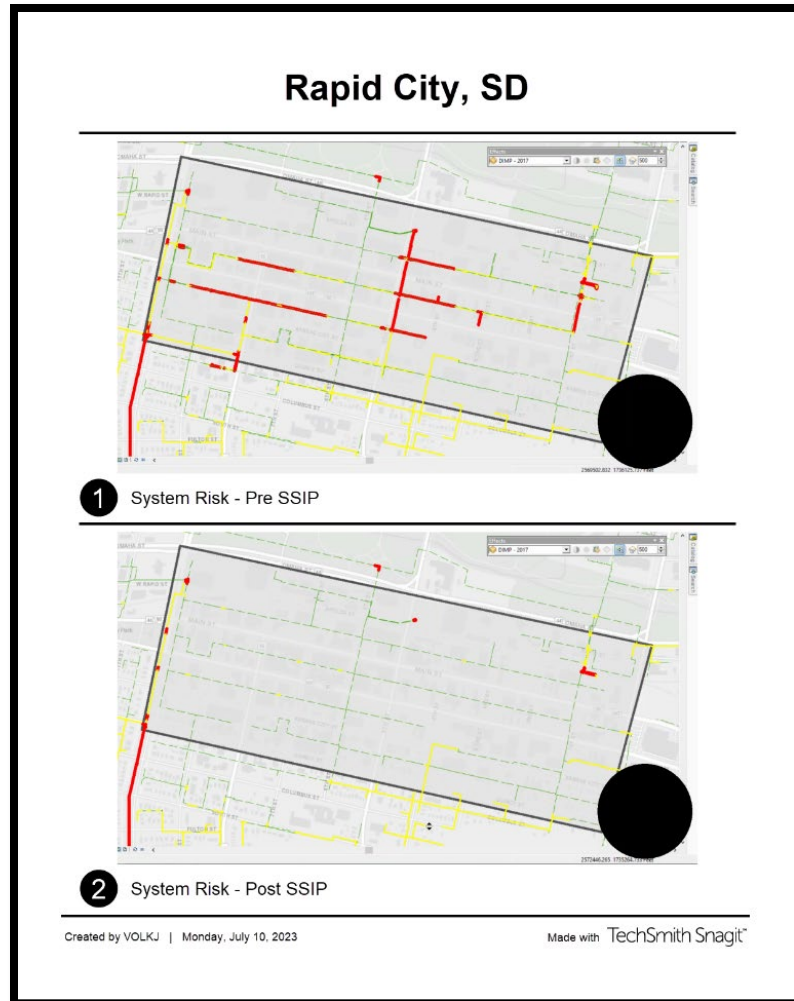


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Figure 4 – Rapid City

2 **Q. Why did the Company undertake the Rapid City Replacement?**

3 A. Rapid City was identified in 2019 as Montana-Dakota’s highest risk
 4 EVSP and EVPP natural gas distribution system in the state of South
 5 Dakota by the SSIP. Rapid City was also the only remaining Low Pressure
 6 (LP) distribution system in the Company’s South Dakota service territory.



1

2 *Figure 6 – Rapid City DIMP Risk Comparison (Pre vs Post SSIP)*

3 **Q. What is the project timeline?**

4 A. The Rapid City SSIP project was started and completed in 2019.

5 **Q6. What are the costs of the project?**

6 A. Project costs are as follows:

7 Main Replacements - \$1,864,278

8 Service Replacements - \$1,181,540

1 **2020 & 2021 – Trojan/Lead SSIP**

2 **Q. Would you please describe the Trojan & Lead SSIP project?**

3 A. The Trojan/Lead SSIP project replaced High Pressure EVSP and
 4 EVPP natural gas mains and services with HDPE line. The multi-year
 5 replacement consisted of the following:

6 **Main (2020)**

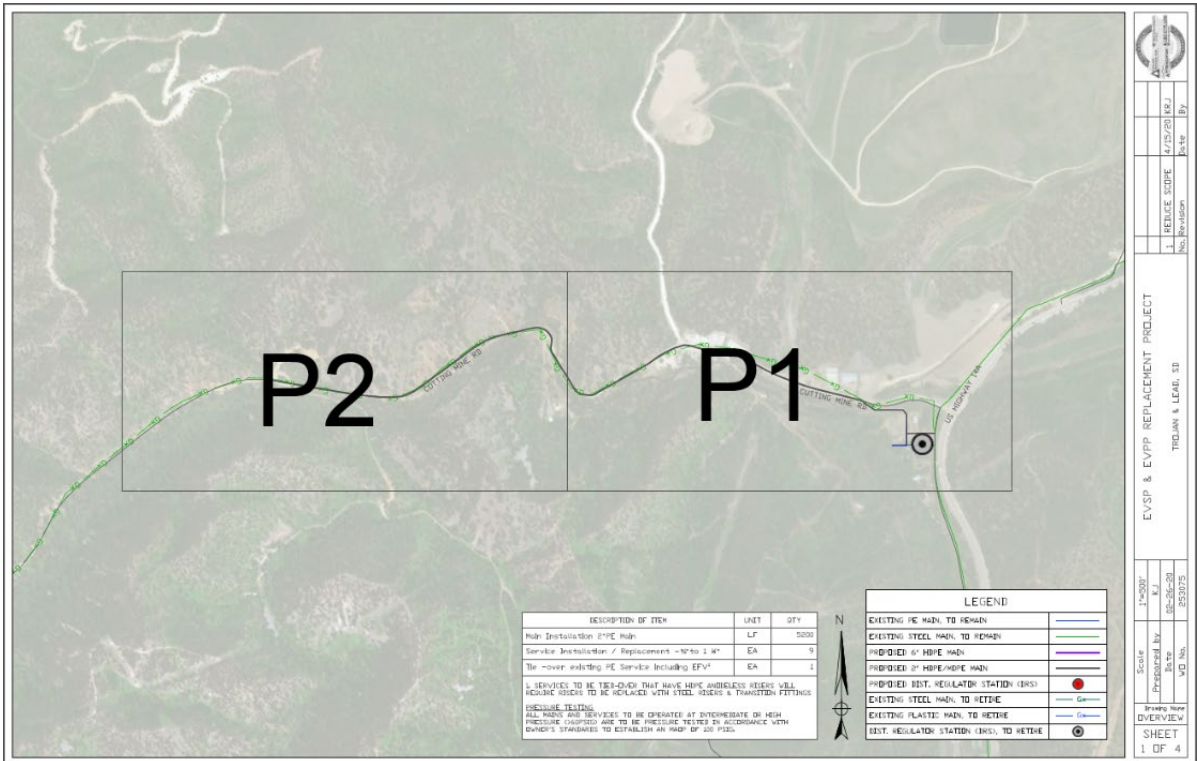
7 2" HDPE – 5,600 feet

8 **Services (2020)**

9 Service line quantity replaced or re-tested - 9

10 **District Regulator Stations (DRS) (2020)**

11 DRS Retired - 1



12

Figure 7 – Trojan/Lead (2021)

1 **Main (2021)**

2 2" HDPE – 220 feet

3 4" HDPE – 40 feet

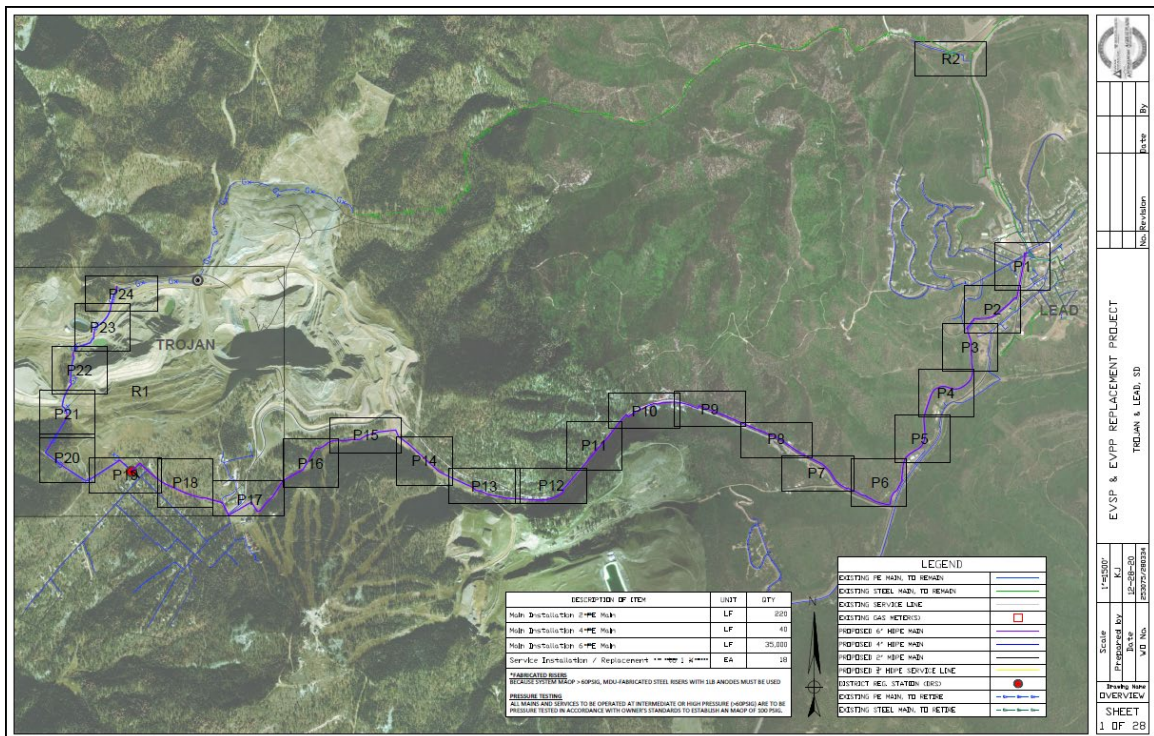
4 6" HDPE – 35,000 feet

5 **Services (2021)**

6 Service line quantity replaced or re-tested - 18

7 **District Regulator Stations (DRS) (2021)**

8 DRS Replaced - 1



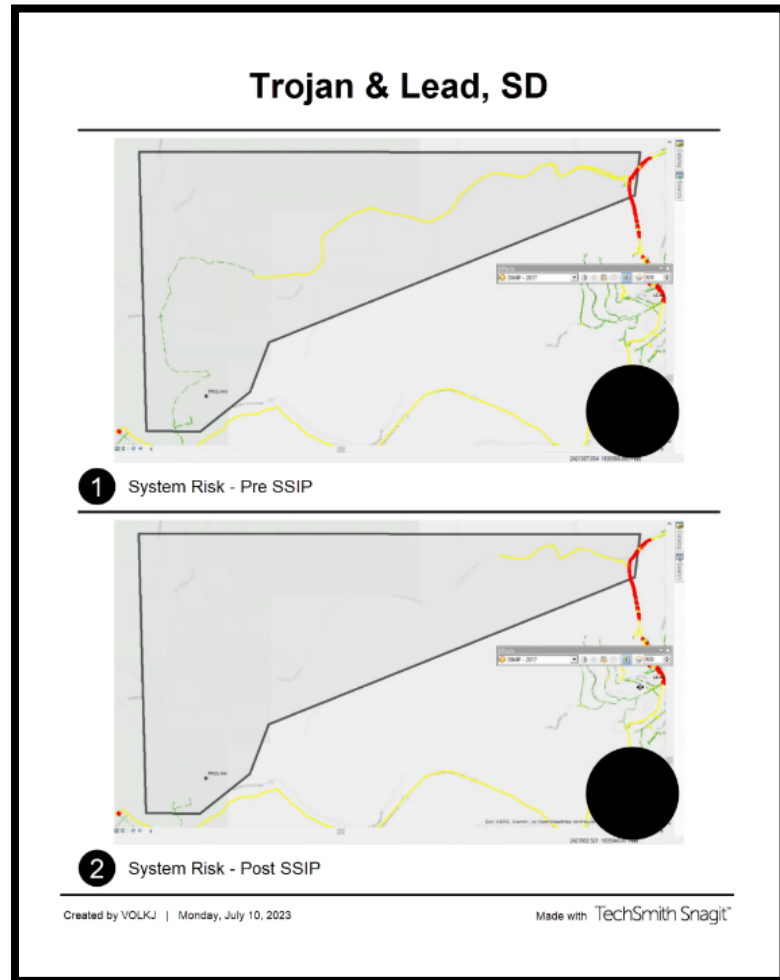
9 *Figure 8 – Trojan/Lead (2021)*

10 **Q. Why did the Company undertake the Trojan & Lead Replacement?**

11 A. Trojan & Lead was identified in 2020 & 2021 as Montana-Dakota's

12 highest risk EVSP and EVPP natural gas distribution system in the state of

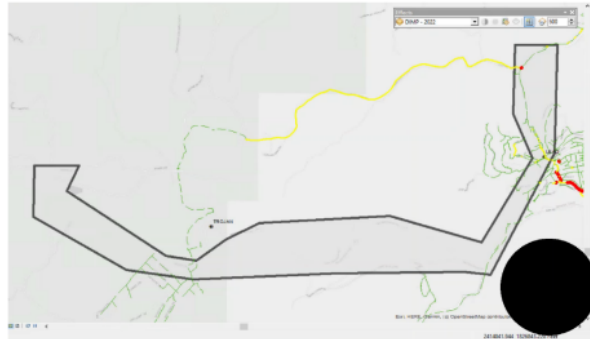
1 South Dakota by the Company's SSIP. The Trojan/Lead project were the
2 first two years of a three-year project scope within the Northern Hills.



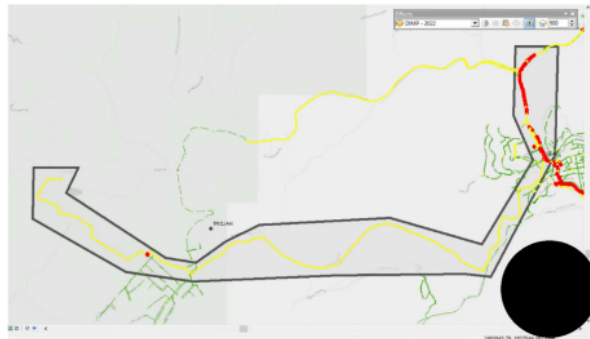
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4 *Figure 10 – Trojan/Lead DIMP Risk Comparison '20 (Pre vs Post SSIP)*

Trojan & Lead, SD



1 System Risk - Pre SSIP



2 System Risk - Post SSIP
(RISK INCREASE DUE TO NEW LINE & MODEL UPDATE TIMING)

Created by VOLKJ | Monday, July 10, 2023

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2 *Figure 11 – Trojan/Lead DIMP Risk Comparison '21 (Pre vs Post SSIP)*

3 **Q. What is the project timeline?**

4 A. The Trojan/Lead SSIP project was a multi-year project starting in

5 2020 and completed in 2021.

1 **Q. What are the costs of the project?**

2 A. Project costs are as follows:

3 Main Replacements - \$4,328,540

4 Service Replacements - \$251,514

5 **2022 – Lead/Central City SSIP**

6 **Q. Would you please describe the Lead/Central SSIP project?**

7 A. The Lead/Central City SSIP Project replaced EVSP and EVPP
8 natural gas mains and services with MDPE & HDPE lines. Project
9 replacement quantities and type are as follows:

10 **Mains**

11 2" MDPE – 4,285 feet

12 4" MDPE – 1,480 feet

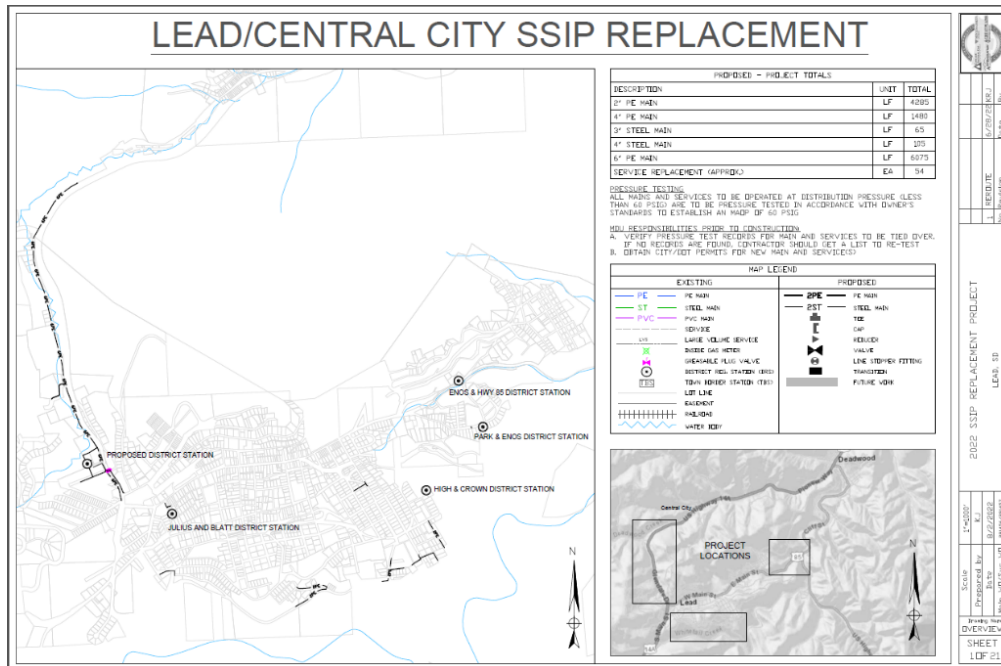
13 6" HDPE – 6,075 feet

14 **Services**

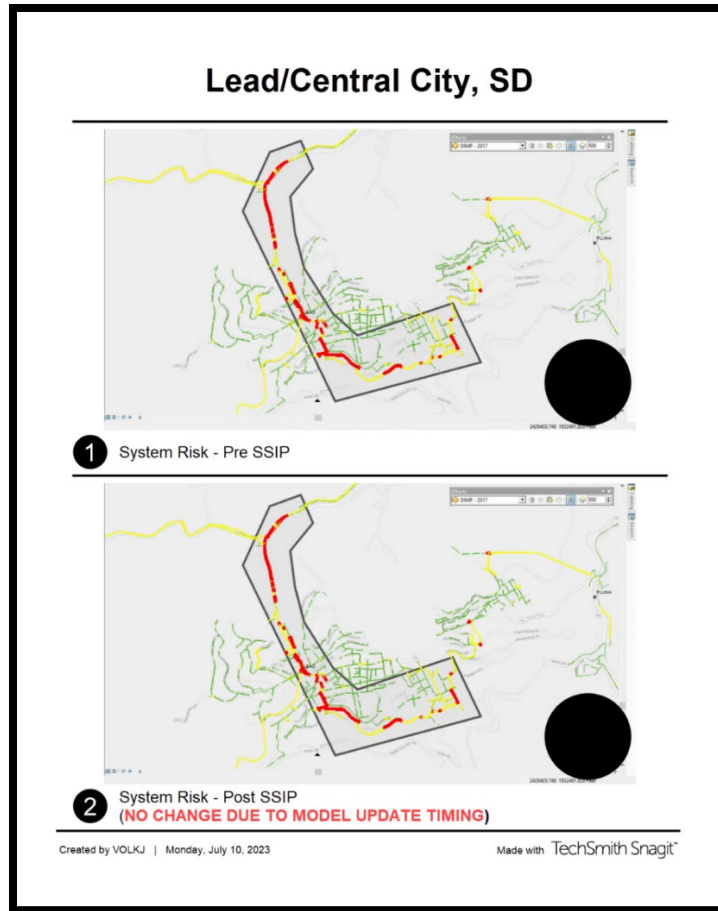
15 Service line quantity replaced or re-tested - 54

16 **District Regulator Stations (DRS)**

17 DRS Retired - 4



- 1 *Figure 12 –Lead/Central City (2022)*
- 2 **Q. Why did the Company undertake the Lead/Central City Replacement?**
- 3 A. Lead/Central City remained in 2022 as Montana-Dakota’s highest
- 4 risk EVSP High Pressure natural gas distribution system in the state of
- 5 South Dakota by the Company’s SSIP. The Lead/Central City project was
- 6 the third year of a three-year project scope within the Northern Hills.



1

2 *Figure 14 –Lead/Central City DIMP Risk Comparison (Pre vs Post SSIP)*

3 **Q. What is the project timeline?**

4 A. The Lead/Central City SSIP project was a multi-year project starting in
5 2020 and completed in 2022.

6 **Q. What are the costs of the project?**

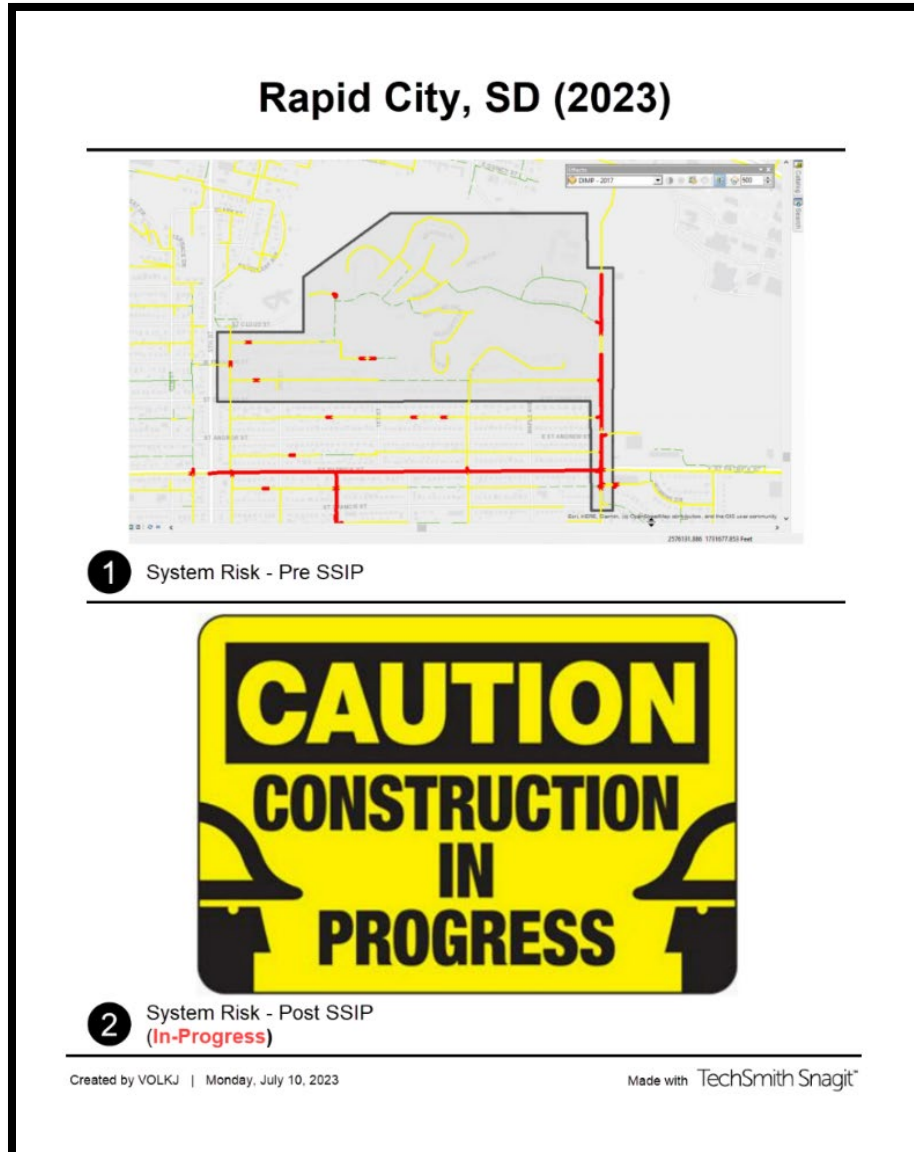
7 A. The costs of the project are as follows:

8 Main Replacements - \$1,275,197

9 Service Replacements - \$423,272

1 Q. Why did the Company undertake the Rapid City Replacement?

2 A. Rapid City was identified in 2023 as Montana-Dakota's highest risk
3 EVSP and EVPP natural gas distribution system in the state of South
4 Dakota by the Company's SSIP. The Rapid City project is expected to be a
5 four-year project scope.



6

7

Figure 17 –Rapid City DIMP Risk Comparison (Pre vs Post SSIP)

1 **Q. What is the project timeline?**

2 A. The identified Rapid City SSIP project scope is expected to be a
3 multi-year project starting in 2023 and completing in 2026.

4 **Q. What are the capital cost estimates of the project?**

5 A. The 2023 capital cost is \$2,843,575 which includes FP-316059, FP-
6 316064 and FP-323243, as shown on Rule 20:10:13:56, Statement D,
7 Schedule D-2 page 3. The 2024 through 2026 projected capital costs are
8 approximately \$2.9 million per year and have not been included in this
9 proceeding.

10 **Q. Does the Company expect SSIP efforts to continue?**

11 A. Pipeline operators have a requirement to implement IMPs that
12 evolve and mature to fit an operator's unique operating environment. The
13 evolution of an operator's IMP program takes time and resources to collect
14 and analyze data to accurately identify the most current high-risk pipelines
15 within any given system. Once a system is prioritized and selected it
16 typically requires multiple years to develop and execute an action plan for
17 full remediation or replacement.

18 Based on this information, Montana-Dakota expects the SSIP
19 program to continue for the foreseeable future.

1 Q. **Does this complete your direct testimony?**

2 A. Yes, it does.