

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Black Hills/)
Kansas Gas Utility Company, LLC, d/b/a Black)
Hills Energy, For Approval of the Commission) Docket No. 17-BHCG- 389-TAR
For a Gas System Reliability Surcharge Per K.S.A.)
66-2201 through 66-2204)

DIRECT TESTIMONY OF ANN L. STICHLER

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Ann L. Stichler. My business address is 1102 East First Street, Papillion,
3 NE 68046.

4

5 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

6 A. I am employed by Black Hills Utility Holdings (“BHUH”) as Senior Regulatory
7 Analyst in Regulatory Services. In this capacity, my responsibilities include
8 compliance, tariff, acquisition, audit and surcharge filings, the preparation of financial
9 exhibits and other information for rate case filings, and various financial analyses for
10 Black Hills/Kansas Gas Utility Company, LLC, d/b/a Black Hills Energy (“BHE” or
11 “Black Hills”).

12

13 Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND BUSINESS
14 EXPERIENCE.

1 A. I attended Wayne State College in Wayne, Nebraska from 1979 to 1981 where I earned
2 an Associate Degree in medical secretarial science. I earned with distinction a
3 Bachelor's degree in General Studies with an emphasis in Accounting and Psychology
4 from the University of Nebraska - Omaha in 1992. I continued my education with
5 courses in computer science through Iowa Western Community College in Council
6 Bluffs, Iowa. I have over 33 years of experience in the natural gas industry and have
7 held various positions in sales accounting, measurement and general accounting.
8 From 1989-1992, I held the position of Regulatory Accounting Analyst and was
9 promoted to Senior Regulatory Analyst in 1993. I presently retain that title.

10

11 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

12 A. The purpose of my testimony is to support the eligibility of infrastructure system
13 replacement projects and safety-related projects included in Black Hills' proposed Gas
14 System Reliability Surcharge (GSRS.) In addition to my testimony, Ms. Kathy
15 McNulty Kropp, Black Hills' Financial Manager for the Company's Kansas
16 operations, provides direct testimony on the calculation of the GSRS revenue and the
17 surcharge amounts by customer class.

18

19 Q. ARE YOU SPONSORING ANY EXHIBITS?

20 A. Yes, I am sponsoring Exhibits ALS-1, ALS-2, and ALS-3. Exhibit ALS-1 is an index
21 of the projects being included in this proposal. Exhibit ALS-2 is a more detailed
22 summary of the projects. Exhibit ALS-3 is the supporting documentation for the
23 specific projects and has been designated by Black Hills as containing confidential

1 information. Exhibit ALS-4 is the tariff sheet for the proposed surcharge in redline
2 and final formats.

3

4 Q. WHAT TYPES OF PROJECTS ARE INCLUDED IN BLACK HILLS' GSRS
5 PROPOSAL?

6 A. There are two groups of projects being submitted. The first group is comprised of
7 specific safety-related system replacement projects and safety-related blanket work
8 orders. The second group consists of governmentally-mandated road relocation
9 projects which have not been reimbursed to BHE. All of these types of projects are
10 eligible for inclusion in a GSRS proposal according to K. S. A. 66-2202 and as outlined
11 in the application filed as part of this proposal. Exhibit ALS-1 summarizes these
12 projects by group.

13

14 Q. ARE PROJECTS OTHER THAN SAFETY-RELATED AND GOVERNMENT-
15 MANDATED ROAD RELOCATIONS MEETING THE INCLUSION CRITERIA
16 BEING INCLUDED IN THE GSRS PETITION?

17 A. No. Only projects meeting the criteria are being submitted for consideration in this
18 filing.

19

20 Q. CAN YOU EXPLAIN WHAT BLANKET WORK ORDERS WERE INCLUDED IN
21 THE FILING?

22 A. BHE uses blanket work orders for smaller projects. Blanket work orders can include
23 projects for system improvements, new customers, leasehold improvements, and other

1 general plant. However, only system improvement blankets have been included in this
2 filing. System improvement blanket work orders include short distribution main, and
3 service line and yard line replacement projects. These types of projects typically
4 eliminate leaking pipe and normally require immediate replacement. Projects included
5 in this blanket are required to be less than \$10,000, but are normally less than \$5,000.
6 Replacement lengths are typically less than 100' per project.

7

8 Q. WHAT REGULATIONS WERE REFERENCED IN DETERMINING SAFETY-
9 RELATED PROJECT INCLUSION?

10 A. The referenced regulations are contained in 49 CFR Part 192, Transportation of
11 Natural and Other Gas by Pipeline: Minimum Federal Safety Standards.

12

13 Q. HOW DOES 192.453 PERTAIN TO THE GSRs FILING?

14 A. Paragraph (c) of the Kansas regulation requires operators to replace all unprotected
15 bare steel service and yard lines in a defined area once 25% of the service lines in the
16 area have experienced leaks due to corrosion.

17

18 Q. HOW DOES 192.463 PERTAIN TO THE GSRs FILING?

19 A. Paragraph (a) of the Kansas regulation requires operators to provide a level of cathodic
20 protection that complies with one or more of the applicable criteria contained in
21 Appendix D. Depleted ground beds were replaced to maintain compliance with this
22 part.

23

1 Q. HOW DOES 192.485 PERTAIN TO THE GSRS FILING?

2

3 A. The regulation requires an operator to repair, replace, or reduce the operating pressure
4 of a pipeline if localized pitting is found to a degree where leakage might result. Black
5 Hills Energy replaced those sections of main or transmission line that had localized
6 pitting corrosion, or leakage due to localized corrosion.

7

8 Q. HOW DOES 192.487 PERTAIN TO THE GSRS FILING?

9 A. The regulation requires an operator to repair, replace, or reduce the operating pressure
10 of a pipeline if localized pitting is found to a degree where leakage might result. Black
11 Hills Energy replaced those sections of main or distribution line that had localized
12 pitting corrosion, or leakage due to localized corrosion.

13

14 Q. HOW DOES 192.605 PERTAIN TO THE GSRS FILING?

15 A. The regulation requires operators to prepare and follow a manual of written procedures
16 for conducting operations and maintenance activities. Black Hills Energy follows this
17 manual to identify and correct deficiencies within its system. Such deficiencies include
18 pressure drop, gas quality, leak repairs and exposed lines.

19

20 Q. HOW DOES 192.613 PERTAIN TO THE GSRS FILING?

21 A. Continuing surveillance requires an operator to examine their system on an ongoing
22 basis to determine and take appropriate action concerning changes in unusual
23 operating conditions.

1

2 Q. HOW DOES 192.625 PERTAIN TO THE GSRS FILING?

3 A. The regulation requires operators to odorize its lines so gas is readily detectable by a
4 person with a normal sense of smell. Paragraph (e) states that odorant must be
5 introduced without wide variations in the level of odorant. Black Hills Energy installed
6 and replaced antiquated equipment to properly manage these variations.

7

8 Q. HOW DOES 192.739 PERTAIN TO THE GSRS FILING?

9 A. The regulation requires operators to inspect and test regulators and relief devices
10 annually to ensure they are in good mechanical condition.

11

12 Q. HOW DOES 192.745 PERTAIN TO THE GSRS FILING?

13 A. Paragraph (b) of the Kansas regulation requires operators to take prompt remedial
14 action to correct any valve found inoperable. The valve was replaced in order to
15 maintain compliance with this part.

16

17 Q DOES BLACK HILLS ENERGY UTILIZE A SYSTEM TO PRIORITIZE WHICH
18 PIPE SEGMENTS REQUIRE REMEDIAL ACTIONS?

19 A. Yes, BHE uses a repair/replacement program for its long-term pipe replacements to
20 rank projects utilizing a points system. An order of priority is given based on such
21 factors including leak history, age of facility, proximity to the public, etc. A
22 Repair/Replacement Worksheet is completed to determine the replacement priority by

1 a point system. This program is for long-term pipe replacements and is not used for
2 emergency situations.

3

4 Q. ONCE IT IS DETERMINED THAT A PIPE SEGMENT REQUIRES REMEDIAL
5 MEASURES, HOW DOES BLACK HILLS ENERGY DETERMINE WHETHER
6 THE SEGMENT SHOULD BE REPAIRED OR REPLACED?

7 A. Black Hills Energy examines several factors on whether a segment should be repaired
8 or replaced. In the projects submitted in our GSRS filing, pipe segments were replaced
9 due to the existing pipe segment being of unapproved material, vintage of pipe, and
10 historical leaks.

11

12 Q. WHAT IS UNAPPROVED MATERIAL?

13 A. Unapproved material is defined as material not tested per a recognized standard in
14 Subpart A of 49 CFR Part 192, not approved for use by a specific section of the code,
15 or not approved by Black Hills material standards. This can include cast iron, bare
16 steel and polyvinyl chloride (PVC) pipe.

17

18 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

19 A. Yes, it does.

VERIFICATION

STATE OF NEBRASKA)
) ss:
COUNTY OF SARPY)

I, ANN L. STICHLER, being first duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared direct testimony, that I have read the testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.



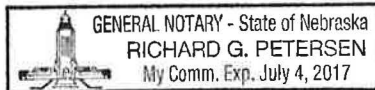
Ann L. Stichler

SUBSCRIBED AND SWORN to before me this 15th day of February, 2017.



Notary Public

Appointment/Commission Expires:



Black Hills/Kansas Gas Utility Company, LLC							
d/b/a Black Hills Energy							
Safety Related Project Index Summary							
Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Estimated Project Cost	Completion Date	Compliance Reference
1	Dodge City	Dodge City District Regulator Station Replacements #6, #7, #9	10051197	Closed	\$ 11,431	2/23/2016	192.739, 192.613
2	Dodge City	Dodge City District Regulator Station Replacements #8, #15, #19	10051805	Closed	\$ 14,206	6/17/2016	192.739, 192.613
3	Dodge City	Dodge City District Regulator Station Replacements #29, E7001, M8001	10054402	Closed	\$ 44,860	11/28/2016	192.739, 192.613
4	Dodge City	Trail Street Main Replacement	60023539	Closed	\$ 193,087	9/21/2015	192.487, 192.613
5	Dodge City	Pine Street Main Replacement in Fowler	60023573	Closed	\$ 27,218	11/9/2015	192.487, 192.613
6	Dodge City	Avenue K Main Installation for Integrity	60023773	Closed	\$ 8,722	11/12/2015	192.613
7	Dodge City	Fort Dodge District Regulator Station Replacement	60023845	Closed	\$ 35,183	1/22/2016	192.739, 192.613
8	Dodge City	Harris Street Main Replacement	60023847	Closed	\$ 33,642	12/20/2015	192.487, 192.613
9	Dodge City	Leland Street Main Replacement	60023981	Closed	\$ 107,110	2/25/2016	192.487, 192.613
10	Dodge City	Sheriden & Crawford Main Replacement in Ensign	60024180	Closed	\$ 75,907	4/26/2016	192.487, 192.613
11	Dodge City	Aztec & Sunnyside Main Replacement in Montezuma	60024289	Closed	\$ 51,634	5/13/2016	192.487, 192.613
12	Dodge City	First & Canal Main Replacement in Cimarron	60024376	Closed	\$ 111,414	7/19/2016	192.487, 192.613
13	Dodge City	Maple & Elm South of 5th Main Replacement in Fowler	60024773	Closed	\$ 12,868	10/6/2016	192.487, 192.613
14	Dodge City	Fourth Avenue Main Replacement in Fowler	60024823	Closed	\$ 25,432	10/28/2016	192.487, 192.613
15	Dodge City	Blanket Service Replacement - Cimarron	5215103133	Closed	\$ 3,023	12/31/2016	192.453, 192.613
16	Dodge City	Blanket Service Replacement - Dodge City	5215106133	Closed	\$ 17,645	12/31/2016	192.453, 192.613
17	Dodge City	Blanket Service Replacement - Ensign	5215110133	Closed	\$ 5,380	12/31/2016	192.453, 192.613
18	Dodge City	Blanket Service Replacement - Fowler	5215111133	Closed	\$ 3,647	12/31/2016	192.453, 192.613
19	Dodge City	Blanket Service Replacement - Meade	5215128133	Closed	\$ 4,631	12/31/2016	192.453, 192.613
20	Dodge City	Blanket Service Replacement - Montezuma	5215129133	Closed	\$ 1,970	12/31/2016	192.453, 192.613
21	Dodge City	Blanket Service Replacement - Offerle	5215133133	Closed	\$ 1,153	12/31/2016	192.453, 192.613
22	Dodge City	Blanket Main Replacement - Dodge City	5215525111	Closed	\$ 15,924	12/31/2016	192.487, 192.613
23	Garden City	Garden City District Regulator Station Replacement #1 & 12	10054400	Closed	\$ 28,956	9/30/2016	192.739, 192.613
24	Garden City	Garden City District Regulator Station Replacement #2	60024153	Closed	\$ 24,354	4/21/2016	192.739, 192.613
25	Garden City	Alley North of Hazel Main Replacement	60024220	Closed	\$ 30,620	4/15/2016	192.487, 192.613
26	Garden City	12th & 13th Alley North of Elm Main Replacement	60024447	Closed	\$ 7,247	8/15/2016	192.487, 192.613
27	Garden City	Maple Street Main Replacement	60024656	Closed	\$ 89,084	9/15/2016	192.487, 192.613
28	Garden City	Blanket Service Replacement - Garden City	5215113133	Closed	\$ 44,896	12/31/2016	192.453, 192.613
29	Garden City	Blanket Service Replacement - Garden City (rural)	5215114133	Closed	\$ 55,844	12/31/2016	192.453, 192.613
30	Goodland	High School Main Replacement	60023192	Closed	\$ 49,709	10/9/2015	192.487, 192.613
31	Goodland	Syracuse 16th to 18th Street Main Replacement	60023704	Closed	\$ 3,670	12/15/2015	192.739, 192.613
32	Goodland	4th - Center to Sherman Main Replacement	60023705	Closed	\$ 44,460	12/9/2015	192.487, 192.613
33	Goodland	Kanorado District Regulator Replacement #T3B02	60023765	Closed	\$ 7,409	12/10/2015	192.487, 192.613
34	Goodland	District Regulator Replacement DRS #31C16	60023868	Closed	\$ 3,670	12/15/2015	192.739, 192.613
35	Goodland	Road 3 & Road 50 Main Replacement	60024149	Closed	\$ 6,974	4/14/2016	192.487, 192.613
36	Goodland	Harrison - Washington at 8th Main Replacement	60024353	Closed	\$ 45,917	5/17/2016	192.487, 192.613
37	Goodland	Arcade to Harrison at 8th Main Replacement	60024453	Closed	\$ 11,471	8/29/2016	192.487, 192.613
38	Goodland	Blanket Service Replacements - Goodland	5215116133	Closed	\$ 196,299	12/31/2016	192.453, 192.613
39	Goodland	Blanket Main Replacements - Goodland	5215116134	Closed	\$ 89,673	12/31/2016	192.487, 192.613
40	Lawrence	East 11th Odorizer Replacement	10051868	Closed	\$ 54,034	1/4/2016	192.625, 192.613
41	Lawrence	11th & Haskell District Regulator Station Replacement	60023299	Closed	\$ 34,718	1/7/2016	192.739, 192.613
42	Lawrence	11th & Haskell Main Replacement	60023464	Closed	\$ 127,880	12/23/2015	192.487, 192.613
43	Lawrence	18th Terrace, Maple to Harper Main Replacement	60023553	Closed	\$ 40,706	12/31/2016	192.487, 192.613
44	Lawrence	Cadet Ave, 16th to Rose Ln Main Replacement	60024209	Closed	\$ 135,145	12/31/2016	192.487, 192.613
45	Lawrence	Blanket Service Replacement - Lawrence	5215099113	Closed	\$ 77,869	12/31/2016	192.453, 192.613
46	Lawrence	Blanket Service Replacement - Lawrence	5215099133	Closed	\$ 268,024	12/31/2016	192.453, 192.613
47	Liberal	Inman St South Main Replacement	60023941	Closed	\$ 11,079	1/18/2016	192.487, 192.613
48	Liberal	Inman St South 501-607 Main Replacement	60023948	Closed	\$ 18,976	1/22/2016	192.487, 192.613

Black Hills/Kansas Gas Utility Company, LLC							
d/b/a Black Hills Energy							
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Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Estimated Project Cost	Completion Date	Compliance Reference
49	Liberal	Inman St South Main St Main Replacement	60023952	Closed	\$ 29,783	1/29/2016	192.487, 192.613
50	Liberal	Courthouse and Wooten Main Replacement	60023954	Closed	\$ 19,801	2/11/2016	192.487, 192.613
51	Liberal	5th to 7th Nebraska & Missouri Main Replacement	60024065	Closed	\$ 28,281	3/4/2016	192.487, 192.613
52	Liberal	28 S Kansas Main Replacement	60024141	Closed	\$ 7,811	3/15/2016	192.487, 192.613
53	Liberal	Kansas & Lincoln 8th & 9th Main Replacement	60024144	Closed	\$ 22,762	3/17/2016	192.487, 192.613
54	Liberal	15th Nelson & Fairview Main Replacement	60024205	Closed	\$ 14,994	4/5/2016	192.487, 192.613
55	Liberal	5th and Jefferson Main Replacement	60024239	Closed	\$ 14,350	4/12/2016	192.487, 192.613
56	Liberal	11th to 15th Carpenter Drive & Nelson Main Replacement	60024347	Closed	\$ 16,066	5/11/2016	192.487, 192.613
57	Liberal	703 S Seward Main Replacement	60024369	Closed	\$ 3,619	5/13/2016	192.487, 192.613
58	Liberal	25 S Jordan Main Replacement	60024390	Closed	\$ 13,385	5/12/2016	192.487, 192.613
59	Liberal	1036 N Prospect Main Replacement	60024405	Closed	\$ 7,130	6/2/2016	192.487, 192.613
60	Liberal	11th to 15th Fairview & Nelson Main Replacement	60024448	Closed	\$ 5,536	7/1/2016	192.487, 192.613
61	Liberal	Liberal #12 District Regulator Replacement	60024457	Closed	\$ 7,133	7/28/2016	192.739, 192.613
62	Liberal	523 W 3rd Main Replacement	60024477	Closed	\$ 16,214	6/24/2016	192.487, 192.613
63	Liberal	212 S Roosevelt Main Replacement	60024505	Closed	\$ 6,165	6/29/2016	192.487, 192.613
64	Liberal	11th to 15th Western and Nelson Main Replacement	60024517	Closed	\$ 8,159	7/8/2016	192.487, 192.613
65	Liberal	Tice to Cartledge Main Installation Integrity	60024531	Closed	\$ 13,453	7/14/2016	192.613
66	Liberal	Locke Clay & Webster Main Replacement	60024547	Closed	\$ 4,382	7/19/2016	192.487, 192.613
67	Liberal	11th to 15th Sunset & Fairview Main Replacement	60024573	Closed	\$ 23,698	7/29/2016	192.487, 192.613
68	Liberal	Walnut & Seward Main Replacement	60024636	Closed	\$ 12,953	8/16/2016	192.487, 192.613
69	Liberal	Kansas & Walnut Main Replacement	60024664	Closed	\$ 37,516	8/25/2016	192.487, 192.613
70	Liberal	West 2nd St Road Main Replacement	60024690	Closed	\$ 33,512	9/15/2016	192.487, 192.613
71	Liberal	200 Block Van Buren Main Replacement	60024704	Closed	\$ 8,956	9/2/2016	192.487, 192.613
72	Liberal	3rd and Main Main Replacement	60024749	Closed	\$ 11,373	9/19/2016	192.487, 192.613
73	Liberal	High School RD Mays RD Main Replacement	60024811	Closed	\$ 8,879	10/10/2016	192.487, 192.613
74	Liberal	Locke Cain & Calhoun Main Replacement	60024827	Closed	\$ 29,733	11/1/2016	192.487, 192.613
75	Liberal	Blanket Service Replacement - Copeland	5215105133	Closed	\$ 7,733	12/31/2016	192.453, 192.613
76	Liberal	Blanket Service Replacement - Elkhart	5215109133	Closed	\$ 24,167	12/31/2016	192.453, 192.613
77	Liberal	Blanket Service Replacement - Hugoton	5215121133	Closed	\$ 41,144	12/31/2016	192.453, 192.613
78	Liberal	Blanket Service Replacement - Liberal	5215126133	Closed	\$ 224,463	12/31/2016	192.453, 192.613
79	Liberal	Blanket Service Replacement - Moscow	5215130133	Closed	\$ 9,537	12/31/2016	192.453, 192.613
80	Liberal	Blanket Service Replacement - Plains	5215136133	Closed	\$ 7,294	12/31/2016	192.453, 192.613
81	Liberal	Blanket Service Replacement - Rolla	5215137133	Closed	\$ 3,900	12/31/2016	192.453, 192.613
82	Liberal	Blanket Service Replacement - Satanta	5215138133	Closed	\$ 8,407	12/31/2016	192.453, 192.613
83	Liberal	Blanket Service Replacement - Sublette	5215142133	Closed	\$ 18,445	12/31/2016	192.453, 192.613
84	Wichita	T1A Yoder Rd Transmission Replacement	10051599	Closed	\$ 527,083	10/14/2015	192.485, 192.613
85	Wichita	Rectifier #27 Replacement	10052381	Closed	\$ 12,832	12/16/2015	192.463, 192.613
86	Wichita	Southern Star at Lyons - Replace Odorizer	10052390	Closed	\$ 48,448	3/29/2016	192.625, 192.613
87	Wichita	6M4 Haven Main Replacement	10054387	Closed	\$ 39,440	3/1/2016	192.485, 192.613
88	Wichita	T1A Arlington Road Transmission Replacement	10054747	Closed	\$ 308,741	6/16/2016	192.485, 192.613
89	Wichita	Lyons North Transmission Replacement	10056229	Closed	\$ 74,861	11/3/2016	192.485, 192.613
90	Wichita	Wichita #2688 25% Bare Service/Yard Line Replacement	60022805	Closed	\$ 56,331	12/30/2015	192.453, 192.613
91	Wichita	Meridian & Irving District Regulator Station Installation	60023218	Closed	\$ 24,813	2/12/2016	192.739, 192.613
92	Wichita	Flora & 2nd Main Replacement	60023404	Closed	\$ 50,649	11/5/2015	192.487, 192.613
93	Wichita	Flora & 2nd Service Replacement	60023406	Closed	\$ 21,643	11/12/2015	192.453, 192.613
94	Wichita	Willowbrook Main Replacement	60023420	Closed	\$ 32,327	11/12/2015	192.487, 192.613
95	Wichita	Elder & 2nd Main Replacement	60023431	Closed	\$ 52,126	10/28/2015	192.487, 192.613
96	Wichita	Elder & 2nd Service Replacement	60023433	Closed	\$ 21,801	11/16/2015	192.453, 192.613

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Safety Related Project Index Summary							
Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Estimated Project Cost	Completion Date	Compliance Reference
97	Wichita	Nickerson #2222 25% Bare Service/Yard Line Replacement	60023536	Closed	\$ 32,543	12/30/2015	192.453, 192.613
98	Wichita	3100 McCormick Main Replacement	60023634	Closed	\$ 26,423	10/20/2015	192.487, 192.613
99	Wichita	Sedgwick & Irving Main Replacement	60023718	Closed	\$ 1,102	12/17/2015	192.487, 192.613
100	Wichita	Irving & Sedgwick District Regulator Retirement #59	60023719	Closed	\$ 8,387	2/15/2016	192.739, 192.613
101	Wichita	Hoover & 23rd Main Replacement	60023726	Closed	\$ 18,654	11/25/2015	192.487, 192.613
102	Wichita	Richmond & Walker Main Replacement	60023736	Closed	\$ 41,287	12/11/2015	192.487, 192.613
103	Wichita	Richmond & Walker Service Replacement	60023737	Closed	\$ 31,594	12/11/2015	192.453, 192.613
104	Wichita	Hutchinson #3435 25% Bare Service/Yard Line Replacement	60023759	Closed	\$ 62,091	10/27/2015	192.453, 192.613
105	Wichita	Richmond & Irving District Regulator Retirement #25	60023767	Closed	\$ 1,083	2/16/2016	192.739, 192.613
106	Wichita	Line 27 Main Replacement	60023777	Closed	\$ 104,797	12/7/2015	192.487, 192.613
107	Wichita	Westlink & 13th Main Replacement	60023789	Closed	\$ 32,192	3/2/2016	192.487, 192.613
108	Wichita	Radio Tower Main Replacement	60023839	Closed	\$ 34,842	12/16/2015	192.487, 192.613
109	Wichita	167th & 29th Main Replacement	60023848	Closed	\$ 15,461	1/14/2016	192.487, 192.613
110	Wichita	Hutchinson #3435 25% Bare Service/Yard Line Replacement	60023851	Closed	\$ 14,929	12/7/2015	192.453, 192.613
111	Wichita	Dale & 2nd Main Replacement	60023858	Closed	\$ 14,680	1/18/2016	192.487, 192.613
112	Wichita	Dale & 2nd District Regulator Install	60023863	Closed	\$ 7,007	1/12/2016	192.739, 192.613
113	Wichita	Main & 3rd Plevna Main Replacement	60023866	Closed	\$ 25,880	1/11/2016	192.487, 192.613
114	Wichita	Orme & Main Main Replacement	60023929	Closed	\$ 84,899	2/2/2016	192.487, 192.613
115	Wichita	Wichita #2688 25% Bare Service/Yard Line Replacement	60023937	Closed	\$ 39,255	8/1/2016	192.453, 192.613
116	Wichita	Mt Carmel & 18th Main Replacement	60023944	Closed	\$ 20,791	2/8/2016	192.487, 192.613
117	Wichita	2nd & Lorraine Main Replacement	60023995	Closed	\$ 13,645	3/2/2016	192.487, 192.613
118	Wichita	University & All Hallows Main Replacement	60023998	Closed	\$ 10,010	2/23/2016	192.487, 192.613
119	Wichita	Gow & 18th Main Replacement	60024030	Closed	\$ 3,293	3/1/2016	192.487, 192.613
120	Wichita	Line 28 Winfield Main Replacement	60024031	Closed	\$ 36,907	3/18/2016	192.487, 192.613
121	Wichita	Gow & 18th Service Replacement	60024035	Closed	\$ 52,860	3/1/2016	192.453, 192.613
122	Wichita	Pershing & Central Main Replacement	60024061	Closed	\$ 48,409	3/15/2016	192.487, 192.613
123	Wichita	Pershing & Central Service Replacement	60024063	Closed	\$ 29,439	3/15/2016	192.453, 192.613
124	Wichita	Douglas & Dellrose Main Replacement	60024068	Closed	\$ 34,319	3/28/2016	192.487, 192.613
125	Wichita	Douglas & Dellrose Service Replacement	60024069	Closed	\$ 16,009	3/28/2016	192.453, 192.613
126	Wichita	Richmond & 17th Main Replacement	60024121	Closed	\$ 49,280	3/22/2016	192.487, 192.613
127	Wichita	Richmond & 17th Service Replacement	60024122	Closed	\$ 25,616	3/21/2016	192.453, 192.613
128	Wichita	Hollowpool Main Replacement	60024135	Closed	\$ 15,258	3/28/2016	192.487, 192.613
129	Wichita	Sedgwick Line Main Replacement	60024137	Closed	\$ 36,469	4/7/2016	192.487, 192.613
130	Wichita	1st & Market Main Replacement	60024236	Closed	\$ 6,881	4/13/2016	192.487, 192.613
131	Wichita	Grand Street Hutchinson District Regulator Replacement	60024238	Closed	\$ 3,460	5/24/2016	192.739, 192.613
132	Wichita	West & MacArthur District Regulator Replacement	60024240	Closed	\$ 3,117	4/8/2016	192.739, 192.613
133	Wichita	Wichita Bare Service/Yard Line Replacement	60024287	Closed	\$ 32,889	9/19/2016	192.453, 192.613
134	Wichita	Wichita #2663 Bare Service/Yard Line Replacement	60024329	Closed	\$ 130,061	9/19/2016	192.453, 192.613
135	Wichita	Winfield Valve Replacement DRS#771960	60024389	Closed	\$ 4,866	6/8/2016	192.745, 192.613
136	Wichita	Line 28 Creek Crossing Main Replacement	60024400	Closed	\$ 72,076	6/7/2016	192.487, 192.613
137	Wichita	301 S Sycamore Service Replacement	60024703	Closed	\$ 8,773	8/12/2016	192.453, 192.613
138	Wichita	Blanket Service Replacement - Andale	5215100113	Closed	\$ 4,228	12/31/2016	192.453, 192.613
139	Wichita	Blanket Service Replacement - Colwich	5215104133	Closed	\$ 9,511	12/31/2016	192.453, 192.613
140	Wichita	Blanket Main Replacement - Colwich	5215104134	Closed	\$ 6,066	12/31/2016	192.487, 192.613
141	Wichita	Blanket Service Replacement - Hackney	5215118113	Closed	\$ 551	12/31/2016	192.453, 192.613
142	Wichita	Blanket Service Replacement - Hackney	5215118133	Closed	\$ 7,786	12/31/2016	192.453, 192.613
143	Wichita	Blanket Service Replacement - Hutchinson	5215122133	Closed	\$ 32,206	12/31/2016	192.453, 192.613
144	Wichita	Blanket Service Replacement - Maize	5215127133	Closed	\$ 10,569	12/31/2016	192.453, 192.613

Black Hills/Kansas Gas Utility Company, LLC							
d/b/a Black Hills Energy							
Safety Related Project Index Summary							
Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Estimated Project Cost	Completion Date	Compliance Reference
145	Wichita	Blanket Main Replacement - Maize	5215127134	Closed	\$ 2,697	12/31/2016	192.487, 192.613
146	Wichita	Blanket Service Replacement - Norwich	5215132133	Closed	\$ 779	12/31/2016	192.453, 192.613
147	Wichita	Blanket Service Replacement - Sterling	5215140133	Closed	\$ 2,937	12/31/2016	192.453, 192.613
148	Wichita	Blanket Service Replacement - Wichita	5215143133	Closed	\$ 308,701	12/31/2016	192.453, 192.613
149	Wichita	Blanket Main Replacement - Wichita	5215143134	Closed	\$ 143,977	12/31/2016	192.487, 192.613
150	Wichita	Blanket Service Replacement - Windom	5215146113	Closed	\$ 18,431	12/31/2016	192.453, 192.613
151		Intentionally pulled from filing					
152		Intentionally pulled from filing					
153	Wichita	Blanket Service Replacement - Agenda	5215149113	Closed	\$ 20,152	12/31/2016	192.453, 192.613
154	Wichita	Blanket Service Replacement - Viola	5215202133	Closed	\$ 3,662	12/31/2016	192.453, 192.613

Black Hills/Kansas Gas Utility Company, LLC							
d/b/a Black Hills Energy							
Relocation Project Index Summary							
Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Estimated Project Cost	Completion Date	State/Federal or Local project
1	Lawrence	KU Central District Main Relocation	60023621	Closed	\$ 110,061	10/5/2015	State
2	Lawrence	Blanket Main Replacement - Lawrence	5215099111	Closed	\$ 19,692	12/31/2016	City
3		Intentionally pulled from filing					
4	Liberal	Highway 54 and Clay Main Relocation	60024620	Closed	\$ 28,422	8/10/2016	State
5	Liberal	Inman and Bucknell Main Relocation - Sublette	60024750	Closed	\$ 19,796	9/16/2016	City
6	Wichita	Elder & Elm Relocation	60024039	Closed	\$ 18,257	4/6/2016	City
7	Wichita	Elder & Elm Service Relocation	60024041	Closed	\$ 23,160	4/6/2016	City

SUMMARY OF SAFETY-RELATED & RELOCATION PROJECTS

Safety-Related Projects

- Project Summary includes the primary and, where applicable, a secondary, complimentary regulation requirement (49 CFR Part 192 and Kansas Administrative Regulation (K.A.R.)) that mandated replacement or other action.
- Yard Lines: Black Hills’ policy regarding yard line replacement complies with 192.453 General. (K.A.R. 82-11-4(k)). Additionally, upon repair of a leak where the cause was undetermined, it is documented to be corrosion to be the most conservative in terms of more quickly triggering replacement in an area, and as per KCC Pipeline Safety Staff’s guidance.
- Transmission & Distribution Replacement Program: Black Hills’ policy regarding a repair/replacement program complies with 192.465 External corrosion control: Monitoring. (K.A.R. 82-11-4(q)). More specifically, Black Hills’ Repair/Replacement Program is prioritized by leak history, segment material, leak potential, and potential hazard that leaks may cause. Systems are divided into segments (over 500 ft but less than 5,280 ft of the same material and age) and evaluated to determine a replacement priority by a point system. The minimum point threshold for main replacements in Kansas is 500 points. Main segments rated below 500 points may be replaced at Black Hills’ discretion based on additional safety factors and/or business considerations.

➤ **Project Summaries (Safety-Related)**

<p>SR-1: Dodge City District Regulator Station Replacements (WO# 10051197)</p> <p>Comments: These 3 DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #6, #7, #9.</p>
<p>SR-2: Dodge City District Regulator Station Replacements (WO# 10051805)</p> <p>Comments: These 3 DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #8, #15, #19.</p>
<p>SR-3: Dodge City District Regulator Station Replacements (WO# 10054402)</p> <p>Comments: These 3 DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #29, E7001 & M8001.</p>
<p>SR-4: Trail Street Main Replacement, Dodge City (WO#60023539)</p> <p>Comments: This replacement project eliminated 1,280’ of 4” bare steel main that was installed prior to 1950. Records indicate that two class 2 leaks were repaired on this section of pipe over the past five years.</p>

<p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 1,298' of 4" coated steel pipe and tied into coated steel pipe on each end. Pressure on main is 90 psi.</p> <p>Repair/Replacement Program points for this segment of line were 330.</p>
<p>SR-5: Pine Street Main Replacement, Fowler (WO #60023573)</p> <p>Comments: This replacement project eliminated 900' of 2" bare steel main that was installed prior to 1950. Records indicate that two class 2 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 866' of 2" PE pipe and tied into coated steel and PE pipe on each end. Repair/Replacement Program points for this segment of line were 330.</p>
<p>SR-6: Avenue K Main Install for Integrity (WO #60023773)</p> <p>Comments: Installed 442' of 2" PE to provide loop feed in this area. Several residential homes and four large apartment complexes are served by this line.</p>
<p>SR-7: Fort Dodge District Regulator Replacement (WO #60023845)</p> <p>Comments: This replacement eliminated obsolete regulators & reliefs and replaced them with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available.</p>
<p>SR-8: Harris Street Main Replacement (WO #60023847)</p> <p>Comments: This replacement project eliminated 820' of 2" bare steel main that was installed prior to 1950. Records indicate the pipe was badly pitted, shallow in several areas, within 3' of a residential home and had one class 2 leak in the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 820' of 2" PE pipe and tied into coated steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 300.</p>

SR-9: Leland Street Main Replacement (WO #60023981)

Comments: This replacement project eliminated 1,280' of 4" bare and 128' of 2" coated steel main that was installed prior to 1950. Records indicate the pipe was badly pitted, shallow in several areas and under hard surface.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,286' of 4" and 130' of 2" PE pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 300.

SR-10: Sheriden & Crawford Main Replacement (WO #60024180)

Comments: This replacement project eliminated 1,511' of 2" bare steel main that was installed prior to 1950. Records indicate the pipe was badly pitted and shallow in several areas.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,511' of 2" PE pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 270.

SR-11: Aztec & Sunnyside Main Replacement (WO #60024289)

Comments: This replacement project eliminated 670' of 2" bare steel main that was installed prior to 1950. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 670' of 2" PE pipe and tied into coated steel pipe on each end. Repair/Replacement Program points for this segment of line were 340.

SR-12: First & Canal Main Replacement (WO #60024376)

Comments: This replacement project eliminated 800' of 4" bare steel main that was installed prior to 1950. Records indicate that one class 2 and one class 3 leak were repaired on this section of pipe over the past five years. The line was also extremely shallow and had been hit in two places.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 816' of 4" PE pipe and tied into steel pipe on each end.

Repair/Replacement Program points for this segment of line were 280.

SR-13: Maple & Elm, South of 5th Main Replacement (WO #60024773)

Comments: This replacement project eliminated 725' of 2" bare steel main that was installed prior to 1950. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 727' of 2" PE pipe and tied into coated steel and PE pipe on each end. Repair/Replacement Program points for this segment of line were 280.

SR-14: Fourth Avenue Main Replacement (WO #60024823)

Comments: This replacement project eliminated 987' of 2" bare steel main that was installed prior to 1950. Records indicate that two class 2 leaks were repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 987' of 2" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 290.

SR-15: Cimarron Blanket Service Replacements (WO #5215103133)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 24 replacements included in this filing are from November of 2015 through December of 2016.

SR-16: Dodge City Blanket Service Replacements (WO #5215106133)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 8 replacements included in this filing are from November of 2015 through December of 2016.

SR-17: Ensign Blanket Service Replacements (WO #5215110133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 8 replacements included in this filing are from November of 2015 through December of 2016.
SR-18: Fowler Blanket Service Replacements (WO #5215111133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 18 replacements included in this filing are from November of 2015 through December of 2016.
SR-19: Meade Blanket Service Replacements (WO #5215128133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 2 replacements included in this filing are from November of 2015 through December of 2016.
SR-20 Montezuma Blanket Service Replacements (WO #5215129133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 8 replacements included in this filing are from November of 2015 through December of 2016.
SR-21: Offerle Blanket Service Replacements (WO #5215133133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacements included in this filing are from November of 2015 through December of 2016.
SR-22: Dodge City Blanket Main Replacements (WO #5215525111)
Comments: This blanket work order is for the replacement of main pipe. These types of projects typically eliminate leaking pipe and require immediate replacement. The 2 replacements included in this filing are from November of 2015 through December of 2016.
SR-23: Garden City District Regulator Station Replacements #1 & 12 (WO #10054400)
Comments: These 2 DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #1 & 12.
SR-24: Garden City District Regulator Station Replacements #2 (WO #60024153)
Comments: This DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #2.
SR-25: Alley North of Hazel Main Replacement (WO #60024220)
Comments: This replacement project eliminated 649' of 2" bare steel main that was installed prior to 1950. Records indicate the pipe was badly pitted and under hard surface material. The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

<p>The line was replaced with 649' of 2" PE pipe and tied into PE pipe. Repair/Replacement Program points for this segment of line were 300.</p>
<p>SR-26: 12th & 13th Alley North of Elm Main Replacement (WO #60024447)</p>
<p>Comments: This replacement project eliminated 356' of 2" bare steel main that was installed prior to 1950. Records indicate the pipe was badly pitted, under hard surface material, and shallow in several areas.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 356' of 2" PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 300.</p>
<p>SR-27: Maple Street Main Replacement (WO #60024656)</p>
<p>Comments: This replacement project eliminated 2,377' of 2" bare steel main that was installed prior to 1950. Records indicate the pipe was badly pitted, under hard surface material, and shallow in several areas.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 2,371' of 2" PE pipe and tied into PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 330.</p>
<p>SR-28: Garden City Blanket Service Replacements (WO #5215113133)</p>
<p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 63 replacements included in this filing are from November of 2015 through December of 2016.</p>
<p>SR-29: Garden City (rural) Blanket Service Replacements (WO #5215114133)</p>
<p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.</p> <p>Repair/Replacement Program points for this segment of line were 290.</p>
<p>SR-30: High School Main Replacement (WO #60023192)</p>
<p>Comments: This replacement project eliminated 2,023' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 1, one class 2, and five class 3 leaks were repaired on this section of pipe over the past five years.</p>

<p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 2,023' of 2" PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 480.</p>
<p>SR-31: Syracuse 16th to 18th Street Main Replacement (WO #60023704)</p> <p>Comments: This replacement project eliminated 684' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 and three class 3 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 684' of 2" PE pipe and tied into coated steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 410.</p>
<p>SR-32: 4th – Center to Sherman Main Replacement (WO #60023705)</p> <p>Comments: This replacement project eliminated 435' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 and four class 3 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 435' of 2" PE pipe and tied into coated steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 420.</p>
<p>SR-33: Kanorado Regulator Station Replacement #T3B02 (WO #60023765)</p> <p>Comments: This DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #T3B02.</p>
<p>SR-34: Regulator Station Replacement #31C16 (WO #60023868)</p> <p>Comments: This DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #31C16.</p>

SR-35: Road 3 & Road 50 Main Replacement (WO #60024149)

Comments: This replacement project eliminated 3,822' of 2" PVC main that was installed after 1970. Records indicate that eleven class 3 leaks were repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 3,822' of 2" PE pipe and tied into PVC pipe on each end.

Repair/Replacement Program points for this segment of line were 370.

SR-36: Harrison – Washington at 8th Main Replacement (WO #60024353)

Comments: This replacement project eliminated 1,488' of 2" poorly coated steel main that was installed prior to 1970. Records indicate that two class 2 and five class 3 leaks were repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,488' of 2" PE pipe and tied into coated steel and PE pipe on each end.

Repair/Replacement Program points for this segment of line were 460.

SR-37: Arcade to Harrison at 8th Main Replacement (WO #60024453)

Comments: This replacement project eliminated 734' of 2" poorly coated steel main that was installed prior to 1970. Records indicate that two class 2 and four class 3 leaks were repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 734' of 2" PE pipe and tied into coated steel and PE pipe on each end. Repair/Replacement Program points for this segment of line were 410.

SR-38: Goodland Blanket Service Replacements (WO #5215116133)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 99 replacements included in this filing are from November of 2015 through December of 2016.

SR-39: Goodland Blanket Main Replacements (WO #5215116134)
Comments: This blanket work order is for the replacement of main pipe. These types of projects typically eliminate leaking pipe and require immediate replacement. The 14 replacements included in this filing are from November of 2015 through December of 2016.
SR-40: E 11th Odorizer Replacement (WO #10051868)
Comments: This project eliminated an old obsolete bypass odorizer with malfunctioning components. A new standard injection odorizer was installed.
SR-41: 11th & Haskell Regulator Station Replacement (WO #60023299)
Comments: This DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #12845
SR-42: 11th & Haskell Main Replacement (WO #60023464)
Comments: This replacement project eliminated 1,140' of 8" poorly coated steel main that was installed prior to 1970. Records indicate the line was located under hard surface material, within close proximity of buildings, and had limited access for Black Hills.
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.
The line was replaced with 1,120' of 6" coated steel pipe and tied into coated and bare steel pipe on each end.
Repair/Replacement Program points for this segment of line were 280.
SR-43: 18th Terrace, Maple to Harper Main Replacement (WO #60023553)
Comments: This replacement project eliminated 840' of 2" bare, 310' of 2" coated steel, and 130' of Aldyl-A pipe that was installed prior to 1970.
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.
The line was replaced with 1,238' of 2" PE pipe and tied into PE pipe on each end.
Repair/Replacement Program points for this segment of line were 300.
SR-44: Cadet Ave – 16th to Rose Lane Main Replacement (WO #60024209)
Comments: This replacement project eliminated 1,435' of 3" and 1,390' of 2" bare steel; 35' of 3" coated steel pipe; 140' of 2" and 150' of 1.25" Aldyl-A pipe that was installed prior to 1970.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 3,134' of 2" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 300.

SR-45: Lawrence Blanket Service Replacements (WO #5215099113)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 8 replacements included in this filing are from November of 2015 through December of 2016.

SR-46: Lawrence Blanket Service Replacements (WO #5215099133)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 146 replacements included in this filing are from November of 2015 through December of 2016.

SR-47: Inman Street South Main Replacement (WO #60023941)

Comments: This replacement project eliminated 130' of 4" and 90' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 130' of 4" and 255' of 2" PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 310.

SR-48: Inman Street South 501-607 Main Replacement (WO #60023948)

Comments: This replacement project eliminated 393' of 4" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 393' of 4" PE pipe and tied into PE and coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 290.

SR-49: Inman Street South Main Replacement (WO #60023952)

Comments: This replacement project eliminated 510' of 4" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 510' of 4" PE pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 290.

SR-50: Courthouse and Wooten Main Replacement (WO #60023954)

Comments: This replacement project eliminated 280' of 4" and 90' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 355' of 4" and 85' of 2" PE pipe and tied into PE and coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 290.

SR-51: 5th to 7th Nebraska & Missouri Main Replacement (WO #60024065)

Comments: This replacement project eliminated 465' of 3" and 400' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 900' of 2" PE pipe and tied into coated steel pipe. Repair/Replacement Program points for this segment of line were 300.

SR-52: 28 S Kansas Main Replacement (WO #60024141)

Comments: This replacement project eliminated 117' of 6" bare steel main that was installed prior to 1950. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 117' of 4" PE pipe and tied into PE and bare steel pipe on each end. Repair/Replacement Program points for this segment of line were 350.

SR-53: Kansas & Lincoln, 8th & 9th Main Replacement (WO #60024144)

Comments: This replacement project eliminated 291' of 4" bare steel main that was installed prior to 1970. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 291' of 4" PE pipe and tied into PE and coated steel pipe on each end. Repair/Replacement Program points for this segment of line were 370.

SR-54: 15th Nelson & Fairview Main Replacement (WO #60024205)

Comments: This replacement project eliminated 346' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 346' of 2" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

SR-55: 5th & Jefferson Main Replacement (WO #60024239)

Comments: This replacement project eliminated 50' of 2" poorly coated steel main that was installed prior to 1970. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 50' of 2" PE pipe and tied into coated steel pipe on each end. Repair/Replacement Program points for this segment of line were 330.

SR-56: 11th to 15th – Carpenter & Nelson Main Replacement (WO #60024347)

Comments: This replacement project eliminated 287' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 287' of 2" PE pipe and tied into PE and coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

SR-57: 703 S Seward Main Replacement (WO #60024369)

Comments: This replacement project eliminated 10' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 10' of 2" PE pipe and tied into PE and bare steel pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

SR-58: 25 S Jordan Main Replacement (WO #60024390)

Comments: This replacement project eliminated 152' of 6" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 152' of 4" PE pipe and tied into PE and bare steel pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

<p>SR-59: 1036 N Prospect Main Replacement (WO #60024405)</p> <p>Comments: This replacement project eliminated 62' of 3" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 62' of 4" PE pipe and tied into bare steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 310.</p>
<p>SR-60: 11th to 15th – Fairview & Nelson Main Replacement (WO #60024448)</p> <p>Comments: This replacement project eliminated 358' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 358' of 2" PE pipe and tied into PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 310.</p>
<p>SR-61: District Regulator Replacement DRS#12 (WO #60024457)</p> <p>Comments: This DRS upgrades eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #12.</p>
<p>SR-62: 523 W 3rd Main Replacement (WO #60024477)</p> <p>Comments: This replacement project eliminated 204' of 6" and 92' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 296' of 4" PE pipe and tied into bare steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 320.</p>

<p>SR-63: 212 S Roosevelt Main Replacement (WO #60024505)</p> <p>Comments: This replacement project eliminated 105' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 105' of 2" PE pipe and tied into bare steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 290.</p>
<p>SR-64: 11th to 15th – Western & Nelson Main Replacement (WO #60024517)</p> <p>Comments: This replacement project eliminated 347' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 347' of 2" PE pipe and tied into PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 310.</p>
<p>SR-65: Tice to Cartlidge Main Install Integrity (WO #60024531)</p> <p>Comments: Installed 1,030' of 2" PE to provide loop feed in this area. Pressure was dropping below 8 psi and this loop raised it 13 psi.</p>
<p>SR-66: Locke – Clay & Webster Main Replacement (WO #60024547)</p> <p>Comments: This replacement project eliminated 10' of 3" and 132' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 142' of 2" PE pipe and tied into bare steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 290.</p>

SR-67: 11th to 15th Sunset & Fairview Main Replacement (WO #60024573)

Comments: This replacement project eliminated 646' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 646' of 2" PE pipe and tied into PE and coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

SR-68: Walnut & Seward Main Replacement (WO #60024636)

Comments: This replacement project eliminated 520' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 520' of 2" PE pipe and tied into PE pipe.

Repair/Replacement Program points for this segment of line were 310.

SR-69: Kansas & Walnut Main Replacement (WO #60024664)

Comments: This replacement project eliminated 375' of 4", 70' of 3", and 90' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 3 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 375' of 4" and 160' of 2" PE pipe and tied into bare steel and PE pipe on each end.

Repair/Replacement Program points for this segment of line were 310.

SR-70: West 2nd Street Main Replacement (WO #60024690)

Comments: This replacement project eliminated 1,622' of 1.25" bare steel main that was installed prior to 1970.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,622' of 2" PE pipe and tied into coated steel and PE pipe on each end.

Repair/Replacement Program points for this segment of line were 280.

SR-71: 200 Block Van Buren Main Replacement (WO #60024704)

Comments: This replacement project eliminated 203' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 257' of 2" PE pipe and tied into bare steel.

Repair/Replacement Program points for this segment of line were 310.

SR-72: 3rd & Main Main Replacement (WO #60024749)

Comments: This replacement project eliminated 278' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 278' of 2" PE pipe and tied into bare steel and PE pipe on each end.

Repair/Replacement Program points for this segment of line were 330.

<p>SR-73: High School Road & Mays Road Main Replacement (WO #60024811)</p> <p>Comments: This replacement project eliminated 180' of 2" bare steel main that was installed prior to 1970.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 225' of 2" PE pipe and tied into coated steel. Repair/Replacement Program points for this segment of line were 280.</p>
<p>SR-74: Locke Cain & Calhoun Main Replacement (WO #60024827)</p> <p>Comments: This replacement project eliminated 170' of 3" and 800' of 2" bare steel main that was installed prior to 1970. Records indicate that two class 2 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 1,261' of 2" PE pipe and tied into bare steel and PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 320.</p>
<p>SR-75: Blanket Service Replacement Copeland (WO #5215105133)</p> <p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.</p>
<p>SR-76: Blanket Service Replacement Elkhart (WO #5215109133)</p> <p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 9 replacements included in this filing are from November of 2015 through December of 2016.</p>
<p>SR-77: Blanket Service Replacement Hugoton (WO #5215121133)</p> <p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 26 replacements included in this filing are from November of 2015 through December of 2016.</p>
<p>SR-78: Blanket Service Replacement Liberal (WO #5215126133)</p> <p>Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 221 replacements included in this filing are from November of 2015 through December of 2016.</p>

SR-79: Blanket Service Replacement Moscow (WO #5215130133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 9 replacements included in this filing are from November of 2015 through December of 2016.
SR-80: Blanket Service Replacement Plains (WO #5215136133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.
SR-81: Blanket Service Replacement Rolla (WO #5215137133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacements included in this filing are from November of 2015 through December of 2016.
SR-82: Blanket Service Replacement Satanta (WO #5215138133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 5 replacements included in this filing are from November of 2015 through December of 2016.
SR-83 Blanket Service Replacement Sublette (WO #5215142133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 28 replacements included in this filing are from November of 2015 through December of 2016.
SR-84: T1A Yoder Rd Transmission Replacement (WO #10051599)
Comments: This replacement project eliminated 7,974' of 8" bare steel main that was installed prior to 1970. Records indicate that three class 3 leaks were repaired on this section of pipe over the past five years.
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.
The line was replaced with 7,974' of 8" coated pipe and tied into coated steel pipe on each end.
Repair/Replacement Program points for this segment of line were 310.
SR-85: Rectifier #27 Replacement (WO #10052381)
Comments: Replaced rectifier #27 due to depleted ground bed.
SR-86: Southern Star at Lyons Odorizer Replacement (WO #10052390)
Comments: This project eliminated an old obsolete bypass odorizer with malfunctioning components. A new standard odorizer was installed.

SR-87: 6M4 Haven Main Replacement (WO #10054387)

Comments: This replacement project eliminated 2,160' of 1.25" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years and the pipe was very shallow.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 2,260' of 2" PE pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 320.

SR-88: T1A Arlington Road Main Replacement (WO #10054747)

Comments: This replacement project eliminated 3,800' of 8" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 3,827' of 8" coated steel pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 330.

SR-89: Lyons North Transmission Replacement (WO #10056229)

Comments: This replacement project eliminated 895' of 6" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 895' of 6" coated steel pipe and tied into bare steel pipe on each end.

Repair/Replacement Program points for this segment of line were 340.

SR-90: Wichita #2688 25% Bare Service/Yard Line Replacement (WO #60022805)

Comments: The 25 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of “corrosion” was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.

Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced
2688	595	149	25.04	1/16/2015	25

SR-91: Meridian & Irving District Regulator Station Install (WO #60023218)

Comments: This DRS was installed to allow the retirement of seven smaller obsolete district regulator stations along Irving Street. DRS #385.

SR-92: Flora & 2nd Main Replacement (WO #60023404)

Comments: This replacement project eliminated 1,983’ of 2” bare steel main that was installed prior to 1970. Records indicate that ten class 2 leaks were repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,983’ of 2” PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 630.

SR-93: Flora & 2nd Service Replacement (WO #60023406)

Comments: In conjunction with the above noted main replacement (SR-89), 23 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with ½” PE pipe.

SR-94: Willowbrook Main Replacement (WO #60023420)

Comments: This replacement project eliminated 2,000’ of 4” bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was repaired on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 2,058’ of 2” PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 320.

<p>SR-95: Elder & 2nd Main Replacement (WO #60023431)</p> <p>Comments: This replacement project eliminated 1,893' of 2" bare steel main that was installed prior to 1970. Records indicate that ten class 2 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 1,911' of 2" PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 610.</p>																	
<p>SR-96: Elder & 2nd Service Replacement (WO #60023433)</p> <p>Comments: In conjunction with the above noted main replacement (SR-92), 20 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.</p>																	
<p>SR-97: Nickerson #2222 25% Bare Service/Yard Line Replacement (WO #60023536)</p> <p>Comments: The 39 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of "corrosion" was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.</p> <table border="1"> <thead> <tr> <th>Map Number</th> <th>Original Count</th> <th>Number of Leaks</th> <th>Percent</th> <th>Trigger Date</th> <th>Number Replaced</th> </tr> </thead> <tbody> <tr> <td>2222</td> <td>187</td> <td>36</td> <td>19.26</td> <td>NA</td> <td>39</td> </tr> </tbody> </table>						Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced	2222	187	36	19.26	NA	39
Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced												
2222	187	36	19.26	NA	39												
<p>SR-98: 3100 McCormick Main Replacement (WO #60023634)</p> <p>Comments: This replacement project eliminated 300' of 10" coated steel main that was installed prior to 1970. The high pressure main was located under batting cages and bleachers.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 304' of 6" coated steel pipe and tied into coated steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 290.</p>																	
<p>SR-99: Sedgwick & Irving Main Replacement (WO #60023718)</p> <p>Comments: This replacement project eliminated 400' of 2" bare steel main that was installed prior to 1970. Records indicate that three class 2 leaks were repaired on this section of pipe over the past five years.</p>																	

<p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 410' of 2" PE pipe and tied into PE and coated steel pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 420.</p>
<p>SR-100: Irving & Sedgwick District Regulator Retirement DRS #59 (WO #60023719)</p> <p>Comments: In conjunction with the above noted DRS replacement (SR-88), this DRS was retired from service.</p>
<p>SR-101: Hoover & 23rd Main Replacement (WO #60023726)</p> <p>Comments: This replacement project eliminated 673' of 2" bare steel main that was installed prior to 1970. Records indicate that three class 2 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 683' of 2" PE pipe and tied into PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 380.</p>
<p>SR-102: Richmond & Walker Main Replacement (WO #60023736)</p> <p>Comments: This replacement project eliminated 982' of 2" bare steel main that was installed prior to 1970. Records indicate that eleven class 2 leaks were repaired on this section of pipe over the past five years.</p> <p>The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.</p> <p>The line was replaced with 982' of 2" PE pipe and tied into PE pipe on each end.</p> <p>Repair/Replacement Program points for this segment of line were 620.</p>
<p>SR-103: Richmond & Walker Service Replacement (WO #60023737)</p> <p>Comments: In conjunction with the above noted main replacement (SR-98), 33 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with 1/2" PE pipe.</p>

SR-104: Hutchinson #3435 25% Bare Service/Yard Line Replacement (WO #60023759)					
Comments: The 39 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of “corrosion” was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.					
Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced
3435	102	21	20.58	NA	39
SR-105: Richmond & Irving District Regulator Retirement DRS #25 (WO #60023767)					
Comments: In conjunction with the above noted DRS replacement (SR-88), this DRS was retired from service.					
SR-106: Line 27 Main Replacement (WO #60023777)					
Comments: This replacement project eliminated 3,100’ of 8” bare steel main that was installed prior to 1950. Records indicate that one class 1 leak was repaired on this section of pipe over the past five years.					
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.					
The line was replaced with 3,107’ of 2” PE pipe and tied into PE pipe on each end.					
Repair/Replacement Program points for this segment of line were 380.					
SR-107: Westlink & 13th Main Replacement (WO #60023789)					
Comments: This replacement project eliminated 219’ of 4” coated steel main that was installed after 1970. Records indicate cathodic protection insulators were shorted at two separate locations and needed to be replaced.					
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.					
The line was replaced with 238’ of 4” PE pipe and tied into coated steel pipe on each end.					
Repair/Replacement Program points for this segment of line were 280.					
SR-108: Radio Tower Main Replacement (WO #60023839)					
Comments: This replacement project eliminated 2,363’ of 1.5” bare steel main that was installed prior to 1970. Records indicate that seven class 2 leaks were repaired on this section of pipe over the past five years.					

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 2,363' of 2" PE pipe and tied into PE and coated steel pipe on each end. Repair/Replacement Program points for this segment of line were 490.

SR-109: 167th & 29th Main Replacement (WO #60023848)

Comments: This replacement project eliminated 306' of 2" Aldyl-A main that was installed after 1970. Records indicate the line was exposed in a waterway.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 312' of 2" PE pipe and tied into Aldyl-A pipe on each end.

Repair/Replacement Program points for this segment of line were 240.

SR-110: Hutchinson #3435 25% Bare Service/Yard Line Replacement (WO #60023851)

Comments: The 17 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of "corrosion" was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.

Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced
3435	102	21	20.58	NA	17

SR-111: Dale & 2nd Main Replacement (WO #60023858)

Comments: This replacement project eliminated 358' of 2" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was found near the railroad crossing on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 705' of 2" PE pipe and tied into coated steel pipe on each end. Additional footage was required to avoid replacing the railroad crossing.

Repair/Replacement Program points for this segment of line were 360.

SR-112: Dale & 2nd District Regulator Stations Installation (WO #60023863)					
Comments: This installation is associated with SR-107 above. The DRS station was installed in order to prevent replacing the railroad crossing at this location. This new station was installed to cut psi back to ounces.					
SR-113: Main & 3rd Plevna Main Replacement (WO #60023866)					
Comments: This replacement project eliminated 253' of 2" PVC main that was installed after 1970. This was the last known PVC in Plevna and was located under a road.					
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.					
The line was replaced with 253' of 2" PE pipe and tied into coated steel pipe on each end.					
Repair/Replacement Program points for this segment of line were 300.					
SR-114: Orme & Main Main Replacement (WO #60023929)					
Comments: This replacement project eliminated 486' of 6" bare steel main that was installed prior to 1950. Records indicate that one class 2 leak was found on this section of pipe over the past five years.					
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.					
The line was replaced with 930' of 4" PE pipe and tied into coated steel pipe on each end. Additional footage was necessary to keep from going down the concrete alley.					
Repair/Replacement Program points for this segment of line were 400.					
SR-115: Wichita #2688 25% Bare Service/Yard Line Replacement (WO #60023937)					
Comments: The 21 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of "corrosion" was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.					
Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced
2688	595	149	25.04	1/16/15	21

SR-116: Mt Carmel & 18th Main Replacement (WO #60023944)

Comments: This replacement project eliminated 410' of 2" coated steel main that was installed prior to 1970. Records indicate that five class 2 leaks were found on this section of pipe over the past five years. Leaks were found to be on fittings (valves/dressers).

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 419' of 2" PE pipe and tied into PE and coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 480.

SR-117: 2nd & Lorraine Main Replacement (WO #60023995)

Comments: This replacement project eliminated 530' of 4" bare steel main that was installed prior to 1950. Records indicate that two class 2 leaks were found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 313' of 2" PE pipe and tied into coated steel pipe on each end.

Repair/Replacement Program points for this segment of line were 410.

SR-118: University & All Hallows Main Replacement (WO #60023998)

Comments: This replacement project eliminated 369' of 2" bare steel main that was installed prior to 1970.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 369' of 2" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 350.

SR-119: Gow & 18th Main Replacement (WO #60024030)

Comments: This replacement project eliminated 890' of 2" bare steel main that was installed prior to 1970. Records indicate that two class 2 leaks were found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 893' of 2" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 390.

SR-120: Line 28 Winfield Main Replacement (WO #60024031)

Comments: This replacement project eliminated 1,500' of 3" bare steel main that was installed prior to 1950. Records indicate that three class 2 leaks were found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,535' of 2" PE pipe and tied into PE and bare steel pipe on each end.

Repair/Replacement Program points for this segment of line were 400.

SR-121: Gow & 18th Service Replacement (WO #60024035)

Comments: In conjunction with the above noted main replacement (SR-115), 22 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with 1/2" PE pipe.

SR-122: Pershing & Central Main Replacement (WO #60024061)

Comments: This replacement project eliminated 1,065' of 2" bare steel main that was installed prior to 1950. Records indicate that eleven class 2 leaks were found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,135' of 2" PE pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 660.

SR-123: Pershing & Central Service Replacement (WO #60024063)
Comments: In conjunction with the above noted main replacement (SR-118), 21 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with ½” PE pipe.
SR-124: Douglas & Dellrose Main Replacement (WO #60024068)
Comments: This replacement project eliminated 889’ of 2” bare steel main that was installed prior to 1950. Records indicate that seven class 2 leaks were found on this section of pipe over the past five years.
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.
The line was replaced with 909’ of 2” PE pipe and tied into PE pipe on each end.
Repair/Replacement Program points for this segment of line were 560.
SR-125: Douglas & Dellrose Service Replacement (WO #60024069)
Comments: In conjunction with the above noted main replacement (SR-120), 9 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with ½” PE pipe.
SR-126: Richmond & 17th Main Replacement (WO #60024121)
Comments: This replacement project eliminated 625’ of 2” and 631’ of 1.25” bare steel main that was installed prior to 1970. Records indicate that four class 2 leaks were found on this section of pipe over the past five years.
The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.
The line was replaced with 1,256’ of 2” PE pipe and tied into bare steel pipe on each end. Repair/Replacement Program points for this segment of line were 500.
SR-127: Richmond & 17th Service Replacement (WO #60024122)
Comments: In conjunction with the above noted main replacement (SR-122), 21 service and/or yard lines were either replaced or tied over to the new main. All bare steel service and/or yard lines were replaced with ½” PE pipe.
SR-128: Hollowpool Main Replacement (WO #60024135)
Comments: This replacement project eliminated 113’ of 3” bare steel main that was installed prior to 1970. Records indicate that five class 2 leaks were found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 113' of 4" PE pipe and tied into bare steel pipe on each end.

Repair/Replacement Program points for this segment of line were 460.

SR-129: Sedgwick Line Main Replacement (WO #60024137)

Comments: This replacement project eliminated 1,498' of 4" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was found on this section of pipe over the past five years. The line was also shallow across a farmer's tilled field.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 1,498' of 4" PE pipe and tied into PE pipe on each end.

Repair/Replacement Program points for this segment of line were 340.

SR-130: 1st & Market Main Replacement (WO #60024236)

Comments: This replacement project eliminated 33' of 8" bare steel main that was installed prior to 1970. Records indicate that one class 2 leak was found on this section of pipe over the past five years.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 33' of 8" coated steel pipe and tied into coated steel pipe on each end. Repair/Replacement Program points for this segment of line were 360.

SR-131: Grand Street Hutchinson District Regulator Replacement (WO #60024238)

Comments: This DRS upgrade eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #33D1.

SR-132: West & MacArthur District Regulator Replacement (WO #60024240)

Comments: This DRS upgrade eliminated obsolete regulators & reliefs with standard monitor systems. The obsolete regulators had lock up and set point problems and parts are no longer available. DRS #386.

SR-133: Wichita Bare Service/Yard Line Replacement (WO #60024287)

Comments: This work order is for the replacement of bare steel service and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 18 replacements included in this filing are from November of 2015 through December of 2016.

SR-134: Wichita #2663 Bare Service/Yard Line Replacement (WO #60024329)

Comments: The 85 bare steel yard lines were replaced in 2016. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If the leak location was not exposed, the more stringent safety criterion of "corrosion" was used. We continue to work proactively on non-triggered maps as they could take longer than the required 18 months to replace.

Map Number	Original Count	Number of Leaks	Percent	Trigger Date	Number Replaced
2663	178	40	22.86	NA	85

SR-135: Winfield Valve Replacement DRS #771960 (WO #60024389)

Comments: This valve replacement was required due to failure during annual inspection. This station provides service to Line 27.

SR-136: Line 28 Creek Crossing Main Replacement (WO #60024400)

Comments: This replacement project eliminated 253' of 2" coated steel main that was installed after 1970. Records indicate that one class 1 leak was found on this section of pipe over the past five years. The creek crossing was washed out as a result of a recent flood.

The project starting point was determined by the location of the first known problem area with additional footage required to find an adequate tie-in point. The same process was utilized for the project ending location, taking into consideration the distance between known problem areas. Additional consideration was given to the proximity of any existing coated steel or PE pipe.

The line was replaced with 253' of 2" coated steel pipe and tied into PE pipe on each end. Repair/Replacement Program points for this segment of line were 270.

SR-137: 301 S Sycamore Service Replacement (WO #60024703)

Comments: This replacement project eliminated 215' of 3/4" PE service that was installed prior to 1970. Records indicate the line was not locatable.

The line was replaced with 215' of 1" PE pipe and tied into PE pipe. Repair/Replacement Program points for this segment of line were 290.

SR-138: Blanket Service Replacement Andale (WO #5215100113)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 2 replacements included in this filing are from November of 2015 through December of 2016.

SR-139: Blanket Service Replacement Colwich (WO #5215104133)

Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.

SR-140: Blanket Main Replacement Colwich (WO #5215104134)
Comments: This blanket work order is for the replacement of main pipe. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacement included in this filing is from November of 2015 through December of 2016.
SR-141: Blanket Service Replacement Hackney (WO #5215118113)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacements included in this filing are from November of 2015 through December of 2016.
SR-142: Blanket Service Replacement Hackney (WO #5215118133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 5 replacements included in this filing are from November of 2015 through December of 2016.
SR-143: Blanket Service Replacement Hutchinson (WO #5215122133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 14 replacements included in this filing are from November of 2015 through December of 2016.
SR-144: Blanket Service Replacement Maize (WO #5215127133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 8 replacements included in this filing are from November of 2015 through December of 2016.
SR-145: Blanket Main Replacement Maize (WO #5215127134)
Comments: This blanket work order is for the replacement of main pipe. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacement included in this filing is from November of 2015 through December of 2016.
SR-146: Blanket Service Replacement Norwich (WO #5215132133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 1 replacements included in this filing are from November of 2015 through December of 2016.
SR-147: Blanket Service Replacement Sterling (WO #5215140133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.
SR-148: Blanket Service Replacement Wichita (WO #5215143133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 130 replacements included in this filing are from November of 2015 through December of 2016.
SR-149: Blanket Main Replacement Wichita (WO #5215143134)
Comments: This blanket work order is for the replacement of main pipe. These types of projects typically eliminate leaking pipe and require immediate replacement. The 10 replacement included in this filing is from November of 2015 through December of 2016.

SR-150: Blanket Service Replacement Windom (WO #5215146113)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 33 replacements included in this filing are from November of 2015 through December of 2016.
SR-151: Intentionally Removed
Comments: N/A
SR-152: Intentionally Removed
Comments: N/A
SR-153: Blanket Service Replacement Agenda (WO #5215149113)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 7 retirements included in this filing are from November of 2015 through December of 2016.
SR-154: Blanket Service Replacement Viola (WO #5215202133)
Comments: This blanket work order is for the replacement of services and yard lines. These types of projects typically eliminate leaking pipe and require immediate replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.

Relocation Projects:

- Black Hills works closely with and in partnership with all governmental agencies to ensure timely and effective relocation of gas facilities to allow completion of public works projects. The design decisions are generally a size-for-size rerouting of our facilities done in a way to minimize construction costs; any upgrading or additional replacement work would be an exception and would be noted as such. These projects generally include service line tie over or replacement costs.

➤ Project Summaries (Relocation)

R-1: KU Central District Main Relocation (WO #60023621)
Comments: This main relocation was required by the State of KS due to street and storm water reconstruction. A total of 1,180' of 4" PE and 500' of 2" PE was replaced and to clear conflicts with the improvements. Additionally, 250' of 4" bare steel, 2,100' of 4" and 4,400' of 2" PE main was retired.
R-2: Blanket Main Relocation - Lawrence (WO #5215099111)
Comments: This blanket work order is for the relocation of main pipe. These types of projects are typically short relocations that require replacement. The 3 replacements included in this filing are from November of 2015 through December of 2016.

R-3: Intentionally Removed
Comments: N/A
R-4: Highway 54 and Clay Main Relocation (WO #60024620)
Comments: This main relocation was required by State of KS Project #88-KA3054-01 due to street and storm water reconstruction. A total of 630' of 4" bare steel was replaced with 2,630' of 2" PE main.
R-5: Inman & Bucknell Main Relocation (WO #60024750)
Comments: This main relocation was required by the City of Sublette due to drainage problems in the alley. A total of 244' of 4" and 20' of 2" coated steel was replaced with 244' of 4" and 20' of 2" PE main.
R-6: Elder & Elm Main Relocation (WO #60024039)
Comments: This main relocation was required by the City of Wichita due to street and drainage improvements. A total of 716' of 2" PE pipe was replaced with the same to clear conflicts.
R-7: Elder & Elm Service Relocations (WO #60024041)
Comments: This service relocation was required by the City of Wichita in conjunction with R-6 due to street and drainage improvements. A total of 15 service lines were replaced to clear conflicts.

Exhibit ALS-3
CONFIDENTIAL

THE STATE CORPORATION COMMISSION OF KANSAS

BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC

Schedule GSRS Rider, ~~Seventh-Eighth~~

Revised

d/b/a BLACK HILLS ENERGY

(Name of Issuing Utility)

KANSAS SERVICE AREA

(Territory to which schedule is applicable)

Replacing: Index No. 17B, GSRS Rider, ~~6th-7th~~ Revised, Sheet 1 of 1

which was filed ~~4/4/2015~~ 1/2016

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 1 of 1 Sheets

GAS SYSTEM RELIABILITY SURCHARGE RIDER

APPLICABILITY

This rider is applicable to every bill for service provided under each of the Company's sales and transportation rate schedules except where not permitted under a separately negotiated contract with a customer.

RATE

The Gas System Reliability Surcharge (GSRS) shall be applied to each monthly bill. The surcharge shall be as follows:

RS-1: ~~\$0.40~~ \$0.69 per meter per month

SC-1, SCTS-A: ~~\$1.02~~ \$1.74 per meter per month

SVF, SVI, and SVTS-A: ~~\$6.45~~ \$11.01 per meter per month

LVF, LVI, LVTS-A, OLVTS-A, and LVTS: ~~\$47.73~~ \$81.48 per meter per month

IR, ITS-A: ~~\$0.79~~ \$1.35 per meter per month

DEFINITIONS AND CONDITIONS

1. The GSRS is intended to recover charges for natural gas public utility plant projects pursuant to K.S.A. 66-2001 through 66-2204.
2. The monthly GSRS charge shall be allocated among customers in the same manner as approved in Docket No. 14-BHCG-502-RTS.
3. The GSRS shall be charged to customers as a monthly fixed charge and not based on volumetric consumption. Such monthly charge shall not increase more than \$0.40 per residential customer over the base rates in effect for the initial filing of a GSRS. Thereafter, each filing shall not increase the monthly charge for more than \$0.40 per residential customer over the most recent filing of a GSRS.
4. At the end of each twelve-month calendar period the GSRS is in effect, the utility shall reconcile the differences between the revenues resulting from a GSRS and the appropriate pretax revenues as found by the Commission for that period and shall submit the reconciliation and a proposed GSRS adjustment to the Commission for approval to recover or refund the difference through adjustments of the GSRS charge.
5. All provisions of this rider are subject to changes made by order of the Commission.

Issued _____
Month Day Year

Effective March 1, 2016
Month Day Year

By _____
Signature

~~16-BHCG-277-TAR~~
 Approved
 Kansas Corporation Commission
 February 25, 2016
 /S/ Amy L. Green

THE STATE CORPORATION COMMISSION OF KANSAS

BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC
d/b/a BLACK HILLS ENERGY

Schedule GSRS Rider, Eighth Revised

(Name of Issuing Utility)

KANSAS SERVICE AREA

(Territory to which schedule is applicable)

Replacing: Index No. 17B, GSRS Rider, 7th Revised, Sheet 1 of 1
which was filed 3/1/2016

No supplement or separate understanding shall modify the tariff as shown hereon.

Sheet 1 of 1 Sheets

GAS SYSTEM RELIABILITY SURCHARGE RIDER

APPLICABILITY

This rider is applicable to every bill for service provided under each of the Company's sales and transportation rate schedules except where not permitted under a separately negotiated contract with a customer.

RATE

The Gas System Reliability Surcharge (GSRS) shall be applied to each monthly bill. The surcharge shall be as follows:

- RS-1: \$0.69 per meter per month
- SC-1, SCTS-A: \$1.74 per meter per month
- SVF, SVI, and SVTS-A: \$11.01 per meter per month
- LVF, LVI, LVTS-A, OLVTS-A, and LVTS: \$81.48 per meter per month
- IR, ITS-A: \$1.35 per meter per month

DEFINITIONS AND CONDITIONS

1. The GSRS is intended to recover charges for natural gas public utility plant projects pursuant to K.S.A. 66-2001 through 66-2204.
2. The monthly GSRS charge shall be allocated among customers in the same manner as approved in Docket No. 14-BHCG-502-RTS.
3. The GSRS shall be charged to customers as a monthly fixed charge and not based on volumetric consumption. Such monthly charge shall not increase more than \$0.40 per residential customer over the base rates in effect for the initial filing of a GSRS. Thereafter, each filing shall not increase the monthly charge for more than \$0.40 per residential customer over the most recent filing of a GSRS.
4. At the end of each twelve-month calendar period the GSRS is in effect, the utility shall reconcile the differences between the revenues resulting from a GSRS and the appropriate pretax revenues as found by the Commission for that period and shall submit the reconciliation and a proposed GSRS adjustment to the Commission for approval to recover or refund the difference through adjustments of the GSRS charge.
5. All provisions of this rider are subject to changes made by order of the Commission.

Issued _____
Month Day Year

Effective _____
Month Day Year

By _____
Signature