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 for Gas System Reliability Surcharge per K.S.A. 66-2201 through 66-2204	)))))	Docket No. 13-BHCG-404-TAR

DIRECT TESTIMONY OF JERRY A. WATKINS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jerry A. Watkins, and my business address is 2330 N. Hoover, Wichita, Kansas 67205.

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

A. I am employed by Black Hills/Kansas Gas Utility Company, LLC, d/b/a Black Hills Energy ("Black Hills") as Senior Manager of Technical Services for Kansas/Colorado. In this capacity, I provide support and technical assistance for the management of operational and financial performance of Black Hills' natural gas distribution and transmission assets in Kansas and Colorado.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I earned an Associates of General Studies degree from Friends University in 2008. I have completed several courses at the Wichita State University including a Management Certificate from the W. Frank Barton School of Business. I have completed numerous courses related to natural gas technical operations sponsored by Black Hills and various industry organizations.

Since joining the Arkansas Louisiana Gas Company in 1981, I have worked in the natural gas industry and held several operational positions. Included in the positions I have held, were those of Utility Service Technician, Operations Foreman, Lead Operations Technician, Wellhead Supply Representative, Operations Supervisor, Operations Manager and my current position as Senior Manager of Gas Technical Services.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to support the eligibility of infrastructure system replacement projects and safety related projects included in Black Hills' proposed Gas System Reliability Surcharge (GSRS.) In addition to my testimony, Mr. Steven Peters provides direct testimony on the calculation of the GSRS revenue and the surcharge amounts by customer class.

Q. ARE YOU SPONSORING ANY EXHIBITS?

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

Q. PLEASE BRIEFLY DESCRIBE BLACK HILLS' KANSAS GAS OPERATIONS.

A. Black Hills serves approximately 110,000 customers in 58 communities and in 36 surrounding counties in Kansas. Operation centers are located in the major cities and towns served by Black Hills which include Lawrence, Wichita, Garden City, Dodge City, Liberal, and Goodland. Black Hills currently operates approximately 286 miles of transmission lines, 2,664 mile of distribution lines, and 98,082 services lines in Kansas.

Q. WHAT TYPES OF PROJECTS ARE INCLUDED IN BLACK HILLS' GSRS

PROPOSAL?

A. Exhibit JAW-1 summarizes the projects being included in this GSRS proposal. There are two groups of projects being submitted. The first group is comprised of specific safety related system replacement projects and blanket work orders. The second group consists of governmentally mandated road relocation projects which have not been reimbursed to the natural gas utility. All of these types of projects are eligible for inclusion in a GSRS proposal.

Q. WHAT IS THE INCLUSION CRITERIA FOR THE SAFETY RELATED SYSTEM REPLACEMENT PROJECTS?

A. The inclusion criteria for the safety related projects, according to K.S.A. 66-2202, is as follows: "(1) Mains, valves, service lines, regulator stations, vaults and other pipeline system components installed to comply with state or federal safety requirements as replacements for existing facilities; (2) Main relining projects, service line insertion projects, joint encapsulation projects and other similar projects extending the useful life or enhancing the integrity of pipeline system components undertaken to comply with state or federal safety requirements."

Q. REGARDING GOVERNMENT MANDATED ROAD RELOCATIONS, WHAT IS THE INCLUSION CRITERIA FOR THESE PROJECTS?

A. The inclusion criteria for the road relocation projects, according to K.S.A. 66-2202, is as follows: "Facility relocations required due to construction or improvement of a highway, road, street, public right of way or other public work by or on behalf of the United States, this state, a political subdivision of this state or another entity having the power of eminent domain provided that the costs related to such projects have not been reimbursed to the natural gas utility."

Q. ARE PROJECTS OTHER THAN SAFETY RELATED AND GOVERNMENT MANDATED ROAD RELOCATIONS MEETING THE INCLUSION CRITERIA LISTED ABOVE BEING INCLUDED IN THE GSRS PETITION?

A. No. Only projects meeting the two criteria previously mentioned are being submitted for consideration in this filing.

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

A. Black Hills uses blanket work orders for smaller projects. Blanket work orders can include projects for system improvements, new customers, leasehold improvements, and other general plant. However, only system improvement blankets have been included in this filing. System improvement blanket work orders include short distribution main, service line and yard line replacement projects. These types of projects typically eliminate leaking pipe and normally require immediate replacement. Projects included in this blanket are required to be less than $10,000, but are normally less than $5,000. Replacement lengths are typically less than 100' **per project.**

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

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

Q. HOW DOES 192.453 PERTAIN TO THE GSRS FILING?

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

due to corrosion.

Q. HOW DOES 192.485 PERTAIN TO THE GSRS FILING?

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

Q. HOW DOES 192.487 PERTAIN TO THE GSRS FILING?

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

Q. HOW DOES 192.605 PERTAIN TO THE GSRS FILING?

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

Q. HOW DOES 192.613 PERTAIN TO THE GSRS FILING?

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

Q. HOW DOES 192.625 PERTAIN TO THE GSRS FILING?

A. The regulation requires operators to odorize its lines so gas is readily detectable by a person with a normal sense of smell. Paragraph (e) states that odorant must be introduced without

wide variations in the level of odorant. Black Hills Energy replaced antiquated equipment to properly manage these variations.

Q. HOW DOES 192.739 PERTAIN TO THE GSRS FILING?

A. The regulation requires operators to inspect and test regulators and relief devices annually to ensure they are in good mechanical condition. Black Hills Energy replaced a large regulator as result of this inspection.

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

A. Yes, Black Hills uses a repair/replacement program for its long term pipe replacements to rank projects utilizing a points system. An order of priority is given based on such factors including leak history, age of facility, proximity to the public, and several others. A Repair/Replacement Worksheet is completed to determine the replacement priority by a point system. This program is for long term pipe replacements and is not used for emergency situations.

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

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

Q. WHAT IS UNAPPROVED MATERIAL?

A. Unapproved material is defined as material not tested per a recognized standard in Subpart A of 49 CFR Part 192, not approved for use by a specific section of the code, or not approved

by Black Hills material standards. This can include cast iron, bare steel and polyvinyl chloride ("PVC") pipe.

Q. HAVE YOU REVEIWED THE PROJECTS INCLUDED IN THE CURRENT GSRS FILING TO DETERMINE WHETHER THE FILING COMPLIES WITH THE PROVISIONS OF THE STIPULATION AND AGREEMENT ("S&A") DATED JANUARY 31, 2008, IN DOCKET NO. 07-BHCG-1063-ACQ ("1063 DOCKET) RELATING TO BLACK HILLS' FUTURE GSRS FILINGS WITH THE KANSAS CORPORATION COMMISSION ("COMMISSION")?

A. Yes, I have. Article IX of the S&A in the 1063 Docket limited Black Hills' GSRS filings during the rate case moratorium to projects defined under Section (f)(1) and (f)(3) under K.S.A. 66-2202. All projects in the current filing fall under either K.S.A. 66-2202(f)(1) or (f)(3). Therefore, the current GSRS filing complies with the provisions of the S&A in the 1063 Docket.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

VERIFICATION

STATE OF KANSAS)
) ss:
COUNTY OF SEDGWICK)

I, JERRY A. WATKINS, 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.

Jerry A. Watkins

SUBSCRIBED AND SWORN to before me this 10th day of December, 2012.

Notary Public

Appointment/Commission Expires:

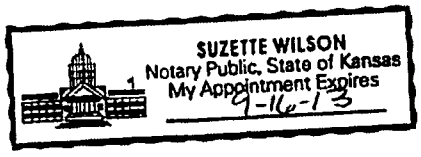

EXHIBIT JAW-1

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	Complete Date	Compliance Reference
1	Dodge City	Beeson & Virginia Main Replacement	60017911	Closed	6/23/2011	192.487, 192.613
2	Dodge City	Sunnyside Main Replacement	60017772	Closed	8/23/2011	192.487, 192.613
3	Dodge City	Sunnyside Service Replacements	10042271	Closed	8/29/2011	192.453, 192.613
4	Dodge City	Ave B & C S of Comanche Main Replacement	60018233	Closed	10/27/2011	192.487, 192.613
5	Dodge City	Ave B & C Service Replacement	10043237	Closed	11/15/2011	192.453, 192.613
6	Dodge City	Kansas & Ash Main Replacement	60018463	Closed	2/17/2012	192.487, 192.613
7	Dodge City	Brier & Ave E Main Replacement	60018800	Closed	3/16/2012	192.487, 192.613
8	Dodge City	Beeson & May Main Replacement	60018866	Closed	5/15/2012	192.487, 192.613
9	Dodge City	Mcartor Main Replacement	60019026	Closed	6/19/2012	192.487, 192.613
10	Dodge City	Highway 23 & V Road PVC Replacement	60018314	Closed	1/20/2012	192.487, 192.613
11	Dodge City	Smith & Syacamore Main Replacement	60016876	Closed	6/19/2012	192.487, 192.613
12	Garden City	DRS #3 Replacement	10041014	Closed	6/22/2011	192.739, 192.613
13	Garden City	2011 GSRS Blanket WO	10041383	Closed	9/1/2011	192.453, 192.613
14	Garden City	2011 Sagebrush Conversion	10041711	Closed	9/1/2011	192.605, 192.613
15	Garden City	Elm - 13th to Taylor Main Replacement	60018240	Closed	10/6/2011	192.487, 192.613
16	Garden City	Elm - 10th - 11th Main Replacement	60018241	Closed	10/14/2011	192.487, 192.613
17	Garden City	St John - 13th to Taylor Main Replacement	60017972	Closed	1/20/2012	192.487, 192.613
18	Garden City	St John - 13th to Taylor Service Line Replacement	10043835	Closed	1/30/2012	192.453, 192.613
19	Garden City	Sagebrush DRS Replacement	60018329	Closed	1/30/2012	192.739, 192.613
20	Garden City	DRS #27 Replacement	60018633	Closed	1/31/2012	192.739, 192.613
21	Garden City	St John to Elm btw 10th & 11th Main Replacement	60018986	Closed	5/17/2012	192.487, 192.613
22	Garden City	DRS #6 Replacement	60018598	Closed	6/14/2012	192.739, 192.613
23	Garden City	W Jones PVC Main Replacement	60018977	Closed	6/28/2012	192.487, 192.613
24	Garden City	Hackberry Main Replacement	60019331	Closed	9/14/2012	192.487, 192.613
25	Goodland	10th & Caldwell Main Replacement	60017443	Closed	3/3/2011	192.487, 192.613
26	Goodland	Caldwell & 13th Main Replacement	60017522	Closed	5/18/2011	192.487, 192.613
27	Goodland	Syracuse Main Replacement	60018142	Closed	9/12/2011	192.487, 192.613
28	Goodland	Rd 55 & 3 PVC Replacement	60017798	Closed	11/9/2011	192.487, 192.613
29	Goodland	Road 21 & 69 Main Replacement	60017840	Closed	11/9/2011	192.487, 192.613
30	Goodland	Road 78 & CR18 Main Replacement	60018399	Closed	11/9/2011	192.487, 192.613
31	Goodland	CR23 & D PVC Replacement, PH 1	60018749	Closed	3/15/2012	192.487, 192.613
32	Goodland	Washington & 6th Main Replacement	60018813	Closed	3/19/2012	192.487, 192.613
33	Goodland	CR23 & D PVC Replacement, PH 2	60018770	Closed	4/12/2012	192.487, 192.613
34	Goodland	College & 14th Main Replacement	60019373	Closed	9/17/2012	192.487, 192.613
35	Goodland	Grant Jr high Main Replacement	60019370	Closed	8/6/2012	192.487, 192.613
36	Goodland	Sherman & 5th Main Replacement	60019414	Closed	9/8/2012	192.487, 192.613
37	Lawrence	Cardinal & Crawford Main Replacement	60017712	Closed	5/17/2011	192.487, 192.613
38	Lawrence	Stauffer - Ellis, Anna, Bagley Main Replacement	60017844	Closed	6/22/2011	192.487, 192.613

Black Hills/Kansas Gas Utility Company, LLC
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Safety Related Project Index Summary

Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Complete Date	Compliance Reference
39	Lawrence	Naismith - 20th to 23rd Main Replacement	60018011	Closed	9/12/2011	192.487, 192.613
40	Lawrence	N 8th & Lyon Main Replacement	60017183	Closed	4/7/2011	192.487, 192.613
41	Lawrence	Lawrence - 7th & Wellington Main Replacement	60018333	Closed	11/18/2011	192.487, 192.613
42	Lawrence	6th & Schwarz Main Replacement	60018785	Closed	3/12/2012	192.487, 192.613
43	Liberal	11th & Pershing Main Replacement	60017561	Closed	4/12/2011	192.487, 192.613
44	Liberal	1504 Nelson Main Replacement	60017593	Closed	4/18/2011	192.487, 192.613
45	Liberal	1716 W 11th Main Replacement	60017607	Closed	4/20/2011	192.487, 192.613
46	Liberal	1007 N Sherman Main Replacement	60017647	Closed	5/3/2011	192.487, 192.613
47	Liberal	901 N Sherman Main Replacement	60017658	Closed	5/6/2011	192.487, 192.613
48	Liberal	824 Sherman Main Replacement	60017671	Closed	5/12/2011	192.487, 192.613
49	Liberal	11th & Kansas Main Replacement	60017697	Closed	5/20/2011	192.487, 192.613
50	Liberal	Ohio Trail Pershing and Prospect Main Replacement	60017769	Closed	6/1/2011	192.487, 192.613
51	Liberal	Ohio Trail Pershing and Sherman Main Replacement	60017797	Closed	6/9/2011	192.487, 192.613
52	Liberal	Ohio 1st Pershing Sherman Main Replacement	60017940	Closed	7/22/2011	192.487, 192.613
53	Liberal	Fowler TBS Main Replacement	60018004	Closed	8/4/2011	192.487, 192.613
54	Liberal	816 S Pennsylvania Main Replacement	60018031	Closed	8/10/2011	192.487, 192.613
55	Liberal	8th & Tulane Main Replacement	60018050	Closed	8/23/2011	192.487, 192.613
56	Liberal	Meade Phase 3 Main Replacement	60018123	Closed	9/1/2011	192.487, 192.613
57	Liberal	Ontario & Hwy 54 Main Replacement	60018028	Closed	9/14/2011	192.487, 192.613
58	Liberal	8th & Perdue Main Replacement	60018216	Closed	9/27/2011	192.487, 192.613
59	Liberal	116 Grant Main Replacement	60018267	Closed	10/4/2011	192.487, 192.613
60	Liberal	DRS 41B Regulator Replacement	60018280	Closed	10/18/2011	192.739, 192.613
61	Liberal	Santanta DRS Replacement	60018281	Closed	10/20/2011	192.739, 192.613
62	Liberal	6th & Adams & Van Buren Main Replacement	60018362	Closed	10/25/2011	192.487, 192.613
63	Liberal	3rd & 4th Polk Main Replacement	60018365	Closed	10/28/2011	192.487, 192.613
64	Liberal	10th Harrison Van Buren Main Replacement	60018383	Closed	11/2/2011	192.487, 192.613
65	Liberal	905 Wichita Main Replacement	60018419	Closed	11/15/2011	192.487, 192.613
66	Liberal	407 Inman Main Replacement	60018426	Closed	11/21/2011	192.487, 192.613
67	Liberal	201 Murphy Main Replacement	60018437	Closed	11/22/2011	192.487, 192.613
68	Liberal	Rolla Odorizer Replacement	10042988	Closed	12/15/2011	192.625, 192.613
69	Liberal	2011 GSRS Blanket WO	10041381	Closed	12/31/2011	192.453, 192.613
70	Liberal	Moscow Odorizer Replacement	10042355	Closed	12/31/2011	192.625, 192.613
71	Liberal	Santata Odorizer Replacement	10042989	Closed	12/31/2011	192.625, 192.613
72	Liberal	104 Wooten Main Replacement	60018583	Closed	1/18/2012	192.487, 192.613
73	Liberal	LaLande & Inman Main Replacement	60018597	Closed	1/23/2012	192.487, 192.613
74	Liberal	200 Spud Main Replacement	60018629	Closed	2/6/2012	192.487, 192.613
75	Liberal	3rd & Adams Main Replacement	60018688	Closed	2/17/2012	192.487, 192.613
76	Liberal	803 S Roosevelt Main Replacement	60018793	Closed	3/13/2012	192.487, 192.613

Black Hills/Kansas Gas Utility Company, LLC
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Safety Related Project Index Summary

Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Complete Date	Compliance Reference
77	Liberal	11th, Western & Nelson Main Replacement	60018823	Closed	3/28/2012	192.487, 192.613
78	Liberal	11th, Western & Sunset Main Replacement	60018860	Closed	4/3/2012	192.487, 192.613
79	Liberal	DRS 45 Regulator Replacement	60019034	Closed	6/14/2012	192.739, 192.613
80	Liberal	11th, Fairview & Nelson Main Replacement	60019201	Closed	6/29/2012	192.487, 192.613
81	Liberal	11th, Fairview & Sunset Main Replacement	60019220	Closed	7/6/2012	192.487, 192.613
82	Liberal	1490 General Welch Blvd Main Replacement	60019302	Closed	7/25/2012	192.487, 192.613
83	Liberal	Copeland Bare Steel Main Replacement	60019376	Closed	8/13/2012	192.487, 192.613
84	Liberal	802 Lincoln Main Replacement	60019408	Closed	8/20/2012	192.487, 192.613
85	Liberal	814 Prospect Main Replacement	60019437	Closed	8/24/2012	192.487, 192.613
86	Liberal	203 Seward Main Replacement	60019503	Closed	9/25/2012	192.487, 192.613
87	Liberal	325 North St Road Main Replacement	60019493	Closed	9/14/2012	192.487, 192.613
88	Liberal	West Plains & Meade Center Main Replacement	60019515	Closed	9/14/2012	192.487, 192.613
89	Liberal	203 Park Main Replacement	60019474	Closed	9/14/2012	192.487, 192.613
90	Liberal	212 N Hart Main Replacement	60019473	Closed	8/31/2012	192.487, 192.613
91	Liberal	Map 28206 25% Bare Yard Line Replacement	10042484	Closed	9/14/2012	192.453, 192.613
92	Wichita	Elder - 2nd to 3rd Service Replacement	10041396	Closed	3/15/2011	192.453, 192.613
93	Wichita	T1Z Brad Blank Ph2 Trans Replacement	10028242	Closed	3/17/2011	192.485, 192.613
94	Wichita	Elder - 2nd to 3rd Main Replacement	60017417	Closed	3/17/2011	192.487, 192.613
95	Wichita	Cheney & Ave B Service Replacement	60017487	Closed	3/29/2011	192.453, 192.613
96	Wichita	Cheney & Ave B Main Replacement	60017486	Closed	3/30/2011	192.487, 192.613
97	Wichita	Sheridan - 13th to 15th Main Replacement	60017437	Closed	4/8/2011	192.487, 192.613
98	Wichita	High 1400 Blk Main Replacement	60017533	Closed	4/22/2011	192.487, 192.613
99	Wichita	Custer - 16th to 18th Service Replacement	60017598	Closed	5/5/2011	192.453, 192.613
100	Wichita	Custer - 16th to 18th Main Replacement	60017597	Closed	5/6/2011	192.487, 192.613
101	Wichita	Arkansas & 26th Main Replacement	60017645	Closed	5/6/2011	192.487, 192.613
102	Wichita	Litchfield - Murdock to Pine Main Replacement	60017656	Closed	5/9/2011	192.487, 192.613
103	Wichita	Litchfield - Murdock to Pine Service Replacement	60017660	Closed	5/19/2011	192.453, 192.613
104	Wichita	Coolidge - 11th to Briggs Main Replacement	60017693	Closed	5/24/2011	192.487, 192.613
105	Wichita	High 1400 Blk Service Replacement	60017541	Closed	5/26/2011	192.453, 192.613
106	Wichita	Clara & 2nd Main Replacement Part 2	60017706	Closed	6/8/2011	192.487, 192.613
107	Wichita	Coolidge - 11th to Briggs Service Replacement	60017695	Closed	6/15/2011	192.453, 192.613
108	Wichita	Bebe to Anna on 1st Main Replacement	60017908	Closed	7/7/2011	192.487, 192.613
109	Wichita	Coolidge & 15th Main Replacement	60017699	Closed	7/18/2011	192.487, 192.613
110	Wichita	Coolidge & 15th Service Replacement	60017715	Closed	7/18/2011	192.453, 192.613
111	Wichita	Jeanette - 14th to 15th Main Replacement	60017886	Closed	7/27/2011	192.487, 192.613
112	Wichita	Jeanette - 14th to 15th Service Replacement	60017914	Closed	7/27/2011	192.453, 192.613
113	Wichita	Woodland - 15th to 17th Main Replacement	60017979	Closed	8/2/2011	192.487, 192.613
114	Wichita	Woodland - 15th to 17th Service Replacement	60017983	Closed	8/3/2011	192.453, 192.613

Black Hills/Kansas Gas Utility Company, LLC
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Safety Related Project Index Summary

Project No.	Location	Project Description	Work Order Number	Project Open/Closed	Complete Date	Compliance Reference
115	Wichita	Woodland & 20th Main Replacement	60017987	Closed	8/15/2011	192.487, 192.613
116	Wichita	Hood & 17th Main Replacement	60017988	Closed	8/19/2011	192.487, 192.613
117	Wichita	Hood & 17th Service Replacement	60017990	Closed	8/30/2011	192.453, 192.613
118	Wichita	Cargill Reg and Odorizer Replacement	60017003	Closed	9/15/2011	192.739, 192.625192.613
119	Wichita	22nd - Waco to Mascot Main Replacement	60018154	Closed	9/28/2011	192.487, 192.613
120	Wichita	Park Place & 26th Service Replacement	60018235	Closed	10/11/2011	192.453, 192.613
121	Wichita	Park Place & 26th Main Replacement	60018198	Closed	10/13/2011	192.487, 192.613
122	Wichita	Arkansas & 27th Service Replacement	60018282	Closed	10/26/2011	192.453, 192.613
123	Wichita	Arkansas & 27th Main Replacement	60018273	Closed	10/28/2011	192.487, 192.613
124	Wichita	Perry - Harrison to Franklin Main Replacement	60018356	Closed	10/28/2011	192.487, 192.613
125	Wichita	Arkansas - 20th to 21st Main Replacement	60018289	Closed	11/1/2011	192.487, 192.613
126	Wichita	12th - Perry to Amidon Service Replacement	60018358	Closed	11/4/2011	192.453, 192.613
127	Wichita	Pine & St Francis Main Replacement	60018304	Closed	11/16/2011	192.487, 192.613
128	Wichita	Saint Teresa to Breezy Lane Integrity	60018320	Closed	12/1/2011	192.605, 192.613
129	Wichita	T1A South of Sterling PH2 Trans Replacement	10041342	Closed	12/8/2011	192.485, 192.613
130	Wichita	Nickerson 25% Bare Replacement	10041378	Closed	12/8/2011	192.453, 192.613
131	Wichita	T1C Moundridge HCA Trans Replacement	10041433	Closed	12/8/2011	192.485, 192.613
132	Wichita	T1A S33-4 T21 22S R7W Trans Replacement	10041458	Closed	12/8/2011	192.485, 192.613
133	Wichita	Sheridan - 13th to 15th Service Replacement	10041481	Closed	12/8/2011	192.453, 192.613
134	Wichita	Line 24 Gueda Springs Main Replacement	10042990	Closed	12/8/2011	192.487, 192.613
135	Wichita	Lakeside Addition Line Exposure Replacement	10043021	Closed	12/8/2011	192.605, 192.613
136	Wichita	T1A N Division Check DRS Rebuild	10043144	Closed	12/8/2011	192.739, 192.613
137	Wichita	Wichita 25% Bare Replacement #1	10041377	Closed	12/12/2011	192.453, 192.613
138	Wichita	21st - Teal Brook to 21st Integrity	60018392	Closed	12/16/2011	192.605, 192.613
139	Wichita	Wichita Blanket Service Replacement	10041379	Closed	12/29/2011	192.453, 192.613
140	Wichita	12th - Perry to Amidon Main Replacement	60018521	Closed	1/2/2012	192.487, 192.613
141	Wichita	Woodrow - Harrison to Briggs Main Replacement	60018470	Closed	1/10/2012	192.487, 192.613
142	Wichita	Woodrow - Harrison to Briggs Service Replacement	60018494	Closed	1/10/2012	192.453, 192.613
143	Wichita	All Hollows & University Main Replacement	60018545	Closed	1/12/2012	192.487, 192.613
144	Wichita	All Hollows & University Service Replacement	60018547	Closed	1/16/2012	192.453, 192.613
145	Wichita	Illinois & Douglas Main Replacement	60018588	Closed	1/25/2012	192.487, 192.613
146	Wichita	Illinois & Douglas Service Replacement	60018590	Closed	2/1/2012	192.453, 192.613
147	Wichita	T1A Blockage S33 T26S R5W Trans Repl	10043136	Closed	2/15/2012	192.485, 192.613
148	Wichita	Edwards & 16th Main Replacement	60018580	Closed	2/23/2012	192.487, 192.613
149	Wichita	Edwards & 16th Service Replacement	60018585	Closed	2/28/2012	192.453, 192.613
150	Wichita	Edwards - 16th to 17th Main Replacement	60018710	Closed	3/14/2012	192.487, 192.613
151	Wichita	Edwards - 16th to 17th Service Replacement	60018753	Closed	3/27/2012	192.453, 192.613
152	Wichita	Tyler & 19th N Valve Replacement	60018848	Closed	3/27/2012	192.487, 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	Complete Date	Compliance Reference
153	Wichita	Bebe - Murdock to 9th Main Replacement	60018780	Closed	4/2/2012	192.487, 192.613
154	Wichita	Bebe - Murdock to 9th Service Replacement	60018765	Closed	4/17/2012	192.453, 192.613
155	Wichita	Baehr - Elm to 9th Main Replacement	60018799	Closed	5/3/2012	192.487, 192.613
156	Wichita	Baehr - Elm to 9th Service Replacement	60018782	Closed	5/11/2012	192.453, 192.613
157	Wichita	T1Z S6 T33S R1E Transmission Replacement	10044745	Closed	5/22/2012	192.485, 192.613
158	Wichita	Flora - Central to 9th Service Replacement	60018797	Closed	6/1/2012	192.453, 192.613
159	Wichita	Flora - Central to 9th Main Replacement	60018803	Closed	6/4/2012	192.487, 192.613
160	Wichita	Kessler & 15th Service Replacement	60018817	Closed	6/14/2012	192.453, 192.613
161	Wichita	Kessler & 15th Main Replacement	60018851	Closed	6/15/2012	192.487, 192.613
162	Wichita	Jeanette - 17th to 18th Service Replacement	60018808	Closed	6/27/2012	192.453, 192.613
163	Wichita	Jeanette - 17th to 18th Main Replacement	60019075	Closed	6/27/2012	192.487, 192.613
164	Wichita	Gow - 10th to 11th Service Replacement	60018809	Closed	7/6/2012	192.453, 192.613
165	Wichita	Gow - 10th to 11th Main Replacement	60019159	Closed	7/9/2012	192.487, 192.613
166	Wichita	Custer - 11th to 13th Service Replacement	60018810	Closed	7/18/2012	192.453, 192.613
167	Wichita	Custer - 11th to 13th Main Replacement	60019161	Closed	7/18/2012	192.487, 192.613
168	Wichita	Wichita 25% Bare Replacement #2	60018553	Closed	9/30/2012	192.453, 192.613
169	Wichita	Bayley - Vassar to Hillside Main Replacement	60019529	Closed	10/1/2012	192.487, 192.613
170	Wichita	Bayley - Vassar to Hillside Service Replacement	60019530	Closed	10/1/2012	192.453, 192.613
171	Wichita	Coolidge - Woodrow to Harrison Main Replacement	60019508	Closed	10/1/2012	192.487, 192.613
172	Wichita	Coolidge - Woodrow to Harrison Service Replacement	60019504	Closed	9/1/2012	192.453, 192.613
173	Wichita	Roosevelt & Oneida Main Replacement	60019423	Closed	9/1/2012	192.487, 192.613
174	Wichita	Roosevelt & Oneida Service Replacement	60019445	Closed	9/1/2012	192.453, 192.613
175	Wichita	Sherman - Anderson to 1st Main Replacement	60019322	Closed	8/1/2012	192.487, 192.613
176	Wichita	Sherman - Anderson to 1st Service Replacement	60019350	Closed	8/1/2012	192.453, 192.613
177	Wichita	Wichita to Chicago Main Replacement	60019224	Closed	8/1/2012	192.487, 192.613
178	Wichita	T1A S25-30-31-32 Transmission Replacement	10045162	Closed	9/1/2012	192.485, 192.613

EXHIBIT JAW-2

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)

SR-1: Beeson and Virginia Main replacement
Comments: This replacement project eliminated 386'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 386' of 2" PE pipe. The line tied into 2" PE and 2" coated steel. Repair/Replacement Program points for this segment of line were 430.
SR-2: Sunnyside Main replacement
Comments: This replacement project eliminated 2019'of 2" bare steel main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 2019' of 2" PE pipe. The line tied into 2" coated

steel. Repair/Replacement Program points for this segment of line were 430.
SR-3: Sunnyside Service replacement
Comments: In conjunction with the above noted main replacement (SR-2), 32 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-4: Avenue B & C South of Comanche Main Replacement
Comments: This replacement project eliminated 406'of 4" bare steel main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 406' of 4" PE pipe. The line tied into 4" coated steel and PE. Repair/Replacement Program points for this segment of line were 500.
SR-5: Avenue B & C Service replacement
Comments: In conjunction with the above noted main replacement (SR-4), 15 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-6: Kansas & Ash Main replacement
Comments: This replacement project eliminated 296'of 2" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 296' of 2" PE pipe. The line tied into 2" coated steel and PE. Repair/Replacement Program points for this segment of line were 450.
SR-7: Brier & Avenue E main replacement
Comments: This replacement project eliminated 672'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 672' of 2" PE pipe. The line tied into 2" coated steel and PE. Repair/Replacement Program points for this segment of line were 450.
SR-8: Beeson and May main replacement
Comments: This replacement project eliminated 826'of 2" bare steel main that was installed prior to 1950. Records indicate that pitting, seam corrosion and low frequency ERW seams were present on this section of pipe. Additionally, the main was located 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. The line was replaced with 826' of 2" PE pipe. The line tied into 2" coated steel.

Repair/Replacement Program points for this segment of line were 420.

SR-9: McArtor Main replacement

Comments: This replacement project eliminated 2787'of 4" bare steel main that was installed prior to 1950. Records indicate that one 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 2787' of 4" PE pipe. The line tied into 4" PE.

Repair/Replacement Program points for this segment of line were 430.

SR-10: Highway 23 & V Road PVC replacement

Comments: This replacement project eliminated 12,625'of 3" Schedule 20 PVC main. Records indicate that two leaks were repaired on this section of pipe over the past five years. The line was also non-locatable and could not be stoppled. 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 12,625' of 4" and 40' of 2" PE pipe. The line tied into 4" steel and 2" Poly at each end of the project.

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

SR-11: Smith and Sycamore main replacement

Comments: This replacement project eliminated 1122'of 2" bare steel main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 1122' of 2" PE pipe. The line tied into 2" PE.

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

SR-12: DRS#3 Replacement

Comments: This replacement eliminated one old DRS and replaced it with a standard monitor type setting. The outdated regulator had set point and lockup problems during the annual inspection. This station provides service to the downtown area of Garden City.

SR-13: Blanket Replacement Services

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 21 GSRSR replacements included in this filing are from April of 2011 through October of 2012.
SR-14: Sagebrush Estates conversion
Comments: The Sagebrush Estates Subdivision was converted from an unprocessed West Texas Gas supply to a Northern Natural Gas processed supply. This project captured costs incurred in the upgrade providing service to 48 customers.
SR- 15: W. Elm 13th to Taylor Main Replacement
Comments: This replacement project eliminated 336'of 4" and 100' of 2" coated steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 339' of 4" and 103' of 2" PE pipe. The line tied into 2" PE and coated steel. Repair/Replacement Program points for this segment of line were 340.
SR-16:W. Elm , 10th to 11th Main Replacement
Comments: This replacement project eliminated 250'of 4" and 72' of 2" coated steel main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 267' of 4" and 73' of 2" PE pipe. The line tied into 2" PE and coated steel. Repair/Replacement Program points for this segment of line were 370.
SR-17: W. St John 13th to Taylor Main Replacement
Comments: This replacement project eliminated 1010'of 4" and 57' of 2" coated steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 1015' of 4" and 59' of 2" PE pipe. The line tied into 2" PE and coated steel. Repair/Replacement Program points for this segment of line were 340.
SR- 18: W. St John 13th to Taylor Service lines
Comments: In conjunction with the above noted main replacement (SR-17), 13 service lines were either replaced or tied over to the new main. All bare steel service or yard lines were replaced with ½" PE pipe.

SR-19: Sagebrush DRS Replacement
Comments: This replacement eliminated one old TBS due to the changing of supply from WTG to Northern Natural gas and replaced it with a standard monitor type setting. This station provides service to the Sagebrush Estates development to the south of Garden City.
SR-20: DRS # 27 Replacement
Comments: This replacement eliminated one old DRS and replaced it with a standard monitor type setting. The outdated regulator had set point and lockup problems during the annual inspection. This station provides service to the Labrador subdivision of Garden City.
SR-21 St. John 10th & 11th Main Replacement
Comments: This replacement project eliminated 350'of 2" bare steel main that was installed prior to 1950. Records indicate that three 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 342' of 2" PE pipe. The line tied into 2" coated steel. Repair/Replacement Program points for this segment of line were 370.
SR-22: DRS # 6 Replacement
Comments: This replacement eliminated one single cut DRS and replaced it with a standard monitor type setting. The outdated regulator had set point and lockup problems during the annual inspection. This station provides service to the central area of Garden City
SR-23: West Jones Main Replacement
Comments: This replacement project eliminated 2921'of 4" PVC main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 2941' of 4" and 25' of 2" PE pipe. The line tied into 2" coated steel. Repair/Replacement Program points for this segment of line were 340.
SR-24: Hackberry Main Replacement
Comments: This replacement project eliminated 903'of 3" bare steel main that was installed prior to 1950. Records indicate that two leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 903' of 4" PE pipe. The line tied into 4" coated steel. Repair/Replacement Program points for this segment of line were 370.

SR-25: 10th & Caldwell Main Replacement
Comments: This replacement project eliminated 450'of 2" bare steel main that was installed prior to 1950. Records indicate that eight leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 445' of 2" PE pipe. The line tied into 2" coated steel. Repair/Replacement Program points for this segment of line were 530.
SR-26: Caldwell & 13th Main Replacement
Comments: This replacement project eliminated 1240'of 3" bare steel main that was installed prior to 1950. Records indicate that nine leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 1240' of 4" PE pipe. The line tied into 2" & 3" steel and 4" PE. Repair/Replacement Program points for this segment of line were 600.
SR-27: Syracuse between 10th & 11th Main Replacement
Comments: This replacement project eliminated 1080'of 2" bare steel main that was installed prior to 1950. Records indicate that seven leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 1080' of 2" PE pipe. There were also 18 bare steel service and/or yard lines replaced with this project. The line tied into 2" bare steel and 1.25" coated steel. Repair/Replacement Program points for this segment of line were 520.
SR-28: Rd 55 and Rd 3 PVC Replacement.
Comments: This replacement project eliminated 2750'of 2" PVC main that was installed prior to 1950. Records indicate that five 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 2750' of 2" PE pipe. The line tied into 2" PVC. Repair/Replacement Program points for this segment of line were 340.

SR-29: Rd 21 and Rd 69 PVC Replacement
Comments: This replacement project eliminated 3080'of 2" PVC main that was installed prior to 1950. Records indicate that seven 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 3080' of 2" PE pipe. The line tied into 2" PVC. Repair/Replacement Program points for this segment of line were 320.
SR-30: Rd 78 road 18 PVC Replacement
Comments: This replacement project eliminated 3000'of 2" PVC main that was installed prior to 1950. Records indicate that five 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 3000' of 2" PE pipe. The line tied into 2" PVC. Repair/Replacement Program points for this segment of line were 300.
SR-31: Rd 23 & D PVC Replacement Phase 1
Comments: This replacement project eliminated 5260'of 2" PVC main that was installed prior to 1950. Records indicate that fourteen 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 5260' of 2" PE pipe. The line tied into 2" PE & PVC. Repair/Replacement Program points for this segment of line were 380.
SR-32: Washington and 6th St.
Comments: This replacement project eliminated 346'of 2" bare steel main that was installed prior to 1950. Records indicate that seven leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 346' of 2" PE pipe. There were also 5 bare steel service and/or yard lines replaced with this project. The line tied into 2" coated steel. Repair/Replacement Program points for this segment of line were 510.
SR-33: Rd 23 & D PVC Replacement Phase 2
Comments: This replacement project eliminated 4890'of 2" PVC main that was installed prior to 1950. Records indicate that five 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 4890' of 2" PE pipe. The line tied into 2" PE & PVC.

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

SR-34: College & 14th Replacement

Comments: This replacement project eliminated 230' of 4" and 320'of 2" bare steel main that was installed prior to 1950. Records indicate that six leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 550' of 2" PE pipe. There were also 8 bare steel service and/or yard lines replaced with this project. The line tied into 4" & 2" PE and coated steel.

Repair/Replacement Program points for this segment of line were 510.

SR-35: Grant Jr High Main Replacement

Comments: This replacement project eliminated 1700'of 2" bare steel main that was installed prior to 1950. Records indicate that eight leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 1662' of 2" PE pipe. There were also 12 bare steel service and/or yard lines replaced with this project. The line tied into 2" PE and coated steel.

Repair/Replacement Program points for this segment of line were 610.

SR-36: Sherman and 5th St. Replacement

Comments: This replacement project eliminated 380'of 2" bare steel main that was installed prior to 1950. Records indicate that eight leaks were repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 380' of 2" PE pipe. There were also 1 bare steel service and/or yard lines replaced with this project. The line tied into 2" steel.

Repair/Replacement Program points for this segment of line were 500.

SR-37: Cardinal Dr. & Crawford St Main Replacement

Comments: This replacement project eliminated 800'of 2" bare steel main that was installed

prior to 1950. Records indicate that two 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 835' of 2" PE pipe. The line tied into 2" PE & coated steel.

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

SR-38: Stouffer Place - Ellis Dr., Anna Dr. & Bagley Dr. Main Replacement

Comments: This replacement project eliminated 1600' of 4" and 1600'of 2" bare steel dresser sleeved main that was installed prior to 1950. Records indicate that twenty leaks were repaired on this section of pipe over the past twenty 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 1524 of 4" and 1724' of 2" PE pipe. The line tied into 2" PE.

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

SR-39: Naismith Dr. – W. 20th St to W. 23rd St Main Replacement

Comments: This replacement project eliminated 2138'of 8" bare steel main dresser coupled that was installed prior to 1950. Records indicate that four 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 2138' of 8" coated steel pipe. The line tied into 8" coated steel.

Repair/Replacement Program points for this segment of line were 440.

SR-40: N. 8th St & Lyon St Main Replacement

Comments: This replacement project eliminated 2630'of 4" bare steel main dresser coupled that was installed prior to 1950. Records indicate that one 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 210' of 4" coated steel and 2420' of 4" PE pipe. The line tied into 4" PE and coated steel.

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

SR-41: Lawrence Ave, W. 7th St & Wellington Rd Main Replacement

Comments: This replacement project eliminated 2410'of 4" and 1142' of 2" bare steel main dresser coupled that was installed prior to 1950. Records indicate that one 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 2410' of 4" and 1124' of 2" PE. There were also 70 bare steel service and/or yard lines replaced with this project. The line tied into 4" PE.

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

SR-42: W. 6th & Schwarz Rd Main Replacement

Comments: This replacement project eliminated 270'of 2" bare steel main dresser coupled that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 289' of 2" PE pipe. The line tied into 2" PE.

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

SR-43: 11th and Pershing Main Replacement

Comments: This replacement project eliminated 684'of 3" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 684' of 2" PE pipe. The line tied into 2" PE.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-44: 1504 Nelson Main Replacement

Comments: This replacement project eliminated 2'of 3" and 2' of 2" coated steel main that had a threaded valve leaking. 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 same material and tied into coated steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-45: 1716 W 11th Main Replacement

Comments: This replacement project eliminated 14'of 2" and 3' of 1.25" coated steel main that had a threaded valve leaking. 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 14' of 2" PE and tied into coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-46: 1007 N Sherman Main Replacement
Comments: This replacement project eliminated 127'of 2" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 127' of 2" PE pipe. The line tied into 2" bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-47: 901 N Sherman Main Replacement
Comments: This replacement project eliminated 200'of 3" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 200' of 4" PE pipe. The line tied into 3" bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-48: 824 N Sherman Main Replacement
Comments: This replacement project eliminated 85'of 3" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 85' of 4" PE pipe. The line tied into 3" bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-49: 11th and Kansas Main Replacement
Comments: This replacement project eliminated 244'of 4" and 24' of 2" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the main was located 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. The line was replaced with 244' of 4" and 24' of 2" PE pipe. The line tied into 4" PE & bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-50: Ohio Trail Pershing and Prospect Main Replacement
Comments: This replacement project eliminated 340'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 340'of 2" PE pipe. The line tied into 4" coated steel. Repair/Replacement Program points for this segment of line were 370.
SR-51: Ohio Trail Pershing and Sherman Main Replacement
Comments: This replacement project eliminated 175'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 175'of 2" PE pipe. The line tied into 4" coated steel. Repair/Replacement Program points for this segment of line were 370.
SR-52: Ohio and 1st Pershing and Sherman Main Replacement
Comments: This replacement project eliminated 505'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 465'of 2" PE pipe. The line tied into coated steel. Repair/Replacement Program points for this segment of line were 350.
SR-53: Fowler TBS Main Replacement
Comments: This replacement project eliminated 711'of 4" and 216' of 2" bare steel main that was installed prior to 1950. Records indicate that two 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

711' of 4" and 216'of 2" PE pipe. The line tied into PE and coated steel. Repair/Replacement Program points for this segment of line were 280.
SR-54: 816 S Pennsylvania Main Replacement
Comments: This replacement project eliminated 90'of 3 bare steel main that was installed prior to 1950. Records indicate that one 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 90' of 4" PE pipe. The line tied into PE & bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-55: 8th and Tulane Main Replacement
Comments: This replacement project eliminated 630'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one 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. The line tied into PE & bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-56: Meade Phase 3 Main Replacement
Comments: This replacement project eliminated 372'of 4" and 425' of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 372' of 4" and 425'of 2" PE pipe. The line tied into PE. Repair/Replacement Program points for this segment of line were 300.
SR-57: Ontario and Hwy 54 Main Replacement
Comments: This replacement project eliminated 1633'of 1.25" coated steel main that was installed prior to 1960. Records indicate that five leaks were found on this section of pipe during the latest survey. The pipe had threaded joints and crossed the highway and railroad in this area. 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 1633'' of 2" PE and 120' of 2" coated steel pipe. The line tied into coated steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leaks.
SR-58: 8th and Purdue Main Replacement
Comments: This replacement project eliminated 580'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. This project went along with a bare yard line replacement program listed under SR-91. 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 610' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-59: 116 Grant Main Replacement
Comments: This replacement project eliminated 190'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 190' of 2" PE pipe. The line tied into PE & coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-60: DRS 41B Regulator Replacement
Comments: This replacement eliminated one old DRS and replaced it with a standard regulator relief type setting. Replaced 2" Fisher 298TK-V regulator and 3" fisher 63F relief valve with 2" Mooney regulator and a 3" Mooney relief valve. The old station had set point and lockup problems during annual inspection. This station provides service to the Liberal 30 psig system.
SR-61: Satanta DRS Replacement
Comments: This replacement eliminated one old relief valve and replaced it with an updated standard relief valve. Replaced 4" Fisher 63FV with 4" Mooney relief valve. The old relief valve had set point problems and was also leaking through the vent. This station provides service to the City of Satanta.
SR-62: 6th Adams and Van Buren Main Replacement
Comments: This replacement project eliminated 136'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 136' of 2" PE pipe. The line tied into bare steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-63: 3rd and 4th Polk Main Replacement

Comments: This replacement project eliminated 380'of 3" bare steel main that was installed prior to 1950. Records indicate that one 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 380' of 4" PE pipe. The line tied into coated steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-64: 10th Harrison Van Buren Main Replacement

Comments: This replacement project eliminated 131'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 131' of 2" PE pipe. The line tied into bare steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-65: 905 Wichita Main Replacement

Comments: This replacement project eliminated 222'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 222' of 2" PE pipe. The line tied into coated steel.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-66: 407 Inman Main Replacement

Comments: This replacement project eliminated 195'of 4" bare steel main that was installed prior to 1950. Records indicate that one 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 195' of 4" PE pipe. The line tied into PE & coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-67: 201 Murphy Main Replacement
Comments: This replacement project eliminated 65'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 65' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-68: Rolla Odorizer Replacement
Comments: This replacement project eliminated an underground bypass odorizer and installed a Preco pulse bypass with adjustable pulse bottle. The odorizer was originally installed prior to 1975 and was beginning to introduce odorant in wide variations. The odorizer serves approximately 210 customers in the city of Rolla.
SR 69- : 2011 GSRS Blanket WO Liberal
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 109 GSR replacements included in this filing are from April of 2011 through October of 2012.
SR-70: Moscow Odorizer
Comments: This replacement project eliminated underground bypass odorizer with Preco pulse bypass with adjustable pulse bottle. The odorizer was originally installed prior to 1975 and was beginning to introduce odorant in wide variations. The odorizer serves approximately 157 customers in the city of Moscow.
SR-71 Satanta Odorizer
This replacement project eliminated underground bypass odorizer with Preco pulse bypass with adjustable pulse bottle. The odorizer was originally installed prior to 1975 and was beginning to introduce odorant in wide variations. The odorizer serves approximately 500 customers in the city of Satanta.
SR-72: 104 Wooten Main Replacement
Comments: This replacement project eliminated 286'of 2" coated steel main that was installed in the 1960's. Records indicate that coating damage was found on this section of pipe. 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 286' of 2" PE pipe. The line tied into

coated steel. Repair/Replacement Program points were not calculated for this replacement.
SR-73: LaLande and Inman Main Replacement
Comments: This replacement project eliminated 40'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 40' of 2" PE pipe. The line tied into PE. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-74: 200 Spud Main Replacement
Comments: This replacement project eliminated 144'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 144' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-75: 3rd and Adams Main Replacement
Comments: This replacement project eliminated 110'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 110' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-76: 803 S Roosevelt Main Replacement
Comments: This replacement project eliminated 130'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 2" PE pipe. The line tied

into PE and bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-77: 11th St Western and Nelson Main Replacement
Comments: This replacement project eliminated 384'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. This project went along with a bare yard line replacement program listed under SR-91. 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 384' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-78:11th St Western Drive and Sunset Main Replacement
Comments: This replacement project eliminated 258'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. This project went along with a bare yard line replacement program listed under SR-91. 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 258' of 2" PE pipe. The line tied into coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-79: DRS 45 Regulator Replacement
Comments: This replacement eliminated one old DRS and replaced it with standard monitor type setting. Replaced two 2" 441's with two 2" Mooney's. The old regulators had set point and lockup problems during annual inspection. This station provides service to the Liberal 30psig system.
SR-80:11th St Fairview and Nelson Main Replacement
Comments: This replacement project eliminated 419'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. This project went along with a bare yard line replacement program listed under SR-91. 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. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.

SR-81: 11th St Fairview and Sunset Main Replacement
Comments: This replacement project eliminated 500'of 1.25" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. This project went along with a bare yard line replacement program listed under SR-91. 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 500' of 2" PE pipe. The line tied into bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-82:1490 General Welch Blvd Main Replacement
Comments: This replacement project eliminated 178'of 6" bare steel main that was installed prior to 1950. Records indicate that one leak was repaired on this section of pipe over the past five years. Additionally, the line was located 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. The line was replaced with 178' of 4" coated steel pipe. The line tied into coated and bare steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-83: Copeland Bare Steel Main Replacement
Comments: This replacement project eliminated 1165'of 2" bare steel main that was installed prior to 1950. Records indicate that two 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 1165'of 2" PE pipe. The line tied into PE and coated steel. Repair/Replacement Program points for this segment of line were 350.
SR-84: 802 N Lincoln Main Replacement
Comments: This replacement project eliminated 242' of 4" and 186'of 3" bare steel main that was installed prior to 1950. Records indicate that one 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 428' of 4" PE pipe. The line tied into PE.

Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-85: 814 N Prospect Main Replacement
Comments: This replacement project eliminated 300' of 3" and 50'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 350' of 4" PE pipe. The line tied into PE. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-86: 203 Seward Main Replacement
Comments: This replacement project eliminated 158'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 158' of 2" PE pipe. The line tied into PE. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-87: 325 North St Road Main Replacement
Comments: This replacement project eliminated 187'of 4" bare steel main that was installed prior to 1950. Records indicate that one 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 224' of 4" PE pipe. The line tied into PE and coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-88: West Plains and Meade Center Main Replacement
Comments: This replacement project eliminated 228'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 228'of 2" PE pipe. The line tied

into PE and coated steel. Repair/Replacement Program points for this segment of line were 340.
SR-89: 203 Park Main Replacement
Comments: This replacement project eliminated 85'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 85' of 2" PE pipe. The line tied into PE and coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-90: 212 Hart Main Replacement
Comments: This replacement project eliminated 632'of 2" bare steel main that was installed prior to 1950. Records indicate that one 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 632' of 2" PE pipe. The line tied into coated steel. Repair/Replacement Program points were not calculated for this replacement due to repairing active leak.
SR-91: Map 28206 Bare Service/ Yard Line Replacement
Comments: Map 28206 triggered in July 2011. There were a total of 116 bare steel yard lines in this area and 30 had failed, making the failure rate at 25%. Replacement began in August 2011 and continued through September 2012. Corrosion leaks were determined to be the cause by visual inspection and evidence when it was exposed. If leak location was not exposed the more stringent safety criterion of corrosion was used. An additional 69 bare steel service and/or yard lines were replaced under this work order in conjunction with bare steel main replacements (SR-58, 77, 78, 80).
SR-92: Elder – 2nd to 3rd Service Replacement
Comments: In conjunction with the main replacement (SR-94), 17 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-93: T1Z Brad Blank Phase II Replacement
Comments: This replacement project eliminated 2648'of 8" bare coupled steel main that was installed prior to 1950. Records indicate that 5 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 2648' of 8" ECS pipe. The line is tied into 8" CWS main at both ends. Repair/Replacement Program points for this segment of line were 440.
SR-94: Elder – 2nd to 3rd Main Replacement
Comments: This replacement project eliminated 843'of 2" bare steel main that was installed prior to 1950. Records indicate that 3 leaks were repaired on this section of pipe over the past 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 843' of 2" PE pipe. The line is tied into 2" MDPE main at both ends. Repair/Replacement Program points for this segment of line were 420.
SR-95: Cheney & Ave B Service Replacement
Comments: In conjunction with the main replacement (SR-96), 11 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-96: Cheney & Ave B Main Replacement
Comments: This replacement project eliminated 510'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 510' of 2" PE pipe. The line is tied into 2" PE main at one end and 3" coated steel at other end. Repair/Replacement Program points for this segment of line were 420.
SR-97: Sheridan – 13th to 15th Main Replacement
Comments: This replacement project eliminated 1116'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 1116' of 2" PE pipe. The line is tied into 2" PE main at both ends. Repair/Replacement Program points for this segment of line were 420.
SR-98: High 1400 Block Main Replacement
Comments: This replacement project eliminated 706'of 2" bare steel and 189' of 1.25" PE main that was installed prior to 1950. Records indicate that 5 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 881' of 2" PE pipe. The line is tied into 2" PE main at one end of project 2" CWS at the other end. Repair/Replacement Program points for this segment of line were 480.
SR-99: Custer – 16th to 18th Service Replacement
Comments: In conjunction with the main replacement (SR-100), 26 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-100: Custer – 16th to 18th Main Replacement
Comments: This replacement project eliminated 1268'of 2" bare steel main that was installed prior to 1950. Records indicate that 4 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 1278' of 2" PE pipe. The line is tied into 2" PE main at one end of project 2" bare steel at the other end. Repair/Replacement Program points for this segment of line were 450.
SR-101: Arkansas & 26th Main Replacement
Comments: This replacement project eliminated 307' of 3" bare steel and 50' of 2" PE line that was installed prior to 1950 and very shallow. Records indicate that 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 357' of 2" PE pipe. The line is tied into 2" MDPE main at both ends of project. Repair/Replacement Program points for this segment of line were 360.
SR-102: Litchfield – Murdock to Pine Main Replacement
Comments: This replacement project eliminated 593'of 2" bare steel main that was installed prior to 1950. Records indicate that 5 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 593' of 2" PE pipe. The line is tied into 2" PE main at one end of project 2" bare steel at the other end. Repair/Replacement Program points for this segment of line were 480.
SR-103: Litchfield – Murdock to Pine Service Replacement
Comments: In conjunction with the main replacement (SR-102), 20 service lines and/or yard

lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-104: Coolidge – 11th to Briggs Main Replacement
Comments: This replacement project eliminated 1048'of 2" bare steel main that was installed prior to 1950. Records indicate that 6 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 1048' of 2" PE pipe. The line is tied into 2" PE main at both ends of project. Repair/Replacement Program points for this segment of line were 510.
SR-105: High 1400 Block Service Replacement
Comments: In conjunction with the main replacement (SR-98), 21 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR- 106: Clara & 2nd Main Replacement
Comments: This replacement project eliminated 285'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 297' of 2" PE pipe. The line tied into 2" PE pipe at both ends of project. Repair/Replacement Program points for this segment of line were 370.
SR-107: Coolidge – 11th to Briggs Service Replacement
Comments: In conjunction with the main replacement (SR-104), 12 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-108: Bebe to Anna on 1st Main Replacement
Comments: This replacement project eliminated 175' of 2" bare steel line that was installed rior to 1950 and shallow. Records indicate that 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 180' of 2" PE pipe. The line is tied into 2" PE main at one end of project and 2" CWS at other end. Repair/Replacement Program points for this segment of line were 360.
SR-109: Coolidge & 15th Main Replacement
Comments: This replacement project eliminated 1588'of 2" bare steel main that was

installed prior to 1950. Records indicate that 5 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 1588' of 2" PE pipe. The line is tied into 2" PE main at both ends of project. Repair/Replacement Program points for this segment of line were 480.
SR-110: Coolidge & 15th Service Replacement
Comments: In conjunction with the main replacement (SR-109), 31 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-111: Jeanette – 14th to 15th Main Replacement
Comments: This replacement project eliminated 1034'of 2" bare steel main that was installed prior to 1950. Records indicate that 5 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 1034' of 2" PE pipe. The line is tied into 2" PE main at three ends of project. Repair/Replacement Program points for this segment of line were 480.
SR-112: Jeanette – 14th to 15th Service Replacement
Comments: In conjunction with the main replacement (SR-111), 16 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-113: Woodland – 15th to 17th Main Replacement
Comments: This replacement project eliminated 701'of 2" bare steel and 37' of 2" PE main that was installed prior to 1950. Records indicate that 6 leaks were repaired on this section of pipe over the past 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 738' of 2" PE pipe. The line is tied into 2" PE main at both ends of project. Repair/Replacement Program points for this segment of line were 510.
SR-114: Woodland – 15th to 17th Service Replacement
Comments: In conjunction with the main replacement (SR-113), 6 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-115: Woodland & 20th Main Replacement
Comments: This replacement project eliminated 452'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 452' of 2" PE pipe. The line is tied to 2" PE pipe at one end of project and dead ends at other end.

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

SR-116: Hood & 17th Main Replacement

Comments: This replacement project eliminated 105'of 4" and 605' of 2" bare steel main that was installed prior to 1950. Records indicate that 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 105' of 4" and a 605' of 4" PE pipe. The line is tied into 4" PE main at both ends of project and dead end going north on Hood.

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

SR-117: Hood & 17th Service Replacement

Comments: In conjunction with the main replacement (SR-116), 20 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.

SR-118: Cargill Salt Regulator & Odorizer Replacement

Comments: Rebuilt outlet regulators and upgraded odorizer at this large volume meter station for Cargill Salt in Hutchinson KS. Replacement was due to atmospheric corrosion on regulators and between flanges. The atmosphere in this area is very corrosive due the amount of salt in the air so we applied above ground wax tape to the new setting to protect it from future corrosion.

SR-119: 22nd N – Waco to Mascot Main Replacement

Comments: This replacement project eliminated 1583'of 6" bare steel main that was installed prior to 1950. Records indicate that 6 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 1583' of 2" PE pipe. The line is tied to 2" PE at one end of project and 2" coated steel at other end.

Repair/Replacement Program points for this segment of line were 490.

SR-120: Park Place & 26th Service Replacement

Comments: In conjunction with the main replacement (SR-121), 19 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.

SR-121: Park Place & 26th Main Replacement

Comments: This replacement project eliminated 1330'of 2" bare steel main that was installed prior to 1950. Records indicate that 6 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 1330' of 2" PE pipe. The line is tied into 2" PE main at both ends of project and dead end going south on Park Place. Repair/Replacement Program points for this segment of line were 530.
SR-122: Arkansas & 27th N Service Replacement
Comments: In conjunction with the main replacement (SR-123), 12 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-123: Arkansas & 27th N Main Replacement
Comments: This replacement project eliminated 1530'of 2" bare steel main that was installed prior to 1950. Records indicate that 5 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 1530' of 2" PE pipe. The line is tied into 2" PE main at both ends of project. Repair/Replacement Program points for this segment of line were 480.
SR-124: Perry – Harrison to Franklin Main Replacement
Comments: This replacement project eliminated 327'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 327' of 2" PE pipe. The line is tied to 2" PE at one end of project and dead end at other end. Repair/Replacement Program points for this segment of line were 390.
SR-125: Arkansas – 20th to 21st N Main Replacement
Comments: This replacement project eliminated 530'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 530' of 2" PE pipe. The line is tied to 2" PE at both ends of project. Repair/Replacement Program points for this segment of line were 390.
SR-126: 12th – Perry to Amidon Service Replacement
Comments: In conjunction with the main replacement (SR-140), 9 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines

were replaced with ½" PE pipe.

SR-127: Pine & St Francis Main Replacement

Comments: This replacement project eliminated 1350'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 1350' of 2" PE pipe. The line tied into 6" coated pipe at one end of the project and 2" PE at other end.

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

SR-128: Saint Teresa to Breezy Lane Integrity

Comments: Installed 3520' of 4" and 60' of 2" PE gas main from Saint Teresa Hospital to Breezy Lane. Oneok Field Services was going to have multiple planned outages on their line that supplies gas to this system and the town of St Marks. This project eliminated several major outages and provided an adequate supply source for the City of St Marks.

SR-129 T1A South of Sterling Phase II Transmission Replacement

Comments: This replacement project eliminated 3500'of 8" bare steel main that was installed prior to 1950. Records indicate that 5 leaks were repaired on this section of pipe over the past five years. Seam corrosion was also discovered on this pipe. 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 3701' of 8" coated pipe. The line is tied into 8" ECS main at both ends.

Repair/Replacement Program points for this segment of line were 470.

SR-130: Nickerson 25% Bare Service Replacement

Comments: The 36 bare steel yard lines were replaced in 2011. 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
2223	50	17	21.79%	Pending	36

SR-131: T1C Moundridge HCA Transmission Replacement

Comments: This replacement project eliminated 1543'of 6" bare steel main that was installed prior to 1950. Records indicate that 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 1543' of 4" coated pipe.

The line is tied into 4" coated main at one end and 6" coated at other end. Repair/Replacement Program points for this segment of line were 420.
SR-132: T1A S33-4 T21-22S R7W Transmission Replacement
Comments: This replacement project eliminated 6100'of 8" bare steel main that was installed prior to 1950. Records indicate that 7 leaks were repaired on this section of pipe over the past five years. Seam corrosion was also identified on this area of pipe. 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 6100' of 8" coated steel pipe. The line is tied into 8" coated main at both ends. Repair/Replacement Program points for this segment of line were 530.
SR-133: Sheridan – 13th to 15th Service Replacement
Comments: In conjunction with the main replacement (SR-97), 24 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-134: Line 24 Gueda Springs Main Replacement
Comments: This replacement project eliminated 3496'of 6" bare steel main that was installed prior to 1950. Records indicate that 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 3509' of 2" PE pipe. The line is tied into 4" PE main at both ends. Repair/Replacement Program points for this segment of line were 280.
SR-135: Lake Side Addition Line Exposure Main Replacement
Comments: Replaced 177' of 2" PE gas main that was exposed in creek near Lake Side Addition near Pretty Prairie. This line was exposed due to the flooding that took place in 2010 and was discovered during a line patrolling survey. The length of the project was due to heavy vegetation and large trees in project area. Repair/Replacement Program points for this segment of line were 150.
SR-136: T1A-1 North Division Check DRS Rebuild
Comments: This replacement eliminated one old DRS and replaced it with standard monitor type setting. The old regulators had set point and lockup problems during annual inspection. This station provides service to the general areas of Halstead, Hesston, Hutchinson, and Lyons. Records also indicated one leak on a road crossing connecting to the inlet side of station with limited space for replacement.
SR-137: Wichita 25% Bare Service Replacement #1
Comments: The 112 bare steel yard lines were replaced in 2011. 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
2750	423	142	23.87%	Pending	112

SR-138: 21st N – Teal Brook to 21st N Integrity

Comments: Installed 2000' of 4" PE gas main to provide loop feed from Teal Brook to 21st N. The project was necessary due to lack of volume and pressure feeding the west Wichita loop system. It also provided a loop feed to ensure continuous service to the St Teresa Hospital located in this area.

SR-139: Wichita Blanket Service Replacement

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 1549 replacements included in this filing are from April of 2011 through October of 2012.

SR-140: 12th – Perry to Amidon Main Replacement

Comments: This replacement project eliminated 355'of 2" bare steel and 53' of 1.25" PE main that was installed prior to 1950. Records indicate that 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 408' of 2" PE pipe. The line is tied into 2" PE main at one end and 2" coated steel at other.

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

SR-141: Woodrow – Harrison to Briggs Main Replacement

Comments: This replacement project eliminated 660'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 660' of 2" PE pipe. The line is tied into 2" PE main at both ends.

Repair/Replacement Program points for this segment of line were 420.

SR-142: Woodrow – Harrison to Briggs Service Replacement

Comments: In conjunction with the main replacement (SR-141), 12 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.

SR-143: All Hollows & University Main Replacement

Comments: This replacement project eliminated 510'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 510' of 2" PE pipe. The line is tied into 2" PE main at both ends. Repair/Replacement Program points for this segment of line were 420.
SR-144: All Hollows & University Service Replacement
Comments: In conjunction with the main replacement (SR-143), 10 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-145: Illinois & Douglas Main Replacement
Comments: This replacement project eliminated 665'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 665' of 2" PE pipe. The line is tied into 2" coated pipe at one end of the project and 2" bare steel. Repair/Replacement Program points for this segment of line were 410.
SR-146: Illinois & Douglas Service Replacement
Comments: In conjunction with the main replacement (SR-145), 10 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-147: T1A Blockage S33 T26S R5W Transmission Replacement
Comments: This replacement project eliminated 250' of existing 10" coated steel with blockage problems. Excessive pressure drop was noted and the line was replaced with new coated steel pipe due to a Sodium Chloride build-up on the interior wall. The problem was limited to this specific location.
SR-148: Edwards & 16th Main Replacement
Comments: This replacement project eliminated 872'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 872' of 2" PE pipe. The line tied into 2" PE Pipe at three ends of the project. Repair/Replacement Program points for this segment of line were 400.
SR-149: Edwards & 16th Service Replacement
Comments: In conjunction with the main replacement (SR-148), 12 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-150: Edwards - 16th to 17th Main Replacement
Comments: This replacement project eliminated 1070'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 1070' of 2" PE pipe. The line tied into 2" PE pipe at three ends of the project. Repair/Replacement Program points for this segment of line were 390.
SR-151: Edwards - 16th to 17th Service Replacement
Comments: In conjunction with the main replacement (SR-150), 19 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-152: Tyler & 19th N Valve Replacement
Comments: Replaced leaking valve located below grade, leak is due corrosion on bonnet bolts on steel Kero-test gate valve. Leak could not be repaired without replacing valve. Repair/Replacement Program points for this segment of line were 270.
SR-153: Bebe – Murdock to 9th N Main Replacement
Comments: This replacement project eliminated 1643'of 2" bare steel main that was installed prior to 1950. Records indicate that 4 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 1649' of 2" PE pipe. The line tied into 2" PE pipe at one end of the project and 4" coated steel at other end. Repair/Replacement Program points for this segment of line were 430.
SR-154: Bebe – Murdock to 9th N Service Replacement
Comments: In conjunction with the main replacement (SR-153), 39 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-155: Baehr – Elm St to 9th N Main Replacement
Comments: This replacement project eliminated 2595'of 2" bare steel main that was installed prior to 1950. Records indicate that 4 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 2595' of 2" PE pipe. The line tied into 2" PE pipe at two ends of the project and 4" coated steel at other end. Repair/Replacement Program points for this segment of line were 430.
SR-156: Baehr – Elm St to 9th N Service Replacement
Comments: In conjunction with the main replacement (SR-155), 37 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-157: T-1-Z S6 T33S R1E Transmission Replacement

Comments: This replacement project eliminated 2658'of 12" bare coupled steel main that was installed prior to 1950. Records indicate that 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 2658' of 12" coated pipe. The line is tied into 12" coated steel main at both ends. Repair/Replacement Program points for this segment of line were 380.
SR-158: Flora – Central to 9th N Service Replacement
Comments: In conjunction with the main replacement (SR-159), 43 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-159: Flora – Central to 9th N Main Replacement
Comments: This replacement project eliminated 2560'of 2" bare steel main that was installed prior to 1950. Records indicate that 5 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 2560' of 2" PE pipe. The line tied into 2" PE Pipe at each end of the project. Repair/Replacement Program points for this segment of line were 460.
SR-160: Kessler & 15th N Service Replacement
Comment: In conjunction with the main replacement (SR-161), 18 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-161: Kessler & 15th N Main Replacement
Comments: This replacement project eliminated 1550' of 2" bare steel main that was installed prior to 1950. Records indicate that 6 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 1613' of 2" PE pipe. The line tied into 2" PE pipe at two ends of the project and 2" coated steel at other end. Repair/Replacement Program points for this segment of line were 490.
SR-162: Jeanette – 17th to 18th Service Replacement
Comments: In conjunction with the main replacement (SR-163), 20 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-163: Jeanette – 17th to 18th Main Replacement
Comments: This replacement project eliminated 1060'of 2" bare steel main that was installed prior to 1950. Records indicate that 5 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 1060' of 2" PE pipe. The line tied into 2" PE pipe at one end of the project and dead end at other end.

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

SR-164: Gow – 10th to 11th Service Replacement

Comments: In conjunction with the main replacement (SR-165), 11 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.

SR-165: Gow – 10th to 11th Main Replacement

Comments: This replacement project eliminated 800'of 2" bare steel main that was installed prior to 1950. Records indicate that 6 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 800' of 2" PE pipe. The line tied into 2" PE pipe at each end of the project.

Repair/Replacement Program points for this segment of line were 490.

SR-166: Custer – 11th to 13th Service Replacement

Comments: In conjunction with the main replacement (SR-167), 15 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.

SR-167: Custer – 11th to 13th Main Replacement

Comments: This replacement project eliminated 576'of 2" bare steel main that was installed prior to 1950. Records indicate that 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 576' of 2" PE pipe. The line tied into 2" PE pipe at each end of the project.

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

SR-168: Wichita 25% Bare Service Replacement

Comments: The 80 bare steel yard lines were replaced in 2012. 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
2750	423	142	23.87%	Pending	80

SR-169: Bayley – Vassar to Hillside Main Replacement

Comments: This replacement project eliminated 790'of 2" bare steel main that was installed prior to 1950. Records indicate that 4 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 790' of 2" PE pipe. The line tied into 2" bare steel at one end of the project and dead at other end. Repair/Replacement Program points for this segment of line were 450.
SR-170: Bayley – Vassar to Hillside Service Replacement
Comments: In conjunction with the main replacement (SR-169), 13 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-171: Coolidge – Woodrow to Harrison Main Replacement
Comments: This replacement project eliminated 960'of 4" bare steel main that was installed prior to 1950. Records indicate that 5 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 980' of 2" PE pipe. The line tied into 2" coated steel at one end of the project and 4" PE at other end. Repair/Replacement Program points for this segment of line were 480.
SR-172: Coolidge – Woodrow to Harrison Service Replacement
Comments: In conjunction with the main replacement (SR-171), 18 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-173: Roosevelt & Oneida Main Replacement
Comments: This replacement project eliminated 856'of 2" OD bare steel main that was installed prior to 1950. Records indicate that 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 874' of 2" PE pipe. The line tied into 2" coated steel at one end of the project and 1" PE at other end. Repair/Replacement Program points for this segment of line were 370.
SR-174: Roosevelt & Oneida Service Replacement
Comments: In conjunction with the main replacement (SR-173), 14 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-175: Sherman – Anderson to 1st Main Replacement
Comments: This replacement project eliminated 976'of 2" bare steel and 8' of 2" PE main

that was installed prior to 1950. Records indicate that 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 1039' of 2" PE pipe. The line tied into 2" PE pipe at one end of the project and dead end at other end. Repair/Replacement Program points for this segment of line were 400.
SR-176: Sherman – Anderson to 1st Service Replacement
Comments: In conjunction with the main replacement (SR-175), 16 service lines and/or yard lines were either replaced or tied over to new main. All bare steel service and/or yard lines were replaced with ½" PE pipe.
SR-177: Wichita to Chicago Main Replacement
Comments: This replacement project eliminated 1300'of 2" bare steel and 55' of 1" PE main that was installed prior to 1950. Records indicate that 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 1355' of 4" PE pipe. The line tied into 2" coated pipe at one end of the project and 4" PE at other end. Repair/Replacement Program points for this segment of line were 400.
SR-178: T-1-A S25-30-31-32 Transmission Replacement
Comments: This replacement project eliminated 12120'of 8" bare steel main that was installed prior to 1950. Records indicate that 8 leaks were repaired on this section of pipe over the past five years. Seam corrosion was also found on this area of pipe. 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 12120' of 8" coated steel pipe. The line is tied into 8" coated main at both ends. Repair/Replacement Program points for this segment of line were 560.

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: Military Main replacement	**60017474**
Comments: This main relocation was due to Ford County widening of Military Avenue. The existing 4" steel gas main was in conflict with the proposed improvements. We replaced 1587' of 4" PE to clear construction.	
R-2: Hwy 156 and Jennie Barker Relocation	**60017473**
Comments: This relocation was necessary due to conflicts with road and drainage improvements by the City of Garden City. We relocated 27' of 8" Steel to clear construction.	
R-3: Hwy 156 and Jennie Barker Relocation	**60017472**
Comments: This relocation was necessary due to conflicts with road and drainage improvements by the City of Garden City. We relocated 720' of 8" PE to clear construction.	
R-4: Mary & Jennie Barker Drainage Relocation	**60019328**
Comments: This relocation was necessary due to conflicts with road and drainage improvements by the City of Garden City. We relocated 35' of 6" Steel to clear construction.	
R-5: Schulman and Jennie Barker Relocation	**60019640**
Comments: This relocation was necessary due to conflicts with storm water drainage improvements by the City of Garden City at this intersection. We relocated 1' of 4" PE pipe to clear conflicts.	
R-6: W. 6th & Alabama St	**60017733**
Comments: This main relocation was mandated by the City of Lawrence due to a right turn lane being added at the intersection. A total of 68 feet of 2" PE main was relocated to clear conflicts with the planned improvements.	
R-7: W. 6th & Michigan St	**60017649**
This main relocation was mandated by the City of Lawrence, due to a right turn lane being added at the intersection of W. 6th & Michigan St. A total of 178 feet of 4" PE main & 20 feet of 2" PE were relocated to clear conflicts with the planned improvements.	
R-8: Iowa St & Bob Billings Pkwy	**60019186**
Comments: This main relocation was mandated by KDOT & the City of Lawrence due to street & storm sewer reconstruction. A total of 680 feet of 6" Steel & 160 feet of 4" PE was relocated to clear conflicts with the planned improvements.	
R-9: 135th St. W – 13th N to 21st N	**60018649**
Comments: This main relocation was required by the City of Wichita due to street & storm sewer reconstruction. A total of 2601' of 6" and 28' of 4" PE was relocated to clear conflicts with the planned improvements.	
R-10: Maize & 21st N	**60018614**
Comments: This main relocation was required by the City of Wichita due to street & storm sewer reconstruction. A total of 345' of 4" PE was relocated to clear conflicts with the planned improvements.	
R-11: Maize Rd – 45th ST N to 53rd St N	**60018606**

Comments: This main relocation was required by the City of Maize due to street & storm sewer reconstruction. A total of 358' of 2" PE was relocated to clear conflicts with the planned improvements.
R-12: Central & Market **60017779**
Comments: This main relocation was required by the City of Wichita due to sewer reconstruction. A total of 132' of 4" PE was relocated to clear conflicts with the planned improvements.
R-13: Tyler – 21st N to 29th St N Street **60018052**
Comments: This main relocation was required by the City of Wichita due to street & storm sewer reconstruction. A total of 785' of 4" PE was relocated to clear conflicts with the planned improvements.
R-14: St. Francis – Douglas to 2nd St N **60018042**
Comments: This main relocation was required by the City of Wichita due to storm sewer reconstruction. A total of 60' of 6" PE was relocated to clear conflicts with the planned improvements.
R-15: Union & Meadow **60018261**
Comments: This main relocation was required by the City of Colwich due to storm sewer reconstruction. A total of 82' of 2" PE was relocated to clear conflicts with the planned improvements.
R-16: US 50 Hwy Imp. Project **10028240**
Comments: This main relocation was required by KDOT due to road reconstruction. A total of 2808' of 8" Steel was relocated to clear conflicts with the planned improvements. This project is for non-reimbursable portion that was located in US 50 Hwy ROW.

EXHIBIT JAW-3

CONFIDENTIAL

(attached CD)