Southern Star Central Gas Pipeline, Inc.
4700 Hwy 56
P.O. Box 20010
Owensboro, Kentucky 42301
Phone 270/852-5000

G. Scott LaMar
Director, Rates & Regulatory
Phone: (270)852-4560
Email: g.scott.lamar@southernstar.com

January 30, 2020

Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Attention: Kimberly D. Bose, Secretary

Re: Southern Star Central Gas Pipeline, Inc.
Docket No. RP20-_____
Annual Modernization Capital Cost Recovery Mechanism
Filing Pursuant to Docket No. RP19-289 Settlement

Dear Ms. Bose:

Pursuant to Part 154 of the Rules and Regulations of the Federal Energy Regulatory Commission ("Commission") and Section 32 of the General Terms and Conditions ("GT&C") of its FERC Gas Tariff, First Revised Volume No. 1 ("Tariff"), Southern Star Central Gas Pipeline, Inc. ("Southern Star") respectfully submits via eFiling, the revised tariff sheets listed below to become effective on March 1, 2020, as more fully described herein.

First Revised Volume No. 1

Fifth Revised Sheet No. 8
Fourth Revised Sheet No. 9
Fourth Revised Sheet No. 10
Sixth Revised Sheet No. 11
Fourth Revised Sheet No. 12

Nature, Reasons, and Basis for Filing

On November 14, 2018, Southern Star filed an unopposed Stipulation and Agreement of Settlement ("Settlement") in Docket No. RP19-289-000, resolving all issues related to the rate effect of the Tax Cuts and Jobs Act of 2017 and establishing a capital cost recovery mechanism ("CRM") for the modernization

of facilities on Southern Star's system. The uncontested Settlement was approved by the Commission's Order Approving Settlement dated January 31, 2019.[1]

Among other things, the Settlement created a modernization plan with a temporary CRM Surcharge that expires effective with Southern Star's next general rate case. GT&C Section 32 implements that part of the Settlement by establishing a separately tracked CRM Surcharge to recover Southern Star's capital revenue requirements (as defined in the Settlement and the Tariff) incurred to modernize Southern Star's system to improve system integrity, to enhance service reliability and flexibility, to satisfy emerging legal/regulatory requirements, and to improve safety and reduce risk, all in accordance with the Settlement.

Pursuant to GT&C Section 32.2(a), Southern Star is required to make its first CRM Surcharge filing with the Commission on or before January 31, 2020 to be effective March 1, 2020, to recover the Capital Revenue Requirement related to Capital Costs incurred on Eligible Facilities placed into service during calendar year 2019.[2] The CRM Surcharge established by this filing will be effective from March 1, 2020 through February 28, 2021.[3]

This is Southern Star's first CRM Surcharge filing, in conformance with GT&C Section 32.2 and the provisions of the Settlement. For maximum rate firm services with a reservation charge, it establishes reservation CRM Surcharges of $0.0199 per Dth/d for the Production Area and $0.0049 per Dth/d for the Market Area. For maximum rate interruptible services and firm services with a one-part rate, it establishes commodity CRM Surcharges of $0.0199 per Dth for the Production Area and $0.0049 per Dth for the Market Area. For maximum rate storage services, it establishes a deliverability CRM Surcharge of $0.0075 per Dth/d of firm storage deliverability and of $0.0075 per Dth of interruptible injections.

This filing submits tariff sheets in eTariff format as required by Order No. 714[4] in order to implement the illustrative *pro forma* tariff sheets[5] proffered with the Settlement. Pursuant to the Settlement, the tariff records are to be effective March 1, 2020.

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[1] *Southern Star Central Gas Pipeline, Inc.,* 166 FERC ¶ 61,084 (2019) ("Order Approving Settlement").

[2] Unless otherwise indicated, defined terms have the same meaning as in the Settlement and/or GT&C Section 32.

[3] A second CRM filing will be made on or before January 31, 2021 pursuant to GT&C Section 32.2(b), and will include the cumulative Capital Revenue Requirement related to Eligible Facilities that are put into service from January 1, 2019 through December 31, 2020. The revised CRM surcharge established by this second CRM filing will be effective from March 1, 2021 through October 31, 2021 (i.e., the 2021 CRM surcharge will terminate with the effective date of the next general rate case), subject to true-up.

[4] *Electronic Tariff Filings*, Order No. 714, FERC Stats. & Regs. ¶ 31,276 (2008).

[5] Appendix E of the Settlement contained clean and marked versions of illustrative *pro forma* tariff sheets to be effective March 1, 2020 (with the actual CRM Surcharge rates to be established by this CRM filing). Specifically, Appendix E-3 of the Settlement contained clean versions of the illustrative *pro forma* tariff sheets approved to go into effect on March 1, 2020, while Appendix E-4 contained marked versions of those illustrative tariff sheets. The clean and marked versions of the tariff sheets submitted in this first CRM Surcharge filing are the same as the illustrative tariff sheets in Appendix E-3 and Appendix E-4, respectively, of the Settlement, except for inclusion of the actual CRM Surcharge Rates proposed by this filing and updated footnotes (1) to reflect that the CRM Surcharge is pursuant to Section 32 of the GT&C of Southern Star's Tariff and (2) to apply the ISS surcharge for interruptible storage to the Injection rate rather than the Commodity rate (since the ISS Commodity rate is actually an inventory charge).

Eligible Facilities Plan: Appendix B of the Settlement contained a list of Eligible Facilities planned to be placed into service in 2019 and 2020. As defined in Article II.A. of the Settlement, Eligible Facilities are Modernization Projects listed in Southern Star's Eligible Facilities Plan as those projects may be modified, removed or substituted with customer concurrence as provided in the Settlement. Pursuant to Article II.C. of the Settlement, Southern Star met with its customers on multiple occasions in 2019 to review the Eligible Facilities Plan and to provide its customers with all information required under the Settlement.

A face-to-face modernization meeting and WebEx with customers was held in Kansas City on March 21, 2019. At this annual modernization meeting, Southern Star reviewed the Eligible Facilities Plan and shared information related to (i) changes to the Modernization Projects listed as Eligible Facilities, (ii) any Modernization Projects where the Eligible Facilities would include operational capacity, (iii) planned outage information for 2019, including facilities that would be impacted and the projected timing of each planned outage, (iv) an estimate of Southern Star's next anticipated CRM Surcharge, including the Eligible Capital Costs and a calculation showing the derivation of the proposed Capital Revenue Requirement associated with such facilities, (v) an estimate of the Capital Revenue Requirement anticipated for the following year, and (vi) a description of how each of the Eligible Facilities in the Eligible Facilities Plan will meet at least one of the criteria for Modernization Projects. Southern Star also reviewed the Eligible Facilities Plan with its customers at its annual customer meeting in May 2019. Another customer meeting solely for the purpose of reviewing the status of the Eligible Facilities Plan was held via conference call/WebEx on September 26, 2019.

At all three meetings, Southern Star proposed minor modifications to the Eligible Facilities Plan and, pursuant to Article II.C.3. of the Settlement, obtained Customer Consensus to such modifications to the Eligible Facilities Plan, with no customer objecting to any of the proposed changes to the plan. Attached as Appendix G, Eligible Facilities Plan, are copies of the original Eligible Facilities Plan from the Settlement and slides from the customer meeting presentations describing the approved modifications to the plan. The full presentations from all three meetings are also attached in Appendix H.

All of the Capital Costs included in this filing are for Modernization Projects that meet the definition of Modernization Projects in Article II.A.2. of the Settlement; that were included in the original Eligible Facilities Plan or were approved by Customer Consensus for inclusion in the Eligible Facilities Plan as described above; and that were placed into service during 2019 as required by the Settlement. Such projects whose Capital Costs are included in this filing are referred to as 2019 Modernization Projects.

Southern Star's Capital Costs associated with 2019 Modernization Projects listed in Southern Star's Eligible Facilities Plan and placed into service during calendar year 2019 (*i.e.*, Eligible Capital Costs) were $88,523,736. The Eligible Capital Cost and in-service date of each such 2019 Modernization Project are shown in Appendix D. Pursuant to GT&C Section 32.3(b) and Article II.D. of the Settlement, the Annual Eligible Capital Cost subject to the CRM cannot exceed $88 million per year. In this filing, the $523,736 that exceeded the $88 million Annual Eligible Capital Cost Limit has been treated as a capital maintenance cost pursuant to the tariff provisions implementing the Settlement. Including this excess amount, Southern Star spent $50,740,930 on capital maintenance in 2019, exceeding its annual Capital Maintenance Obligation of $50 million per calendar year pursuant to GT&C Section 32.3(c). Southern Star's 2019 capital maintenance costs are summarized in Appendix F.

Also, pursuant to GT&C Section 32.3, costs incurred to increase the capacity of Southern Star's system to provide additional or incremental transportation service, as well as operation and maintenance expenses, have been excluded from Eligible Facilities. None of the 2019 Modernization Projects created any new mainline capacity. [6]

Narrative Explaining CRM Surcharge Calculation: The derivation of the CRM Surcharges for each Rate Area on a per unit basis is shown in Appendix C and explained below.

GT&C Section 32.4(a) and Article II.H. of the Settlement require Southern Star to calculate the cumulative Capital Revenue Requirement related to Capital Costs of Eligible Facilities placed into service from January 1, 2019 through the end of the prior calendar year. Per those provisions, a Capital Revenue Requirement associated with Eligible Facilities placed into service during the period from January 1, 2019 through December 31, 2019 has been calculated for the Production Area, the Market Area and Storage as follows. The Eligible Capital Cost of each 2019 Modernization Project was assigned to the appropriate Rate Area (Production, Market or Storage) based on the location of the project, with general projects benefitting multiple Rate Areas allocated according to the ratios of plant in service in each Rate Area. For each Rate Area, Southern Star then summed the Eligible Capital Cost to determine the cumulative Eligible Capital Cost incurred during the CRM Term (i.e., gross plant). Accumulated depreciation was then subtracted from the gross plant to determine net plant. An adjustment was made for accumulated deferred income taxes to determine the cumulative net rate base associated with the Eligible Facilities. The Capital Revenue Requirement was then derived by summing (1) the cumulative rate base associated with the Eligible Facilities multiplied by a factor of 12.31% (the "Rate Base Multiplier" as defined in GT&C Section 32.4(a) and Article II.H. of the Settlement) reflecting pre-tax return and taxes other than income tax and (2) the cumulative gross plant associated with the Eligible Facilities multiplied by the applicable depreciation rate from the Rate Case Settlement in Docket No. RP13-941 (see Appendix C of the RP19-289 Settlement).

Pursuant to GT&C Section 32.4(b) and Article II.I. of the Settlement, after calculating the cumulative Capital Revenue Requirement for the Production Area, the Market Area, and Storage, Southern Star calculated the CRM Surcharge across all current billing determinants (except excluded discounted rate and negotiated rate billing determinants) associated with reserved MDTQ and/or MDWQ under Rate Schedules TSS, FTS and FSS, plus actual flowed quantities under Rate Schedules STS, SFT, ITS and ISS (except excluded discounted rate and negotiated rate flowed quantities) and actual flowed overrun under Rate Schedules TSS, FTS and FSS. As defined in GT&C Section 32.4(b) and Article II.I. of the Settlement, current billing determinants means such actual billing determinants in calendar year 2019 for the filing to be effective March 1, 2020.

As required by GT&C section 32.4 and Article II.I. of the Settlement, the CRM Surcharge for maximum rate firm services with a reservation charge is a reservation surcharge. The CRM surcharge for maximum rate interruptible services and maximum rate firm services with a one-part rate is a commodity surcharge. The volumetric CRM Surcharge for interruptible service equals the reservation CRM Surcharge for the corresponding firm service. Finally, the reservation CRM Surcharge for maximum rate firm storage service is assessed as a deliverability charge only.

[6] Some measurement upgrades altered capacity at the point only but did not negatively impact any firm or operational use of the point. Point design and operating capacities are shown on the Operationally Available Capacity Report found on Southern Star's Informational Postings website. Any such differences in point capacity were minimal in nature and attributable to the currently available measurement equipment installed.

In accordance with GT&C Section 32.4, the CRM Surcharges so derived apply to Southern Star's rate schedules as follows: to Shippers' maximum rate Maximum Daily Transportation Quantities ("MDTQ") under Rate Schedules FTS and TSS, to the Maximum Daily Withdrawal Quantities ("MDWQ") for maximum rate storage services under Rate Schedules TSS and FSS, to maximum rate flowed overrun quantities under Rate Schedules TSS, FTS, and FSS, and to maximum rate flowed quantities under Rate Schedules STS, SFT, ITS, and ISS. The CRM Surcharges do not apply to discounted MDTQs, discounted interruptible flowed quantities, or negotiated rate MDTQs or interruptible flowed quantities where the negotiated rate is less than the maximum rate; provided however, to the extent a negotiated rate equals or exceeds the maximum rate, or to the extent any quantities under a discounted rate agreement or negotiated rate agreement are billed at maximum rates due to a condition or failure of a condition in the agreement, then the CRM Surcharges will apply to those quantities.

Appendix D contains workpapers supporting the calculation of the Capital Revenue Requirement and the derivation of the CRM Surcharges on a unit basis for each Rate Area.

Proposed Effective Date and Request for Waiver

Southern Star respectfully requests that the filed tariff sheets herein become effective on March 1, 2020, as described above consistent with GT&C Section 32 and Article II of the Settlement. To the extent necessary, Southern Star respectfully requests that the Commission grant any and all waivers as may be necessary for the attached tariff sheets to be accepted as filed.

Motion to Place Tariff Sheets into Effect

Pursuant to Section 154.7(a)(9) of the Commission's Regulations, Southern Star moves to place the revised tariff sheets into effect at the end of the suspension period requested above. Southern Star reserves the right, however, to file a later motion to move the tariff sheets into effect in the event of any change to such tariff sheets which may be ordered by the Commission or the determination by the Commission that a longer suspension period is in order.

List of Materials Enclosed

In accordance with Section 154.7(a)(1) of the Commission's regulations, submitted herewith is an eTariff XML filing package, filed as a zip (compressed) file, containing:

- The proposed tariff record versions in RTF format with metadata attached;
- This transmittal letter;
- Appendix A – A clean version of the tariff records;
- Appendix B – A marked version of the tariff records;
- Appendix C – Derivation of CRM Surcharges for each Rate Area;
- Appendix D – Capital Revenue Requirement and CRM Surcharge Workpapers, including: (1) a spreadsheet showing all Modernization Projects placed in-service in the calendar year 2019 and the applicable Rate Area, the capital cost, the in-service date, and the modernization requirement fulfilled by each project, (2) a spreadsheet showing the accumulated depreciation, deferred taxes, and depreciation/amortization expense for each 2019

Modernization Project and (3) a spreadsheet showing the actual billing determinants in 2019 for each Rate Area;

- Appendix E – A map showing the location on Southern Star's system of each Modernization Project placed in-service in 2019;
- Appendix F – A summary of Southern Star's capital spending in 2019 on capital maintenance projects not included in the CRM;
- Appendix G – The Eligible Facilities Plan as filed in the Settlement and Modifications to the Eligible Facilities Plan made at the modernization update customer meetings in March, May, and September 2019; and
- Appendix H – The presentations from Southern Star's modernization update customer meetings in March, May, and September 2019 are provided for informational purposes.

Certification of Posting and Service

In accordance with 18 C.F.R. §§ 154.7(b) and 154.2(d), the undersigned certifies that copies of this filing have been posted and served on all jurisdictional customers and interested state regulatory commissions, as well as all persons on the official service list prepared by the Secretary in this docket and, as a courtesy, to the official service list in RP19-289.

Communications

Southern Star respectfully requests that all Commission orders and correspondence, as well as pleadings and correspondence from other persons, concerning this filing be served upon each of the following:

G. Scott LaMar
Director, Rates & Regulatory
Southern Star Central Gas Pipeline, Inc.
4700 Highway 56
Owensboro, KY 42301
Phone: (270) 852-4560
g.scott.lamar@southernstar.com

Douglas Field
Senior Attorney
Southern Star Central Gas Pipeline, Inc.
4700 Highway 56
Owensboro, KY 42301
Phone: (270) 852-4657
w.doug.field@southernstar.com

If there are any questions pertaining to this filing, please contact either of the parties listed above.

Respectfully submitted,

/s/ *G. Scott LaMar*

Director, Rates & Regulatory
SOUTHERN STAR CENTRAL GAS PIPELINE, INC.
4700 Highway 56
Owensboro, KY 42301
(270) 852-4560

Enclosures

Appendix A

Clean Version of the Tariff Records

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 1/ & 5/	Maximum Rate 1/ & 5/
TSS-P	Reservation - FSS - Deliverability	$ 0.0000	$ 0.0325
	Reservation - FSS - Capacity 4/	0.0000	0.0017
	Reservation - FTS-P	0.0000	0.2054
	Injection - FSS	0.0132	0.0132
	Withdrawal - FSS	0.0132	0.0132
	Commodity - FTS-P	0.0116	0.0116
	Authorized Overrun - FSS - Deliverability 2/	0.0000	0.0325
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
	Authorized Overrun - FTS-P	0.0116	0.2170
	CRM Surcharge – S 6/	0.0000	0.0075
	CRM Surcharge – P 7/	0.0000	0.0199
TSS-M	Reservation - FSS - Deliverability	0.0000	0.0325
	Reservation - FSS - Capacity 4/	0.0000	0.0017
	Reservation - FTS-P 3/	0.0000	0.2054
	Reservation - FTS-M	0.0000	0.1462
	Injection - FSS	0.0132	0.0132
	Withdrawal - FSS	0.0132	0.0132
	Commodity - FTS-P 3/	0.0116	0.0116
	Commodity - FTS-M	0.0115	0.0115
	Authorized Overrun - FSS - Deliverability 2/	0.0000	0.0325
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
	Authorized Overrun - FTS-P 3/	0.0116	0.2170
	Authorized Overrun - FTS-M	0.0115	0.1577
	CRM Surcharge – S 6/	0.0000	0.0075
	CRM Surcharge – P 7/	0.0000	0.0199
	CRM Surcharge – M 8/	0.0000	0.0049

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day for transportation and per Dth of MDWQ for storage. Commodity Rates are per Dth.
2/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the injection/ withdrawal charge.
3/ FTS-P is only applicable if firm capacity is reserved in the Production Area.
4/ Applied to daily storage balance.
5/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Reservation - FSS - Deliverability and Authorized Overrun - FSS - Deliverability pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Reservation - FTS-P and Authorized Overrun - FTS-P pursuant to Section 32 of the General Terms and Conditions.
8/ Surcharge in addition to above stated maximum rates for Reservation - FTS-M and Authorized Overrun - FTS-M pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 3/	Maximum Rate 3/
STS-P	Commodity	$ 0.0116	$ 0.8547
	Authorized Overrun	0.0116	0.8547
	CRM Surcharge – P 4/	0.0000	0.0199
	Authorized Overrun - FSS - Deliverability 1/	0.0000	0.0325
	CRM Surcharge – S 5/	0.0000	0.0075
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
STS-M	Commodity - STS-P 2/	0.0116	0.3324
	Authorized Overrun - STS-P 2/	0.0116	0.3324
	CRM Surcharge – P 4/	0.0000	0.0199
	Commodity - STS-M	0.0115	0.8322
	Authorized Overrun - STS-M	0.0115	0.8322
	CRM Surcharge – M 4/	0.0000	0.0049
	Authorized Overrun - FSS - Deliverability 1/	0.0000	0.0325
	CRM Surcharge – S 5/	0.0000	0.0075
	Authorized Overrun - FSS - Capacity	0.0000	0.0017

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the injection/ withdrawal charge.
2/ STS-P is only applicable if firm capacity is reserved in the Production Area.
3/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
4/ Surcharge in addition to above stated maximum rates for Commodity and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Authorized Overrun - FSS - Deliverability pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 1/ & 4/	Maximum Rate 1/ & 4/
FTS-P	Reservation	$ 0.0000	$ 0.2054
	Commodity	0.0116	0.0116
	Authorized Overrun	0.0116	0.2170
	CRM Surcharge – P 5/	0.0000	0.0199
FTS-M	Reservation	0.0000	0.1462
	Commodity	0.0115	0.0115
	Authorized Overrun	0.0115	0.1577
	CRM Surcharge – M 5/	0.0000	0.0049
FTS-M	Ozark Trails Incremental Charge 2/	0.0000	0.0632
SFT-P	Commodity	0.0116	0.7243
	Authorized Overrun	0.0116	0.7243
	CRM Surcharge – P 6/	0.0000	0.0199
SFT-M	Commodity - SFT-P 3/	0.0116	0.3324
	Authorized Overrun - SFT-P 3/	0.0116	0.3324
	CRM Surcharge – P 6/	0.0000	0.0199
	Commodity - SFT-M	0.0115	0.6733
	Authorized Overrun - SFT-M	0.0115	0.6733
	CRM Surcharge – M 7/	0.0000	0.0049

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day. Commodity Rates are per Dth.
2/ Incremental charge in addition to above stated FTS-M rates. Charge is applicable to parties using facilities built pursuant to Docket No. CP06-94.
3/ SFT-P is only applicable if firm capacity is reserved in the Production Area.
4/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Reservation and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Commodity and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Commodity - SFT-M and Authorized Overrun - SFT-M pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES (CONTINUED)

		Minimum Rate 1/ & 4/	Maximum Rate 1/ & 4/
ITS-P	Commodity	$ 0.0116	$ 0.2170
	CRM Surcharge – P 5/	0.0000	0.0199
ITS-M	Commodity	0.0115	0.1577
	CRM Surcharge – M 5/	0.0000	0.0049
FSS	Deliverability Reservation	0.0000	0.0325
	Capacity Reservation 2/	0.0000	0.0017
	Injection	0.0132	0.0132
	Withdrawal	0.0132	0.0132
	Authorized Overrun - Deliverability 3/	0.0000	0.0325
	Authorized Overrun - Capacity	0.0000	0.0017
	CRM Surcharge – S 6/	0.0000	0.0075
ISS	Commodity 2/	0.0000	0.0034
	Injection	0.0132	0.0132
	Withdrawal	0.0132	0.0132
	CRM Surcharge – S 7/	0.0000	0.0075
PLS-P	Daily Commodity	0.0000	0.2170
PLS-M	Daily Commodity	0.0000	0.1577

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day for transportation and per Dth of MDWQ for storage. Commodity Rates are per Dth.
2/ Applied to daily storage balance.
3/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the Injections/Withdrawal charge.
4/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Commodity pursuant to Section 32 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Deliverability Reservation and Authorized Overrun – Deliverability pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Injection pursuant to Section 32 of the General Terms and Conditions.

VOLUMETRIC FIRM CAPACITY RELEASE MAXIMUM RATES 4/
STATED AT 100% LOAD FACTOR

		Maximum Rate 1/ & 5/
TSS-P	Reservation - FSS 2/	$ 0.0034
	Reservation - FTS-P	0.2054
	CRM Surcharge – S 6/	0.0075
	CRM Surcharge – P 7/	0.0199
TSS-M	Reservation - FSS 2/	0.0034
	Reservation - FTS-P	0.2054
	Reservation - FTS-M	0.1462
	CRM Surcharge – S 6/	0.0075
	CRM Surcharge – P 7/	0.0199
	CRM Surcharge – M 8/	0.0049
FTS-P	Reservation	0.2054
	CRM Surcharge – P 7/	0.0199
FTS-M	Reservation	0.1462
	CRM Surcharge – M 8/	0.0049
FTS-M	Ozark Trails Incremental Charge 3/	0.0632
FSS	Reservation 2/	0.0034
	CRM Surcharge – S 6/	0.0075

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Exclusive of any surcharges and commodity charges.
2/ Applied to daily storage balance.
3/ Incremental charge in addition to above stated FTS-M rate. Charge is applicable to parties using facilities built pursuant to Docket No. CP06-94.
4/ Does not apply to capacity release transactions of one year or less beginning July 30, 2008.
5/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Reservation - FSS pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Reservation - FTS-P pursuant to Section 32 of the General Terms and Conditions.
8/ Surcharge in addition to above stated maximum rates for Reservation - FTS-M pursuant to Section 32 of the General Terms and Conditions.

Appendix B

Marked Version of the Tariff Records

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 1/ & 5/	Maximum Rate 1/ & 5/
TSS-P	Reservation - FSS - Deliverability	$ 0.0000	$ 0.0325
	Reservation - FSS - Capacity 4/	0.0000	0.0017
	Reservation - FTS-P	0.0000	0.2054
	Injection - FSS	0.0132	0.0132
	Withdrawal - FSS	0.0132	0.0132
	Commodity - FTS-P	0.0116	0.0116
	Authorized Overrun - FSS - Deliverability 2/	0.0000	0.0325
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
	Authorized Overrun - FTS-P	0.0116	0.2170
	CRM Surcharge – S 6/	0.0000	0.0075
	CRM Surcharge – P 7/	0.0000	0.0199
TSS-M	Reservation - FSS - Deliverability	0.0000	0.0325
	Reservation - FSS - Capacity 4/	0.0000	0.0017
	Reservation - FTS-P 3/	0.0000	0.2054
	Reservation - FTS-M	0.0000	0.1462
	Injection - FSS	0.0132	0.0132
	Withdrawal - FSS	0.0132	0.0132
	Commodity - FTS-P 3/	0.0116	0.0116
	Commodity - FTS-M	0.0115	0.0115
	Authorized Overrun - FSS - Deliverability 2/	0.0000	0.0325
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
	Authorized Overrun - FTS-P 3/	0.0116	0.2170
	Authorized Overrun - FTS-M	0.0115	0.1577
	CRM Surcharge – S 6/	0.0000	0.0075
	CRM Surcharge – P 7/	0.0000	0.0199
	CRM Surcharge – M 8/	0.0000	0.0049

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day for transportation and per Dth of MDWQ for storage. Commodity Rates are per Dth.
2/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the injection/ withdrawal charge.
3/ FTS-P is only applicable if firm capacity is reserved in the Production Area.
4/ Applied to daily storage balance.
5/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Reservation - FSS - Deliverability and Authorized Overrun - FSS - Deliverability pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Reservation - FTS-P and Authorized Overrun - FTS-P pursuant to Section 32 of the General Terms and Conditions.

8/ Surcharge in addition to above stated maximum rates for Reservation - FTS-M and Authorized Overrun - FTS-M pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 3/	Maximum Rate 3/
STS-P	Commodity	$ 0.0116	$ 0.8547
	Authorized Overrun	0.0116	0.8547
	CRM Surcharge – P 4/	0.0000	0.0199
	Authorized Overrun - FSS - Deliverability 1/	0.0000	0.0325
	CRM Surcharge – S 5/	0.0000	0.0075
	Authorized Overrun - FSS - Capacity	0.0000	0.0017
STS-M	Commodity - STS-P 2/	0.0116	0.3324
	Authorized Overrun - STS-P 2/	0.0116	0.3324
	CRM Surcharge – P 4/	0.0000	0.0199
	Commodity - STS-M	0.0115	0.8322
	Authorized Overrun - STS-M	0.0115	0.8322
	CRM Surcharge – M 4/	0.0000	0.0049
	Authorized Overrun - FSS - Deliverability 1/	0.0000	0.0325
	CRM Surcharge – S 5/	0.0000	0.0075
	Authorized Overrun - FSS - Capacity	0.0000	0.0017

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the injection/ withdrawal charge.
2/ STS-P is only applicable if firm capacity is reserved in the Production Area.
3/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
4/ Surcharge in addition to above stated maximum rates for Commodity and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Authorized Overrun - FSS - Deliverability pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES

		Minimum Rate 1/ & 4/	Maximum Rate 1/ & 4/
FTS-P	Reservation	$ 0.0000	$ 0.2054
	Commodity	0.0116	0.0116
	Authorized Overrun	0.0116	0.2170
	CRM Surcharge – P 5/	0.0000	0.0199
FTS-M	Reservation	0.0000	0.1462
	Commodity	0.0115	0.0115
	Authorized Overrun	0.0115	0.1577
	CRM Surcharge – M 5/	0.0000	0.0049
FTS-M	Ozark Trails Incremental Charge 2/	0.0000	0.0632
SFT-P	Commodity	0.0116	0.7243
	Authorized Overrun	0.0116	0.7243
	CRM Surcharge – P 6/	0.0000	0.0199
SFT-M	Commodity - SFT-P 3/	0.0116	0.3324
	Authorized Overrun - SFT-P 3/	0.0116	0.3324
	CRM Surcharge – P 6/	0.0000	0.0199
	Commodity - SFT-M	0.0115	0.6733
	Authorized Overrun - SFT-M	0.0115	0.6733
	CRM Surcharge – M 7/	0.0000	0.0049

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day. Commodity Rates are per Dth.
2/ Incremental charge in addition to above stated FTS-M rates. Charge is applicable to parties using facilities built pursuant to Docket No. CP06-94.
3/ SFT-P is only applicable if firm capacity is reserved in the Production Area.
4/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Reservation and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Commodity and Authorized Overrun pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Commodity - SFT-M and Authorized Overrun - SFT-M pursuant to Section 32 of the General Terms and Conditions.

STATEMENT OF RATES FOR TRANSPORTATION OF NATURAL GAS
AND OTHER RELATED SERVICES (CONTINUED)

		Minimum Rate 1/ & 4/	Maximum Rate 1/ & 4/
ITS-P	Commodity	$ 0.0116	$ 0.2170
	CRM Surcharge – P 5/	0.0000	0.0199
ITS-M	Commodity	0.0115	0.1577
	CRM Surcharge – M 5/	0.0000	0.0049
FSS	Deliverability Reservation	0.0000	0.0325
	Capacity Reservation 2/	0.0000	0.0017
	Injection	0.0132	0.0132
	Withdrawal	0.0132	0.0132
	Authorized Overrun - Deliverability 3/	0.0000	0.0325
	Authorized Overrun - Capacity	0.0000	0.0017
	CRM Surcharge – S 6/	0.0000	0.0075
ISS	Commodity 2/	0.0000	0.0034
	Injection	0.0132	0.0132
	Withdrawal	0.0132	0.0132
	CRM Surcharge – S 7/	0.0000	0.0075
PLS-P	Daily Commodity	0.0000	0.2170
PLS-M	Daily Commodity	0.0000	0.1577

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Reservation rates are per Dth of MDTQ per day for transportation and per Dth of MDWQ for storage. Commodity Rates are per Dth.
2/ Applied to daily storage balance.
3/ Applicable to Injections/Withdrawals in excess of MDIQ or MDWQ, in addition to the Injections/Withdrawal charge.
4/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
5/ Surcharge in addition to above stated maximum rates for Commodity pursuant to Section 32 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Deliverability Reservation and Authorized Overrun – Deliverability pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Injection pursuant to Section 32 of the General Terms and Conditions.

VOLUMETRIC FIRM CAPACITY RELEASE MAXIMUM RATES 4/
STATED AT 100% LOAD FACTOR

		Maximum Rate 1/ & 5/
TSS-P	Reservation - FSS 2/	$ 0.0034
	Reservation - FTS-P	0.2054
	CRM Surcharge – S 6/	0.0075
	CRM Surcharge – P 7/	0.0199
TSS-M	Reservation - FSS 2/	0.0034
	Reservation - FTS-P	0.2054
	Reservation - FTS-M	0.1462
	CRM Surcharge – S 6/	0.0075
	CRM Surcharge – P 7/	0.0199
	CRM Surcharge – M 8/	0.0049
FTS-P	Reservation	0.2054
	CRM Surcharge – P 7/	0.0199
FTS-M	Reservation	0.1462
	CRM Surcharge – M 8/	0.0049
FTS-M	Ozark Trails Incremental Charge 3/	0.0632
FSS	Reservation 2/	0.0034
	CRM Surcharge – S 6/	0.0075

Fuel Reimbursement Percentages applicable to all Rate Schedules are shown on Sheet No. 13.

1/ Exclusive of any surcharges and commodity charges.
2/ Applied to daily storage balance.
3/ Incremental charge in addition to above stated FTS-M rate. Charge is applicable to parties using facilities built pursuant to Docket No. CP06-94.
4/ Does not apply to capacity release transactions of one year or less beginning July 30, 2008.
5/ These rates shall be increased, where applicable, to include the ACA unit charge pursuant to Section 26 of the General Terms and Conditions.
6/ Surcharge in addition to above stated maximum rates for Reservation - FSS pursuant to Section 32 of the General Terms and Conditions.
7/ Surcharge in addition to above stated maximum rates for Reservation - FTS-P pursuant to Section 32 of the General Terms and Conditions.
8/ Surcharge in addition to above stated maximum rates for Reservation - FTS-M pursuant to Section 32 of the General Terms and Conditions.

Appendix C

Derivation of CRM Surcharges for each Rate Area

Total Capex Spend	$	88,000,000
Total Revenue Requirement	$	13,409,783

Rate Base, Revenue Requirement and Rate Calculation			2019 Capex	
	Transmission - Production		2020 Surcharge	
			Mar 20 - Feb 21	
Line No.				
1	In-service Costs (gross plant)		$ 44,298,210	Actual
2	Less Accum Depreciation		$ 549,658	Actual
3	Net Plant		$ 43,748,552	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$ (694,157)	Actual
5	Net Rate Base		$ 43,054,395	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$ 5,299,996	Line 5 times Multiplier
7	Depreciation, Amortization, & Negative Salvage Exp. *	Various	$ 1,318,502	Line 1 * Appropriate Depr, Neg Salvage, Amort
8	Current Year Revenue Requirement		$ 6,618,498	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$ -	Calculation for 2021 Surcharge
10	Net Revenue Requirement		$ 6,618,498	Line 8 plus Line 9
11	Determinants using 2019 Actual Volumes		333,169,825	Prior Year Actual
12	Rate		$ 0.0199	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

Total Capex Spend	$	88,000,000
Total Revenue Requirement	$	13,409,783

Rate Base, Revenue Requirement and Rate Calculation
Transmission - Market

Line No.				2019 Capex 2020 Surcharge Mar 20 - Feb 21	
1	In-service Costs (gross plant)		$	21,467,599	Actual
2	Less Accum Depreciation		$	345,891	Actual
3	Net Plant		$	21,121,708	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$	(493,569)	Actual
5	Net Rate Base		$	20,628,139	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$	2,539,324	Line 5 times Multiplier
7	Depreciation, Amortization, & Negative Salvage Exp. *	Various	$	895,776	Line 1 * Appropriate Depr, Neg Salvage, Amort
8	Current Year Revenue Requirement		$	3,435,100	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$	-	Calculation for 2021 Surcharge
10	Net Revenue Requirement		$	3,435,100	Line 8 plus Line 9
11	Determinants using 2019 Actual Volumes			696,968,981	Prior Year Actual
12	Rate		$	0.0049	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

Total Capex Spend	$	88,000,000
Total Revenue Requirement	$	13,409,783

Rate Base, Revenue Requirement and Rate Calculation
Storage

Line No.				2019 Capex 2020 Surcharge Mar 20 - Feb 21	
1	In-service Costs (gross plant)		$	22,234,191	Actual
2	Less Accum Depreciation		$	241,372	Actual
3	Net Plant		$	21,992,819	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$	(304,187)	Actual
5	Net Rate Base		$	21,688,632	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$	2,669,871	Line 5 times Multiplier
7	Depreciation, Amortization, & Negative Salvage Exp. *	Various	$	686,314	Line 1 * Appropriate Depr, Neg Salvage, Amort
8	Current Year Revenue Requirement		$	3,356,185	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$	-	Calculation for 2021 Surcharge
10	Net Revenue Requirement		$	3,356,185	Line 8 plus Line 9
11	Determinants using 2019 Actual Volumes			448,144,582	Prior Year Actual
12	Rate		$	0.0075	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

Appendix D

Capital Revenue Requirement and CRM Surcharge Workpapers

Southern Star Central Gas Pipeline
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Southern Star 2020 CRM Filing
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Job No	Page	Row	Job Title	Area	Modernization Type	2019 MOD Capital Costs	In Service Date	Notes
C61122	Compression	1	REPLACE ENGINE CONTROL SYSTEM AT WAKITA COMPRESSOR STATION	Production	EFFICIENCY	1,736,133.20	11/4/2019	
C60262	Compression	3	INSTALL REDUNDANT COMPRESSION AT BLACKWELL COMPRESSOR	Production	EFFICIENCY	28,721,305.22	8/19/2019	
C61034	Compression	4	INSTALL AUTO BALANCE ON ENGINES 6 - 9 AT BLACKWELL	Production	SAFETY	1,522,291.52	10/1/2019	
C61150	Compression	5	REPLACE FIRE DETECTION AT STAFFORD COMPRESSOR STATION	Production	SAFETY	35,464.90	10/4/2019	
C61123	Compression	6	REPLACE FIRE DETECTION AT EDMOND STATION	Production	SAFETY	37,430.51	9/12/2019	
C61158	Compression	7	REPLACE FIRE DETECTION AT ATCHISON COMPRESSOR STATION	Market	SAFETY	23,468.97	10/25/2019	
C61152	Compression	8	REPLACE FIRE DETECTION AT WEBB COMPRESSOR STATION	Storage	SAFETY	22,685.94	5/22/2019	
C61148	Compression	9	REPLACE FIRE DETECTION AT AMERICUS COMPRESSOR STATION	Market	SAFETY	46,849.89	8/30/2019	
C61155	Compression	10	REPLACE FIRE DETECTION AT HUGOTON COMPRESSOR STATION	Production	SAFETY	71,137.10	8/15/2019	
C61149	Compression	11	REPLACE GAS DETECTION AT AMERICUS COMPRESSOR STATION	Market	SAFETY	41,388.28	8/30/2019	
C61159	Compression	12	REPLACE GAS DETECTION ATCHISON COMPRESSOR STATION	Market	SAFETY	24,596.04	10/25/2019	
C61151	Compression	13	REPLACE GAS DETECTION STAFFORD COMPRESSOR STATION	Production	SAFETY	29,913.16	10/4/2019	
C61124	Compression	14	REPLACE GAS DETECTION AT EDMOND COMPRESSOR STATION	Production	SAFETY	31,397.67	9/12/2019	
C61154	Compression	15	REPLACE GAS DETECTION AT WEBB COMPRESSOR STATION	Storage	SAFETY	14,209.44	5/22/2019	
C61156	Compression	16	REPLACE GAS DETECTION AT HUGOTON COMPRESSOR STATION	Production	SAFETY	60,112.12	8/15/2019	
C61710	Compression	17	REPLACE EMERGENCY GENERATORS WITH AUTO SWITCH AND PANELS AT STAFFORD	Production	RELIABILITY	377,770.36	10/10/2019	
C61711	Compression	17	REPLACE EMERGENCY GENERATORS WITH AUTO SWITCH AND PANELS AT LYONS	Storage	RELIABILITY	354,865.07	10/7/2019	
C61117	Compression	18	INSTALL BUILDING OVER DEHYDRATION AT WELDA COMPRESSOR STATION	Storage	EFFICIENCY	1,718,965.84	12/23/2019	
C61127	Compression	20	REPLACE PLCS AT GRABHAM COMPRESSOR STATION	Market	EFFICIENCY	392,187.38	7/12/2019	
C61160	Compression	20	REPLACE PLCS MONTEZUMA COMPRESSOR STATION	Production	EFFICIENCY	354,387.32	10/8/2019	
C61161	Compression	21	INSTALL SAV-AIR STARTING SYSTEM AT AMERICUS COMPRESSOR STATION	Market	EFFICIENCY	108,980.11	6/7/2019	
C61162	Compression	22	INSTALL SAV-AIR STARTING SYSTEM AT EDMOND COMPRESSOR STATION	Production	EFFICIENCY	86,562.02	4/26/2019	
C61118	Compression	23	INSTALL SAV AIR STARTING SYSTEM AT WEBB COMPRESSOR STATION	Storage	SAFETY	32,186.70	5/8/2019	
C61120	Compression	24	INSTALL NEW COMPRESSOR VALVES GRABHAM STATION UNITS 8, 9, 10	Market	EFFICIENCY	143,725.99	11/1/2019	
C61171	Compression	24	INSTALL NEW COMPRESSOR VALVES ON UNITS 1 AND 2 AT SAGINAW STATION	Market	EFFICIENCY	184,487.97	12/6/2019	
C61128	Compression	26	REPLACE IGNITION SYSTEM FOR UNITS 1 2 & 3 AT EDMOND COMPRESSOR STATION	Production	EFFICIENCY	77,039.89	4/26/2019	
C61172	Compression	26	REPLACE IGNITION SYSTEM UNITS 1 - 8 AT HESSTON	Production	SAFETY	234,575.15	9/17/2019	
C61173	Compression	26	REPLACE IGNITION ON UNITS 1 - 3 AT STAFFORD	Production	SAFETY	89,983.49	3/9/2019	
C61174	Compression	26	REPLACE IGNITION SYSTEM ON WEBB COMPRESSOR	Storage	SAFETY	34,208.99	2/20/2019	
C61131	Compression	27	INSTALL FILTER SEPARATOR ON 12” LINE DY AT PETROLIA (HUMBOLDT)	Market	EFFICIENCY	1,424,457.89	8/29/2019	1
C61132	Compression	28	INSTALL NEW NEC ELECTRICAL PANEL AT OTIS COMPRESSOR STATION	Production	EFFICIENCY	27,507.00	10/23/2019	
C61175	Compression	28	INSTALL NEW NEC ELECTRICAL PANEL AT LEVANT	Production	SAFETY	27,398.33	10/16/2019	
C61176	Compression	28	INSTALL NEW NEC ELECTRICAL PANEL AT ST FRANCIS	Production	SAFETY	32,342.43	10/9/2019	
C61178	Compression	28	INSTALL NEW NEC ELECTRICAL PANEL AT CHEYENNE	Production	SAFETY	13,529.49	10/8/2019	

Southern Star Central Gas Pipeline
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Job No	Page	Row	Job Title	Area	Modernization Type	2019 MOD Capital Costs	In Service Date	Notes
C61133	Compression	29	REPLACE BENTLEY VIBRATION SYSTEM RINER UNITS 1 & 2 AT RINER COMPRESSOR STATION	Production	SAFETY	22,608.43	6/28/2019	
C61181	Compression	29	REPLACE BENTLEY VIBRATION SYSTEM AT CHEYENNE	Production	SAFETY	12,756.04	7/17/2019	
C61190	Compression	29	REPLACE BENTLEY VIBRATION MONITORING AT YUMA	Production	SAFETY	13,135.75	7/2/2019	
C61195	Compression	29	REPLACE BENTLEY VIBRATION MONITORING AT ST FRANCIS	Production	SAFETY	16,730.04	7/19/2019	
C61134	Compression	30	INSTALL NEW JACKET WATER SYSTEM BOILER AT WELDA COMPRESSOR STATION	Storage	EFFICIENCY	2,725,622.12	12/18/2019	
C61135	Compression	31	INSTALL AMOT TEMPERATURE CONTROL IN COOLING SYSTEM AT RINER COMPRESSOR STA	Production	EFFICIENCY	57,819.25	9/20/2019	
C61138	Compression	32	INSTALL NEW UNIT DISCHARGE RELIEF VALVES AT EDMOND COMPRESSOR STATION	Production	SAFETY	23,466.44	10/16/2019	
C60264	Compression	33	RELOCATE INTAKE AND DISCHARGE ESD BLOW OFFS AT MONTEZUMA STATION	Production	EFFICIENCY	448,927.05	10/12/2019	
C61139	Compression	33	REPLACE LEAKING BLOWDOWN ESD & LOADING GATE VALVES AT WELDA COMPRESSOR STA	Storage	SAFETY	256,560.91	6/7/2019	
C61201	Compression	34	INSTALL ELECTRONIC FUEL CHECKS ON ENGINE AT YUMA	Production	SAFETY	244,662.42	10/19/2019	
C61535	Compression	35	INSTALL FUEL GAS FILTER ON JOPLIN (SAGINAW) TURBINE	Market	EFFICIENCY	205,171.46	10/18/2019	2
C61536	Compression	36	REPLACE PETROTECH CONTROLS WITH SOLAR CONTROLS ON JOPLIN TURBINE	Market	EFFICIENCY	997,347.90	11/6/2019	
C61163	Compression	1st Cust Mtg Add	INSTALL SAV-AIR STARTING SYSTEM AT PECULIAR COMPRESSOR STATION	Market	SAFETY	64,176.46	11/1/2019	
C61260	Compression	1st Cust Mtg Add	INSTALL FILTER SEPARATOR ON LINE DP 30" ACROSS STREET FROM OTTAWA CS	Market	EFFICIENCY	1,818,185.66	11/6/2019	
C61951	Compression	2nd Cust Mtg Add	INSTALL FILTER SEPARATOR ON LINE D AT WELDA	Storage	EFFICIENCY	2,124,169.64	6/11/2019	
C61989	Compression	3rd Cust Mtg Add	INSTALL VALVE AUTOMATION AT TONGANOXIE COMPRESSOR STATION	Market	EFFICIENCY	1,507,399.48	12/17/2019	
C61224	Dewatering	1	INSTALL DEWATERING FACILITIES, REPLACE PIPE, AND REMOVE DRIP ON LINE DQ-027	Storage	EFFICIENCY	1,627,718.84	11/15/2019	
C61225	Dewatering	2	INSTALL DEWATERING FACILITIES AND REMOVE SIPHON ON LINE DQ-034 IN SOUTH WELDA	Storage	EFFICIENCY	434,989.51	11/15/2019	
C61226	Dewatering	3	INSTALL 4' DEWATERING FACILITIES AND REPLACE 135' OF 3" PIPE ON LINE DQ-65	Storage	EFFICIENCY	434,806.20	11/15/2019	
C61039	Drip Removal	5	REPLACE MAINLINE VALVE AT HIGGINS STATION IN HEMPHILL, TL DUE TO MALFUNCTION	Production	SAFETY	1,369,502.21	6/7/2019	
C59779	Exposure Remediation	2	REPLACE APPROX 2500 FT OF LINE EJ-014, JEFFERSON KS	Storage	SAFETY	1,169,419.62	9/13/2019	
C59800	Exposure Remediation	3	REPLACE APPROX 400 FT OF 20" LINE F IN CHEROKEE, KS	Market	SAFETY	433,573.22	7/11/2019	
C61185	Exposure Remediation	4	REPLACE APPROX 1000 FT OF LINE VP IN CLEVELAND, OK	Production	SAFETY	1,041,177.22	8/28/2019	
C61202	Exposure Remediation	5	STABILIZE APPROX 30 FT OF 26" LINE TL IN MAJOR, OK TO REMEDIATE EXPOSURE	Production	SAFETY	196,284.98	8/22/2019	
C61203	Exposure Remediation	6	STABILIZE APPROX 70 FT OF 12" LINE VH IN LOGAN, OK TO REMEDIATE EXPOSURE	Production	SAFETY	800,537.97	7/18/2019	
C61879	Exposure Remediation	1st Cust Mtg Add	REMEDIATE LINE EH EXPOSURE IN ATCHISON (TONGANOXIE), KS	Market	SAFETY	335,778.77	10/8/2019	3
C61205	Exposure Remediation	3rd Cust Mtg Add	STABILIZE APPROX 25 FT OF 26" LINE VN IN CHAUTAUQUA, KS TO REMEDIATE EXPOSURE	Market	SAFETY	198,377.31	12/13/2019	
S60202	IT	1	ENTERPRISE ASSET MANAGEMENT IMPLEMENTATION	General	EFFICIENCY	993,678.76	2/28/2019	
S60838	IT	1	ENHANCE ENTERPRISE ASSET MANAGEMENT SYSTEM AT HQ AND EEC	General	SAFETY	267,102.52	10/25/2019	
S60839	IT	2	ENHANCE PREDICTIVE ANALYTICS SYSTEM AT HQ AND EEC	General	SAFETY	813,453.41	6/28/2019	
C60994	IT	4	PURCHASE AND INSTALL EQUIPMENT FOR VIDEO SURVEILLANCE AT ALL CS - 2019	Production	SAFETY	294,351.37	11/29/2019	
C60997	IT	5	PURCHASE AND INSTALL VEHICLE MOBLE NETWORKING IN ALL COMPANY VEHICLES - 2019	Production	SAFETY	135,497.56	4/1/2019	
S60837	IT	6	PURCHASE, DEVELOP, IMPLEMENT CUSTOMER SYSTEM AT HQ AND EEC	General	SAFETY	2,241,133.40	2/18/2019	
C60905	Measurement	1	REPLACE OBSOLETE TURBINE METER AT LAKE LOTAWANA MO TB 009858 - JACKSON CO, MO	Market	RELIABILITY	981,878.20	10/21/2019	

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C60907	Measurement	2	REPLACE OBSOLETE TURBINE METER AT SPIRE KENTUCKY AVENUE 016591 - JACKSON CO, MO	Market	RELIABILITY	681,164.33	11/11/2019	4
C61962	Measurement	2	INSTALL COALESCING FILTER SEPARATOR AT SPIRE KY AVE 16591 IN JACKSON CO MO	Market	EFFICIENCY	550,280.23	11/11/2019	4
C60870	Measurement	3	REPLACE AXELSON RELIEF VALVE AT PIERCE CITY 000124R - LAWRENCE CO, MO	Market	SAFETY	4,089.52	8/12/2019	
C60871	Measurement	3	REPLACE AXELSON RELIEF VALVE AT NEOSHO LP 000125 - NEWTON CO, MO	Market	SAFETY	4,496.94	4/25/2019	
C60873	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CARL JUNCTION 000145R - JASPER CO, MO	Market	SAFETY	4,019.12	4/26/2019	
C60874	Measurement	3	REPLACE AXELSON RELIEF VALVE AT GALENA HP 008985R - CHEROKEE CO, KS	Market	SAFETY	3,843.48	4/26/2019	
C60878	Measurement	3	REPLACE AXELSON RELIEF VALVE AT JOPLIN RURAL BRICK SCHOOL 009105 - JASPER CO, MO	Market	SAFETY	4,268.93	5/10/2019	
C60881	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CRANE INTERMEDIATE 009686 - CHRISTIAN CO, MO	Market	SAFETY	3,791.03	8/12/2019	
C60882	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CRANE MO 010430 - CHRISTIAN CO, MO	Market	SAFETY	3,545.15	5/9/2019	
C60883	Measurement	3	REPLACE AXELSON RELIEF VALVE AT OILTON TB 000302 - CREEK CO, OK	Production	SAFETY	4,570.84	5/2/2019	
C60884	Measurement	3	REPLACE AXELSON RELIEF VALVE AT HILL DALE-KEYSTONE WEST 010413 - PAWNEE CO, OK	Production	SAFETY	4,260.60	4/16/2019	
C60885	Measurement	3	REPLACE AXELSON RELIEF VALVE AT VILLA HEIGHTS TB 006706 - JASPER CO, MO	Market	SAFETY	4,256.99	4/18/2019	
C60886	Measurement	3	REPLACE AXELSON RELIEF VALVE AT DELAWARE HP 000346 - NOWATA CO, OK	Production	SAFETY	7,107.25	8/20/2019	
C60887	Measurement	3	REPLACE AXELSON RELIEF VALVE AT OSWEGO TB 000974R - LABETTE CO, CO	Market	SAFETY	2,477.76	4/9/2019	
C60888	Measurement	3	REPLACE AXELSON RELIEF VALVE AT GATE - OK TB 010038 - BEAVER CO, OK	Production	SAFETY	1,874.50	3/29/2019	
C60889	Measurement	3	REPLACE AXELSON RELIEF VALVE AT KIOWA KS TB 010210 - BARBER CO, KS	Production	SAFETY	4,219.60	3/29/2019	
C61006	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CARROLLTON MAINLINE RV 016924R - JOHNSON CO, MO	Market	SAFETY	22,723.35	5/17/2019	
C61007	Measurement	3	REPLACE AXELSON RELIEF VALVE AT OXY CHEMICAL PLANT 015420 - SEDGWICK CO, KS	Production	SAFETY	5,820.80	4/29/2019	
C61008	Measurement	3	REPLACE AXELSON RELIEF VALVE AT HESSTON PLD 016466R - HARVEY CO, KS	Production	SAFETY	6,162.36	10/3/2019	
C61009	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ECKLEY PLD 016807 - YUMA CO, CO	Production	SAFETY	6,046.72	10/10/2019	
C61010	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WNG STAFFORD 009305 - STAFFORD CO, KS	Production	SAFETY	5,488.77	9/4/2019	
C61017	Measurement	3	REPLACE AXELSON RELIEF VALVE AT KANOPOLIS 3IN INT 001280R - ELLSWORTH CO, KS	Market	SAFETY	4,374.78	10/3/2019	
C61018	Measurement	3	REPLACE AXELSON RELIEF VALVE AT KPL GAS SERVICE 001290R - SMITH CO, KS	Market	SAFETY	5,089.25	9/18/2019	
C61061	Measurement	3	REPLACE AXELSON RELIEF VALVE AT SEDGWICK BENTLY HP 002507R - SEDGWICK CO, KS	Production	SAFETY	5,044.02	10/9/2019	
C61064	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CONWAY SPRINGS TB 006697R - SUMNER CO, KS	Production	SAFETY	3,085.86	4/19/2019	
C61068	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WNG HESSTON STN 007014 - HARVEY CO, KS	Production	SAFETY	4,528.69	8/30/2019	
C61070	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WNG RINERDOM FUEL 013033 - SWEETWATER CO, WY	Production	SAFETY	6,009.41	10/17/2019	
C61071	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WNG CHEYENNEDOM FUEL 013154 - WELD CO, CO	Production	SAFETY	7,017.39	10/16/2019	
C61073	Measurement	3	REPLACE AXELSON RELIEF VALVE AT BELOIT TB 015058- MITCHELL COUNTY, KS	Market	SAFETY	4,578.37	9/18/2019	
C61074	Measurement	3	REPLACE AXELSON RELIEF VALVE AT HESSTON TB 015448 - HARVEY CO, KS	Production	SAFETY	14,380.76	8/30/2019	
C61075	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ELDORADO 6TH ST QF REGS 016669R - BUTLER CO, KS	Market	SAFETY	7,618.59	11/22/2019	
C61076	Measurement	3	REPLACE AXELSON RELIEF VALVE AT SUBLETTE FEEDERS 2ND CUT 016672 - HASKELL CO, KS	Production	SAFETY	4,130.73	6/4/2019	
C61077	Measurement	3	REPLACE AXELSON RELIEF VALVE AT KIES CESSNA DELIVERY 016755 - SEDGWICK CO, KS	Production	SAFETY	4,436.08	4/29/2019	
C61078	Measurement	3	REPLACE AXELSON RELIEF VALVE AT MULVANE HP 016863 - SEDGWICK CO, KS	Production	SAFETY	4,046.34	5/3/2019	

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C61079	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CAMBRIDGE-CANEY HP 008009R - COWLEY CO, KS	Market	SAFETY	11,140.12	9/26/2019	
C61080	Measurement	3	REPLACE AXELSON RELIEF VALVE AT BENTON TB 008621 - BUTLER CO, KS	Market	SAFETY	4,754.52	9/13/2019	
C61081	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ONEOK HYDROCARBON 009753R - RENO CO, KS	Production	SAFETY	4,273.08	5/14/2019	
C61082	Measurement	3	REPLACE AXELSON RELIEF VALVE AT AUGUSTUS ENERGY 013144 - YUMA CO, CO	Production	SAFETY	5,724.24	10/9/2019	
C61083	Measurement	3	REPLACE AXELSON RELIEF VALVE AT BELLE PLAINE HP 015446 - SUMNER CO, KS	Production	SAFETY	8,536.62	9/26/2019	
C61084	Measurement	3	REPLACE AXELSON RELIEF VALVE AT BELL PLAINE LP 015447 - SUMNER CO, KS	Production	SAFETY	7,837.73	9/13/2019	
C61086	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ARLINGTON STATION FUEL 016515R - CARBON CO, WY	Production	SAFETY	4,306.43	10/17/2019	
C61089	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ARLINGTON START GAS 016516R - CARBON CO, WY	Production	SAFETY	4,447.57	10/17/2019	
C61090	Measurement	3	REPLACE AXELSON RELIEF VALVE AT MERINO STATION REG 016518R - LOGAN CO, CO	Production	SAFETY	4,403.26	9/9/2019	
C61091	Measurement	3	REPLACE AXELSON RELIEF VALVE AT MERINO STARTING GAS 016519R - LOGAN CO, CO	Production	SAFETY	3,862.37	8/7/2019	
C61561	Measurement	3	REPLACE 3 AXELSON RELIEF VALVES AT HUMBOLDT	Market	SAFETY	328,398.47	10/25/2019	
C61841	Measurement	3	REPLACE AXELSON RELIEF VALVE AT VINITA, OK HIGH PRESSURE 14907	Market	EFFICIENCY	5,851.25	10/23/2019	
C61849	Measurement	3	REPLACE AXELSON RELIEF VALVE AT MAYSVILLE 7158	Production	SAFETY	13,006.48	10/2/2019	
C61852	Measurement	3	REPLACE AXELSON RELIEF VALVE AT JAWHAWK MAIN LINE GATE #14728	Market	RELIABILITY	4,263.73	8/2/2019	
C61865	Measurement	3	REPLACE AXELSON RELIEF VALVE LOW PRESSURE 14908 AT CRAIG CO VINITA OK	Market	RELIABILITY	7,369.36	9/17/2019	
C61899	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WEST WEBB BOOSTER FUEL #15415	Storage	EFFICIENCY	5,242.48	9/17/2019	
C61900	Measurement	3	REPLACE AXELSON RELIEF VALVE AT WEBB BOILER FUEL #10513	Production	EFFICIENCY	4,276.65	9/12/2019	
C61966	Measurement	3	REPLACE AXELSON RELIEF VALVE AT ANDERSON RV 11270	Market	EFFICIENCY	5,111.56	9/18/2019	
C61972	Measurement	3	REPLACE AXELSON RELIEF VALVE AT NOEL HP 11265	Market	EFFICIENCY	5,171.29	7/31/2019	
C61982	Measurement	3	REPLACE OBSOLETE AXELSON RELIEF VALVE AT SENECA LP 14915	Market	EFFICIENCY	7,711.81	9/25/2019	
C62174	Measurement	3	REPLACE OBSOLETE AXELSON RELIEF VALVE AT GARDNER TB #16703	Market	RELIABILITY	6,164.36	10/7/2019	
C62027	Measurement	3	REPLACE AXELSON RELIEF VALVE AT NEOSHO HP 11048	Market	EFFICIENCY	6,227.18	9/12/2019	
C62128	Measurement	3	REPLACE AXELSON RELIEF VALVE AT PARSONS HP 8521	Market	EFFICIENCY	18,935.02	9/26/2019	
C62166	Measurement	3	REPLACE AXELSON RELIEF VALVES AT MUTUAL STATION FUEL #16509	Production	SAFETY	3,735.40	10/17/2019	
C62170	Measurement	3	REPLACE AXELSON RELIEF VALVE AT AURORA, MO RV 122	Market	RELIABILITY	5,442.05	10/7/2019	
C62177	Measurement	3	REPLACE AXELSON RELIEF VALVE AT CONCORDIA TAP #1702	Market	RELIABILITY	4,065.41	10/22/2019	
C62178	Measurement	3	REPLACE AXELSON RELIEF VALVE AT NORBORNE TAP #1364	Market	RELIABILITY	5,041.53	11/8/2019	
C62205	Measurement	3	REPLACE OBSOLETE AXELSON RELIEF VALVE AT DEWEY HP 12107	Production	RELIABILITY	13,463.79	9/25/2019	
C62234	Measurement	3	REPLACE AXELSON RELIEF VALVE AT SAGINAW GMV FUEL 14998	Market	RELIABILITY	4,013.45	12/5/2019	
C62239	Measurement	3	REPLACE AXELSON RELIEF VALVE AT SAGINAW STATION COTTON VALLEY BYPASS 15023	Market	RELIABILITY	9,009.97	11/5/2019	
C60906	Measurement	4	REPLACE OBSOLETE TURBINE METER AT SPIRE-MO FAIRFAX BRIDGE 010362 - PLATTE CO, MO	Market	SAFETY	956,995.23	11/23/2019	
C60908	Measurement	6	UPGRADE METER SETTING FOR FREEZE-THAW FALLS CITY HP 001329 - RICHARDSON CO, NE	Market	SAFETY	372,577.21	8/22/2019	
C60917	Measurement	7	UPGRADE M&R AT CLEVER 10040 & 10041 AND BILLINGS 120 CHRISTIAN CO MO	Market	SAFETY	985,129.01	8/9/2019	
C60918	Measurement	8	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP AT CHASE CO 014155 - CHASE CO, KS	Market	SAFETY	1,680.81	10/28/2019	

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C60919	Measurement	10	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP AT MULLENDORE 014027 - WASH CO OK	Production	SAFETY	635.59	8/30/2019	
C60920	Measurement	11	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP AT BLUE CO 016806 - NOWATA CO, OK	Market	SAFETY	4,338.93	10/10/2019	
C60921	Measurement	12	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP - ENDEAVOR 016798 - NOWATA CO, OK	Market	SAFETY	5,062.04	10/10/2019	
C60922	Measurement	13	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP - NEOK PLD 016905 - NOWATA CO, OK	Market	SAFETY	824.73	6/4/2019	
C60923	Measurement	15	INSTALL SLAM VALVES IN INPUT LINES AS OPP - ECHO SPRINGS 016294 - CARBON CO, WY	Production	SAFETY	749,510.34	9/21/2019	
C60941	Measurement	16	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-LEVANT FUEL 013036-RAWLINS CO, KS	Production	SAFETY	2,495.30	12/2/2019	
C60942	Measurement	17	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-OGALLAH FUEL 013150-TREGO CO, KS	Production	SAFETY	9,540.31	10/7/2019	
C60943	Measurement	18	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-OGALLAH FUEL 013151-TREGO CO, KS	Production	SAFETY	10,324.01	10/7/2019	
C60944	Measurement	19	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-ST FRANCIS 013585-CHEYENNE CO, KS	Production	SAFETY	7,064.36	10/8/2019	
C60945	Measurement	20	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-ST FRANCIS 013586-CHEYENNE CO, KS	Production	SAFETY	17,798.71	10/8/2019	
C60946	Measurement	21	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-HOXIE FUEL 013587-SHERIDAN CO, KS	Production	SAFETY	7,189.42	10/9/2019	
C60947	Measurement	22	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-HOXIE FUEL 013588-SHERIDAN CO, KS	Production	SAFETY	7,158.42	10/9/2019	
C60948	Measurement	23	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-OTIS FUEL 013589 - RUSH CO, KS	Production	SAFETY	7,622.68	10/10/2019	
C60949	Measurement	24	INSTALL RELIEF VALVE TO REPLACE CUST OWNED OPP-OTIS HP FUEL 013590 - RUSH CO, KS	Production	SAFETY	7,174.41	10/10/2019	
C60924	Measurement	25	REPLACE OBSOLETE CONTROL VALVES - 1 IN - KNOBNOSTER 001367 - JOHNSON CO, MO	Market	SAFETY	33,902.58	10/7/2019	
C60894	Measurement	28	REPLACE OBSOLETE CONTROL VALVES, 1IN, OLPE-MADISON INT 011403 - LYON CO, KS	Market	SAFETY	4,810.56	9/6/2019	
C60895	Measurement	28	REPLACE OBSOLETE FISHER 399 REGULATORS AT MADISON TB 012891 - GREENWOOD CO, KS	Market	SAFETY	7,641.57	11/13/2019	
C60926	Measurement	30	INSTALL GAS CHROMATOGRAPH AND BULDING AT EDMOND STATION - OKLAHOMA CO, OK	Production	SAFETY	389,010.57	12/16/2019	
C60927	Measurement	31	REPLACE GAS CHROMATOGRAPH AT OTTAWA STATION - FRANKLIN CO, KS	Market	SAFETY	79,334.30	8/16/2019	
C60928	Measurement	32	REPLACE OBSOLETE 700 GAS CHROMATOGRAPH - ATLAS WAYNOKA - LINE NZ - WOODS CO, OK	Production	SAFETY	48,359.14	6/5/2019	
C60929	Measurement	33	REPLACE OBSOLETE 700 GAS CHROMATOGRAPH - EAST LIBERTY F018 - MONTGOMERY CO, KS	Market	SAFETY	41,406.50	7/24/2019	
C60930	Measurement	34	REPLACE OBSOLETE 700 GAS CHROMATOGRAPH - ELK STORAGE LINE DB- MONTGOMERY CO, KS	Storage	SAFETY	49,766.91	5/30/2019	
C60931	Measurement	35	REPLACE OBSOLETE 700 GAS CHROMATOGRAPH - PRINCETON LINE DP- FRANKLIN CO, KS	Market	SAFETY	37,666.57	6/1/2019	
C60932	Measurement	36	REPLACE OBSOLETE 700 GAS CHROMATOGRAPH -RIVERTON EMPIRE- FR001- CHEROKEE CO, KS	Market	SAFETY	101,594.49	6/7/2019	
C60958	Measurement	37	INSTALL GAS DETECTION IN GC 14852 BLDG - WICHITA S TB 007730 - SEDGWICK CO, KS	Production	SAFETY	14,521.46	11/20/2019	
C60959	Measurement	38	REPLACE GAS DETECTION AT NGPL FORD 15275 GC- FORD CO, KS	Production	SAFETY	14,889.19	11/5/2019	
C60951	Measurement	39	INSTALL GAS DETECTION IN GC BLDG - MONTEZUMA STN - LINE RA - GRAY CO, KS	Production	SAFETY	33,139.53	11/5/2019	
C60952	Measurement	40	INSTALL GAS DETECTION IN GC BLDG #16333 - BP HUGOTON - GRANT CO, KS	Production	SAFETY	32,720.51	11/5/2019	5
C62198	Measurement	41	INSTALL GAS DETECTION IN GC BUILDING #16342 ENBRIDGE HOBART HEMPHILL, TX	Production	RELIABILITY	20,991.06	10/15/2019	
C61880	Measurement	1st Cust Mtg Add	REPLACE TWO 4IN OBSOLETE TURBINE METERS WITH ULTRASONIC AT 16765 NEWTON CO MO	Market	EFFICIENCY	298,198.41	11/6/2019	
C60489	PHMSA	1	DOMESTIC SETTING UPGRADES IN EDMOND DISTRICT FOR PHMSA COMPLIANCE	Production	RELIABILITY	381,407.62	12/30/2019	
C60505	PHMSA	1	PHMSA DOMESTIC UPGRADES FOR HUGOTON DISTRICT	Production	SAFETY	25,068.51	7/26/2019	
C61267	PHMSA	1	DOMESTIC SETTINGS UPGRADES IN ALVA AREA FOR PHMSA COMPLIANCE	Production	RELIABILITY	43,421.75	10/25/2019	
C61268	PHMSA	1	DOMESTIC SETTINGS UPGRADES IN BLACKWELL AREA FOR PHMSA COMPLIANCE	Production	RELIABILITY	243,032.87	11/22/2019	

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C61360	PHMSA	1	PHMSA UPGRADES FOR DOMESTIC SETTINGS INDEPENDENCE WORK LOCATION 2019	Production	RELIABILITY	302,319.11	4/15/2019	
C61568	PHMSA	1	PHMSA DOMESTIC UPGRADES FOR TONGANOXIE AREA - 2019	Market	RELIABILITY	309,711.07	12/5/2019	
C61622	PHMSA	1	PHMSA DOMESTIC UPGRADES FOR HESSTON	Market	SAFETY	21,976.58	6/3/2019	
C61623	PHMSA	1	PHMSA DOMESTIC UPGRADES FOR AMERICUS	Market	SAFETY	99,558.75	7/9/2019	
C61640	PHMSA	1	PHMSA DOMESTIC UPGRADES FOR WELDA WORK LOCATION 2019	Market	RELIABILITY	124,432.76	10/31/2019	
C61652	PHMSA	1	PHMSA UPGRADES FOR DOMESTIC SETTINGS JOPLIN WORK LOCATION 2019	Market	EFFICIENCY	378,714.25	4/1/2019	
C61211	PHMSA	1st Cust Mtg Add	REPLACE 52 PIPE SUPPORTS IN SAGINAW STATION IN NEWTON CO MO	Market	SAFETY	379,361.09	8/15/2019	
C61021	Piggability	2	RELOCATE S GLAVIN RECEIVER, ADD MLV, DRIP & MODIFY 26IN ON Q IN JOHNSON CO KS	Market	SAFETY	2,246,105.84	10/10/2019	
C61022	Piggability	3	INSTALL LAUNCHER & RECEIVER ON RI 16IN TO ENABLE ILI IN GRANT CO KS	Production	SAFETY	1,069,717.75	5/17/2019	
C61023	Piggability	4	INSTALL LAUNCHER & REC PIG BARREL ON BF 16IN IN MONTGOMERY & WASHINGTON CO KS	Market	SAFETY	690,712.67	10/10/2019	
C61025	Piggability	6	INSTALL LAUNCHER & RECEIVER ON LINE VO16 12IN AT GARVIN CO OK	Production	SAFETY	886,913.56	5/30/2019	
C61885	Piggability	1st Cust Mtg Add	INSTALL MODIFICATIONS TO LINE XE (OTTAWA TO GLAVIN) 26'' LAUNCHER AND RECEIVER	Market	EFFICIENCY	504,369.47	11/7/2019	
C61882	Pipe Replacement	1st Cust Mtg Add	REPLACE (2) 20'' RISING STEM VALVES ON LINE XQA IN WYANDOTTE CO, KS	Market	EFFICIENCY	596,254.01	10/22/2019	
C61037	Pipeline	1st Cust Mtg Add	REPLACE 12" RISING STEM VALVE (OTTAWA BADORF 12) ON LINE XT IN FRANKLIN, KS	Market	EFFICIENCY	307,862.44	11/20/2019	6
C61771	Pipeline	2nd Cust Mtg Add	REPLACE APPROX 1700' OF 6" PIPE LINE EQ IN RICHARDSON CO, NE	Market	RELIABILITY	475,301.11	9/13/2019	
C59741	Storage	1	INSTALL FLOW CONTROL AND UPGRADE MEASUREMENT WELDA STORAGE FIELD	Storage	SAFETY	9,224,365.32	6/7/2019	
C60447	Storage	2	INSTALL WELLHEAD MEASUREMENT COLONY STORAGE FIELD - ANDERSON CO, KS	Storage	EFFICIENCY	787,214.05	11/26/2019	
C60863	Storage	3	REMEDIATE COLONY WELLS 2019	Storage	RELIABILITY	55,488.43	12/31/2019	
C61054	Storage	3	UPGRADE WELLS FOR COMPLIANCE 2019	Storage	SAFETY	637,170.81	9/27/2019	
						88,523,735.90		
					Considered Maintenance Capital per Settlement	523,735.90		
					Modernization Capital for CRM Calculation	88,000,000.00		

1 Location of project is Humboldt in Eligible Facilities Plan in Settlement and Petrolia in all three presentations to customers. The references are to the same project location. Humboldt Compressor Station is near Petrolia, KS.

2 Location of project is Joplin in Eligible Facilities Plan in Settlement and Saginaw in all three presentations to customers. The references are to the same project location. Saginaw Compressor Station is near Joplin, MO.

3 Location of project is Tonganoxie in the presentations to customers and Atchison in the above project list. The references are to the same project location.

4 Job numbers C60907 & C61962 are part of the same project, broken out into separate job numbers so that each one can be properly unitized.

5 Location was inadvertently listed as "Kinder Morgan 16334" in Eligible Facilities Plan in Settlement filing and subsequent presentations to customers. Correct location is #16333 - BP Hugoton.

6 Incorrectly referenced as 20" valve replacement on Line XM in the presentations to customers. 12" valve replacement on Line XT is correct.

Job Number	2019 MOD Capex	In-Service Date	Rate Area	Depr/Amort Catergory	Tax Life	2019 CRM Capex **	2019 Accumulated Depr/Amort	2019 ADIT	Full Year Depr/Amort Expense
S60837	1,717,397.50	2/18/2019	G	SL5	1	$ 1,717,397.50	$ 286,238.64	$ (357,074.14)	$ 343,486.37
S60837 **	523,735.90	2/18/2019	G	SL5	1	$ -	$ -	$ -	$ -
S60838	267,102.52	10/25/2019	G	SL5	1	$ 267,102.52	$ 8,903.60	$ (64,420.63)	$ 53,421.57
S60839	284,708.69	6/28/2019	G	SL5	1	$ 284,708.69	$ 28,471.44	$ (63,931.19)	$ 56,942.88
S60202	993,678.76	2/28/2019	G	SL5	3	$ 993,678.76	$ 165,616.44	$ (27,546.16)	$ 198,739.73
S60839	528,744.72	6/28/2019	G	SL5	3	$ 528,744.72	$ 52,875.53	$ (8,794.52)	$ 105,751.06
	4,315,368.09		**General Total**			**$ 3,791,632.19**	**$ 542,105.65**	**$ (521,766.64)**	**$ 758,341.61**
C60447	787,214.05	11/26/2019	S	GP10	**7**	**$ 787,214.05**	**$ 6,559.85**	**$ (26,421.85)**	**$ 78,718.26**
C61152	22,685.94	5/22/2019	S	GP10	**7**	**$ 22,685.94**	**$ 1,323.29**	**$ (478.43)**	**$ 2,268.50**
C61154	14,209.44	5/22/2019	S	GP10	**7**	**$ 14,209.44**	**$ 828.85**	**$ (299.67)**	**$ 1,420.89**
C60863	55,488.43	12/31/2019	S	STORAGE	**15**	**$ 55,488.43**	**$ -**	**$ (692.22)**	**$ 1,325.73**
C61054	637,170.81	9/27/2019	S	STORAGE	**15**	**$ 637,170.81**	**$ 3,805.82**	**$ (6,999.15)**	**$ 15,223.28**
C61134	2,725,622.12	12/18/2019	S	STORAGE	**15**	**$ 2,725,622.12**	**$ -**	**$ (34,002.14)**	**$ 65,120.56**
C59741	9,224,365.32	6/7/2019	S	STORAGE	**15**	**$ 9,224,365.32**	**$ 110,194.27**	**$ (87,580.49)**	**$ 220,388.54**
C59779	1,169,419.62	9/13/2019	S	STORAGE	**15**	**$ 1,169,419.62**	**$ 6,984.94**	**$ (12,845.77)**	**$ 27,939.77**
C60930	49,766.91	5/30/2019	S	STORAGE	**15**	**$ 49,766.91**	**$ 693.60**	**$ (447.79)**	**$ 1,189.03**
C61118	32,186.70	5/8/2019	S	STORAGE	**15**	**$ 32,186.70**	**$ 448.59**	**$ (289.61)**	**$ 769.00**
C61139	256,560.91	6/7/2019	S	STORAGE	**15**	**$ 256,560.91**	**$ 3,064.88**	**$ (2,435.91)**	**$ 6,129.75**
C61174	34,208.99	2/20/2019	S	STORAGE	**15**	**$ 34,208.99**	**$ 681.10**	**$ (256.82)**	**$ 817.32**
C61224	1,627,718.84	11/15/2019	S	STORAGE	**15**	**$ 1,627,718.84**	**$ 3,240.79**	**$ (19,497.21)**	**$ 38,889.46**
C61225	434,989.51	11/15/2019	S	STORAGE	**15**	**$ 434,989.51**	**$ 866.06**	**$ (5,210.41)**	**$ 10,392.77**
C61226	434,806.20	11/15/2019	S	STORAGE	**15**	**$ 434,806.20**	**$ 865.70**	**$ (5,208.22)**	**$ 10,388.39**
C61711	354,865.07	10/7/2019	S	STORAGE	**15**	**$ 354,865.07**	**$ 1,413.07**	**$ (4,074.38)**	**$ 8,478.44**
C61899	5,242.48	9/17/2019	S	STORAGE	**15**	**$ 5,242.48**	**$ 31.31**	**$ (57.59)**	**$ 125.25**
C61951	2,124,169.64	6/11/2019	S	STORAGE	**15**	**$ 2,124,169.64**	**$ 25,375.33**	**$ (20,167.87)**	**$ 50,750.66**
C61117	1,718,965.84	12/23/2019	S	STORAGE	**39**	**$ 1,718,965.84**	**$ -**	**$ (5,040.22)**	**$ 41,069.53**
	21,709,656.82		**Storage Total**			**21,709,656.82**	**166,377.45**	**(232,005.75)**	**581,405.13**
C61127	392,187.38	7/12/2019	TM	GP10	**7**	**$ 392,187.38**	**$ 16,340.49**	**$ (9,901.71)**	**$ 39,217.17**
C61148	46,849.89	8/30/2019	TM	GP10	**7**	**$ 46,849.89**	**$ 1,561.60**	**$ (1,280.24)**	**$ 4,684.80**
C61149	41,388.28	8/30/2019	TM	GP10	**7**	**$ 41,388.28**	**$ 1,379.55**	**$ (1,131.00)**	**$ 4,138.66**
C61158	23,468.97	10/25/2019	TM	GP10	**7**	**$ 23,468.97**	**$ 391.13**	**$ (738.91)**	**$ 2,346.80**
C61159	24,596.04	10/25/2019	TM	GP10	**7**	**$ 24,596.04**	**$ 409.92**	**$ (774.40)**	**$ 2,459.51**
C61536	997,347.90	11/6/2019	TM	GP10	**7**	**$ 997,347.90**	**$ 8,310.90**	**$ (33,474.72)**	**$ 99,730.80**
C59800	433,573.22	7/11/2019	TM	TRANSON	**15**	**$ 433,573.22**	**$ 3,956.36**	**$ (4,421.71)**	**$ 9,495.25**
C60870	4,089.52	8/12/2019	TM	TRANSON	**15**	**$ 4,089.52**	**$ 29.85**	**$ (43.57)**	**$ 89.56**
C60871	4,496.94	4/25/2019	TM	TRANSON	**15**	**$ 4,496.94**	**$ 65.66**	**$ (39.72)**	**$ 98.48**
C60873	4,019.12	4/26/2019	TM	TRANSON	**15**	**$ 4,019.12**	**$ 58.68**	**$ (35.50)**	**$ 88.02**
C60874	3,843.48	4/26/2019	TM	TRANSON	**15**	**$ 3,843.48**	**$ 56.11**	**$ (33.95)**	**$ 84.17**
C60878	4,268.93	5/10/2019	TM	TRANSON	**15**	**$ 4,268.93**	**$ 54.54**	**$ (39.65)**	**$ 93.49**
C60881	3,791.03	8/12/2019	TM	TRANSON	**15**	**$ 3,791.03**	**$ 27.67**	**$ (40.39)**	**$ 83.02**
C60882	3,545.15	5/9/2019	TM	TRANSON	**15**	**$ 3,545.15**	**$ 45.29**	**$ (32.93)**	**$ 77.64**
C60885	4,256.99	4/18/2019	TM	TRANSON	**15**	**$ 4,256.99**	**$ 62.15**	**$ (37.60)**	**$ 93.23**
C60887	2,477.76	4/9/2019	TM	TRANSON	**15**	**$ 2,477.76**	**$ 36.18**	**$ (21.88)**	**$ 54.26**
C60894	4,810.56	9/6/2019	TM	TRANSON	**15**	**$ 4,810.56**	**$ 26.34**	**$ (53.44)**	**$ 105.35**
C60895	7,641.57	11/13/2019	TM	TRANSON	**15**	**$ 7,641.57**	**$ 13.95**	**$ (91.85)**	**$ 167.35**
C60905	981,878.20	10/21/2019	TM	TRANSON	**15**	**$ 981,878.20**	**$ 3,583.86**	**$ (11,354.76)**	**$ 21,503.13**
C60906	956,995.23	11/23/2019	TM	TRANSON	**15**	**$ 956,995.23**	**$ 1,746.52**	**$ (11,502.76)**	**$ 20,958.20**
C60907	681,164.33	11/11/2019	TM	TRANSON	**15**	**$ 681,164.33**	**$ 1,243.12**	**$ (8,187.37)**	**$ 14,917.50**
C60908	372,577.21	8/22/2019	TM	TRANSON	**15**	**$ 372,577.21**	**$ 2,719.81**	**$ (3,969.31)**	**$ 8,159.44**
C60917	985,129.01	8/9/2019	TM	TRANSON	**15**	**$ 985,129.01**	**$ 7,191.44**	**$ (10,495.22)**	**$ 21,574.33**
C60918	1,680.81	10/28/2019	TM	TRANSON	**15**	**$ 1,680.81**	**$ 6.13**	**$ (19.44)**	**$ 36.81**
C60920	4,338.93	10/10/2019	TM	TRANSON	**15**	**$ 4,338.93**	**$ 15.84**	**$ (50.18)**	**$ 95.02**
C60921	5,062.04	10/10/2019	TM	TRANSON	**15**	**$ 5,062.04**	**$ 18.48**	**$ (58.54)**	**$ 110.86**

Job Number	2019 MOD Capex	In-Service Date	Rate Area	Depr/Amort Catergory	Tax Life	2019 CRM Capex **	2019 Accumulated Depr/Amort	2019 ADIT	Full Year Depr/Amort Expense
C60922	824.73	6/4/2019	TM	TRANSON	15	$ 824.73	$ 9.03	$ (8.04)	$ 18.06
C60924	33,902.58	10/7/2019	TM	TRANSON	15	$ 33,902.58	$ 123.74	$ (392.06)	$ 742.47
C60927	79,334.30	8/16/2019	TM	TRANSON	15	$ 79,334.30	$ 579.14	$ (845.20)	$ 1,737.42
C60929	41,406.50	7/24/2019	TM	TRANSON	15	$ 41,406.50	$ 377.83	$ (422.28)	$ 906.80
C60931	37,666.57	6/1/2019	TM	TRANSON	15	$ 37,666.57	$ 412.45	$ (366.98)	$ 824.90
C60932	101,594.49	6/7/2019	TM	TRANSON	15	$ 101,594.49	$ 1,112.46	$ (989.83)	$ 2,224.92
C61006	22,723.35	5/17/2019	TM	TRANSON	15	$ 22,723.35	$ 290.29	$ (211.05)	$ 497.64
C61017	4,374.78	10/3/2019	TM	TRANSON	15	$ 4,374.78	$ 15.97	$ (50.59)	$ 95.81
C61018	5,089.25	9/18/2019	TM	TRANSON	15	$ 5,089.25	$ 27.86	$ (56.54)	$ 111.45
C61021	2,246,105.84	10/10/2019	TM	TRANSON	15	$ 2,246,105.84	$ 8,198.29	$ (25,974.70)	$ 49,189.72
C61023	690,712.67	10/10/2019	TM	TRANSON	15	$ 690,712.67	$ 2,521.10	$ (7,987.63)	$ 15,126.61
C61037	307,862.44	11/20/2019	TM	TRANSON	15	$ 307,862.44	$ 561.85	$ (3,700.40)	$ 6,742.19
C61073	4,578.37	9/18/2019	TM	TRANSON	15	$ 4,578.37	$ 25.07	$ (50.86)	$ 100.27
C61075	7,618.59	11/22/2019	TM	TRANSON	15	$ 7,618.59	$ 13.90	$ (91.57)	$ 166.85
C61079	11,140.12	9/26/2019	TM	TRANSON	15	$ 11,140.12	$ 60.99	$ (123.76)	$ 243.97
C61080	4,754.52	9/13/2019	TM	TRANSON	15	$ 4,754.52	$ 26.03	$ (52.82)	$ 104.12
C61120	143,725.99	11/1/2019	TM	TRANSON	15	$ 143,725.99	$ 262.30	$ (1,727.54)	$ 3,147.60
C61131	1,424,457.89	8/29/2019	TM	TRANSON	15	$ 1,424,457.89	$ 10,398.54	$ (15,175.68)	$ 31,195.63
C61161	108,980.11	6/7/2019	TM	TRANSON	15	$ 108,980.11	$ 1,193.33	$ (1,061.79)	$ 2,386.66
C61163	64,176.46	11/1/2019	TM	TRANSON	15	$ 64,176.46	$ 234.24	$ (742.16)	$ 1,405.46
C61171	184,487.97	12/6/2019	TM	TRANSON	15	$ 184,487.97	$ -	$ (2,301.49)	$ 4,040.29
C61205	198,377.31	12/13/2019	TM	TRANSON	15	$ 198,377.31	$ -	$ (2,474.76)	$ 4,344.46
C61211	379,361.09	8/15/2019	TM	TRANSON	15	$ 379,361.09	$ 2,769.34	$ (4,041.58)	$ 8,308.01
C61260	1,818,185.66	11/6/2019	TM	TRANSON	15	$ 1,818,185.66	$ 3,318.19	$ (21,853.98)	$ 39,818.27
C61535	205,171.46	10/18/2019	TM	TRANSON	15	$ 205,171.46	$ 748.88	$ (2,372.67)	$ 4,493.25
C61561	328,398.47	10/25/2019	TM	TRANSON	15	$ 328,398.47	$ 1,198.65	$ (3,797.71)	$ 7,191.93
C61568	309,711.07	12/5/2019	TM	TRANSON	15	$ 309,711.07	$ -	$ (3,863.64)	$ 6,782.67
C61622	21,976.58	6/3/2019	TM	TRANSON	15	$ 21,976.58	$ 240.64	$ (214.12)	$ 481.29
C61623	99,558.75	7/9/2019	TM	TRANSON	15	$ 99,558.75	$ 908.47	$ (1,015.33)	$ 2,180.34
C61640	124,432.76	10/31/2019	TM	TRANSON	15	$ 124,432.76	$ 454.18	$ (1,438.98)	$ 2,725.08
C61652	378,714.25	4/1/2019	TM	TRANSON	15	$ 378,714.25	$ 5,529.23	$ (3,344.92)	$ 8,293.84
C61771	475,301.11	9/13/2019	TM	TRANSON	15	$ 475,301.11	$ 2,602.27	$ (5,280.12)	$ 10,409.09
C61841	5,851.25	10/23/2019	TM	TRANSON	15	$ 5,851.25	$ 21.36	$ (67.66)	$ 128.14
C61852	4,263.73	8/2/2019	TM	TRANSON	15	$ 4,263.73	$ 31.13	$ (45.42)	$ 93.38
C61865	7,369.36	9/17/2019	TM	TRANSON	15	$ 7,369.36	$ 40.35	$ (81.87)	$ 161.39
C61879	335,778.77	10/8/2019	TM	TRANSON	15	$ 335,778.77	$ 1,225.59	$ (3,883.06)	$ 7,353.56
C61880	298,198.41	11/6/2019	TM	TRANSON	15	$ 298,198.41	$ 544.21	$ (3,584.24)	$ 6,530.55
C61882	596,254.01	10/22/2019	TM	TRANSON	15	$ 596,254.01	$ 2,176.33	$ (6,895.27)	$ 13,057.96
C61885	504,369.47	11/7/2019	TM	TRANSON	15	$ 504,369.47	$ 920.47	$ (6,062.35)	$ 11,045.69
C61962	550,280.23	11/11/2019	TM	TRANSON	15	$ 550,280.23	$ 1,004.26	$ (6,614.18)	$ 12,051.14
C61966	5,111.56	9/18/2019	TM	TRANSON	15	$ 5,111.56	$ 27.99	$ (56.78)	$ 111.94
C61972	5,171.29	7/31/2019	TM	TRANSON	15	$ 5,171.29	$ 47.19	$ (52.74)	$ 113.25
C61982	7,711.81	9/25/2019	TM	TRANSON	15	$ 7,711.81	$ 42.22	$ (85.67)	$ 168.89
C61989	1,507,399.48	12/17/2019	TM	TRANSON	15	$ 1,507,399.48	$ -	$ (18,804.81)	$ 33,012.05
C62027	6,227.18	9/12/2019	TM	TRANSON	15	$ 6,227.18	$ 34.09	$ (69.18)	$ 136.38
C62128	18,935.02	9/26/2019	TM	TRANSON	15	$ 18,935.02	$ 103.67	$ (210.35)	$ 414.68
C62170	5,442.05	10/7/2019	TM	TRANSON	15	$ 5,442.05	$ 19.86	$ (62.93)	$ 119.18
C62174	6,164.36	10/7/2019	TM	TRANSON	15	$ 6,164.36	$ 22.50	$ (71.29)	$ 135.00
C62177	4,065.41	10/22/2019	TM	TRANSON	15	$ 4,065.41	$ 14.84	$ (47.01)	$ 89.03
C62178	5,041.53	11/8/2019	TM	TRANSON	15	$ 5,041.53	$ 9.20	$ (60.60)	$ 110.41
C62234	4,013.45	12/5/2019	TM	TRANSON	15	$ 4,013.45	$ -	$ (50.07)	$ 87.89
C62239	9,009.97	11/5/2019	TM	TRANSON	15	$ 9,009.97	$ 16.44	$ (108.30)	$ 197.32
	19,746,842.86		**Market Area Total**			**19,746,842.86**	**99,867.53**	**(256,775.31)**	**551,617.75**
C60958	14,521.46	11/20/2019	TP	GP10	7	$ 14,521.46	$ 121.01	$ (487.39)	$ 1,452.09
C61123	37,430.51	9/12/2019	TP	GP10	7	$ 37,430.51	$ 935.73	$ (1,100.66)	$ 3,742.90

Job Number	2019 MOD Capex	In-Service Date	Rate Area	Depr/Amort Catergory	Tax Life	2019 CRM Capex **	2019 Accumulated Depr/Amort	2019 ADIT	Full Year Depr/Amort Expense
C61124	31,397.67	9/12/2019	TP	GP10	7	$ 31,397.67	$ 784.91	$ (923.27)	$ 3,139.64
C61150	35,464.90	10/4/2019	TP	GP10	7	$ 35,464.90	$ 591.06	$ (1,116.60)	$ 3,546.35
C61151	29,913.16	10/4/2019	TP	GP10	7	$ 29,913.16	$ 498.53	$ (941.81)	$ 2,991.20
C61155	71,137.10	8/15/2019	TP	GP10	7	$ 71,137.10	$ 2,371.14	$ (1,943.93)	$ 7,113.43
C61156	60,112.12	8/15/2019	TP	GP10	7	$ 60,112.12	$ 2,003.66	$ (1,642.65)	$ 6,010.97
C61160	354,387.32	10/8/2019	TP	GP10	7	$ 354,387.32	$ 5,906.22	$ (11,157.76)	$ 35,437.31
C60997	135,497.56	4/1/2019	TP	GP20	5	$ 135,497.56	$ 18,065.62	$ (2,253.96)	$ 27,098.43
C60994	294,351.37	11/29/2019	TP	TRANSON	5	$ 294,351.37	$ 490.68	$ (14,565.71)	$ 5,888.20
C60262	28,721,305.22	8/19/2019	TP	TRANSON	15	$ 28,721,305.22	$ 209,665.53	$ (305,986.73)	$ 628,996.58
C60264	448,927.05	10/12/2019	TP	TRANSON	15	$ 448,927.05	$ 1,638.58	$ (5,191.54)	$ 9,831.50
C60489	381,407.62	12/30/2019	TP	TRANSON	15	$ 381,407.62	$ -	$ (4,758.06)	$ 8,352.83
C60505	25,068.51	7/26/2019	TP	TRANSON	15	$ 25,068.51	$ 228.75	$ (255.66)	$ 549.00
C60883	4,570.84	5/2/2019	TP	TRANSON	15	$ 4,570.84	$ 58.39	$ (42.45)	$ 100.10
C60884	4,260.60	4/16/2019	TP	TRANSON	15	$ 4,260.60	$ 62.20	$ (37.63)	$ 93.31
C60886	7,107.25	8/20/2019	TP	TRANSON	15	$ 7,107.25	$ 51.88	$ (75.72)	$ 155.65
C60888	1,874.50	3/29/2019	TP	TRANSON	15	$ 1,874.50	$ 30.79	$ (15.70)	$ 41.05
C60889	4,219.60	3/29/2019	TP	TRANSON	15	$ 4,219.60	$ 69.31	$ (35.35)	$ 92.41
C60919	635.59	8/30/2019	TP	TRANSON	15	$ 635.59	$ 4.64	$ (6.77)	$ 13.92
C60923	749,510.34	9/21/2019	TP	TRANSON	15	$ 749,510.34	$ 4,103.57	$ (8,326.30)	$ 16,414.28
C60926	389,010.57	12/16/2019	TP	TRANSON	15	$ 389,010.57	$ -	$ (4,852.91)	$ 8,519.33
C60928	48,359.14	6/5/2019	TP	TRANSON	15	$ 48,359.14	$ 529.53	$ (471.16)	$ 1,059.07
C60941	2,495.30	12/2/2019	TP	TRANSON	15	$ 2,495.30	$ -	$ (31.13)	$ 54.65
C60942	9,540.31	10/7/2019	TP	TRANSON	15	$ 9,540.31	$ 34.82	$ (110.33)	$ 208.93
C60943	10,324.01	10/7/2019	TP	TRANSON	15	$ 10,324.01	$ 37.68	$ (119.39)	$ 226.10
C60944	7,064.36	10/8/2019	TP	TRANSON	15	$ 7,064.36	$ 25.78	$ (81.70)	$ 154.71
C60945	17,798.71	10/8/2019	TP	TRANSON	15	$ 17,798.71	$ 64.97	$ (205.83)	$ 389.79
C60946	7,189.42	10/9/2019	TP	TRANSON	15	$ 7,189.42	$ 26.24	$ (83.14)	$ 157.45
C60947	7,158.42	10/9/2019	TP	TRANSON	15	$ 7,158.42	$ 26.13	$ (82.78)	$ 156.77
C60948	7,622.68	10/10/2019	TP	TRANSON	15	$ 7,622.68	$ 27.82	$ (88.15)	$ 166.94
C60949	7,174.41	10/10/2019	TP	TRANSON	15	$ 7,174.41	$ 26.19	$ (82.97)	$ 157.12
C61007	5,820.80	4/29/2019	TP	TRANSON	15	$ 5,820.80	$ 84.98	$ (51.41)	$ 127.48
C61008	6,162.36	10/3/2019	TP	TRANSON	15	$ 6,162.36	$ 22.49	$ (71.26)	$ 134.96
C61009	6,046.72	10/10/2019	TP	TRANSON	15	$ 6,046.72	$ 22.07	$ (69.93)	$ 132.42
C61010	5,488.77	9/4/2019	TP	TRANSON	15	$ 5,488.77	$ 30.05	$ (60.98)	$ 120.20
C61022	1,069,717.75	5/17/2019	TP	TRANSON	15	$ 1,069,717.75	$ 13,665.64	$ (9,935.15)	$ 23,426.82
C61025	886,913.56	5/30/2019	TP	TRANSON	15	$ 886,913.56	$ 11,330.32	$ (8,237.33)	$ 19,423.41
C61034	1,522,291.52	10/1/2019	TP	TRANSON	15	$ 1,522,291.52	$ 5,556.36	$ (17,604.28)	$ 33,338.18
C61039	1,369,502.21	6/7/2019	TP	TRANSON	15	$ 1,369,502.21	$ 14,996.05	$ (13,343.03)	$ 29,992.10
C61061	5,044.02	10/9/2019	TP	TRANSON	15	$ 5,044.02	$ 18.41	$ (58.33)	$ 110.46
C61064	3,085.86	4/19/2019	TP	TRANSON	15	$ 3,085.86	$ 45.05	$ (27.26)	$ 67.58
C61068	4,528.69	8/30/2019	TP	TRANSON	15	$ 4,528.69	$ 33.06	$ (48.25)	$ 99.18
C61070	6,009.41	10/17/2019	TP	TRANSON	15	$ 6,009.41	$ 21.93	$ (69.50)	$ 131.61
C61071	7,017.39	10/16/2019	TP	TRANSON	15	$ 7,017.39	$ 25.61	$ (81.15)	$ 153.68
C61074	14,380.76	8/30/2019	TP	TRANSON	15	$ 14,380.76	$ 104.98	$ (153.21)	$ 314.94
C61076	4,130.73	6/4/2019	TP	TRANSON	15	$ 4,130.73	$ 45.23	$ (40.25)	$ 90.46
C61077	4,436.08	4/29/2019	TP	TRANSON	15	$ 4,436.08	$ 64.77	$ (39.18)	$ 97.15
C61078	4,046.34	5/3/2019	TP	TRANSON	15	$ 4,046.34	$ 51.69	$ (37.58)	$ 88.61
C61081	4,273.08	5/14/2019	TP	TRANSON	15	$ 4,273.08	$ 54.59	$ (39.69)	$ 93.58
C61082	5,724.24	10/9/2019	TP	TRANSON	15	$ 5,724.24	$ 20.89	$ (66.20)	$ 125.36
C61083	8,536.62	9/26/2019	TP	TRANSON	15	$ 8,536.62	$ 46.74	$ (94.83)	$ 186.95
C61084	7,837.73	9/13/2019	TP	TRANSON	15	$ 7,837.73	$ 42.91	$ (87.07)	$ 171.65
C61086	4,306.43	10/17/2019	TP	TRANSON	15	$ 4,306.43	$ 15.72	$ (49.80)	$ 94.31
C61089	4,447.57	10/17/2019	TP	TRANSON	15	$ 4,447.57	$ 16.23	$ (51.43)	$ 97.40
C61090	4,403.26	9/9/2019	TP	TRANSON	15	$ 4,403.26	$ 24.11	$ (48.91)	$ 96.43
C61091	3,862.37	8/7/2019	TP	TRANSON	15	$ 3,862.37	$ 28.20	$ (41.15)	$ 84.59
C61122	1,736,133.20	11/4/2019	TP	TRANSON	15	$ 1,736,133.20	$ 3,168.44	$ (20,867.74)	$ 38,021.32
C61128	77,039.89	4/26/2019	TP	TRANSON	15	$ 77,039.89	$ 1,124.78	$ (680.44)	$ 1,687.17

Job Number	2019 MOD Capex	In-Service Date	Rate Area	Depr/Amort Catergory	Tax Life	2019 CRM Capex **	2019 Accumulated Depr/Amort	2019 ADIT	Full Year Depr/Amort Expense
C61132	27,507.00	10/23/2019	TP	TRANSON	**15**	**$ 27,507.00**	**$ 100.40**	**$ (318.10)**	**$ 602.40**
C61133	22,608.43	6/28/2019	TP	TRANSON	**15**	**$ 22,608.43**	**$ 247.56**	**$ (220.27)**	**$ 495.12**
C61135	57,819.25	9/20/2019	TP	TRANSON	**15**	**$ 57,819.25**	**$ 316.56**	**$ (642.31)**	**$ 1,266.24**
C61138	23,466.44	10/16/2019	TP	TRANSON	**15**	**$ 23,466.44**	**$ 85.65**	**$ (271.37)**	**$ 513.92**
C61162	86,562.02	4/26/2019	TP	TRANSON	**15**	**$ 86,562.02**	**$ 1,263.81**	**$ (764.54)**	**$ 1,895.71**
C61172	234,575.15	9/17/2019	TP	TRANSON	**15**	**$ 234,575.15**	**$ 1,284.30**	**$ (2,605.89)**	**$ 5,137.20**
C61173	89,983.49	3/9/2019	TP	TRANSON	**15**	**$ 89,983.49**	**$ 1,477.98**	**$ (753.79)**	**$ 1,970.64**
C61175	27,398.33	10/16/2019	TP	TRANSON	**15**	**$ 27,398.33**	**$ 100.00**	**$ (316.85)**	**$ 600.02**
C61176	32,342.43	10/9/2019	TP	TRANSON	**15**	**$ 32,342.43**	**$ 118.05**	**$ (374.02)**	**$ 708.30**
C61178	13,529.49	10/8/2019	TP	TRANSON	**15**	**$ 13,529.49**	**$ 49.38**	**$ (156.46)**	**$ 296.30**
C61181	12,756.04	7/17/2019	TP	TRANSON	**15**	**$ 12,756.04**	**$ 116.40**	**$ (130.09)**	**$ 279.36**
C61185	1,041,177.22	8/28/2019	TP	TRANSON	**15**	**$ 1,041,177.22**	**$ 7,600.59**	**$ (11,092.34)**	**$ 22,801.78**
C61190	13,135.75	7/2/2019	TP	TRANSON	**15**	**$ 13,135.75**	**$ 119.86**	**$ (133.96)**	**$ 287.67**
C61195	16,730.04	7/19/2019	TP	TRANSON	**15**	**$ 16,730.04**	**$ 152.66**	**$ (170.62)**	**$ 366.39**
C61201	244,662.42	10/19/2019	TP	TRANSON	**15**	**$ 244,662.42**	**$ 893.02**	**$ (2,829.35)**	**$ 5,358.11**
C61202	196,284.98	8/22/2019	TP	TRANSON	**15**	**$ 196,284.98**	**$ 1,432.88**	**$ (2,091.15)**	**$ 4,298.64**
C61203	800,537.97	7/18/2019	TP	TRANSON	**15**	**$ 800,537.97**	**$ 7,304.91**	**$ (8,164.14)**	**$ 17,531.78**
C61267	43,421.75	10/25/2019	TP	TRANSON	**15**	**$ 43,421.75**	**$ 158.49**	**$ (502.14)**	**$ 950.94**
C61268	243,032.87	11/22/2019	TP	TRANSON	**15**	**$ 243,032.87**	**$ 443.53**	**$ (2,921.17)**	**$ 5,322.42**
C61360	302,319.11	4/15/2019	TP	TRANSON	**15**	**$ 302,319.11**	**$ 4,413.86**	**$ (2,670.17)**	**$ 6,620.79**
C61710	377,770.36	10/10/2019	TP	TRANSON	**15**	**$ 377,770.36**	**$ 1,378.86**	**$ (4,368.66)**	**$ 8,273.17**
C61849	13,006.48	10/2/2019	TP	TRANSON	**15**	**$ 13,006.48**	**$ 47.47**	**$ (150.41)**	**$ 284.84**
C61900	4,276.65	9/12/2019	TP	TRANSON	**15**	**$ 4,276.65**	**$ 23.41**	**$ (47.51)**	**$ 93.66**
C62166	3,735.40	10/17/2019	TP	TRANSON	**15**	**$ 3,735.40**	**$ 13.63**	**$ (43.20)**	**$ 81.81**
C62198	20,991.06	10/15/2019	TP	TRANSON	**15**	**$ 20,991.06**	**$ 76.62**	**$ (242.75)**	**$ 459.70**
C62205	13,463.79	9/25/2019	TP	TRANSON	**15**	**$ 13,463.79**	**$ 73.71**	**$ (149.57)**	**$ 294.86**
C60951	33,139.53	11/5/2019	TP	TRANSON	**39**	**$ 33,139.53**	**$ 55.24**	**$ (83.39)**	**$ 662.92**
C60952	32,720.51	11/5/2019	TP	TRANSON	**39**	**$ 32,720.51**	**$ 54.55**	**$ (82.33)**	**$ 654.54**
C60959	14,889.19	11/5/2019	TP	TRANSON	**39**	**$ 14,889.19**	**$ 24.82**	**$ (37.46)**	**$ 297.84**
42,751,868.13		**Production Area Total**				**42,751,868.13**	**328,570.86**	**(481,364.49)**	**1,009,227.08**
88,523,735.90		**Grand Total**				**88,000,000.00**	**1,136,921.49**	**(1,491,912.19)**	**2,900,591.57**

Area Totals before allocating General -------->>	General	$ 3,791,632.19	$ 542,105.65	$ (521,766.64)	$ 758,341.61
	Production	$ 42,751,868.13	$ 328,570.86	$ (481,364.49)	$ 1,009,227.08
	Market	$ 19,746,842.86	$ 99,867.53	$ (256,775.31)	$ 551,617.75
	Storage	$ 21,709,656.82	$ 166,377.45	$ (232,005.75)	$ 581,405.13
		$ 88,000,000.00	$ 1,136,921.49	$ (1,491,912.19)	$ 2,900,591.57

TP	40.783%	Percentage Production Facilities
TM	45.383%	Percentage Mariket Facilities
S	13.834%	Percentage Storage Facilities
	100.000%	

Area Totals after allocating General -------->>	General	$ -	$ -	$ -	$ -
	Production	$ 44,298,209.49	$ 549,657.81	$ (694,156.58)	$ 1,318,501.54
	Market	$ 21,467,599.30	$ 345,891.34	$ (493,568.66)	$ 895,775.92
	Storage	$ 22,234,191.22	$ 241,372.35	$ (304,186.95)	$ 686,314.11
		$ 88,000,000.00	**$ 1,136,921.49**	**$ (1,491,912.19)**	**$ 2,900,591.57**

** - The 2019 MOD Capex spend above $88M is not included in the CRM calculation and is considered maintenance Capex per settlement.

Southern Star Central Gas Pipeline
Determinants for 2020 MOD CRM Surcharge Calculation
Using 2019 Actuals

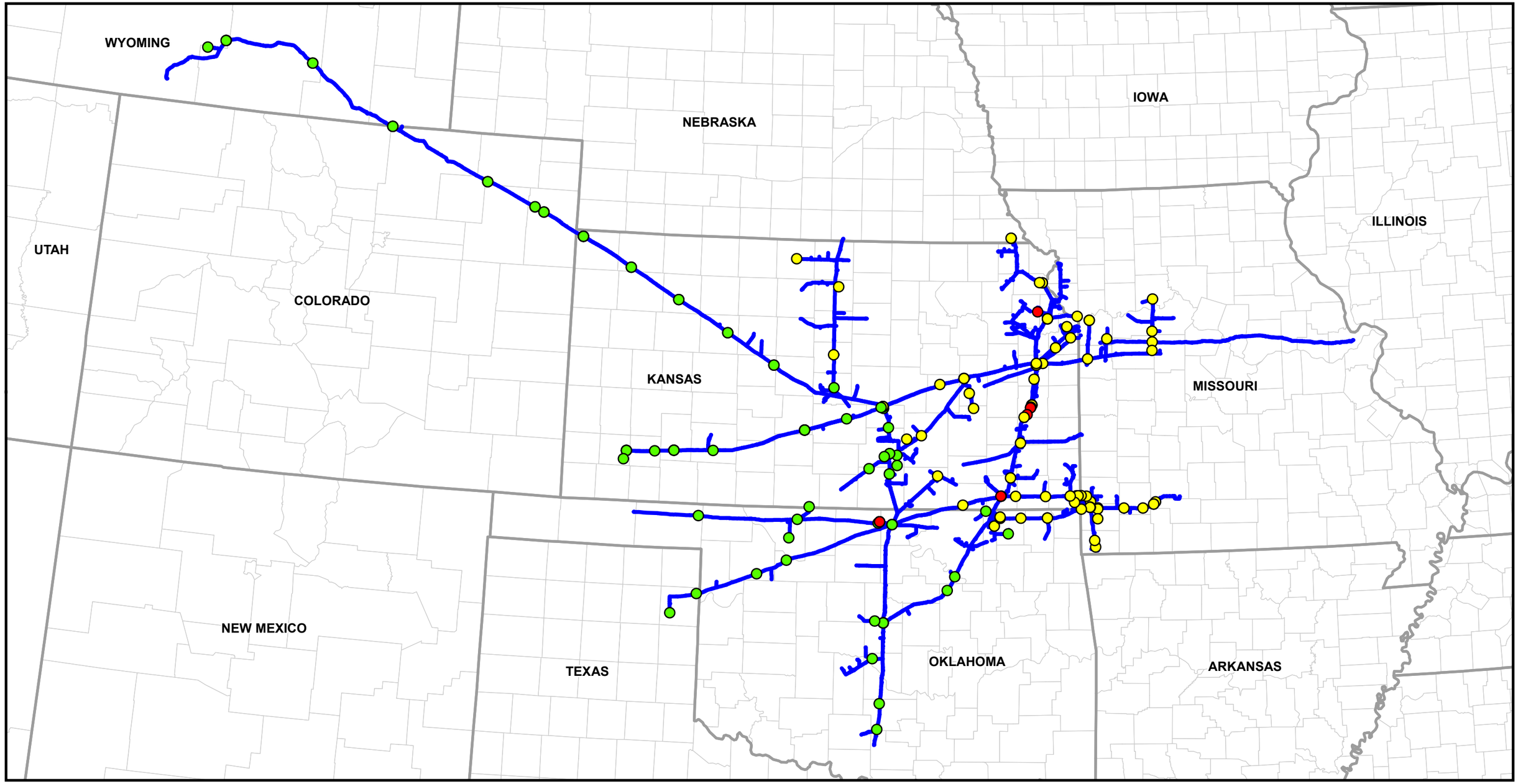
Southern Star 2020 CRM Filing
Appendix D (3)

Year	Contract Type	Rate Area Code	Rate Schedule	Production Area Determinants *	Market Area Determinants *	Storage Determinants *
2019	SA	Storage	FSS	-	-	51,988,767
2019	SA	Storage	ISS	-	-	125,668
2019	SA	Storage	STS	-	-	80,088
2019	SA	Storage	TSS	-	-	395,950,059
2019	TA	Market	FTS	-	154,515,708	-
2019	TA	Market	ITS	-	5,045,512	-
2019	TA	Market	STS	-	780,107	-
2019	TA	Market	TSS	-	536,627,654	-
2019	TA	Production	FTS	137,183,766	-	-
2019	TA	Production	ITS	2,520,915	-	-
2019	TA	Production	STS	1,191,971	-	-
2019	TA	Production	TSS	192,273,173	-	-
				333,169,825	696,968,981	448,144,582

* - Discounted rate determinants excluded
* - Negotiated rate determinants excluded unless at maximum recourse rate or above

Appendix E

2019 Modernization Projects Map



- Market
- Production
- Storage
- SSCGP

NOTICE OF AGREEMENT
The Parties recognize that the Department of Transportation (DOT) has required companies involved in our country's energy infrastructure to operate under a heightened state of alert since September 11, 2001. The Parties wish to cooperate with the government's request while still sharing critical information. Critical Energy Infrastructure Information (CEII) distribution shall always be limited to the extent possible and shared on a strictly need-to-know basis. CEII shall never be stored in an area generally accessible. CEII shall include, without limitation, system maps, flow diagrams, aerial photographs, schematics, and other information Southern Star designates as CEII.
Except as expressly provided, Parties shall not disclose and shall direct its Representatives not to disclose, without the prior written consent of Southern Star, critical information to any person. The term "person" shall be broadly interpreted to include without limitation any corporation, company, partnership, individual or other entity.

811 Know what's **below.** **Call** before you dig.

One free, easy call gets your utility lines marked AND helps protect you from injury and expense. Call 811 or visit call811.com for more information.

0 80 160 MILES

GENERATION DATE: 01/15/20

SOUTHERN STAR CENTRAL GAS PIPELINE, INC.
2019 MODERNIZATION PROJECTS

N W E S

SOUTHERN STAR CENTRAL GAS PIPELINE

IN CASE OF EMERGENCY CALL 1-800-324-9696

Appendix F

2019 Capital Maintenance Spending

Southern Star Central Gas Pipeline Southern Star 2020 CRM Filing
2019 Maintenance Capital Expenditures Appendix F

Maintenance Capital		**YTD Actual**
Administrative and General	$	120,667
Compression	$	6,198,841
Emergency Capital Program	$	-
Environmental	$	510,054
Equipment, Furniture and Misc. Small Cap	$	5,208,947
ERP and PowerPlan	$	65,587
Integrity Management	$	29,726,309
M&R	$	993,275
Maintenance Capital Program	$	-
Scoping and Estimating	$	(118,735)
Storage	$	5,032,193
Technology and Security	$	2,155,574
Training	$	324,482
Total Maintenance Capital Expenditures *	**$**	**50,217,194**
Plus Modernization Capital above $88M		
Considered Maintenance Capital per Settlement	$	523,736
Total Maintenance Capital	$	50,740,930

* - Southern Star committed to spend $50M in 2019.

Appendix G

Eligible Facilities Plan as filed in RP19-289 Settlement and Modifications made at Customer Meetings

Appendix G

Eligible Facilities Plan as filed in RP19-289 Settlement

APPENDIX B

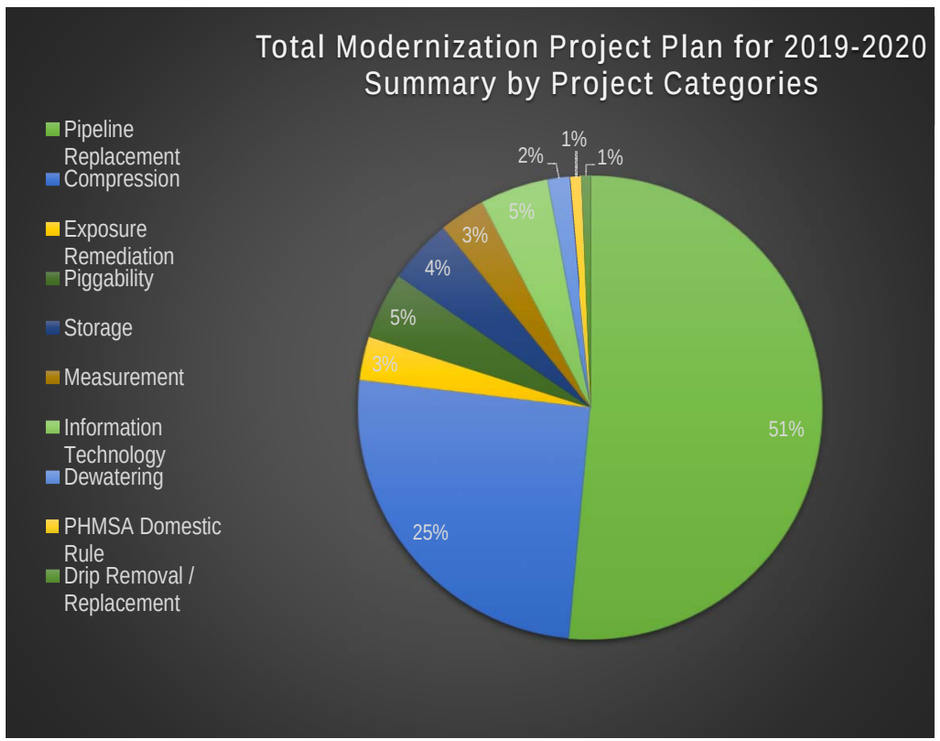
Southern Star Central Gas Pipeline,

Inc. Docket No. RP19-289

ELIGIBLE FACILITIES PLAN

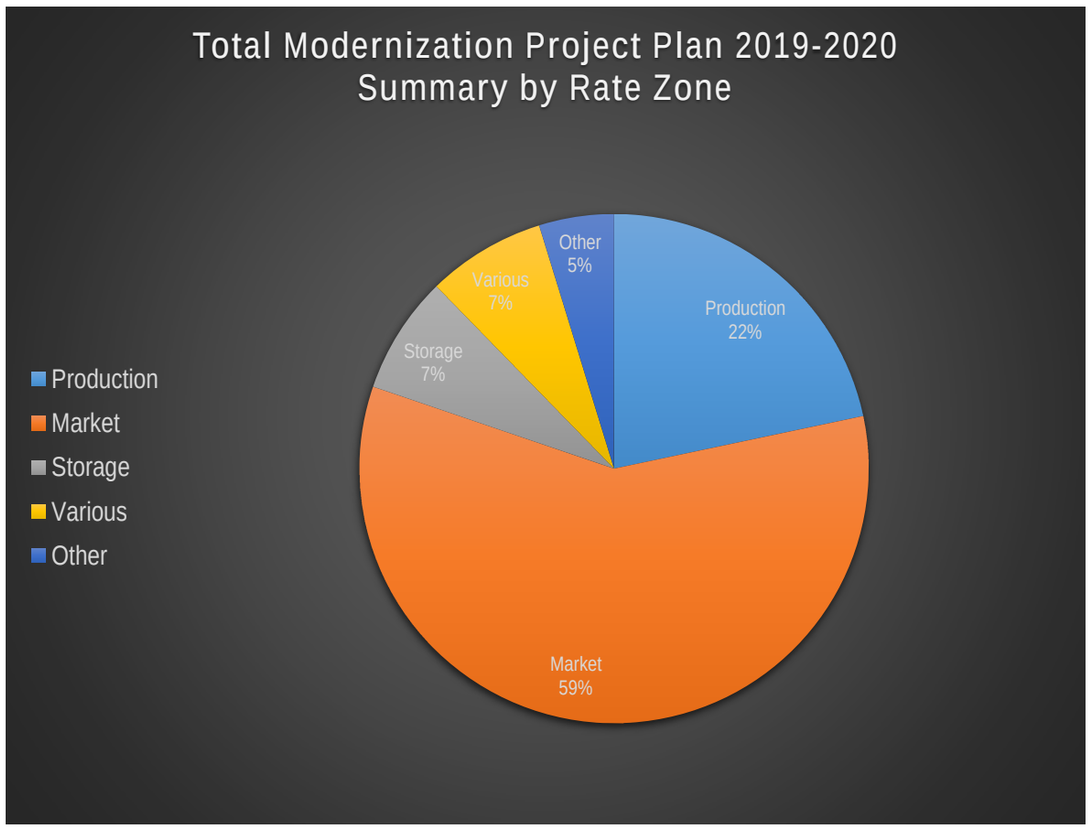
Modernization Project Summary

Project Category	2019	2020	Total
Pipeline Replacement	$ 7,484,630	$ 88,000,000	$ 95,484,630
Compression	$ 41,544,612	$ 5,650,000	$ 47,194,612
Exposure Remediation	$ 5,619,648	$ -	$ 5,619,648
Piggability	$ 8,643,766	$ -	$ 8,643,766
Storage	$ 8,399,567	$ -	$ 8,399,567
Measurement	$ 5,942,179	$ -	$ 5,942,179
Information Technology	$ 5,025,000	$ 3,810,000	$ 8,835,000
Dewatering	$ 2,838,612	$ -	$ 2,838,612
PHMSA Domestic Rule	$ 1,520,000	$ -	$ 1,520,000
Drip Removal / Replacement	$ 1,062,069	$ -	$ 1,062,069
Total	**$ 88,080,083**	**$ 97,460,000**	**$ 185,540,083**
Annual Eligible Capital Cost Limit	**$ 88,000,000**	**$ 88,000,000**	**$ 176,000,000**



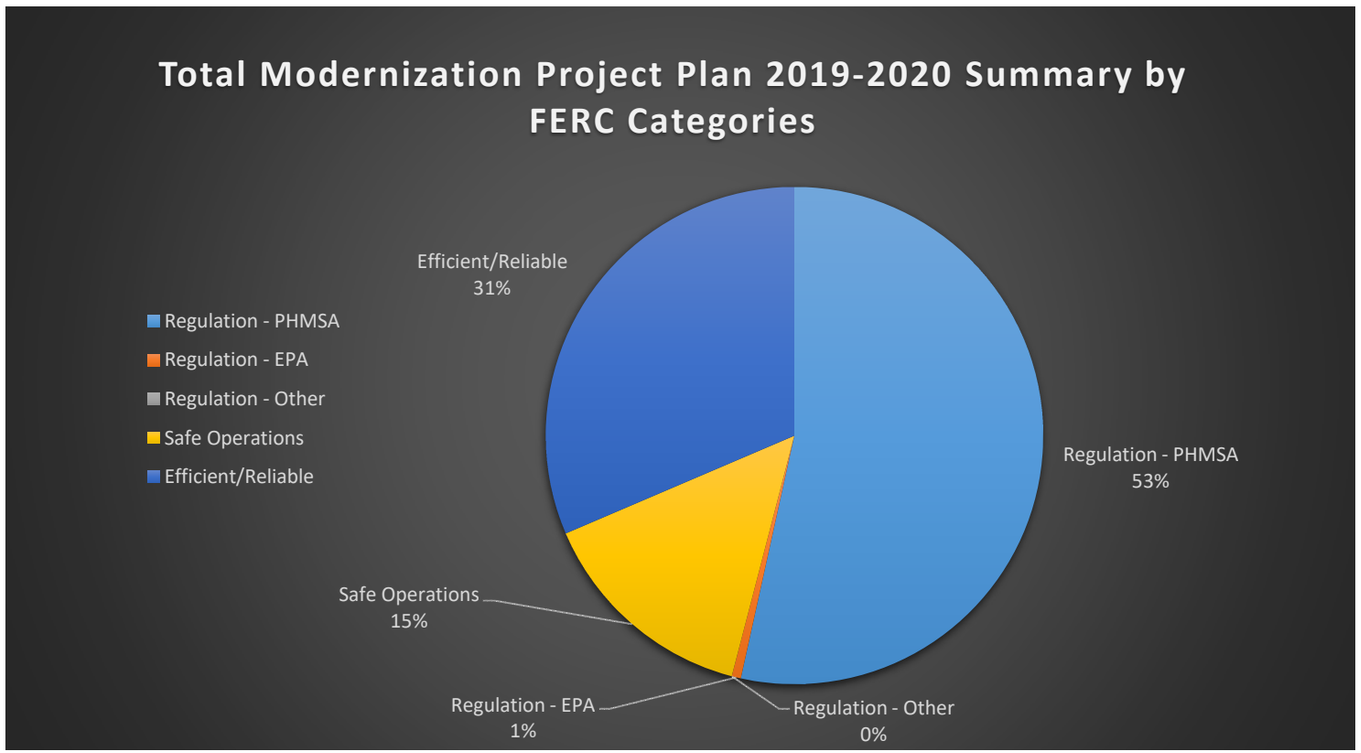
Summary By Rate Zone

Rate Zone	2019	2020	Total
Production	$ 40,229,040	$ -	$ 40,229,040
Market	$ 17,407,864	$ 91,200,000	$ 108,607,864
Storage	$ 13,888,179	$ -	$ 13,888,179
Various	$ 11,530,000	$ 2,450,000	$ 13,980,000
Other	$ 5,025,000	$ 3,810,000	$ 8,835,000
Total	**$ 88,080,083**	**$ 97,460,000**	**$ 185,540,083**
Annual Eligible Capital Cost Limit	**$ 88,000,000**	**$ 88,000,000**	**$ 176,000,000**



Summary By FERC Categories

FERC Category	2019	2020	Total
Regulation - PHMSA	$ 11,192,526	$ 88,000,000	$ 99,192,526
Regulation - EPA	$ 1,100,000	$ -	$ 1,100,000
Regulation - Other	$ -	$ -	$ -
Safe Operations	$ 26,263,212	$ 650,000	$ 26,913,212
Efficient/Reliable	$ 49,524,345	$ 8,810,000	$ 58,334,345
Total	**$ 88,080,083**	**$ 97,460,000**	**$ 185,540,083**
Annual Eligible Capital Cost Limit	**$ 88,000,000**	**$ 88,000,000**	**$ 176,000,000**



SOUTHERN STAR CENTRAL GAS PIPELINE

Pipeline Replacement

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Install 30 mile segment line DPA and retire combined 60 miles of DT and DS.	$ -	$ 88,000,000	$ 88,000,000	Install a new 30-mile pipeline segment and abandon a combined 60 miles of lines DT and DS. Line DP will be pressure tested to confirm MAOP.	Lines DT and DS do not have verified MAOP. DT and DS contain segments operating at >90% SMYS due to material verification issues. Even with a pressure test, DS MAOP would be required to be reduced. These line segments require significant repairs due to external corrosion.	Regulation - PHMSA	Market	Pressure test line DP, lower MAOP on line DT and DS.	Loss of service to customers due to decreased capacity.
1	Line DC 30" Shorted Casing Remediation at Railroad, I-35, and Highway 69 Overpass	$ 1,600,000	$ -	$ 1,600,000	Bore new 30" pipeline and abandon current pipe and casing. Line: DC 30". Series / Station: 150 / 239+09. Latitude / Longitude: 39.04853821 / -94.64781189. Recommended remediation: Bore with new 30" pipe. Approximate Length: Unknown. Comments: Between railroad and I-35 and under Highway 69 overpass. Very congested area. Likely deep. Pothole attempts made to find casing with limited success.	Shorted casing within HCA segment.	Regulation - PHMSA	Market	N/A	Leak or failure under road / railroad.
2	Line QB 26" Shorted Casing Remediation at Marshall Drive and Highway 69	$ 830,000	$ -	$ 830,000	Bore new 26" pipeline and abandon current pipe and casing. Line: QB 26" Series / Station: 210 / 223+12. Latitude / Longitude: 38.97922516 / -94.71367645. Recommended remediation: Bore with new 26" pipe. Approximate Casing Length: 266'	Shorted casing within HCA segment.	Regulation - PHMSA	Market	N/A	Leak or failure under road / railroad.
3	Line RA 26" Shorted Casing Remediation at Highway 14	$ 600,000	$ -	$ 600,000	Bore new 26" pipeline and abandon current pipe and casing. Line: RA 26" Series / Station: 140 / 1220+12. Latitude / Longitude: 38.00976563 / -97.93993378. Recommended remediation: Bore with new 26" pipe. Approximate Casing Length: 188' Comments: Casing under Highway 14.	Shorted casing within HCA segment.	Regulation - PHMSA	Production	N/A	Leak or failure under road / railroad.
4	Line TGC 20" Shorted Casing Remediation at South Meridian Avenue	$ 1,040,720	$ -	$ 1,040,720	Close and open cut the road, remove casing, inspect pipe, repair/replace pipe as needed. Line: TGC 20". Series / Station: 100 / 71+56. Latitude / Longitude: 37.6150856 / -97.37078094. Recommended remediation: Open cut road, remove casing, inspect pipeline. Approximate Casing Length: 76'. Comments: Casing under South Meridian Avenue.	Shorted casing within HCA segment.	Regulation - PHMSA	Production	N/A	Leak or failure under road / railroad.
5	Line VP 16" Shorted Casing Remediation at Railroad and SW 224th Street	$ 1,717,583	$ -	$ 1,717,583	Bore new 16" pipeline and abandon current pipe and casing. Line: VP 16". Series / Station: 140 / 2154+65. Latitude / Longitude: 35.31537628 / -97.48413849. Recommended remediation: Bore under railroad with new 16" pipe. Approximate Casing Length: 99'. Comments: Very tight quarters, can bore but possibly may have to push pipe. Cement plant located on east side of road. Casing west side of railroad at dead end of SW 224th street with coupon test station.	Shorted casing within HCA segment.	Regulation - PHMSA	Production	N/A	Leak or failure under road / railroad.
6	Line VP 16" Shorted Casing Remediation at South Broadway Street	$ 1,696,327	$ -	$ 1,696,327	Close and open cut the road, remove casing, inspect pipe, repair/replace pipe as needed. Line: VP 16". Series / Station: 140 / 2170+72. Latitude / Longitude: 35.31611633 / -97.47863007. Recommended remediation: Close road, open cut, remove casing, inspect pipe, possibly replace with 16" pipe. Approximate Casing Length: 78'.	Shorted casing within HCA segment.	Regulation - PHMSA	Production	N/A	Leak or failure under road / railroad.
		$ 7,484,630	$ 88,000,000	$ 95,484,630						

Compression

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Engine Control System Replacement Wakita	$ 1,523,576	$ -	$ 1,523,576	Replace Engine Control Systems: Year 2019 Wakita Location.	Existing control system has become obsolete creating reliability and risk issue. The FT – 100 system is non-reliable, control cards are non-supported/obsolete. Replacing the control system with current technology will increase the reliability, increase efficiency, enable predictability/preventative, provide real time monitoring and real time troubleshooting	Efficient/Reliable	Production	Leave as is	Increase of unit being out for extended period due to unavailable FT100 parts
2	Engine Control System Replacement at Tonganoxie, Ottawa, and Joplin Turbine Controls	$ -	$ 3,200,000	$ 3,200,000	Year 2020 Tonganoxie, Ottawa and Joplin Turbine Controls	Existing control system has become obsolete creating reliability and risk issue. The FT – 100 system is non-reliable, control cards are non-supported/obsolete. Replacing the control system with current technology will increase the reliability, increase efficiency, enable predictability/preventative, provide real time monitoring and real time troubleshooting	Efficient/Reliable	Market	Leave as is	Increase of unit being out for extended period due to unavailable FT100 parts
3	Blackwell Units 8&9 (Centaur 50)	$ 24,915,386	$ -	$ 24,915,386	Install redundant HP at Blackwell Station. A turbine will be installed to run continuously and the current #8 and 9 recips will become backup horsepower. Changed to Centaur 50.	Engine load, importance of station, criticality	Efficient/Reliable	Production	Leave As Is	Reliability Issues
4	Auto Balancers	$ 1,250,000	$ 2,450,000	$ 3,700,000	Install Auto balance System and Compressor Monitoring. Year 2019 Blackwell location. Year 2020 Peculiar, Joplin, and Welda locations.	This would increase fuel efficiency, reduce engine shutdowns	Efficient/Reliable	Various	Leave as is	Reduced reliability
5	Fire Detection Stafford	$ 48,200	$ -	$ 48,200	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
6	Fire Detection Edmond	$ 48,000	$ -	$ 48,000	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
7	Fire Detection Atchison	$ 37,999	$ -	$ 37,999	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Market	Leave as is	Extended outage or man up and reduced reliability
8	Fire Detection Webb	$ 22,595	$ -	$ 22,595	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
9	Fire Detection Americus	$ 64,800	$ -	$ 64,800	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Market	Leave as is	Extended outage or man up and reduced reliability
10	Fire Detection Hugoton	$ 85,197	$ -	$ 85,197	At various locations replace fire detection.	Obsolescence of fire detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
11	Gas Detection Americus	$ 43,089	$ -	$ 43,089	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Market	Leave as is	Extended outage or man up and reduced reliability
12	Gas Detection Atchison	$ 38,029	$ -	$ 38,029	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Market	Leave as is	Extended outage or man up and reduced reliability
13	Gas Detection Stafford	$ 33,891	$ -	$ 33,891	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
14	Gas Detection Edmond	$ 32,000	$ -	$ 32,000	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
15	Gas Detection Webb	$ 12,343	$ -	$ 12,343	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
16	Gas Detection Hugoton	$ 53,372	$ -	$ 53,372	At various locations replace gas detection.	Obsolescence of gas detection and increasing failure rate due to age	Safe Operations	Production	Leave as is	Extended outage or man up and reduced reliability
17	Emergency Generator with auto switch and panels	$ 440,000	$ -	$ 440,000	At various locations replace emergency generator with auto switch and panels. Year 2019 Welda, Stafford, Lyons, switchgear at Yuma, Cheyenne, and Riner.	Obsolete parts, unreliable starts	Efficient/Reliable	Various	Leave as is	Extended outage or man up and reduced reliability
18	Welda Dehy Building	$ 1,183,548	$ -	$ 1,183,548	Install building to encompass dehydration facilities at Welda.	Prevent reliability issues during winter weather conditions.	Efficient/Reliable	Market	Leave as is	Reduced reliability
19	Reconfigure Welda Yard to have Dehydration before Measurement and Compression	$ 1,750,000	$ -	$ 1,750,000	Reconfigure the Welda yard so that gas coming from the storage fields is conditioned prior to measurement and compression.	Welda is the only storage field without gas dehydration prior to measurement and compression. This can contribute to measurement error and damage the first stage compression at Welda. To date in 2018, the compressors for T-3 and T-1 at Welda have been sent to Solar to remove salt build up in the discharge of the compressor.	Efficient/Reliable	Storage	Injection of a JACAM chemical that will decrease the salt build up in the compressors or plan to clean compressors at some set interval.	Potential of measurement errors on withdrawal and damage to station facilities
20	PLC upgrades	$ 250,000	$ -	$ 250,000	At various locations PLC upgrades. Year 2019 Grabham and Montezuma.	Replace older PLCs due to obsolescence parts hard to find and expensive	Efficient/Reliable	Various	Leave as is	Reduced reliability
21	Smart Air System - Americus	$ 385,291	$ -	$ 385,291	Install Smart Air Start System.	Original distributers are worn, use excessive air and have dead spots	Efficient/Reliable	Market	Leave as is	Reduced reliability
22	Smart Air System - Edmond	$ 360,336		$ 360,336	Install Smart Air Start System.	Original distributers are worn, use excessive air and have dead spots	Efficient/Reliable	Production	Leave as is	Reduced reliability
23	Smart Air System - Webb	$ 125,000		$ 125,000	Install Smart Air Start System.	Original distributers are worn, use excessive air and have dead spots	Efficient/Reliable	Production	Leave as is	Reduced reliability
24	Compressor Valve Replacement	$ 250,000	$ -	$ 250,000	Engine Units need compressor valve replacements. Year 2019 Grabham (8, 9, 10) and Saginaw.	Replace inefficient plate valves with Poppet Valves. This will increase efficiency and reliability of the Units	Efficient/Reliable	Various	Leave As Is	Reduced reliability
25	Reboiler	$ 3,500,000	$ -	$ 3,500,000	Replace reboilers Year 2019 Alden.	Reboiler is part of the gas dehydrations system, the reboilers are becoming unreliable due to age/condition. Without a reboiler gas dewpoints rise above the tariff.	Efficient/Reliable	Various	Leave as is	Extended outage due to high dewpoint not meeting tariff
26	Ignition upgrades	$ 325,000	$ -	$ 325,000	At various locations ignition upgrades. Year 2019 Edmond (3), Hesston (8), Stafford (3), Webb (1).	Dynalco ignitions are obsolete	Efficient/Reliable	Various	Leave as is	Reduced reliability
27	Install Filter / Separator at Humboldt	$ 1,500,000	$ -	$ 1,500,000	Install filter / separator at Humboldt.	Failure increases without gas filter/separators taking out particulates and fluids.	Efficient/Reliable	Market	Leave As Is	Increase risk of compressor failures, reducing reliability
28	Electrical panels	$ 250,000	$ -	$ 250,000	Install current design NEC electrical panels. Year 2019 Otis, Cheyenne, Levant, and St. Francis.	Existing panels have obsolete breakers and do not meet todays NEC codes	Efficient/Reliable	Various	Leave As Is	Extended outage, reliability and risk to personnel

SOUTHERN STAR
CENTRAL GAS PIPELINE

Compression

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
29	Bentley Vibration updates	$ 200,000	$ -	$ 200,000	At various units, Bentley Vibration updates due to obsolete items. Year 2019 Riner, Cheyenne, Yuma, St. Francis, Grabham.	Obsolete items at various units need Bentley Vibration updates.	Efficient/Reliable	Various	Leave as is	Extended outage due to unavailable parts
30	Jacket water boilers	$ 600,000	$ -	$ 600,000	Install jacket water boilers at all locations. Year 2019 Welda.	Without heating the jacket water in cold weather operations engines are not reliable for start up.	Efficient/Reliable	Various	Leave As Is	Reduced reliability
31	Amot control valves	$ 140,000	$ -	$ 140,000	Install Amot control valve in the jacket/oil cooling water system. Year 2019 Hot start at Riner.	Cold weather operations makes it timely and difficult to get a unit on line due to the cold fluid	Efficient/Reliable	Various	Leave As Is	reduced reliability
32	Axelson Relief Valves D3 obsolete oversized	$ 105,000	$ -	$ 105,000	Install new relief valves	Obsolete items at various units	Efficient/Reliable	Various	Leave As Is	Become non compliant or extended outage
33	Replace Leaking blowdown/ESD valves/loading gate valves	$ 1,100,000	$ -	$ 1,100,000	Replace leaking gas valves to reduce L&U, greenhouse gas emission and unit valve with operators	Due to emerging regulations, the replacement of gas starters will reduce Green house emissions and also reduce gas loss. Replacing yard valves will reduce SDLOs.	Regulation - EPA	Various	Leave as is	Emissions and L&U, SDLOs remain the same
34	Electronic checks	$ 400,000	$ -	$ 400,000	Install electronic check valve on pre combustion chambers	Mechanical checks are high maintenance	Efficient/Reliable	Various	Leave As Is	Reduced reliability
35	Install Fuel Gas Filtration for Joplin Turbine	$ 20,000	$ -	$ 20,000	Install Fuel Gas Filtration for Joplin Turbine	Issues with fuel quality.	Efficient/Reliable	Market	Leave As Is	Reduced reliability
36	Replace Petrotech Controls with SOLAR Controls	$ 451,960	$ -	$ 451,960	Replace Controls on Saginaw Unit #4	Obsolete control system.	Efficient/Reliable	Market	Leave As Is	Reduced Reliability
		$ 41,544,612	$ 5,650,000	$ 47,194,612						

SOUTHERN STAR CENTRAL GAS PIPELINE

Exposure Remediation

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Line VO Exposure (Wild Horse Creek)	$ 277,379	$ -	$ 277,379	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (34°29'40.25"N, 97°28'45.25"W)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Production	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
2	Line EJ-014 Exposure	$ 1,451,243	$ -	$ 1,451,243	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (39.2171458483 / -95.2050323757 - Anticipated Bore)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Market	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
3	Line F Exposure	$ 697,901	$ -	$ 697,901	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (37° 8'52.26"N, 94°45'37.86"W - Anticipated Line Lowering)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Market	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
4	Line VP Foreman Drive Exposure	$ 1,574,988	$ -	$ 1,574,988	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (35.3163867966 / -97.5503418363 - Anticipated Bore)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Production	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
5	Line TL Exposure	$ 300,000	$ -	$ 300,000	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (36.4011676776 / -98.7886451764 - Anticipated Grout Mat)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Production	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
6	Line VH Exposure	$ 1,318,137	$ -	$ 1,318,137	Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores. (35.7403049536 / -97.5262621313 - Anticipated Grout Mat)	HCA, MCA, class 1, 2, and 3, pipe attributes, operating stress levels, condition of exposure, probability of failure, consequence of failure	Safe Operations	Production	Continue to monitor known exposed crossings, ensure repair materials are available.	Loss of service to customers, failure and repair at unknown timing. Possible PHMSA Compliance Order.
		$ 5,619,648	$ -	$ 5,619,648						

SOUTHERN STAR CENTRAL GAS PIPELINE

Piggability

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Line DC L/R	$ 3,609,274	$ -	$ 3,609,274	Install launcher and receiver facilities to enable in-line inspection on 8.1 miles to be conducted. The Scope also includes the reclaim of the 20" MLV on Line DC (Edison School Gate) and replace with 30" pipe. Note, there is a bore on a shorted casing on line DC in the Maintenance CAPEX plan.	92% of line DC is located within an HCA. Much of this HCA mileage falls within the top 4% of the risk ranking for all HCA segments. This is primarily because line DC is a 30-inch line running through highly populated Kansas City. Historically, Line DC has only been assessed via pressure test, and a 5-year reassessment interval is the highest that can be achieved on this line using this assessment method. A pressure test is an acceptable and effective assessment method, but it does not provide any information about the anomalies remaining on the line. Making Line DC piggable will allow us to understand the true condition of the line, increase our reassessment interval to 7 years, and reduce the risk on one of our highest ranked segments.	Safe Operations	Market	Continue to pressure test at 5 year intervals.	Inability to run cleaning pigs and in-line inspection tools.
2	Line Q Relocate South Glavin Receiver	$ 1,583,787	$ -	$ 1,583,787	Relocate line Q receiver at South Glavin to inside of station yard. Install 5R fitting and 26 MLV on line Q to make piggable going west towards setting. Install 26" drip after the new MLV (Drip designed like the drip installed on EJB - C58152). Remove existing tee and face inlet of tee downwards install new barred tee to inlet to allow pigging through. Relocate receiver to inside of yard, tie receiving line into regulation run, downstream of valve upstream of regulation. Install filter pot on the receiving line for the receiver. Tie 8" receiving line from existing receiver back into 26" upstream of the receiver with 8" plug valve coming above grade. Pressure test all pipeline from new 5R fitting to the receiver and all of the receiver's associated piping (this would be considered the integrity assessment on this short section of pipe until line Q is ILI's again in 2020). No tank trucks required for this work. Additional work at this site would be to install 110' of temporary bypass from QB to QC, remove approximately 75' of above ground piping and associated odorization equipment and replace removed pipe with 26" below grade piping. The additional work would remove old unused equipment and allow for more are for the receiver location. Doug Blase is the contact for this project and he has marked up drawings available.	This reconfiguration would allow ILI of a currently unpiggable 359' HCA segment. This would also allow for liquids capture and removal before entering the QB and QC lines.	Safe Operations	Market	Continue to pressure test at required intervals.	Inability to run cleaning pigs and in-line inspection tools.
3	Line RI L/R	$ 1,400,705	$ -	$ 1,400,705	Install launcher and receiver facilities to enable in-line inspection on 7.7 miles of 16" to be conducted.	Line transports "wet gas" and also has the potential for oxygen level upsets. To remove the liquids on the pipeline, assess the pipeline's integrity, and ensure system reliability of gas supply, launchers and receivers are planned to be installed.	Safe Operations	Production	N/A - Current inability to run in-line inspection or cleaning pigs.	Inability to run cleaning pigs and in-line inspection tools.
4	Line BF Pigging Barrel Modification	$ 275,000	$ -	$ 275,000	Modify pigging barrel to facilitate in-line inspection.	Pigging barrel will not currently accommodate length of in-line inspection tools.	Safe Operations	Market	Run cleaning pigs but not in-line inspection tools.	Inability to run cleaning pigs and in-line inspection tools.
5	Line L Pigging Barrel Modification	$ 275,000	$ -	$ 275,000	Modify pigging barrel to facilitate in-line inspection.	Pigging barrel will not currently accommodate length of in-line inspection tools.	Safe Operations	Production	Run cleaning pigs but not in-line inspection tools.	Inability to run cleaning pigs and in-line inspection tools.
6	Line VO-016 Install Launcher/Receiver 12" Velma Plant to VO	$ 1,500,000	$ -	$ 1,500,000	Install launcher and receiver facilities to enable in-line inspection on 13.7 miles of 12" to be conducted.	To assess the pipeline integrity and ensure system reliability on a pipeline segment with high risk ranking, launcher and receivers are planned to be installed.	Safe Operations	Production	N/A - Current inability to run in-line inspection or cleaning pigs.	Inability to run cleaning pigs and in-line inspection tools.
		$ 8,643,766	$ -	$ 8,643,766						

SOUTHERN STAR CENTRAL GAS PIPELINE

Storage

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Welda Flow Control & Welda Station Measurement Upgrade	$ 6,211,671	$ -	$ 6,211,671	Replace Gate 23 (undersized) with Flow Control to storage fields to eliminate bowed plates, erosional velocities, and vibration issues. Upgrade orifice measurement with ultrasonic measurement for more accurate measurement and elimination of bowed plates. Originally submitted as two separate projects.	Currently there is no flow control on injection or withdrawal out of the Welda station. All current flow is through Gate 23, which is a backpressure regulator that does not allow direct flow rate control and is very inefficient. Additionally, current flow through this gate exceeds erosional velocities at required high flow rates. With three storage fields flowing through the Welda Station, there is a wide range of flow conditions that the orifice measurement is required to operate under. Upgrading to Ultrasonic measurement will decrease the need for plate changes, eliminate the bowed plate issues and increase overall measurement accuracy.	Safe Operations	Storage	Allow continued operation of the field as currently configured.	Damaged equipment, inaccurate measurement of flows in and out of the field. Possible failure of Gate 23 due to age of equipment and flowing conditions.
2	Well Monitoring	$ 1,687,896	$ -	$ 1,687,896	Install wellhead measurement at McLouth, Colony, North Welda, South Welda and Piqua, and change out antiquated equipment at Elk City.	Well monitoring is required under the new Storage Integrity regulations and in API RP 1171	Regulation - PHMSA	Storage	Need to comply with Storage IFR and RP 1171 requirements	PHMSA action
3	Well Compliance	$ 500,000	$ -	$ 500,000	To perform work on wells that do not meet requirements of RP1171 (i.e. minimum cement behind the production casing, etc.).	There are a handful of wells that PHMSA may find do not meet RP 1171 requirements and will need to be worked on.	Regulation - PHMSA	Storage	Subject to PHMSA directive	PHMSA action
		$ 8,399,567	$ -	$ 8,399,567						

SOUTHERN STAR CENTRAL GAS PIPELINE

Measurement

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	METER CHANGE OUT - OBSLT TURBINE MTRS	$ 600,000	$ -	$ 600,000	Replace obsolete turbine meters as they fail calibration. Refocus program to proactively replace turbine meters with USM before they fail.	Obsolete. Vendor no longer supports the meter. Parts no longer available	Efficient/Reliable	Various	Replace with different brand of Turbine Meter. Leave in place, replace when failure occurs, and estimate gas usage	Estimate gas volumes until meter is replaced.
2	Replace Obsolete Turbine Meter, Spire Kentucky Avenue #16591	$ 628,656	$ -	$ 628,656	See Scope and Determining Factors for "METER CHANGE OUT - OBSLT TURBINE MTRS"	See Scope and Determining Factors for "METER CHANGE OUT - OBSLT TURBINE MTRS"	Efficient/Reliable	Market	Replace with different brand of Turbine Meter. Leave in place, replace when failure occurs, and estimate gas usage	Estimate gas volumes until meter is replaced.
3	AXELSON RV REPLACEMENT PROGRAM - (INCLUDE OPP ON RCPT)	$ 600,000	$ -	$ 600,000	Program to replace Axelson RVs which are obsolete. Parts will no longer be available in four (4) years. 2020 will be the last year parts will be available. We have 167 Axelsons on our system. Will expand program focus to include all obsolete Regs & RVs; Fisher 399s and Fisher 630's.	Obsolete. Vendor no longer supports the RV. Parts will no longer be available after 2020.	Safe Operations	Various	Stock various RV sizes and replace when failure occurs	If the RV fails, we will have to man the facility until a proper OPP device can be installed. This could take several weeks
4	Replace Orifice Meas., Spire KC, MO Fairfax Bridge TB #10362	$ 1,121,343	$ -	$ 1,121,343	See Scope and Determining Factors for "METER CHANGE OUT - LARGE VOL ORIFICE MTRS"	See Scope and Determining Factors for "METER CHANGE OUT - LARGE VOL ORIFICE MTRS"	Efficient/Reliable	Market	Leave orifice meters in place and L&U levels will remain substantially as they are. We will continue to see low flow issues and differentials under 10".	System L&U and measurement accuracy will not improve. Low flow issues, unmeasured gas, and measurement inaccuracy result in loss of revenue.
5	Replace Orifice Meas., Atmos East Liberty, #5001	$ 364,468	$ -	$ 364,468	See Scope and Determining Factors for "METER CHANGE OUT - LARGE VOL ORIFICE MTRS"	See Scope and Determining Factors for "METER CHANGE OUT - LARGE VOL ORIFICE MTRS"	Efficient/Reliable	Market	Leave orifice meters in place and L&U levels will remain substantially as they are. We will continue to see low flow issues and differentials under 10".	System L&U and measurement accuracy will not improve. Low flow issues, unmeasured gas, and measurement inaccuracy result in loss of revenue.
6	UPGRADE M&R - FALLS CITY HP #1329 FRZ/THAW	$ 500,000	$ -	$ 500,000	Modifications required to prevent reoccurring freeze/thaw heaving. Project will include removing out of service regulator runs and reestablishing pipe and regulator building on stable ground.	Amount of ground work required, amount of space available will limit options.	Safe Operations	Market	Leave as is and continue to monitor.	Significant safety concern. Pipe could buckle under stress.
7	UPGRADE M&R - CLEVER TB #10040 FRZ/THAW	$ 500,000	$ -	$ 500,000	Modifications required to prevent reoccurring freeze/thaw heaving. Project will include removing out of service regulator runs and reestablishing pipe and regulator building on stable ground.	Amount of ground work required, amount of space available will limit options.	Safe Operations	Market	Leave as is and continue to monitor.	Significant safety concern. Pipe could buckle under stress.
8	Replace RV, Chase County #14155	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
9	Replace RV, Mangles PLD #16774	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
10	Replace RV, Mullendore PLD #14027	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
11	Replace RV, Blue Co #16806	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
12	Replace RV, Endeavor #16798	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
13	Replace RV, NEOK PLD #16905	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
14	Replace RV, Bluestem PLD #16219	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
15	Replace RV, Echo Springs #16249	$ 395,000	$ -	$ 395,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
16	Replace Reg w/ RV, Levant Fuel #13036	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
17	Replace Reg w/ RV, Ogallah HP Fuel #13150	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
18	Replace Reg w/ RV, Ogallah LP Fuel #13151	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
19	Replace Reg w/ RV, St Francis HP Fuel #13585	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
20	Replace Reg w/ RV, St Francis LP Fuel #13586	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
21	Replace Reg w/ RV, Hoxie HP Fuel #13587	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
22	Replace Reg w/ RV, Hoxie LP Fuel #13588	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
23	Replace Reg w/ RV, Otis HP Fuel #13589	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
24	Replace Reg w/ RV, Otis LP Fuel #13590	$ 5,000	$ -	$ 5,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Production	Leave as is and continue to monitor.	Exceed MAOP limits.
25	Replace Obsolete Control Valves, 1", Knobnoster #1367	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
26	Replace Obsolete Control Valves, 1", Phillips P.L. Co #9645	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
27	Replace Obsolete Control Valves, 1", Phillips P.L. Co #9678	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.
28	Replace Obsolete Control Valves, 1", Olpe/Madison Intermediate #11403	$ 15,000	$ -	$ 15,000	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	See Project Scope and Determining Factors for Reg/RV upgrade Program - Repl Customer OPP	Safe Operations	Market	Leave as is and continue to monitor.	Exceed MAOP limits.

SOUTHERN STAR CENTRAL GAS PIPELINE

Measurement

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
30	INSTALL NEW C-9 GC EDMOND STATION	$ 482,666	$ -	$ 482,666	INSTALL NEW C-9 GC EDMOND STATION	Replace obsolete, failing, and inaccurate gas quality analyzers and GCs (H20, O2, H2S).	Efficient/Reliable	Production	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
31	Ottawa Station #15276 remove obsolete 700 GC, install new	$ 53,570	$ -	$ 53,570	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Market	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
32	Atlas Waynoka #16913 remove obsolete 700 GC, install new	$ 53,570	$ -	$ 53,570	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Production	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
33	East Liberty #16504 remove obsolete 700 GC, install new	$ 53,570	$ -	$ 53,570	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Market	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
34	Elk Storage #16915 remove obsolete 700 GC, install new	$ 53,570	$ -	$ 53,570	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Market	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
35	Princton #16506 remove obsolete 700 GC, install new	$ 53,570	$ -	$ 53,570	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Market	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
36	Riverton Empire PP #16886 remove obsolete 700 GC, install new	$ 147,196	$ -	$ 147,196	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	See Project Scope and Determining Factors for Misc. Upgrades to Sys Qual	Efficient/Reliable	Market	Leave as is and continue to band aid.	Gas quality inaccuracy level will increase. This could result in AOCs and potentially higher L&U.
37	Install gas detection, Wichita So. TB 14852	$ 25,000	$ -	$ 25,000	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	Safe Operations	Production	Repair as funds are available.	Locations with compressed gas unprotected.
38	Install gas detection, NGPL Ford Co. 15275	$ 25,000	$ -	$ 25,000	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	Safe Operations	Production	Repair as funds are available.	Locations with compressed gas unprotected.
39	Install gas detection, Montezuma 16312	$ 25,000	$ -	$ 25,000	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	Safe Operations	Production	Repair as funds are available.	Locations with compressed gas unprotected.
40	Install gas detection, Kinder Morgan 16334	$ 25,000	$ -	$ 25,000	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	Safe Operations	Production	Repair as funds are available.	Locations with compressed gas unprotected.
41	Install gas detection, Enbridge Hobart 16342	$ 25,000	$ -	$ 25,000	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	See Project Scope and Determining Factors for Install/Replace Gas Detection in GC Bldgs.	Safe Operations	Market	Repair as funds are available.	Locations with compressed gas unprotected.
		$5,942,179	$0	$5,942,179						

SOUTHERN STAR
CENTRAL GAS PIPELINE

Information Technology

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	O&E/PC - Enterprise Asset Management	$ 1,800,000	$ 660,000	$ 2,460,000	Infor EAM - Planning & Scheduling	Increase efficiencies through effective asset management including planning, scheduling, and reporting on asset maintenance	Efficient/Reliable	Other	Not Utilized	Less than desired reliability for our customers
2	Predictive Analytics	$ 400,000	$ -	$ 400,000	OSI PI data historian and predictive analytics	Southern Star needs a data historian to combine disparate data to improve reporting. Reporting includes "business intelligence – knowing what is going on", "predictive analytics – knowing things before they occur, and "optimization - what-if reporting or modeling".	Efficient/Reliable	Other	Not Utilized	Not optimizing operational reliability
3	Geonamic Integrity Software	$ -	$ 650,000	$ 650,000	Purchase Integrity Software encompassing data integration, anomaly management, engineering calculations, risk and threat analysis.	Integrity Management and PHMSA Compliance wishes to purchase a suite of pipeline integrity software to aid in the integration and analysis of integrity related data. Our goal is to better demonstrate compliance through a more thorough and simplified data integration process. That includes maximizing the use of our integrity assessment data to trend corrosion growth, select sites for anomaly investigations, implement appropriate preventive and mitigative measures to address threats and reduce risk, and ensure we schedule proper assessments in the correct timeframe.	Safe Operations	Other	Not Utilized	Not optimizing operational integrity
4	Communications - 3rd Party Video Surveillance	$ 100,000	$ -	$ 100,000	Implement cameras at compressor facilities to allow a 3rd party to perform advanced analytics, reporting, and security surveillance after normal business hours.	Increase security posturing at the local level	Safe Operations	Other	Not Utilized	Remain less secure and increase potential company loss
5	Communications - Vehicle Mobile Networking (always on)	$ 125,000	$ -	$ 125,000	Extending the reach of SSC network from offices to employee vehicles, this aids the employee working remote, improves response times, and improves the utilization of Mobile Workforce and other applications.	Increase efficiency and response time of employees to meet customer needs and maintain system reliability.	Efficient/Reliable	Other	Not Utilized	Remain less efficient and less reliable
6	Customer Service - Customer System supporting Path Non-Threaded	$ 2,600,000	$ 2,500,000	$ 5,100,000	Support business direction within NAESB specifications	Support transition to Path Non-Threaded, multiple business units, and additional customer service options	Efficient/Reliable	Other	Not Utilized	Not being aligned with rest of the industry, interface incompatibility issues, and inability to meet future enhancements requested by customers.
		$ 5,025,000	$ 3,810,000	$ 8,835,000						

SOUTHERN STAR
CENTRAL GAS PIPELINE

Dewatering

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	DQ-027 - 890' of 6" Pigging Valve, 1,260' of 10" Pigging Valve, and 2,100' of 12" (1) Drip Pigging Valve	$ 1,789,867	$ -	$ 1,789,867	Install various appurtenances to facilitate the removal of liquids from storage field line segments. Replace approx. 500' of 4" line downstream of well #45 with new 6" line. Install 6" dewatering valve on outlet of well #45. . Approx. 1380' downstream, install 6" dewatering catcher where the pipe diameter changes from 6" to 10". On the same above grade facility (hairpin), install a 6"x 10"x 10" barred tee, and then install a 10" dewatering valve to launch a 10" dewatering pig downstream. Approx. 1245 ft. downstream of the launcher, the 10" receiving valve will be installed above grade. This will be the location where DQ-34 receiving valve is located, along with a 12" dewatering valve launcher is for DQ-27. Approx. 2120ft. downstream of the launcher, the 12" receiving valve will be installed above grade in the same facilities as the DQ mainline pigging facility. There will also be a drip removed from the 12" line at approx. 115ft downstream from the launcher. A pipe pen would be required at the well #45 site with the new 6" launcher valve. Chain link fence will be needed at the 10" launching valve, 10" receiving and 12" launching site to be figured in this estimate. R. Neff Contact.	Known liquid issues creating internal corrosion leaks (3).	Safe Operations	Storage	Continue to monitor and replace pipe as leaks are discovered	Continued occurrence of leaks within storage fields and unscheduled outages. Compliance Order from PHMSA.
2	Line DQ-034 - 1,810 of 8" (1) drip Pigging Valve	$ 701,168	$ -	$ 701,168	Install various appurtenances to facilitate the removal of liquids from storage field line segments. Install 8" dewatering valve (preferably Argus) at the beginning of 8" line DQ-34 and install receiving dewatering valve at the end of DQ-34. The launcher valve will be installed at an existing dewatering facility, DQ-34 4" receiver with the receiving valve tying into the DQ-27. There will need to be a syphon removed just downstream of the 8" launcher at approximately 100 ft. This segment is approx. 1720 ft. long. A new chain link fence will need to be constructed at the new receiver valve site. Unless there is a dewatering setup for DQ-27already installed. There will need to be very little modifications to the existing chain link fence for the launcher valve. DQ-34 4" receiver valve is installed already. R. Neff Contact.	Known liquid issues creating internal corrosion leaks (3)	Safe Operations	Storage	Continue to monitor and replace pipe as leaks are discovered	Continued occurrence of leaks within storage fields and unscheduled outages. Compliance Order from PHMSA.
3	DQ-065 - 1,330' of 4" Pigging Valve	$ 347,577	$ -	$ 347,577	Install various appurtenances to facilitate the removal of liquids from storage field line segments. Replace existing 3" pipe (approx. 135') on line DQ-65 with 4" pipe and tie into DQ-65 line. A 4" 3R elbow will need to be installed to make the turn piggable. Install 4" launcher valve on outlet of well #41. Install receiver valve inside of existing DQ-65 10" launcher setting. This pigging segment is 1330ft. A new pipe pen will be required around well #41 and the new launching valve. R. Neff Contact.	Known liquid issues creating internal corrosion leaks	Safe Operations	Storage	Continue to monitor and replace pipe as leaks are discovered	Continued occurrence of leaks within storage fields and unscheduled outages. Compliance Order from PHMSA.
	Total	$ 2,838,612	$ -	$ 2,838,612						

SOUTHERN STAR CENTRAL GAS PIPELINE

Drip Removal and Replacement

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Drip Replacement DK(26") – (1) and Install 10" isolation Valve	$ 400,000	$ -	$ 400,000	38.18781935, -95.30292855	Drip no longer operationally required.	Efficient/Reliable	Storage	N/A	Risk of drip failure
2	Drip Removal DK-139(8") – (1)	$ 150,000	$ -	$ 150,000	38.19578767, -95.31978744	Drip no longer operationally required.	Efficient/Reliable	Storage	N/A	Risk of drip failure
3	Drip Removal DK-166 – (1)	$ 150,000	$ -	$ 150,000	38.20254314, -95.32279014	Drip no longer operationally required.	Efficient/Reliable	Storage	N/A	Risk of drip failure
4	Drip Removal DQ-34 – (1)	$ 150,000	$ -	$ 150,000	38.14841231, -95.31532020	Drip no longer operationally required.	Efficient/Reliable	Storage	N/A	Risk of drip failure
5	Drip Removal TL (Higgins to Midway) 26"	$ 162,069	$ -	$ 162,069	Inoperable drip, has been submitted to the SOP, 35.990009 / -100.039694. Coordinate with changeout of Higgins MLG Valve.	Inoperable drip.	Efficient/Reliable	Production	N/A	Risk of drip failure
6	Reclaim 3" Drip on DK-168	$ 50,000	$ -	$ 50,000	Line DK-168	Drip no longer operationally required.	Efficient/Reliable	Storage	N/A	Risk of drip failure
		$ 1,062,069	**$ -**	**$ 1,062,069**						

SOUTHERN STAR CENTRAL GAS PIPELINE

PHMSA Domestic Rule

Rank	Project Title	2019	2020	Total	Project Scope	Determining Factors	Project Category	Production/Market	Project Alternatives	Risk of Not Executing
1	Mandatory Domestic Project	$ 1,520,000	$ -	$ 1,520,000	Install isolation valves and test nipples prior to each regulator and relief valve on domestics to complete with PHMSA requirements.	All domestics that do not meet the requirements will be included.	Regulation - PHMSA	Various	N/A	PHMSA Compliance Order
	Total	$ 1,520,000	$ -	$ 1,520,000						

Appendix G

Proposed Modifications made to Eligible Facilities Plan at
March 21, 2019 Modernization Update Customer Meeting

PROJECTS ELIMINATED FROM 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE
COMPRESSION	ALDEN REBOILER
COMPRESSION	RECONFIGURE WELDA YARD - DEHYDRATION BEFORE COMPRESSION & MEASUREMENT
DRIP REPLACEMENT	DRIP REPLACEMENT DK(26") – (1) - (1) AND INSTALL 10" ISOLATION VALVE
DRIP REPLACEMENT	DRIP REMOVAL DK-139(8") – (1)
DRIP REPLACEMENT	DRIP REMOVAL DK-166 – (1)
DRIP REPLACEMENT	DRIP REMOVAL DQ-34 – (1)
PIGGABILITY	MODIFY LAUNCHER & RECEIVER PIGGING BARREL ON LINE L 12IN IN OSAGE CO OK
PIGGABILITY	LINE DC LAUNCHER / RECEIVER MODIFICATIONS
PIPE REPLACEMENT	LINE DC SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE QB SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE VP SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE TGC SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE RA SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE VP SHORTED CASING REMEDIATION

PROPOSED ADDITIONS TO 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE	PROJECT CATEGORY
COMPRESSION	INSTALL SAV-AIR STARTING SYSTEM AT PECULIAR COMPRESSION STATION	EFFICIENT/RELIABLE
COMPRESSION	INSTALL FILTER SEPARATOR ON LINE DP 30" ACROSS STREET FROM OTTAWA COMPRESSOR STATION	EFFICIENT/RELIABLE
EXPOSURE REMEDIATION	REMEDIATION OF LINE EH IN TONGANOXIE, KS	SAFE OPERATIONS
MEASUREMENT	REPLACE (2) 4" OBSOLETE TURBINE METERS WITH ULTRASONIC AT NEOSHO MO #16765 – NEWTON CO, MO	EFFICIENT/RELIABLE
PHMSA REGULATIONS	REPLACE 52 PIPE SUPPORTS IN SAGINAW STATION IN NEWTON COUNTY, MO	REGULATION - PHMSA
PIGGABILITY	INSTALL MODIFICATIONS TO LINE XE (OTTAWA TO GLAVIN) 26" LAUNCHER AND RECEIVER	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE (2) 20" RISING STEM VALVES ON LINE XQA (LAKE QUIVIRA RECEIVER SITE)	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 20" GATE RISING STEM VALVE (OTTAWA 101) LINE DT	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 20" RISING STEM VALVE (OTTAWA/BADORF) ON LINE XM	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 26" RISING STEM VALVE ON LINE XE (TOBIN)	SAFE OPERATIONS

Appendix G

Proposed Modifications made to Eligible Facilities Plan at
May 16, 2019 Modernization Update Customer Meeting

PROPOSED ADDITIONS TO 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE
COMPRESSION	INSTALL FILTER SEPARATOR ON LINE D AT WELDA STATION
PIPELINE	REMOVE EXPOSURE AT WALNUT CREEK ON LINE ER IN BROWN COUNTY, KANAS
PIPELINE	REPLACE 1700’ OF 6” LINE EQ AT FALLS CITY, NEBRASKA

Appendix G

Proposed Modifications made to Eligible Facilities Plan at
September 26, 2019 Modernization Update Customer Meeting

PROPOSED SEPTEMBER 2019 ADDITIONS TO 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE
COMPRESSION	INSTALL TONGANOXIE VALVE AUTOMATION
EXPOSURE REMEDIATION	REMEDIATE EXPOSED CROSSINGS ALONG LINE VN IN CHATAUQUA, KS

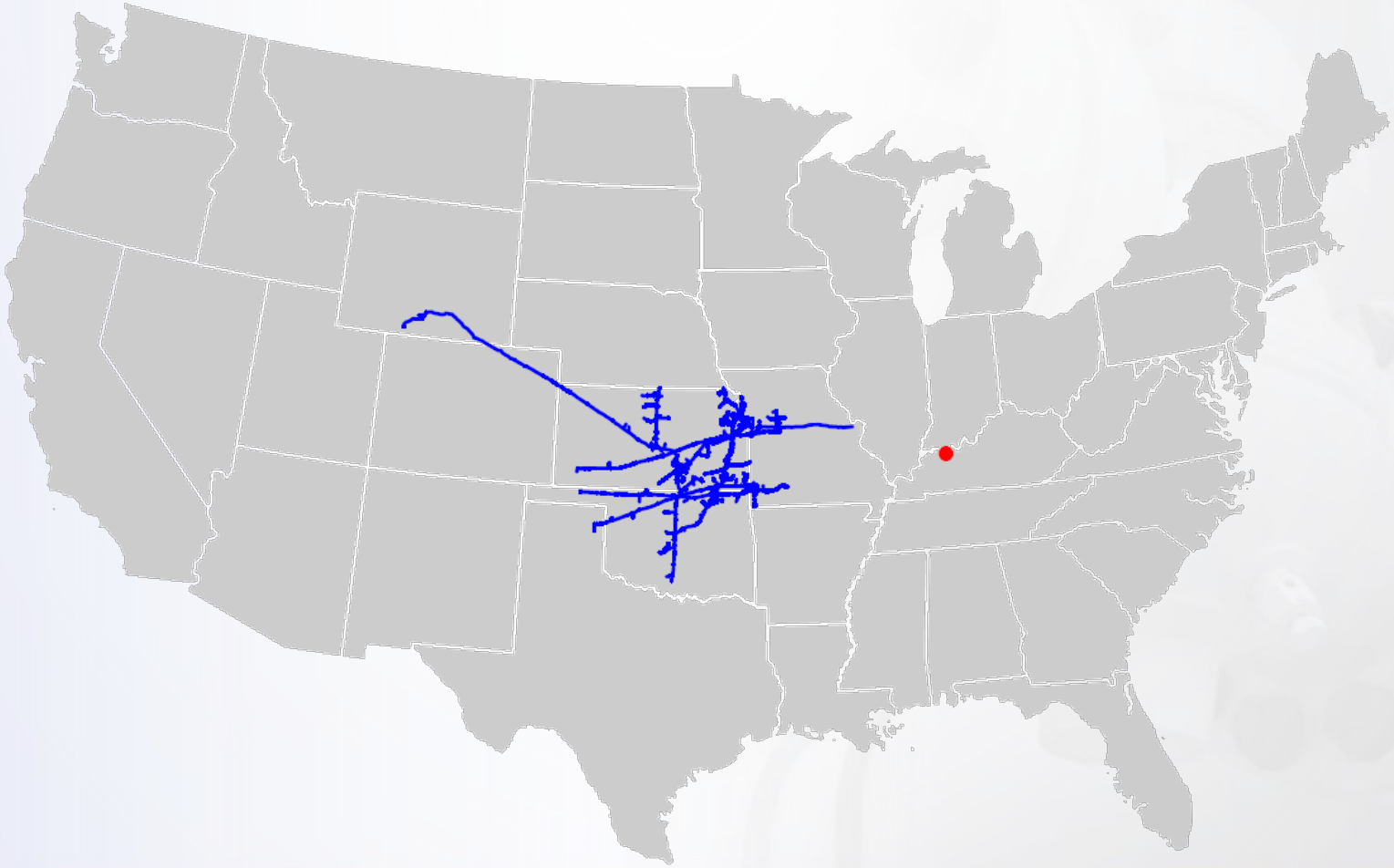
Appendix H

Presentations from Modernization Update Customer Meetings

Appendix H

Presentation from March 21, 2019 Modernization Update Customer Meeting

Southern Star Modernization Program 2019 Eligible Facilities Plan Review



WELCOME AND AGENDA

- Safety Moment
- Review of Settlement
- Eligible Facilities Plan Review and Benefits
- Article II.C.2 of the Settlement
- Next Steps
- Questions and Feedback

SAFETY MOMENT

Improving Weather leads to Springtime Projects

- Call 811 before starting projects that require digging
- Effective planning reduces accident risks
- Use appropriate personal protection equipment (PPE)

Know what's below.
Call 811 before you dig.

Review of RP19-289 Settlement

Review of Settlement: Background

Unopposed Settlement Filed November 14, 2018 in Docket No. RP19-289

- Resolved all issues related to the rate effect of the Tax Cuts and Jobs Act of 2017
- Established cost recovery mechanism for the modernization of facilities on Southern Star's system
- Moratorium on NGA Section 4 or 5 filings or new tracker filings until November 1, 2021
- Next General Rate Case to be effective November 1, 2021

Approved as Filed by FERC Order issued January 31, 2019

Compliance Filing Made on February 5, 2019

- 7.8% Reduction in Reservation Components of Maximum Rates Effective January 1, 2019
- New GT&C Section 32 Modernization Capital Cost Recovery Mechanism (CRM)

Approved as Filed by FERC Letter Order Issued March14, 2019

Review of Settlement: Cost Recovery Mechanism (CRM)

- Recovers **Eligible Capital Costs** related to **Eligible Facilities** placed into service during 2019 and 2020
- **Capital Costs** are one-time capital investments excluding operating costs
- **Eligible Facilities** are the **Modernization Projects** listed in the **Eligible Facilities Plan** attached to the Settlement. Changes to the Eligible Facilities Plan require **Shippers' Consensus.**
- **Maximum Annual Eligible Capital Cost Limit** of $88 million in 2019 & 2020
- Additional **Annual Capital Maintenance Obligation** of $50 million in 2019 & 2020
- CRM Surcharges to be collected from March 1, 2020 through October 31, 2021
  - File by 1/31/2020 to establish CRM Surcharge effective 3/1/2020 until 3/1/2021
  - File by 1/31/2021 to establish CRM Surcharge effective 3/1/2021 until 11/1/2021

Commit to meet with customers at least once a year to review Eligible Facilities Plan

Article II.C.2
Information Items for Customer Meeting

Settlement Article II.C.2
Information Items for Customer Meeting

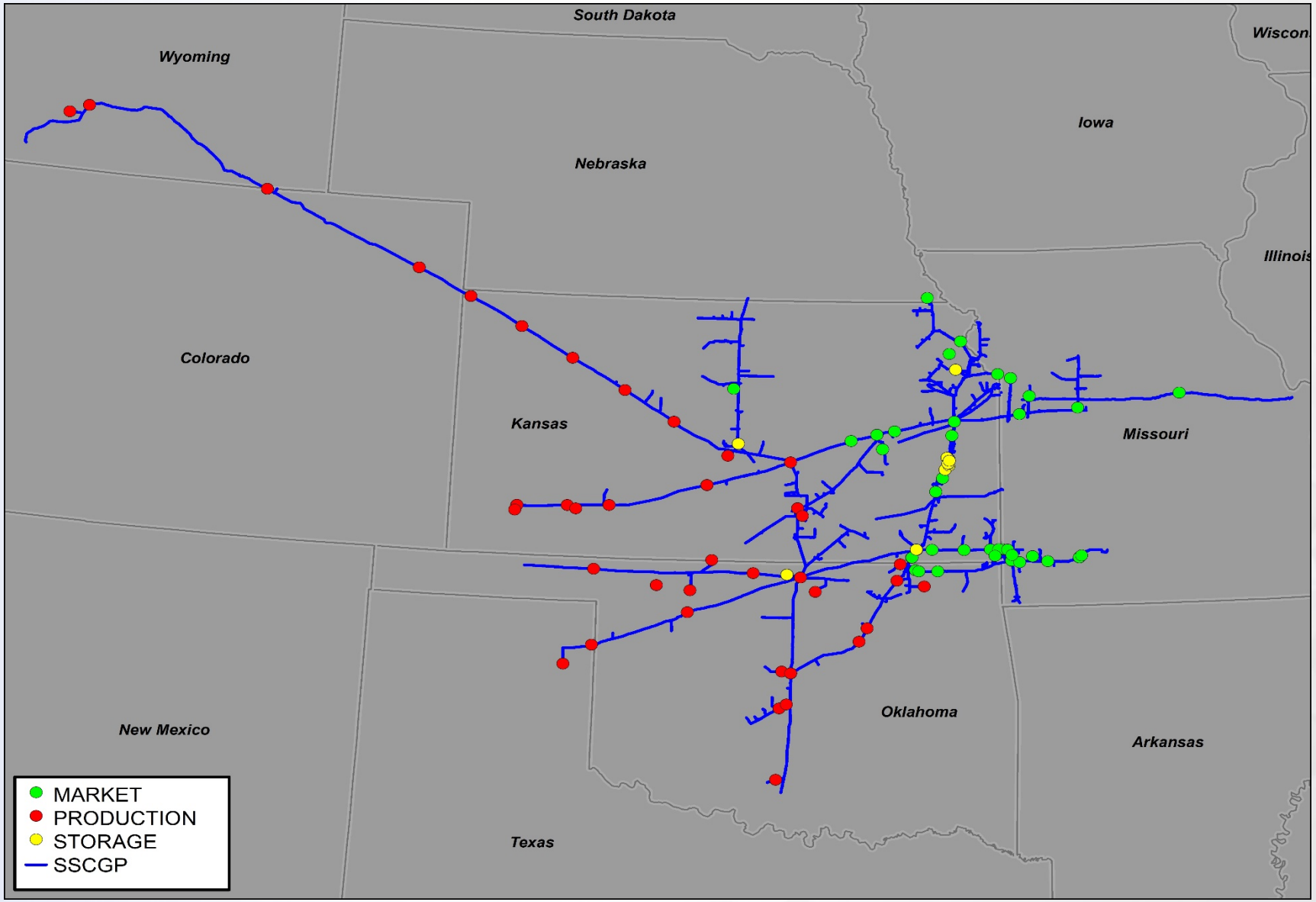
- ❑ Review of the Eligible Facilities Plan
- ❑ Description of how each Eligible Facility in the Eligible Facilities Plan will meet at least one of the criteria for Modernization Projects
- ❑ Changes to Modernization Projects listed as Eligible Facilities
- ❑ Any Modernization Projects where Eligible Facilities will include operational capacity
- ❑ Planned Service Outage Information for 2019
- ❑ An estimate of the next CRM Surcharge beginning March 1, 2020
- ❑ An estimate of the Capital Revenue Requirement for March 2020 – February 2021

Eligible Facilities Plan
2019 Modernization Projects & Benefits

MODERNIZATION BENEFITS

- **RELIABILITY, SAFETY & EFFICIENCY IMPROVEMENTS ACROSS SYSTEM**
  - LESS DOWNTIME
  - FEWER SERVICE INTERRUPTIONS
  - HIGHER-VALUE COMMUNICATION
- **MODERNIZATION CATEGORIES & NOTABLE PROJECTS**
  - COMPRESSION – BLACKWELL REDUNDANT HORSEPOWER, WAKITA ENGINE CONTROL SYSTEM UPGRADE (OKLAHOMA)
  - PIGGABILITY – LINE Q RELOCATION (KANSAS CITY), LINE RI LAUNCHER / RECEIVER MODIFICATIONS (HUGOTON, KANSAS)
  - STORAGE – WELDA FLOW CONTROL & MEASUREMENT UPGRADE WELL MONITORING & COMPLIANCE (GARNETT, KANSAS),
  - MEASUREMENT – TURBINE MEASUREMENT REPLACEMENT (KANSAS CITY, KANSAS), FREEZE-THAW REPAIRS AT FALLS CITY (NEBRASKA) & CLEVER (MISSOURI) TOWN BORDERS
  - INFORMATION TECHNOLOGY – CSI IMPROVEMENTS, EAM IMPLEMENTATION
- **OUTAGES WILL BE MINIMIZED AND COMMUNICATED OPENLY VIA CSI WEBSITE**

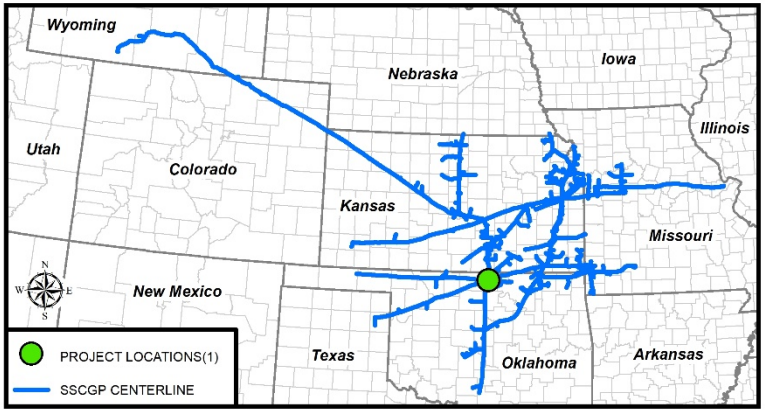
2019 MODERNIZATION PROJECT DECK


South Dakota
Wyoming
Nebraska
Iowa
Colorado
Kansas
Missouri
Oklahoma
Arkansas
New Mexico
Texas
MARKET
PRODUCTION
STORAGE
SSCGP

COMPRESSION

PROJECTS TOTALING **$41.6 MILLION**

- REDUNDANT COMPRESSION INSTALLATION
- UPGRADING OBSOLETE FIRE/GAS DETECTION
- ENGINE MONITORING & CONTROL TECHNOLOGY IMPROVEMENTS
- PLC UPGRADES
- COMPRESSOR VALVE REPLACEMENTS
- IGNITION IMPROVEMENTS
- FILTER / SEPARATOR INSTALLS
- JACKET WATER BOILER REPLACEMENTS
- SMART AIR SYSTEM INSTALLS

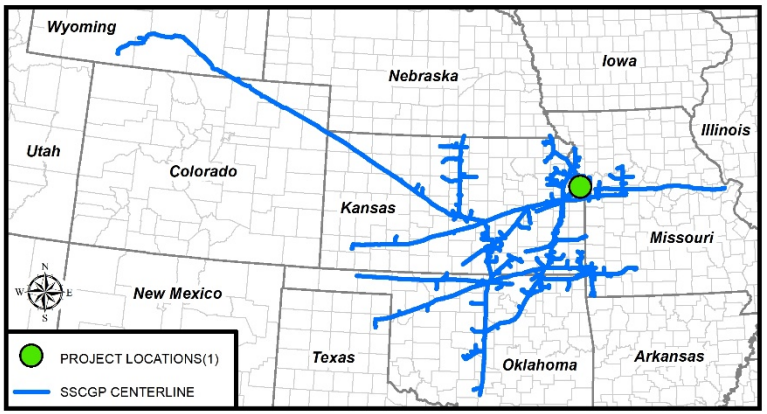


COMPRESSION

- INSTALLATION OF REDUNDANT HORSEPOWER AT THE BLACKWELL COMPRESSOR STATION (BLACKWELL, OKLAHOMA)
  - BLACKWELL STATION CURRENTLY TRANSPORTS 650MM OF GAS DAILY
  - STATION MODIFICATIONS FOR INSTALLATION OF CENTAUR 50 TURBINE
    - INCREASED **RELIABILITY** OVER EXISTING RECIPROCATING COMPRESSORS
      - ESTIMATED SPEND **$24.9 MILLION**
      - YTD SPEND **$8.5 MILLION**
    - PLANNED IN-SERVICE DATE **AUGUST 28, 2019**

PIGGABILITY

- PROJECTS TOTALING **$8.6 MILLION**
- LAUNCHER & RECEIVER MODIFICATIONS WILL:
  - REDUCE DOWNTIME FROM PIPELINE LIQUID & DEBRIS
  - HELP PREVENT CORROSION ACTIVITY THROUGH REGULAR CLEANING PIG RUNS
  - ALLOW FOR IN-LINE INSPECTIONS & MORE ACCURATE ANOMALY DETECTION
    - DETECTION OF WELDING DEFECTS, CRACKS, OR PITTING BEFORE MATERIAL FAILURE OCCURS



PIGGABILITY

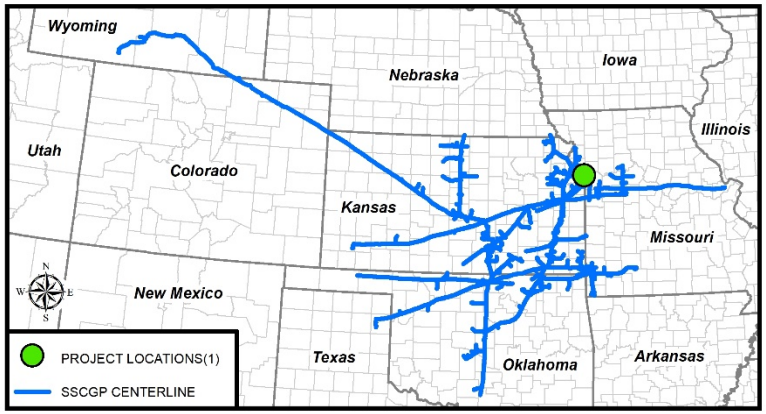
- RELOCATION OF LINE Q RECEIVER AT SOUTH GLAVIN NEAR JOHNSON CITY COMMUNITY COLLEGE
  - INSTALLATION OF NEW 26" DRIP & VALVE
  - RECONFIGURATION WILL ALLOW CLEANING PIG AND IN-LINE INSPECTION RUNS OF A 359' HCA SEGMENT. THIS WOULD ALSO ALLOW FOR LIQUIDS CAPTURE AND REMOVAL BEFORE ENTERING THE QB AND QC LINES, IN KANSAS CITY, KANSAS
    - ESTIMATED 2019 COST OF **$1.6 MILLION**
    - PLANNED IN-SERVICE DATE **SEPTEMBER 6, 2019**

MEASUREMENT

PROJECTS TOTALING **$5.9 MILLION**

- REPLACEMENT OF OBSOLETE RELIEF VALVES
- UPGRADING ORIFICE & TURBINE METERS WITH ULTRASONIC METERS
- REPLACEMENT / INSTALLATION OF GAS CHROMATOGRAPHS

- BENEFITS INCLUDE:
  - ACCURACY OF GAS MEASUREMENT
  - IMPROVED RELIABILITY, SERVICEABILITY OF SAFETY DEVICES

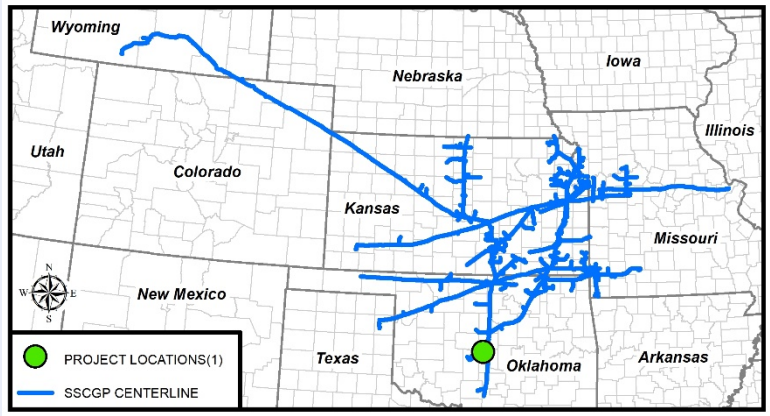


MEASUREMENT

- REPLACE TURBINE MEASUREMENT, FAIRFAX BRIDGE TOWN BORDER NEAR ARGOSY CASINO IN KANSAS CITY, MO
  - REPLACEMENT OF ORIFICE METERS WITH ULTRASONIC MEASUREMENT
  - IMPROVED ACCURACY IN LOW FLOW SITUATIONS AND WHEN TRANSITIONING FROM LOW TO HIGH FLOW
  - ESTIMATED 2019 COST **$1.2 MILLION**
  - PLANNED IN-SERVICE DATE **SEPTEMBER 1, 2019**

EXPOSURE REMEDIATION

- PROJECTS TOTALING **$5.6 MILLION**
- LINE REPLACEMENTS & GROUT MATS WILL HELP IMPROVE LONG-TERM SAFETY OF AFFECTED PUBLIC AND INTEGRITY OF PIPELINE BY PREVENTING
  - DEBRIS BUILDUP IN WATERWAYS
  - PIPE STRESS
  - FURTHER EROSION AND/OR DAMAGE TO RIVER BANKS



EXPOSURE REMEDIATION

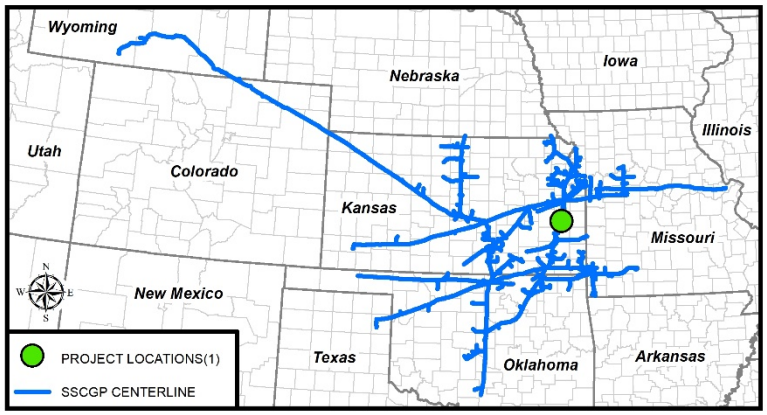
LINE VP EXPOSURE REMEDIATION

- REPLACEMENT OF EXPOSURE BY HDD IN CLEVELAND COUNTY, OKLAHOMA
- ESTIMATED 2019 COST **$1.5 MILLION**
- PLANNED IN-SERVICE DATE **AUGUST 9, 2019**

STORAGE

PROJECTS TOTALING **$8.4 MILLION**

- UPGRADES TO FLOW CONTROL AND MEASUREMENT
  - HIGHER FLOWS DURING WITHDRAWAL FROM STORAGE FIELDS
  - IMPROVED ACCURACY OF GAS MEASUREMENT
  - AVOIDING EROSIONAL VELOCITIES WILL INCREASE LONGEVITY OF SYSTEM
- IMPROVEMENTS TO CURRENT WELLHEAD DESIGN TO COMPLY WITH CHANGING PHMSA REGULATIONS (IFR AND RP 1171)
  - MEASURE & MONITOR AT WELLHEAD FOR REAL-TIME INFORMATION AND EMERGENCY RESPONSE
- REMEDIATION OF PRODUCTION CASING CEMENT TO COMPLY WITH NEW PHMSA GUIDELINES



STORAGE

- WELDA FLOW CONTROL AND MEASUREMENT UPGRADE
  - REPLACEMENT OF ORIFICE METERS WITH ULTRASONIC MEASUREMENT AT WELDA STATION (80 MILES SOUTHWEST OF KANSAS CITY)
    - MORE **ACCURATE** MEASUREMENT OF GAS INJECTION INTO AND WITHDRAWAL FROM STORAGE FIELD
    - INCREASED **SAFETY** AND **RELIABILITY** BY ELIMINATING BOWED PLATES DURING WITHDRAWAL
    - ESTIMATED 2019 COSTS **$6.2 MILLION**
    - PLANNED IN-SERVICE DATE **SEPTEMBER 27, 2019**

INFORMATION TECHNOLOGY

PROJECTS TOTALING **$5.0 MILLION**

THE 2019 CSI MODERNIZATION EFFORT WILL:

- ENABLE QUICKER APPROVAL TIMES
- REDESIGN AND IMPROVE THE CAPACITY RELEASE SCREENS, DOWNLOADS, FORMS AND PROCESSES
- IMPROVE EDI OPTIONALITY, ACCURACY AND RELIABILITY
- STREAMLINE THE INVOICE CALCULATION PROCESS
- ADDRESS FEATURE REQUESTS FROM THE CUSTOMER ACTION SUCCESS TEAM (CAST)

ITEMS COMPLETED YEAR-TO-DATE:

- SMART SCHEDULING CUT NOTICES
- CONTRACT APPROVAL EMAILS CHANGE
- ADDITIONAL ENHANCEMENTS TO IMPROVE SYSTEM FUNCTIONALITY

MILESTONE SCHEDULE

- EDI ENHANCEMENTS AND TESTING BY **JUNE 30TH**
- COMPLEX RATE ADJUSTMENTS & CAPACITY RELEASE BY **DECEMBER 16TH**

PHMSA DOMESTIC UPGRADES

- CHANGING PHMSA/DOT REGULATIONS REQUIRE UPGRADES TO CURRENT DOMESTIC METER DESIGN
  - **2,200** METERS SYSTEM-WIDE WILL BE UPGRADED
- FINAL YEAR OF TWO-YEAR PROJECT
  - YEAR ONE WAS HANDLED UNDER PRE-MODERNIZATION CAPITAL PROGRAM
  - ESTIMATED 2019 SPEND: **$1.5 MILLION**
  - MUST BE IN-SERVICE BEFORE **2020**

Settlement Article II.C.2 Information Items

- ✓ Review of the Eligible Facilities Plan
- ❑ Description of how each Eligible Facility in the Eligible Facilities Plan will meet at least one of the criteria for Modernization Projects
- ❑ Changes to Modernization Projects listed as Eligible Facilities
- ❑ Any Modernization Projects where Eligible Facilities will include operational capacity
- ❑ Planned Service Outage Information for 2019
- ❑ An estimate of the next CRM Surcharge beginning March 1, 2020
- ❑ An estimate of the Capital Revenue Requirement for March 2020 – February 2021

Criteria used for Defining Modernization Projects

Criteria used for Defining Modernization Projects

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
- PROJECTS SHOWN TO BE NECESSARY FOR THE SAFE, EFFICIENT AND RELIABLE OPERATION OF THE PIPELINE
  - INCLUDES VOLUNTARY INITIATIVES TO IMPROVE SAFETY, REDUCE RISKS OR REDUCE EMISSIONS
- PROJECTS THAT TAKE ADVANTAGE OF NEW TECHNOLOGIES THAT REASONABLY INCREASE SAFETY AND/OR EFFICIENCY OR THAT ENHANCE SERVICE RELIABILITY AND FLEXIBILITY

Appendix B describes how each Eligible Facility in the Eligible Facilities Plan will meet at least one of the criteria for Modernization Projects.

Settlement Article II.C.2 Information Items

- ✓ Review of the Eligible Facilities Plan
- ✓ Description of how each Eligible Facility in the Eligible Facilities Plan will meet at least one of the criteria for Modernization Projects
- ❑ Changes to Modernization Projects listed as Eligible Facilities
- ❑ Any Modernization Projects where Eligible Facilities will include operational capacity
- ❑ Planned Service Outage Information for 2019
- ❑ An estimate of the next CRM Surcharge beginning March 1, 2020
- ❑ An estimate of the Capital Revenue Requirement for March 2020 – February 2021

Changes to the 2019 Eligible Facilities Plan

STATUS OF 2019 ELIGIBLE FACILITIES PLAN

	Original	Current Forecast	Variance
Compression	41.6	45.8	4.2
Dewatering	2.8	3.4	0.6
Drip Removal	1.1	0.3	(0.8)
Exposure Remediation	5.6	7.2	1.6
Measurement	5.9	6.9	1.0
PHMSA	1.5	1.8	0.3
Piggability	8.6	5.9	(2.7)
Pipe Replacement	7.5	1.5	(6.0)
Storage	8.4	10.8	2.4
Technology	5.0	4.4	(0.6)
Total	**88.0**	**88.0**	**0.0**

PROJECTS ELIMINATED FROM 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE
COMPRESSION	ALDEN REBOILER
COMPRESSION	RECONFIGURE WELDA YARD - DEHYDRATION BEFORE COMPRESSION & MEASUREMENT
DRIP REPLACEMENT	DRIP REPLACEMENT DK(26") – (1) - (1) AND INSTALL 10" ISOLATION VALVE
DRIP REPLACEMENT	DRIP REMOVAL DK-139(8") – (1)
DRIP REPLACEMENT	DRIP REMOVAL DK-166 – (1)
DRIP REPLACEMENT	DRIP REMOVAL DQ-34 – (1)
PIGGABILITY	MODIFY LAUNCHER & RECEIVER PIGGING BARREL ON LINE L 12IN IN OSAGE CO OK
PIGGABILITY	LINE DC LAUNCHER / RECEIVER MODIFICATIONS
PIPE REPLACEMENT	LINE DC SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE QB SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE VP SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE TGC SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE RA SHORTED CASING REMEDIATION
PIPE REPLACEMENT	LINE VP SHORTED CASING REMEDIATION

PROPOSED ADDITIONS TO 2019 ELIGIBLE FACILITIES PLAN

CATEGORY	JOB TITLE	PROJECT CATEGORY
COMPRESSION	INSTALL SAV-AIR STARTING SYSTEM AT PECULIAR COMPRESSION STATION	EFFICIENT/RELIABLE
COMPRESSION	INSTALL FILTER SEPARATOR ON LINE DP 30" ACROSS STREET FROM OTTAWA COMPRESSOR STATION	EFFICIENT/RELIABLE
EXPOSURE REMEDIATION	REMEDIATION OF LINE EH IN TONGANOXIE, KS	SAFE OPERATIONS
MEASUREMENT	REPLACE (2) 4" OBSOLETE TURBINE METERS WITH ULTRASONIC AT NEOSHO MO #16765 – NEWTON CO, MO	EFFICIENT/RELIABLE
PHMSA REGULATIONS	REPLACE 52 PIPE SUPPORTS IN SAGINAW STATION IN NEWTON COUNTY, MO	REGULATION - PHMSA
PIGGABILITY	INSTALL MODIFICATIONS TO LINE XE (OTTAWA TO GLAVIN) 26" LAUNCHER AND RECEIVER	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE (2) 20" RISING STEM VALVES ON LINE XQA (LAKE QUIVIRA RECEIVER SITE)	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 20" GATE RISING STEM VALVE (OTTAWA 101) LINE DT	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 20" RISING STEM VALVE (OTTAWA/BADORF) ON LINE XM	SAFE OPERATIONS
PIPE REPLACEMENT	REPLACE 26" RISING STEM VALVE ON LINE XE (TOBIN)	SAFE OPERATIONS

Settlement Article II.C.2 Information Items

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Additional Operational Capacity from 2019 Eligible Facilities

Additional Capacity From 2019 Eligible Facilities

- **No facilities currently being installed under 2019 Modernization create additional capacity on the Southern Star pipeline system**
- Obsolete meter replacements may result in additional capacity at the Locations
  - This will be reflected on the Operationally Available Report (CSI035)

Job	Title
C60905	REPLACE OBSOLETE TURBINE METER AT LAKE LOTAWANA MO TB 009858 - JACKSON CO, MO
C60906	REPLACE OBSOLETE TURBINE METER AT SPIRE-MO FAIRFAX BRIDGE 010362 - PLATTE CO, MO
C60907	REPLACE OBSOLETE TURBINE METER AT SPIRE KENTUCKY AVENUE 016591 - JACKSON CO, MO
C60917	UPGRADE METER SETTING FOR FREEZE-THAW CLEVER TB 010040 - CHRISTIAN CO, MO
C60908	UPGRADE METER SETTING FOR FREEZE-THAW FALLS CITY HP 001329 - RICHARDSON CO, NE

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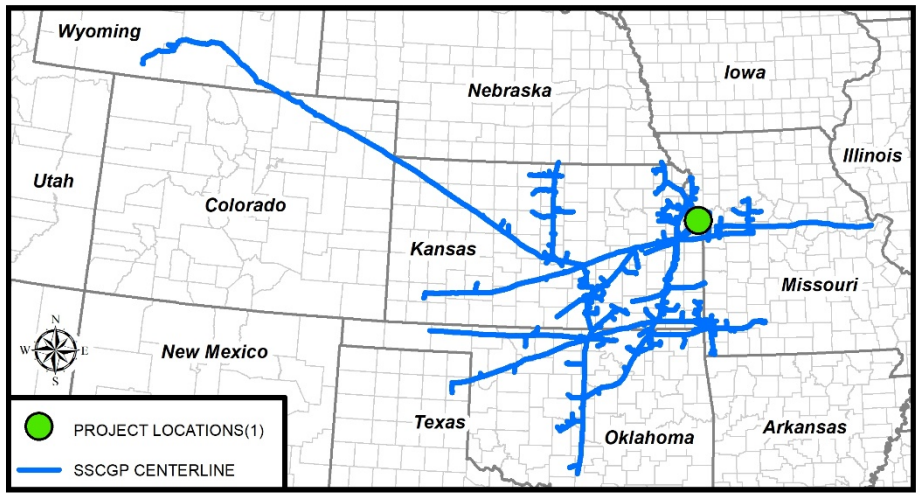
PROPOSED SPECIFIC PROJECT DETAILS

PIPE REPLACEMENT



Benefit from Modernization:

The casing is shorted causing inadequate cathodic protection on the carrier pipe. Low cathodic protection may cause anomalies/wall loss due to corrosion. The section of pipe will be abandoned in place and a new crossing will be installed.

Remove Shorted Casing on Line QB in Johnson CO, KS

Remove the shorted casing beneath Marshall Drive and Highway 69 in Johnson CO, KS. The casing is shorted causing inadequate cathodic protection on the carrier pipe. Low cathodic protection may cause anomalies/wall loss due to corrosion. Approximately 910' of pipe will be capped, grouted, and retired and a new crossing will be installed by HDD.

Cost Estimate: $1.8MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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- PROJECTS THAT TAKE ADVANTAGE OF NEW TECHNOLOGIES THAT REASONABLY INCREASE SAFETY AND/OR EFFICIENCY OR THAT ENHANCE SERVICE RELIABILITY AND FLEXIBILITY

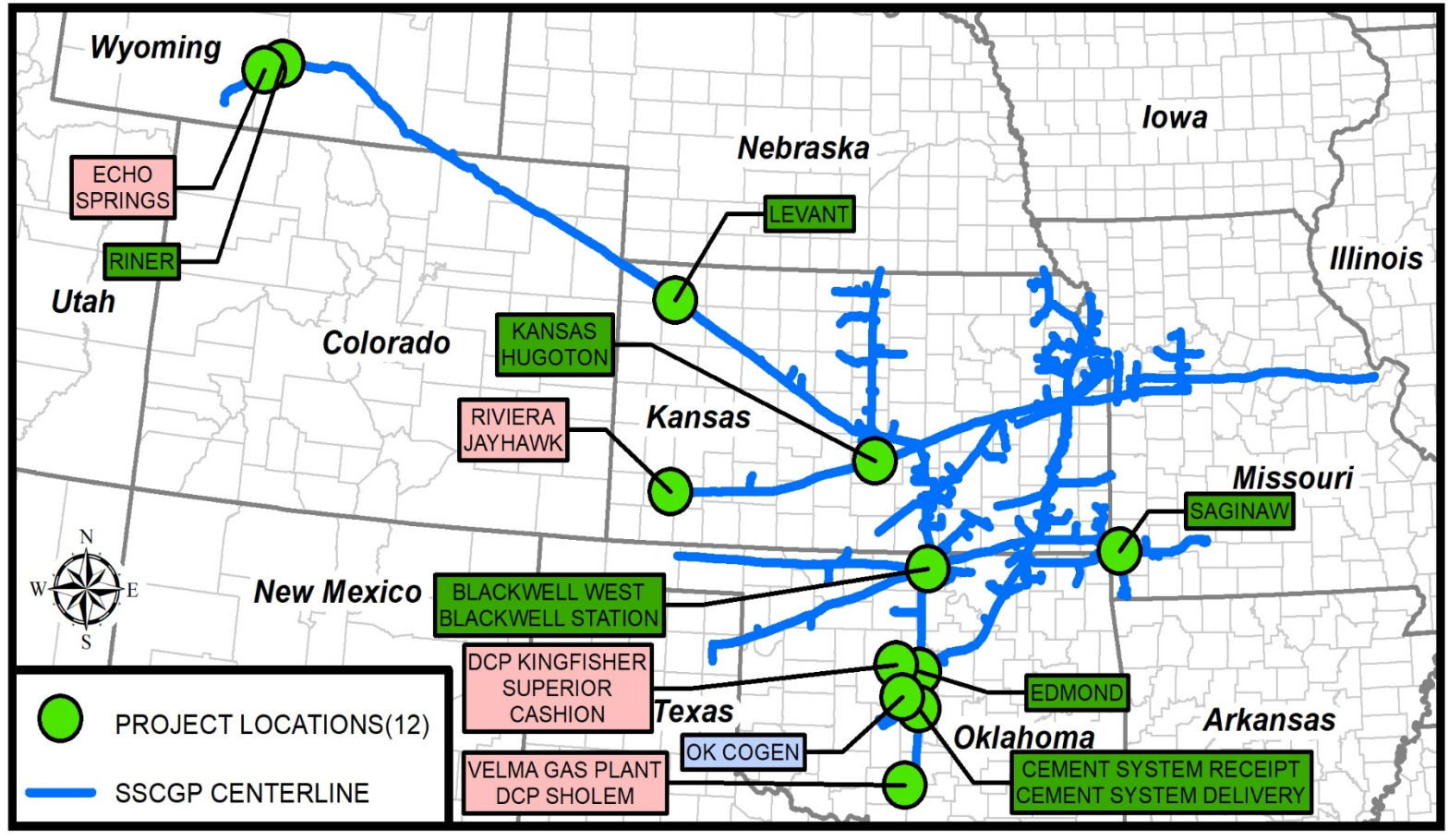
2019 Planned Service Outages

2019 Planned Service Outages

See Southern Star's EBB (CSI) for the most up-to-date PSO (csi.sscgp.com)

- Outages are being managed to coincide with Customer & other routine maintenance, minimizing additional impact to system operations
- Full reductions at specific supply points limited to ≤1 week
  - Kingfisher, Cashion, Velma, Sholem, Jayhawk, Echo Springs
- Projects along the Line W (490) Rawlins-Hesston (RH) & Lines R/RA (130) Kansas-Hugoton (KH) lines will reduce capacity to levels well above most recent 5 year average flow (RH avg 125k, KH avg 160k)
- Blackwell redundant HP project will eliminate most routine maintenance outages associated with unit overhauls at our highest utilization/throughput station

Planned Service Outage Locations



Planned Service Outage Details

Job Title	Capacity Reduced To...	Outage Notes
INSTALL LAUNCHER & RECEIVER ON LINE VO16 12IN AT GARVIN CO OK	0 Dth/d Velma Gas Plant (Location 15430) 0 Dth/d DCP Sholem (Location 15857)	1 week duration
REPLACE APPROX 1000 FT OF LINE VP IN CLEVELAND, OK	0 Dth/d Cement System Receipt 0 Dth/d Cement System Delivery 0 Dth/d Oklahoma Cogen (Location 41)	3 day duration Receipts/Deliveries on LS 340 net to 0 Dth/d
STABILIZE APPROX 70 FT OF 12" LINE VH IN LOGAN, OK TO REMEDIATE EXPOSURE	0 Dth/d DCP Kingfisher (Location 12723) 0 Dth/d Superior Cashion (Location 16857)	2 day duration
INSTALL NEW UNIT DISCHARGE RELIEF VALVES AT EDMOND COMPRESSOR STATION	100,000 Dth/d Edmond Station	1 day duration Adjacent to routine maintenance
INSTALL SAV-AIR STARTING SYSTEM AT EDMOND COMPRESSOR STATION	100,000 Dth/d Edmond Station	2 week duration
REPLACE IGNITION SYSTEM FOR UNITS 1 2 & 3 AT EDMOND COMPRESSOR STATION	100,000 Dth/d Edmond Station	No additional impact Overlapped with other work
INSTALL REDUNDANT COMPRESSION AT BLACKWELL COMPRESSOR	290,000 Dth/d Blackwell West 420,000 Dth/d Blackwell Station	1 day duration March 19, 2019
INSTALL REDUNDANT COMPRESSION AT BLACKWELL COMPRESSOR	340,000 Dth/d Blackwell Station	2 day duration **Eliminates other maintenance outages**
INSTALL LAUNCHER & RECEIVER ON RI 16IN TO ENABLE ILI IN GRANT CO KS	0 Dth/d Riviera Jayhawk (Location 16289)	No additional impact Overlapped with Customer planned outage
REPLACE PLCS MONTEZUMA COMPRESSOR STATION	250,000 Dth/d Kansas Hugoton	2 day duration *No impact expected based on historical flows*

Planned Service Outage Details

Job Title	Capacity Reduced To...	Outage Notes
INSTALL SLAM VALVES IN INPUT LINES AS OPP - ECHO SPRINGS 016294	0 Dth/d Echo Springs (Location 16294)	1 week duration
INSTALL AMOT TEMPERATURE CONTROL IN COOLING SYSTEM AT RINER COMP	159,695 Dth/d Riner Station	2 day duration *No impact expected based on historical flows*
INSTALL NEW NEC ELECTRICAL PANEL AT CHEYENNE	165,000 Dth/d Levant Station	2 day duration Adjacent to routine maintenance
INSTALL NEW NEC ELECTRICAL PANEL AT LEVANT	165,000 Dth/d Levant Station	2 day duration Adjacent to routine maintenance
INSTALL NEW NEC ELECTRICAL PANEL AT OTIS COMPRESSOR STATION	165,000 Dth/d Levant Station	2 day duration Adjacent to routine maintenance
INSTALL NEW NEC ELECTRICAL PANEL AT ST FRANCIS	165,000 Dth/d Levant Station	2 day duration Adjacent to routine maintenance
INSTALL ELECTRONIC FUEL CHECKS ON ENGINE AT YUMA	165,000 Dth/d Levant Station	1 week duration Adjacent to routine maintenance
REPLACE PETROTECH CONTROLS WITH SOLAR CONTROLS ON JOPLIN TURBINE	150,000 Dth/d Saginaw Station	1 month duration
MODIFY LAUNCHER & RECEIVER PIGGING BARREL ON BF 16IN	150,000 Dth/d Saginaw Station	No additional impact Overlapped with other work
INSTALL NEW COMPRESSOR VALVES AT SAGINAW UNITS 1,2	150,000 Dth/d Saginaw Station	No additional impact Overlapped with other work
INSTALL FUEL GAS FILTER ON JOPLIN TURBINE	150,000 Dth/d Saginaw Station	No additional impact Overlapped with other work

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Estimated 2020-2021 CRM Surcharge Rates and Revenue Requirements

Production Area
Rate and Revenue Requirement

Rate Base, Revenue Req and Rate Calculation Estimate			2019 Capex	2019-2020 Capex	
	Transmission - Production		2020 Surcharge	2021 Surcharge	
			Mar 20 - Feb 21	Mar 21 - Oct 21	Actuals are current forecast.
Line No.					
1	In-service Costs (gross plant)		$ 50,143,110	$ 50,143,110	Actual
2	Less Accum Depreciation		$ 350,490	$ 1,752,454	Actual
3	Net Plant		$ 49,792,619	$ 48,390,656	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$ (784,486)	$ (1,640,212)	Actual
5	Net Rate Base		$ 49,008,133	$ 46,750,444	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$ 6,032,901	$ 5,754,980	Line 5 times Multiplier
7	Depr/Amort Expense & Neg Salvage *	Various	$ 1,401,963	$ 1,401,963	Line 1 * Appropriate Depr+Neg Salvage
8	Current Year Revenue Requirement		$ 7,434,864	$ 7,156,943	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$ -	$ -	Calculation from Prior Year
10	Net Revenue Requirement		$ 7,434,864	$ 7,156,943	Line 8 plus Line 9
11	Determinants **		317,916,063	209,975,796	Prior Year Actual
12	Rate		$ 0.0234	$ 0.0341	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

** The Mar 21 - Oct 21 surcharge is calculated on 8 months of determinants due to it only being collected over 8 months.

Market Area
Rate and Revenue Requirement

Rate Base, Revenue Req and Rate Calculation Estimate			2019 Capex	2019-2020 Capex	
	Transmission - Market		2020 Surcharge	2021 Surcharge	
			Mar 20 - Feb 21	Mar 21 - Oct 21	Actuals are current forecast.
Line No.					
1	In-service Costs (gross plant)		$ 15,987,357	$ 103,987,357	Actual
2	Less Accum Depreciation		$ 177,765	$ 1,370,626	Actual
3	Net Plant		$ 15,809,592	$ 102,616,731	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$ (447,803)	$ (1,647,116)	Actual
5	Net Rate Base		$ 15,361,789	$ 100,969,614	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$ 1,891,036	$ 12,429,360	Line 5 times Multiplier
7	Depreciation Expense & Neg Salvage *	Various	$ 711,061	$ 2,638,261	Line 1 * Appropriate Depr+Neg Salvage
8	Current Year Revenue Requirement		$ 2,602,097	$ 15,067,621	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$ -	$ -	Calculation from Prior Year
10	Net Revenue Requirement		$ 2,602,097	$ 15,067,621	Line 8 plus Line 9
11	Determinants **		695,992,964	461,573,645	Prior Year Actual
12	Rate		$ 0.0037	$ 0.0326	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

** The Mar 21 - Oct 21 surcharge is calculated on 8 months of determinants due to it only being collected over 8 months.

Storage Area
Rate and Revenue Requirement

Rate Base, Revenue Req and Rate Calculation Estimate			2019 Capex	2019-2020 Capex	
	Storage		2020 Surcharge	2021 Surcharge	
			Mar 20 - Feb 21	Mar 21 - Oct 21	Actuals are current forecast.
Line No.					
1	In-service Costs (gross plant)		$ 21,869,534	$ 21,869,534	Actual
2	Less Accum Depreciation		$ 158,674	$ 793,368	Actual
3	Net Plant		$ 21,710,860	$ 21,076,166	Line 1 minus Line 2
4	Accum Deferred Income Taxes		$ (325,104)	$ (691,448)	Actual
5	Net Rate Base		$ 21,385,756	$ 20,384,718	Line 3 plus Line 4
6	Multiplier (Pretax Return + TOIT)	12.31%	$ 2,632,587	$ 2,509,359	Line 5 times Multiplier
7	Depreciation Expense & Neg Salvage *	Various	$ 634,694	$ 634,694	Line 1 * Appropriate Depr+Neg Salvage
8	Current Year Revenue Requirement		$ 3,267,281	$ 3,144,053	Line 6 plus Line 7
9	Under/(Over) Recovery Adjustment		$ -	$ -	Calculation from Prior Year
10	Net Revenue Requirement		$ 3,267,281	$ 3,144,053	Line 8 plus Line 9
11	Determinants **		447,583,469	300,058,241	Prior Year Actual
12	Rate		$ 0.0073	$ 0.0105	Line 10 Divided by Line 11

* RP13 Depreciation and negative salvage rate applicable to the eligible facilities.

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Next Steps

- 2019 meetings for Project Updates and Project List changes – as needed
- Provide Modernization updates at Southern Star Customer Meetings - as needed
- Southern Star will commit to another Modernization Program review meeting this fall – customer feedback
- CRM Surcharge Rate filing by January 31, 2020 to be effective March 1, 2020
- Conduct 2020 Modernization Eligible Facilities Plan Review Meeting

Questions?

Appendix A:
Tariff Rate Reductions Per RP19-289 Settlement
Effective January 1, 2019

Rate Schedule	Rate Component	RP13-941 Rates	Settlement Rates
TSS	Reservation - FSS - Deliverability / AOS	$0.0352	$0.0325
	Reservation - FSS - Capacity / AOS	$0.0018	$0.0017
	Reservation - FTS-P	$0.2228	$0.2054
	Reservation - FTS-M	$0.1586	$0.1462
	Authorized Overrun - FTS-P	$0.2344	$0.2170
	Authorized Overrun - FTS-M	$0.1701	$0.1577
STS-P	Commodity / AOS	$0.9240	$0.8547
	Authorized Overrun - FSS - Deliverability	$0.0352	$0.0325
	Authorized Overrun - FSS - Capacity	$0.0018	$0.0017
STS-M	Commodity - STS-P / AOS	$0.3596	$0.3324
	Commodity - STS-M /AOS	$0.8995	$0.8322
	Authorized Overrun - FSS - Deliverability	$0.0352	$0.0325
	Authorized Overrun - FSS - Capacity	$0.0018	$0.0017
FTS-P	Reservation	$0.2228	$0.2054
	Authorized Overrun	$0.2344	$0.2170
FTS-M	Reservation	$0.1586	$0.1462
	Authorized Overrun	$0.1701	$0.1577
FTS-M	Ozark Trails Incremental Charge	$0.0685	$0.0632
SFT-P	Commodity / AOS	$0.7847	$0.7243

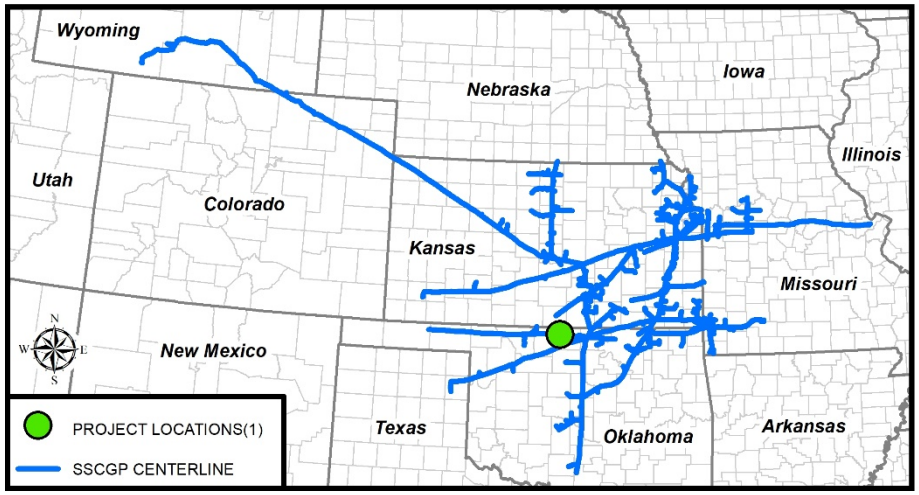
Rate Schedule	Rate Component	RP13-941 Rates	Settlement Rates
SFT-M	Commodity - SFT-P / AOS	$0.3480	$0.3324
	Commodity - SFT-M / AOS	$0.7294	$0.6733
ITS-P	Commodity	$0.2344	$0.2170
ITS-M	Commodity	$0.1701	$0.1577
FSS	Deliverability Reservation / AOS	$0.0352	$0.0325
	Capacity Reservation	$0.0018	$0.0017
ISS	Commodity	$0.0036	$0.0034
PLS-P	Daily Commodity	$0.2344	$0.2170
PLS-M	Daily Commodity	$0.1701	$0.1577
Volumetric Firm Capacity Release Maximum Rates @ 100% Load Factor			
TSS	Reservation - FSS	$0.0036	$0.0034
	Reservation - FTS-P	$0.2228	$0.2054
	Reservation - FTS-M	$0.1586	$0.1462
FTS-P	Reservation	$0.2228	$0.2054
FTS-M	Reservation	$0.1586	$0.1462
FTS-M	Ozark Trails Incremental Charge	$0.0685	$0.0632
FSS	Reservation	$0.0036	$0.0034

APPENDIX B

2019 ELIGIBLE FACILITY PLAN WITH MODERNIZATION CRITERIA

APPENDIX B: SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:

The project will improve station and unit control functions, improve monitoring, alarming and data collection functions and will enhance equipment protection features. It will improve operational consistency and efficiencies and allow for improved maintenance.

Engine Control Systems at Wakita in Grant County, OK

Existing control panel installed in 1991 as original equipment. The control equipment is obsolete and becoming more difficult to procure spare parts, maintain and modify to meet specific and evolving operating requirements. Installation of (2) new PLC-based unit controllers and (1) new PLC-based Station Controller, along with all necessary distributed controls, related equipment and end devices.

Cost Estimate: $1.8MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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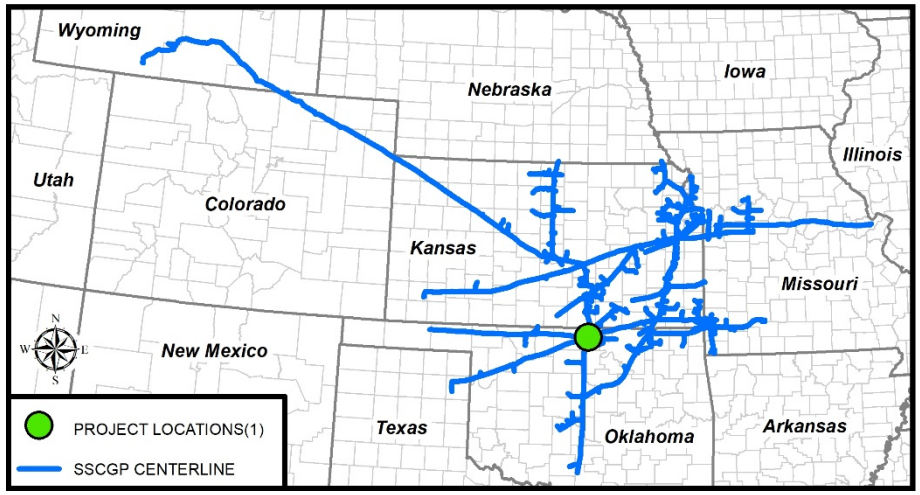
COMPRESSION



Benefit from Modernization:

Blackwell is a major throughput station. The redundant HP will provide greater reliability and flexibility to maintain service to our customers.

Install Redundant Horsepower at Blackwell Station in Kay County, OK

A turbine will be installed to run continuously and the current #8 and 9 recips will become backup horsepower.

Cost Estimate: $29.4MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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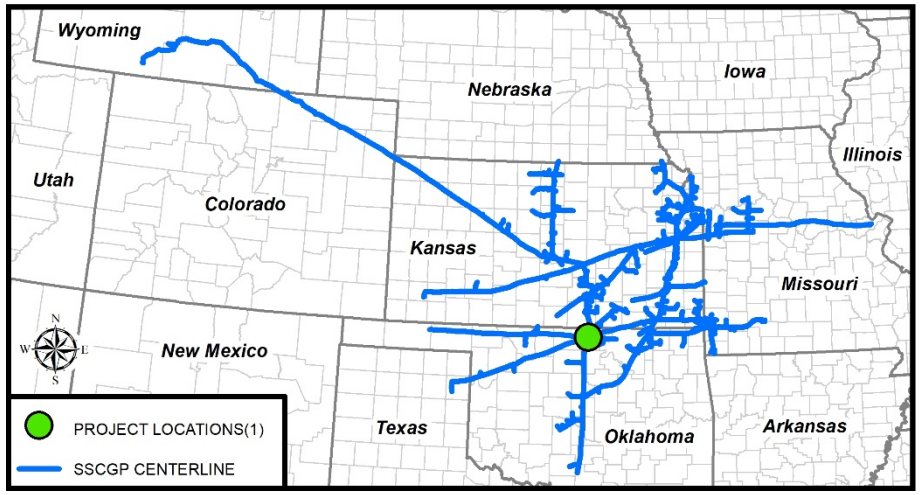
APPENDIX B: SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:
The project would increase fuel efficiency and reduce engine shutdowns.

Install Auto Balance System and Compressor Monitoring at Blackwell in Kay County, OK

Automatic engine balancing and compressor monitoring will be installed on the four GMV units at Blackwell Compressor Station.

Cost Estimate: $2MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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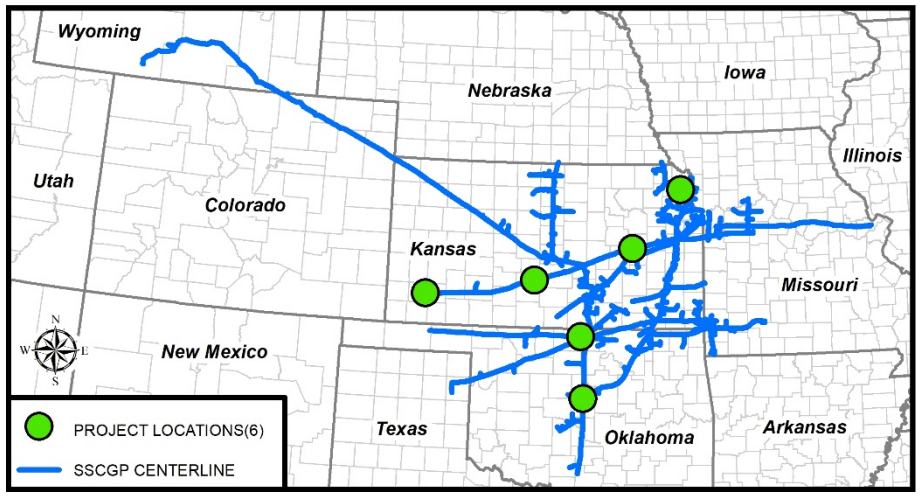
APPENDIX B: SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:
The project reduces outages and increases reliability.

Install Fire and Gas Detection Units
Installation of new fire and gas detection units at the following Compressor Stations:

- Stafford in Stafford County, KS
- Edmond in Oklahoma County, OK
- Atchison in Atchison County, KS
- Webb in Grant County, OK
- Americus in Lyon County, KS
- Hugoton in Grant County, KS

Cost Estimate: $0.7MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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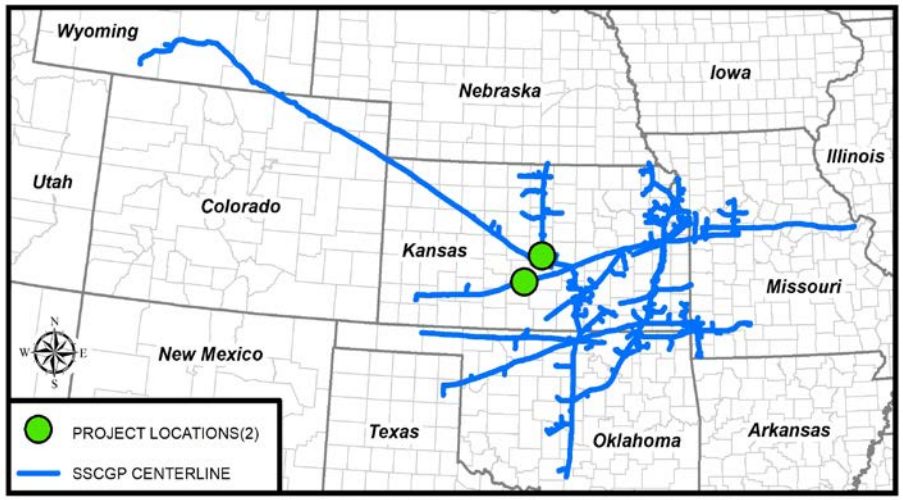
APPENDIX B: SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:

The project reduces outages and increases reliability.

Replace Emergency Generator with Auto Switch and Panels

Replace emergency generator with auto switch and panels at the following Compressor Stations:

- Stafford in Stafford County, KS
- Lyons in Lyon County, KS

Cost Estimate: $0.6MM

Modernization Criterion:

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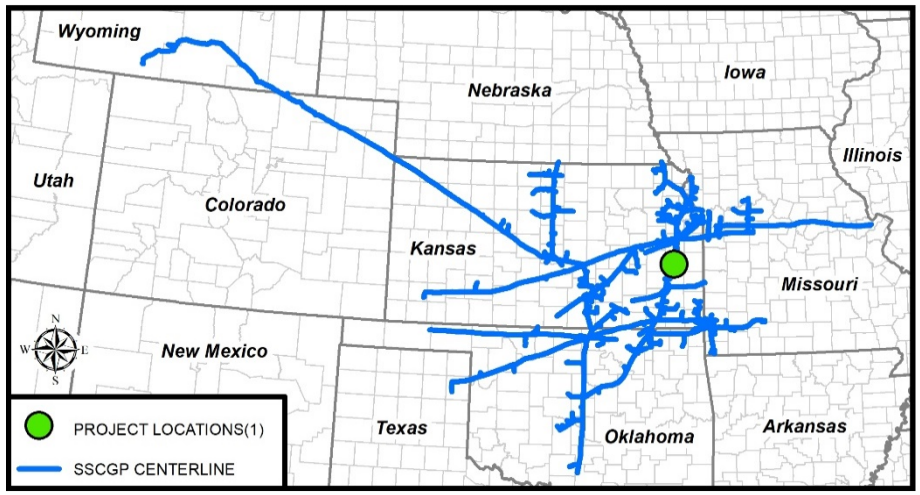

Benefit from Modernization:

The project prevents reliability issues during winter weather conditions.

Install building to encompass dehydration facilities at the Welda Compressor Station in Anderson County, KS

A building is desired to enclose the reboiler units to protect the new equipment from the elements and birds/animals and to ease the work of equipment maintenance during harsh winter weather conditions. The reboilers are run only on withdrawal cycles to regenerate lean glycol in the gas dehydration process.

Cost Estimate: $1.4MM

Modernization Criterion:

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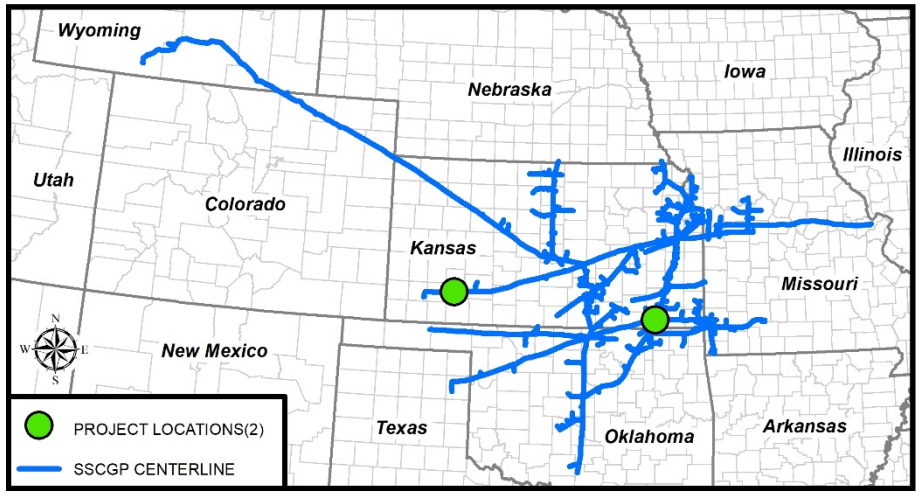

Benefit from Modernization:

The project increases reliability and replaces older PLC's due to obsolescence parts that are hard to find and expensive.

PLC Upgrades

PLC upgrades at the Grabham Compressor Station in Montgomery County, KS and at the Montezuma Compressor Station in Gray County, KS.

Cost Estimate: $0.5MM

Modernization Criterion:

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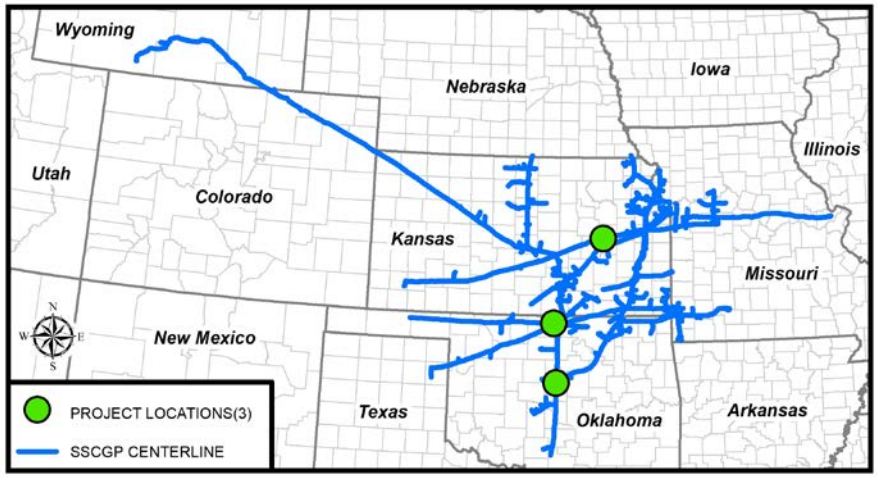

Benefit from Modernization:
The project increases reliability as original distributers are worn, use excessive air and have dead spots.

Install Sav-Air Start Systems
Install Sav-Air Start Systems at the following Compressor Stations:

- Americus in Lyon County, KS
- Edmond in Oklahoma County, OK
- Webb in Grant County, OK

Cost Estimate: $1.1MM

Modernization Criterion:

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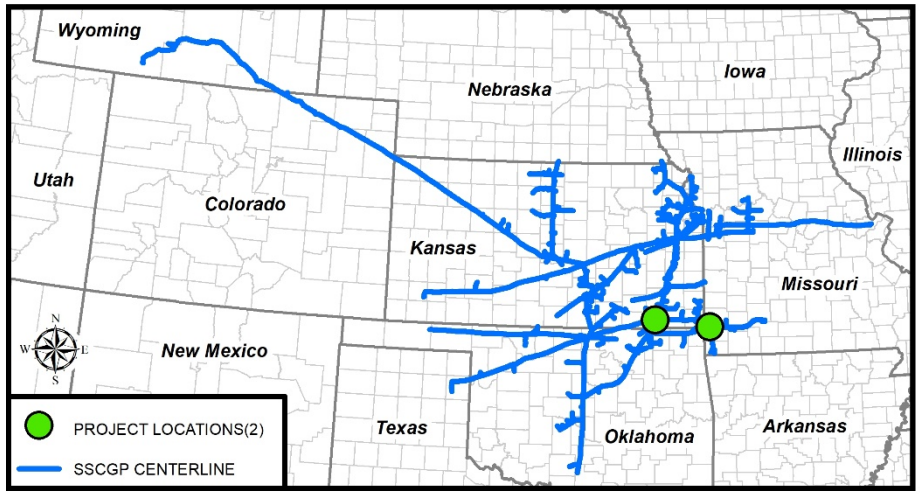

Benefit from Modernization:
The project increases reliability and replaces inefficient plate valves with poppet valves on the compressor units.

Compressor Valve Replacements
Replace inefficient plate valves with poppet valves at Grabham Compressor Station in Montgomery County, KS and Saginaw Compressor Station in Newton County, MO.

Cost Estimate: $0.4MM

Modernization Criterion:

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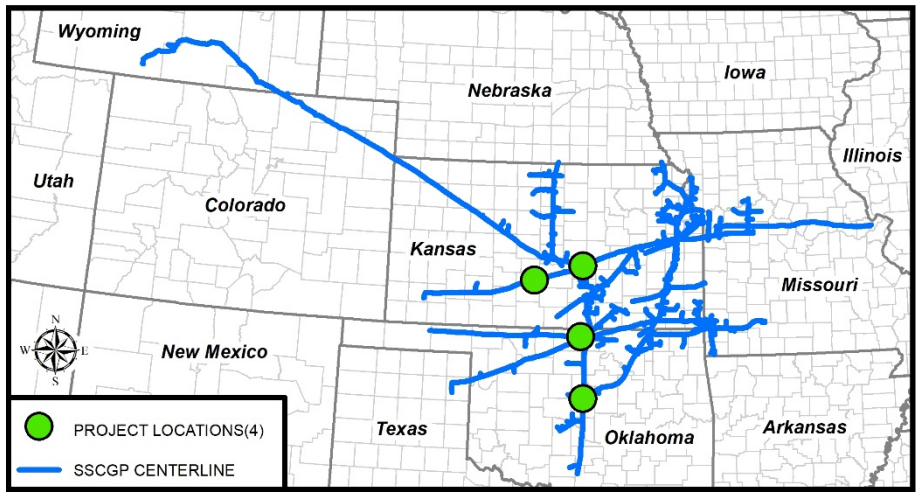

Benefit from Modernization:
The project increases reliability and the current Dynalco ignitions are obsolete.

Ignition Upgrades at Compressor Stations
Replace the ignition systems at the following Compressor Stations:

- Webb in Grant County, OK
- Stafford (Units 1-3) in Stafford County, KS
- Hesston (Units 1-8) Harvey County, KS
- Edmond (Units 1-3) in Oklahoma County, OK

Cost Estimate: $0.5MM

Modernization Criterion:

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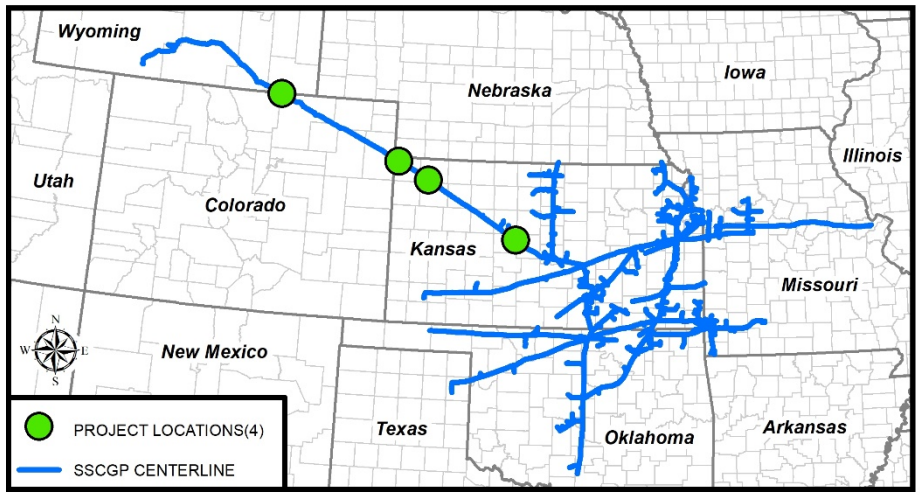

Benefit from Modernization:
The project reduces outages, increases reliability, and reduces risk to personnel.

NEC Electrical Panels
Replace the NEC Electrical Panels at the following Compressor Stations:

- Cheyenne in Weld County, CO
- Levant in Rawlins County, KS
- St. Francis in Cheyenne County, KS
- Otis in Rush County, KS

Cost Estimate: $0.3MM

Modernization Criterion:

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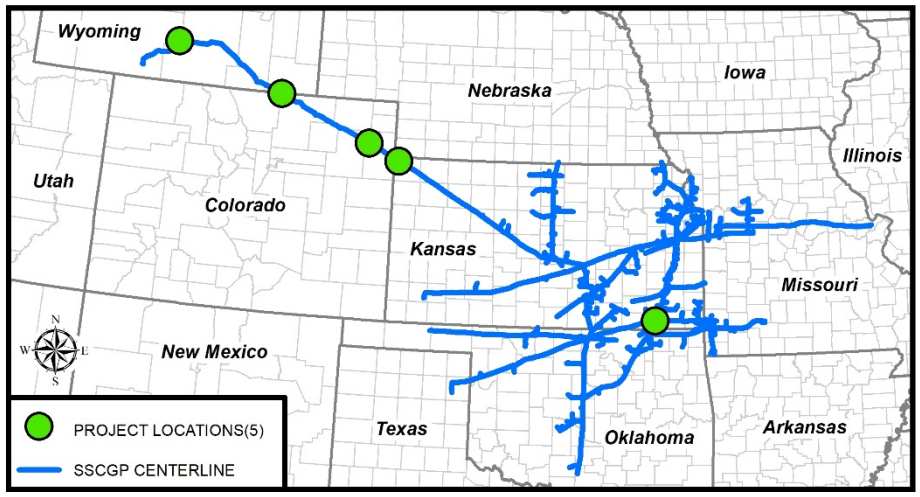

Benefit from Modernization:
The project reduces extended outages due to unavailable parts.

Bentley Vibration Systems
Update the Bentley Vibration Systems at the following Compressor Stations:

- Cheyenne in Weld County, CO
- St. Francis in Cheyenne County, KS
- Riner in Sweetwater County, WY
- Yuma in Yuma County, CO
- Grabham in Montgomery County, KS

Cost Estimate: $0.3MM

Modernization Criterion:

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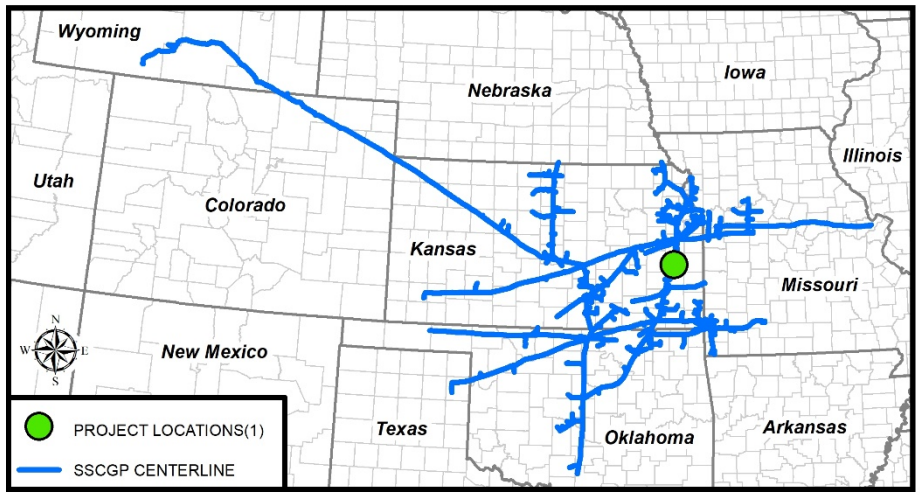

Benefit from Modernization:

Replacement of aging components ensuring reliability of the heat supply. The existing steam system is dated and plagued with performance/safety issues caused by corrosion.

Jacket Water Boiler at the Welda Compressor Station in Anderson County, KS

The entire steam system will be replaced with a new hot water system. The steam boiler services the compressor engine jacket water, fuel gas heat exchanger, and overhead building unit heaters.

Cost Estimate: $2.8MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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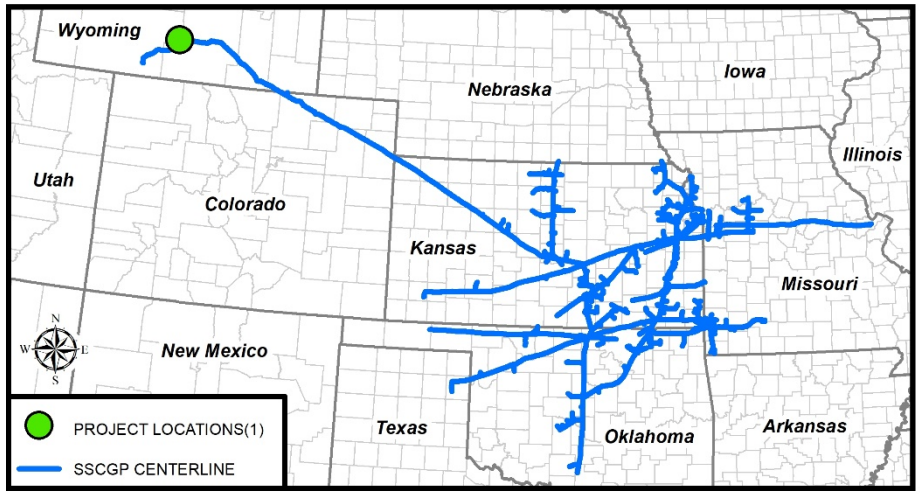

Benefit from Modernization:
Cold weather operations makes it timely and difficult to get a unit on line due to the cold fluid.

Amot Control Valve
Install Amot Temperature Control Valve in the cooling system at Riner Compressor Station in Sweetwater County, WY.

Cost Estimate: $0.1MM

Modernization Criterion:

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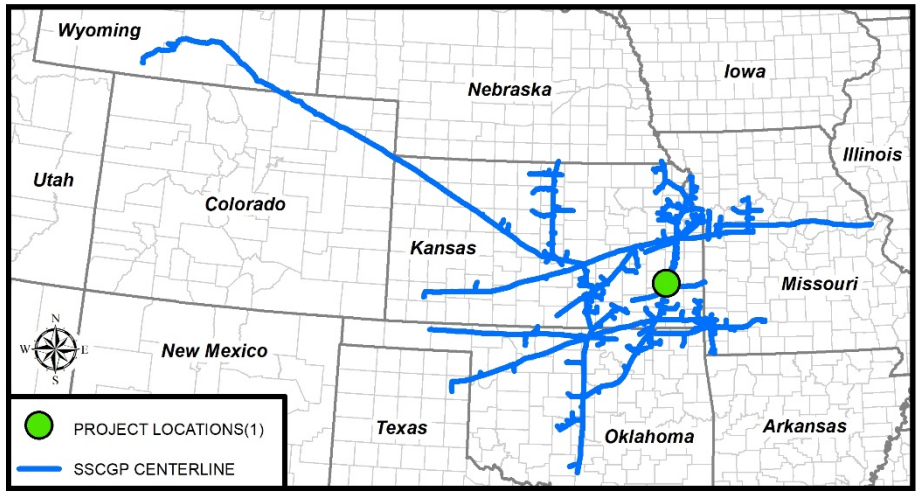

Benefit from Modernization:
The project will increase reliability and reduce outages.

Discharge Relief Valve
Install new unit discharge relief valve at Edmond Compressor Station in Oklahoma County, OK.

Cost Estimate: $0.1MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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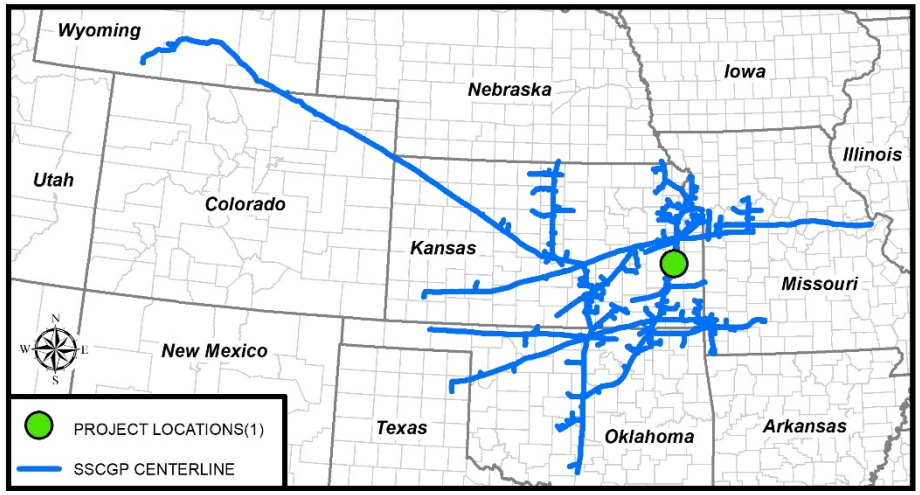

Benefit from Modernization:

The project will increase reliability as current valves in the yard are unreliable in an ESD situation due to the operating difficulty and/or inability to seal. Also, due to emerging regulations, the replacement of gas starters will reduce Greenhouse emissions and also reduce gas loss.

Leaking Blowdown/ESD Valves and Loading Gate Valves

Valves at the Welda Compressor Station in Anderson County, KS are either leaking or inoperable in emergency situations.

Cost Estimate: $0.4MM

Modernization Criterion:

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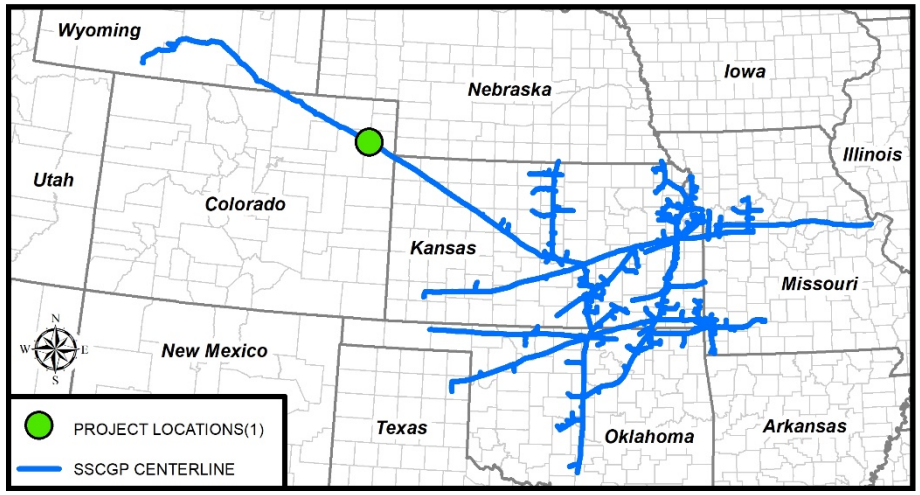

Benefit from Modernization:

The project will increase reliability for the injectors and the pre-combustion chamber fueling. The current injectors are old and parts are unavailable. The upgrade will lower maintenance costs and produce improvements in fuel efficiency and emissions.

Electronic Check Valve on Pre-Combustion Chambers

Upgrade electronic fuel checks on the engine units at the Yuma Compressor Station in Yuma County, CO and Grabham Compressor Station in Montgomery County, KS.

Cost Estimate: $1.1MM

Modernization Criterion:

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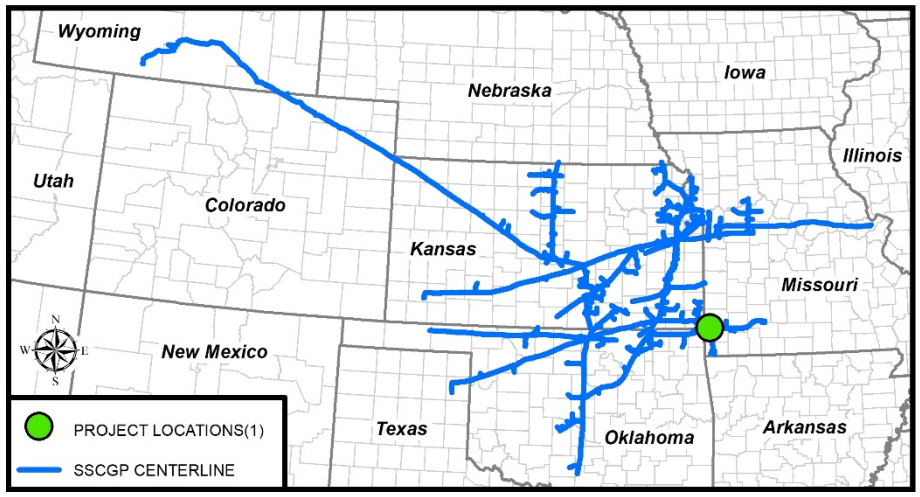

Benefit from Modernization:
The project will increase reliability and decrease issues with fuel quality.

Fuel Gas Filtration
Install fuel gas filtration for the turbine at Saginaw in Newton County, MO. Carbon fouling found on the injectors indicate impurities in the fuel. The turbine does not currently have fuel filtration. This will require piping modification to fuel supply system.

Cost Estimate: $0.02MM

Modernization Criterion:

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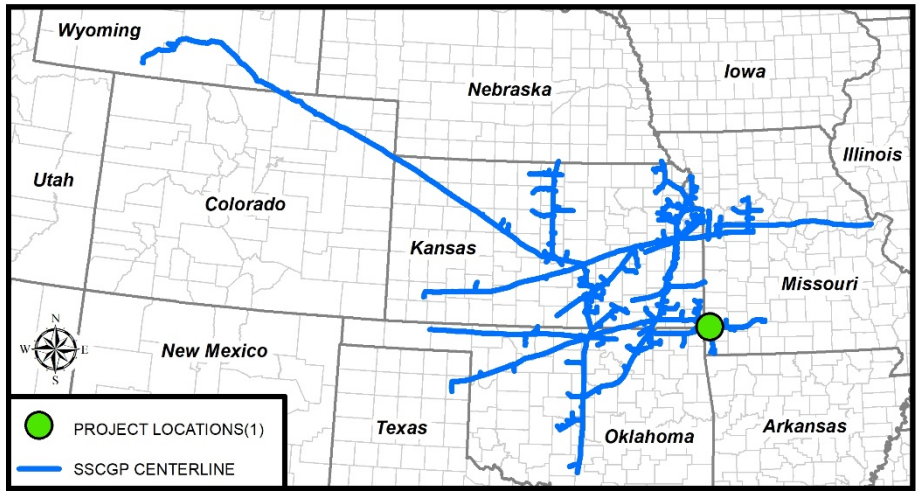

Benefit from Modernization:
The project will increase reliability and assist with issues surrounding the control system.

Replace Petrotech Controls with SOLAR Controls

Replace Petrotech Controls with SOLAR Controls at the Saginaw Compressor Station in Newton County, MO on unit #4. The current control system is obsolete.

Cost Estimate: $0.6MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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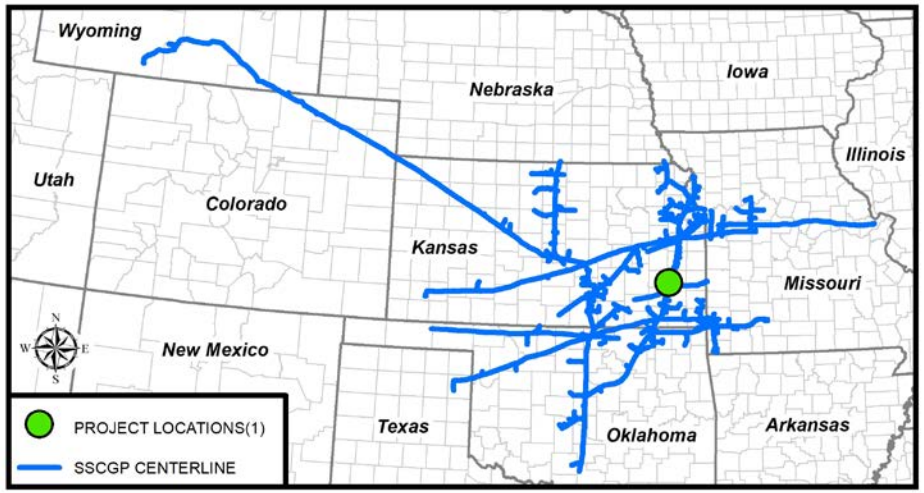

Benefit from Modernization:

The installation of a filter separator will remove existing liquids entrained in the gas stream and prevent liquids from migrating further downstream to impact delivery settings and regulation.

Filter Separator on Line DY at Petrolia in Allen Co., KS

The filter separator will be installed to capture unanticipated slugs of liquid going through Line DY.

Cost Estimate: $1.6MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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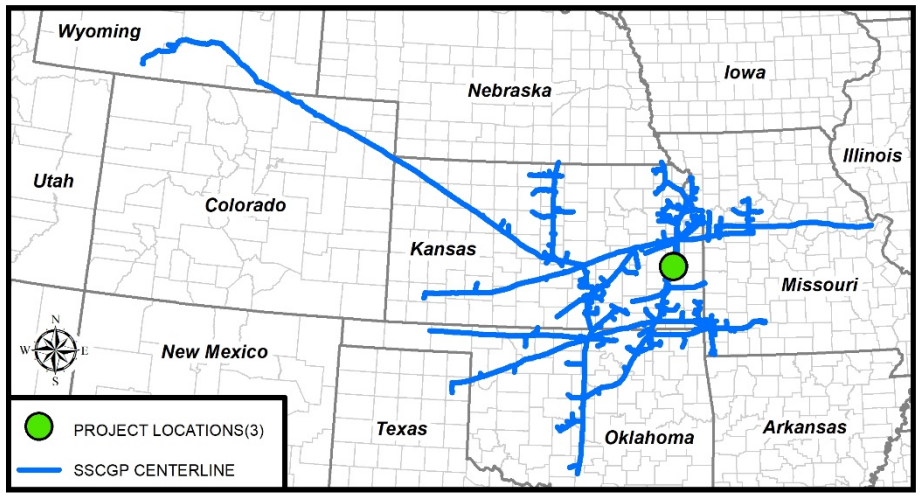
DEWATERING



Benefit from Modernization:

The project will facilitate the removal of liquids and will reduce the risk of unscheduled outages and leaks within the South Welda Storage Field in Anderson County, KS.

Pigging Valve Installation on Line DQ in South Welda Storage Field in Anderson County, KS

The project involves the installation of pigging valves and other appurtenances on Line DQ-027, Line DQ-034, and Line DQ-065.

Cost Estimate: $3.4MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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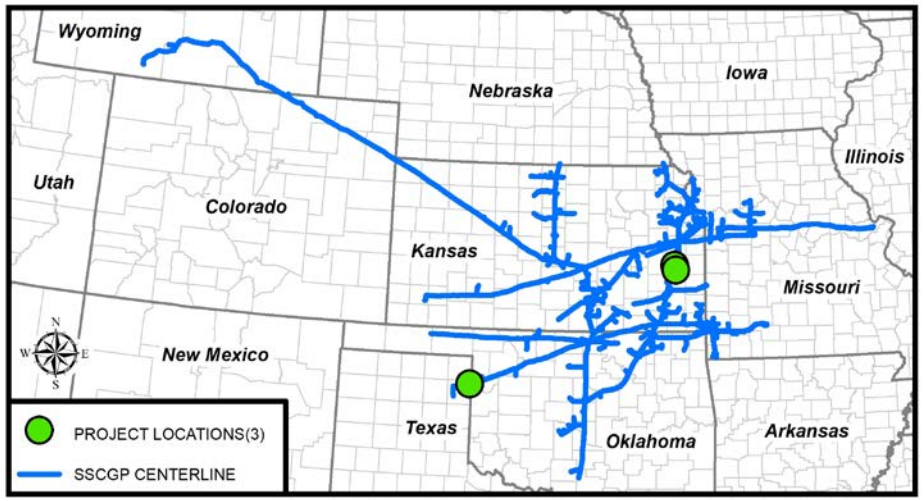
DRIP REMOVAL AND REPLACEMENTS



Benefit from Modernization:
The drip removal will increase operational safety and efficiencies.

Drip Removals
The drips are no longer operationally required and will provide operational efficiencies by removing them at the following locations:

- Line TL in Hemphill, TX
- Line DK-168 in Anderson County, KS
- Line DQ-90 in Anderson County, KS

Cost Estimate: $0.3MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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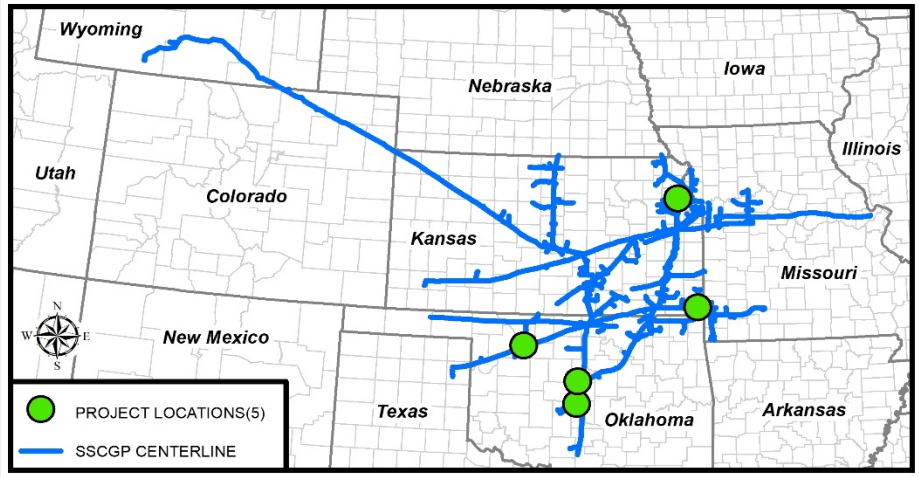
APPENDIX B: SPECIFIC PROJECT DETAILS

EXPOSURE REMEDIATIONS



Benefit from Modernization:

The known exposed crossing is a high risk from a pipeline integrity and service reliability perspective. The remediation will result in an increase in the reliability of service to customers.

Exposure Remediation Locations

Remediate various exposed crossings along the Southern Star system. The majority of remediations will be a grout filled mat over the pipeline for stabilization. A few remediations will require bores.

- Line VP in Cleveland, OK (bore)
- Line EJ-014 in Jefferson, KS (bore)
- Line F in Cherokee, KS
- Line TL in Major, OK
- Line VH in Logan, OK

Cost Estimate: $7.2MM

Modernization Criterion:

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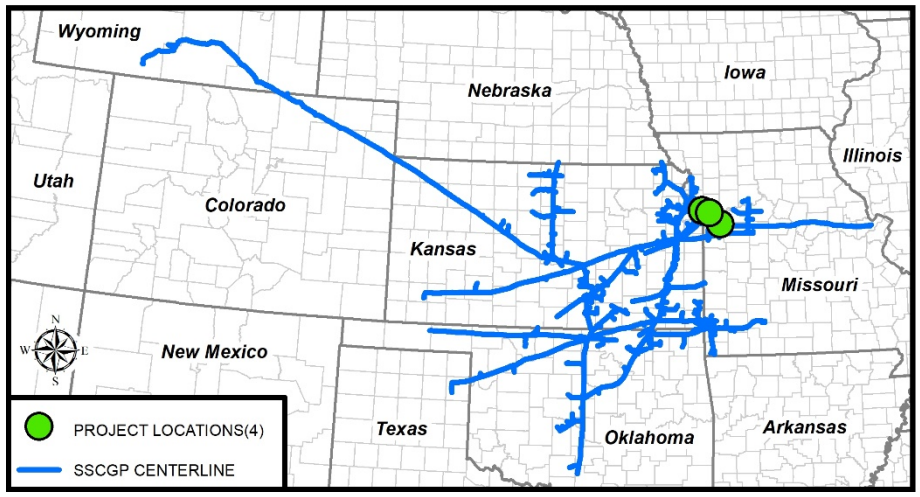
APPENDIX B: SPECIFIC PROJECT DETAILS

MEASUREMENT



Benefit from Modernization:

Vendor no longer supports the meter and parts are no longer available; therefore, eliminating the need to estimate gas volumes until meter is replaced.

Meter Change Out – Obsolete Turbine Meters

Replace obsolete turbine meters as they fail calibration. Refocus program to proactively replace turbine meters with USM before they fail. Replace obsolete turbine meters at the following locations:

- LAKE LOTAWANA MO TB 009858 - JACKSON CO, MO
- SPIRE KENTUCKY AVENUE 016591 - JACKSON CO, MO
- SPIRE-MO FAIRFAX BRIDGE 010362 - PLATTE CO, MO

Cost Estimate: $2.4MM

Modernization Criterion:

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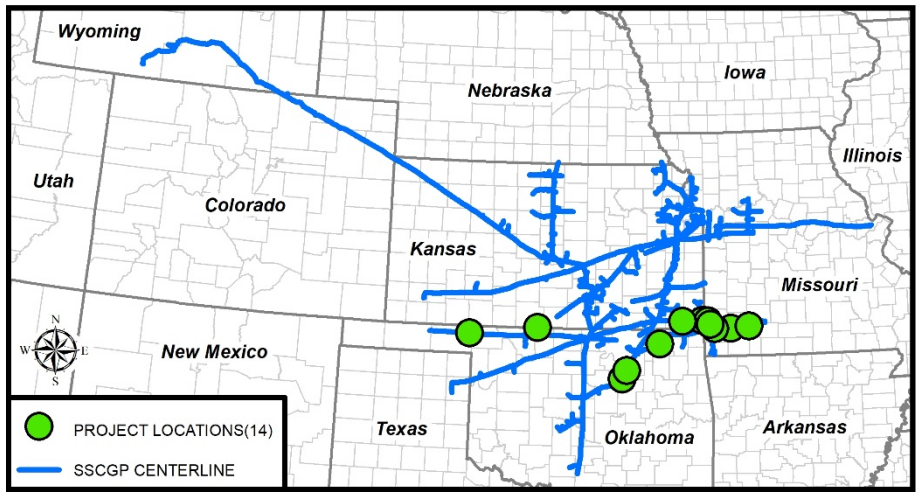
MEASUREMENT



Benefit from Modernization:

When a relief valve fails, the facility is required to be manned until a proper OPP device can be installed.

Axelson Relief Valve Replacements

Program to replace Axelson RVs which are obsolete. 2020 will be the last year parts will be available. We have 167 Axelsons on our system. Will expand program focus to include all obsolete Regs & RVs; Fisher 399s and Fisher 630's. The estimate includes the replacement of 3 Axelson relief valves at the Humboldt Compressor Station.

Cost Estimate: $1.2MM

Modernization Criterion:

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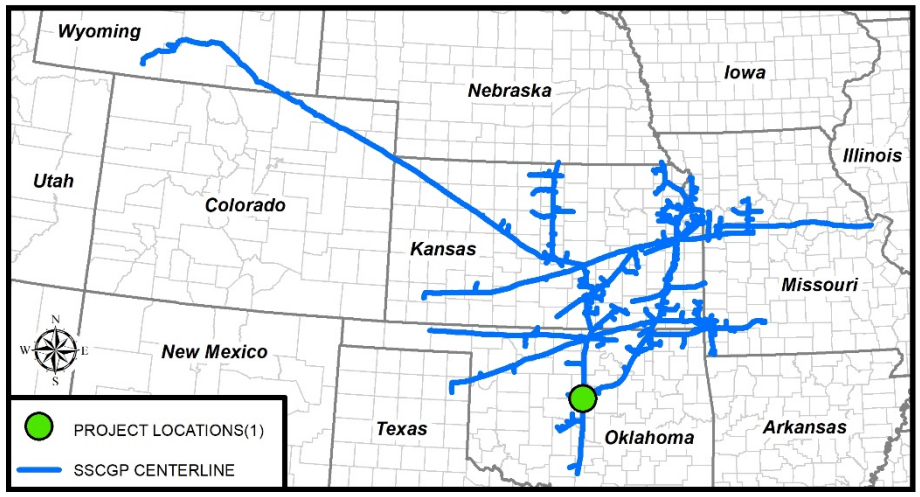

Benefit from Modernization:

This project allows real time verification of product and flow rates.

Install New Daniels C9+ Series 500 Gas Chromatograph

Install C9+ gas chromatograph at the Drumright to Edmond Check Meter at the Edmond Compressor Station in Oklahoma County, OK. Currently, there is no means of capturing gas composition data or moisture content data at this facility.

Cost Estimate: $0.6MM

Modernization Criterion:

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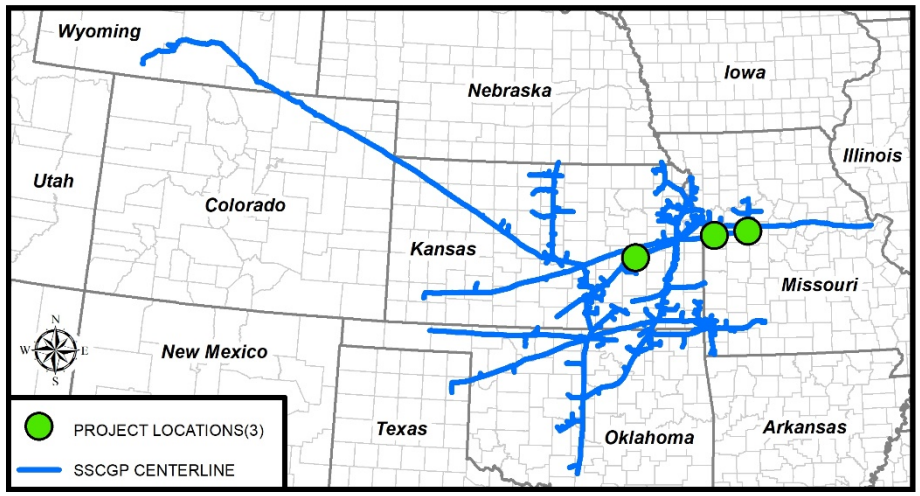

Benefit from Modernization:

The project reduces the potential of exceeding MAOP limits.

Replace 1" Obsolete Control Valves

Replace 1" Obsolete Control Valves at the following locations:

- KNOBNOSTER 001367 - JOHNSON CO, MO
- PHILLIPS PL CO 009645 - CASS CO, MO
- OLPE-MADISON INT 011403 - LYON CO, KS

Cost Estimate: $0.07MM

Modernization Criterion:

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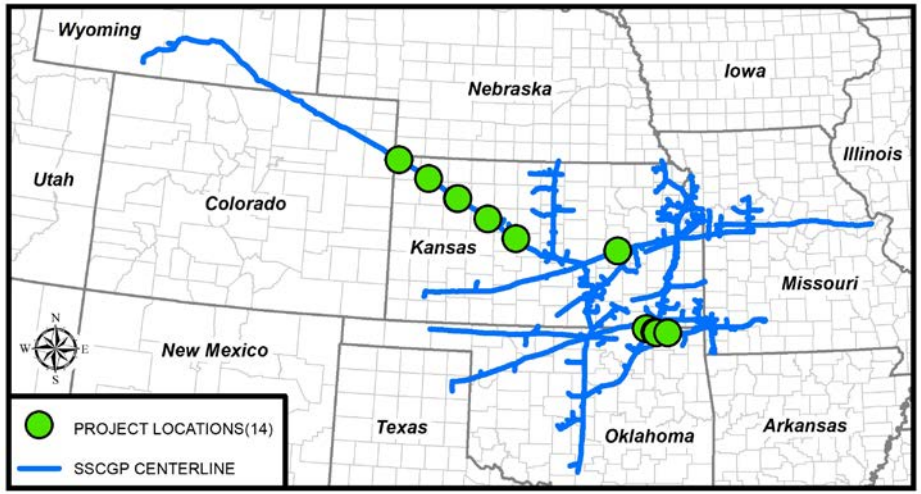

Benefit from Modernization:

The project reduces the potential of exceeding MAOP limits.

Replace Relief Valve

Replace Regulator with Relief Valves at the following Customer Owned OPP:

- CHASE CO 014155 - CHASE CO, KS
- MULLENDORE 014027 - WASH CO OK
- BLUE CO 016806 - NOWATA CO, OK
- ENDEAVOR 016798 - NOWATA CO, OK
- NEOK PLD 016905 - NOWATA CO, OK
- LEVANT FUEL 013036-RAWLINS CO, KS
- OGALLAH FUEL 013150 & 013151-TREGO CO, KS
- ST FRANCIS 013585 & 013586 -CHEYENNE CO, KS
- HOXIE FUEL 013587 & 013588 -SHERIDAN CO, KS
- OTIS FUEL 013589 & 013590 - RUSH CO, KS

Cost Estimate: $0.2MM

Modernization Criterion:

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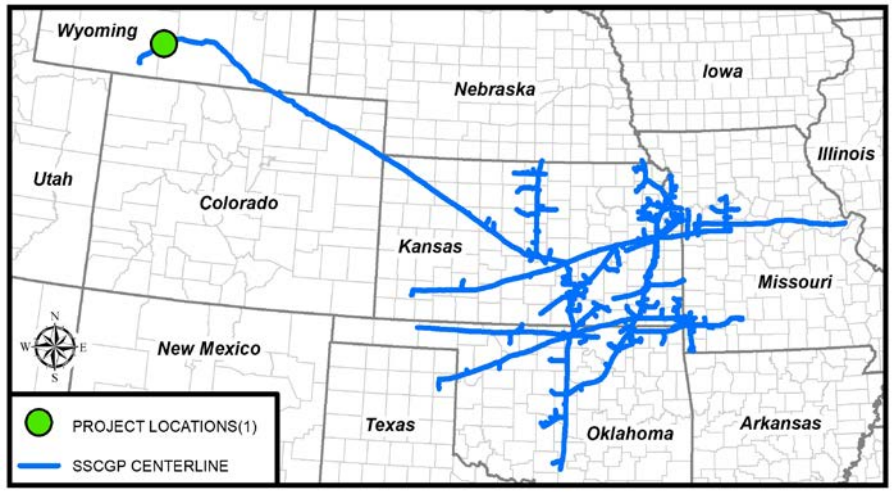

Benefit from Modernization:

The project reduces the potential of exceeding MAOP limits.

Install Slam Valves in Input Lines

Install Slam Valves in input lines as OPP at Echo Springs 016294 – Carbon County, WY

Cost Estimate: $0.5MM

Modernization Criterion:

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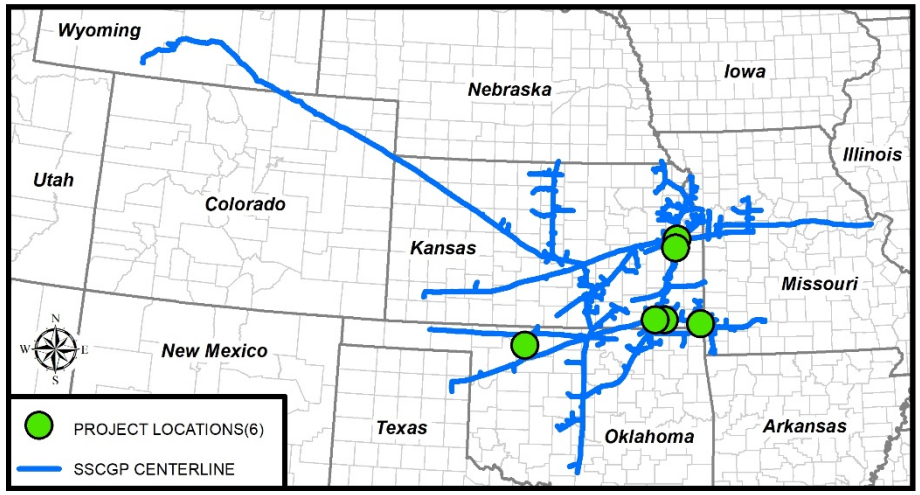

Benefit from Modernization:

These replacements will increase the accuracy levels for gas quality, eliminating AOCs and reducing L&U.

Gas Chromatographs

Install Gas Chromatographs at the following locations:

- OTTAWA STATION IN FRANKLIN COUNTY, KS
- ATLAS WAYNOKA - LINE NZ - WOODS CO, OK
- EAST LIBERTY F018 - MONTGOMERY CO, KS
- ELK STORAGE LINE DB- MONTGOMERY CO, KS
- PRINCETON LINE DP- FRANKLIN CO, KS
- RIVERTON EMPIRE- FR001- CHEROKEE CO, KS

Cost Estimate: $0.5MM

Modernization Criterion:

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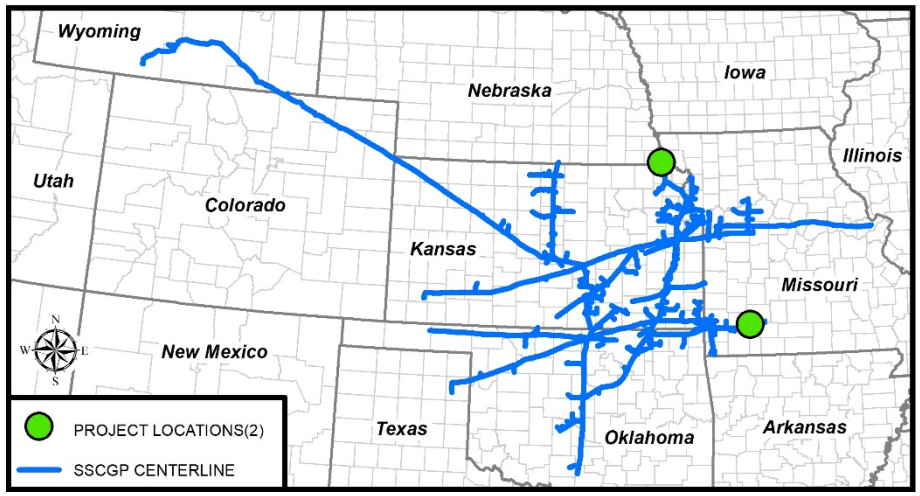

Benefit from Modernization:

The project helps reduce fear of pipe buckling under stress.

Upgrade M&R due to Freeze/Thaw issues

Modifications required to prevent reoccurring freeze/thaw heaving at the following locations:

- FALLS CITY HP 001329 - RICHARDSON CO, NE
- CLEVER TB 010040 - CHRISTIAN CO, MO

Project will include removing out of service regulator runs and reestablishing pipe and regulator building on stable ground.

Cost Estimate: $1.3MM

Modernization Criterion:

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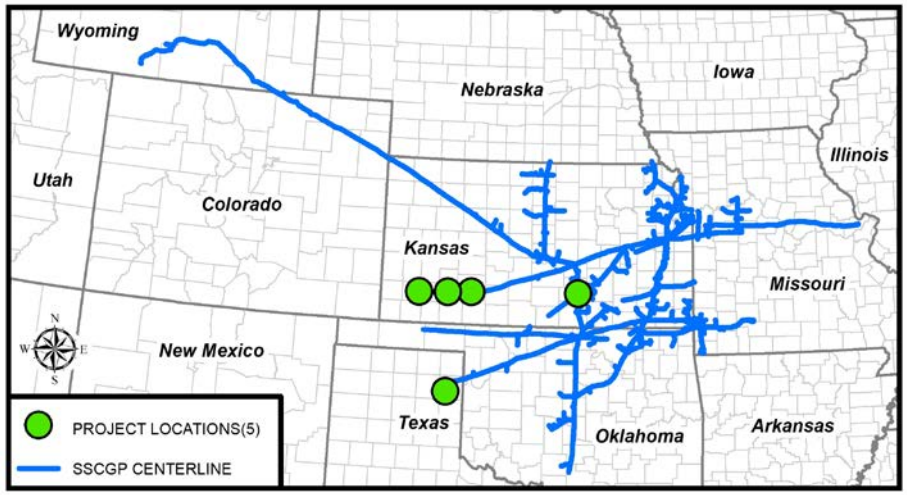

Benefit from Modernization:

The installations will reduce the number of extended outages and will increase reliability.

Gas Detection in Gas Chromatograph Buildings

Gas Detection systems to be installed at the following locations:

- NGPL FORD #15275 GRAY CO, KS
- ENBRIDGE HOBART #16342 HEMPHILL, TX
- MONTEZUMA STATION #16312 LINE RA GRAY CO, KS
- KINDER MORGAN #16334 LINE RH GRANT CO, KS
- WICHITA SO TB #14852 SEDGWICK, KS

Cost Estimate: $0.2MM

Modernization Criterion:

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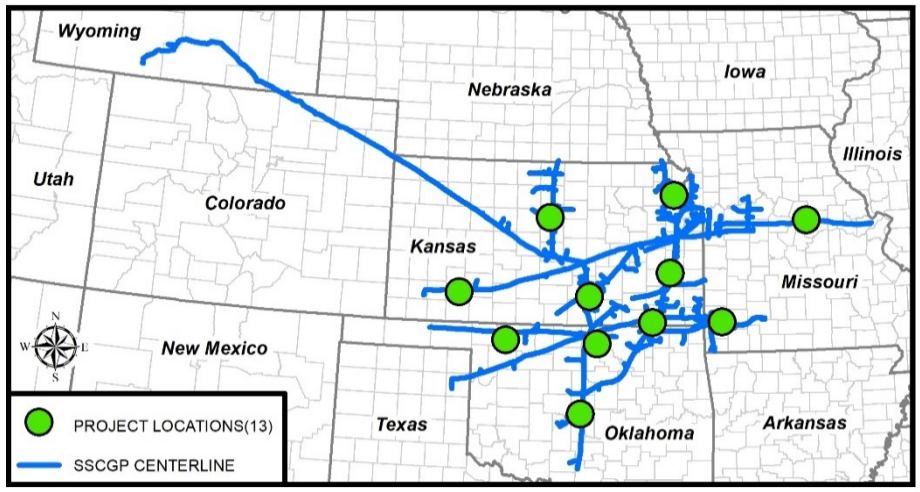
APPENDIX B: SPECIFIC PROJECT DETAILS

PHMSA REQUIREMENTS FOR DOMESTICS



Benefit from Modernization:

Bring domestic settings up to current PHMSA requirements across the system.

PHMSA Requirements for Domestics

Southern Star will install isolation valves and test nipples prior to each regulator and relief valve on domestics to meet with PHMSA requirements.

Cost Estimate: $1.8MM

Modernization Criterion:

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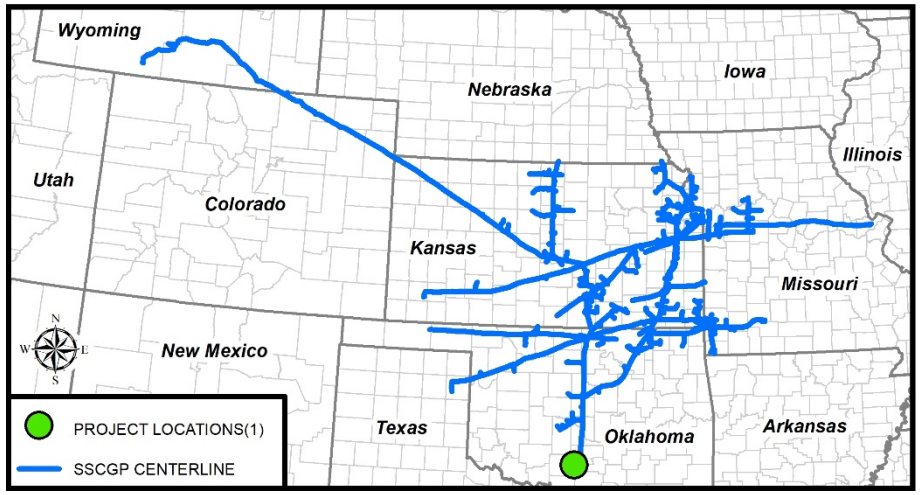
PIGGABILITY



Benefit from Modernization:
The installation of the launcher and receiver will enable in-line inspections of 13.7 miles to be conducted.

Launcher/Receiver on Line VO-16 12" at Garvin County, OK
Install launcher and receiver facilities to enable in-line inspection on 13.7 miles of 12" to be conducted.

Cost Estimate: $1.5MM

Modernization Criterion:

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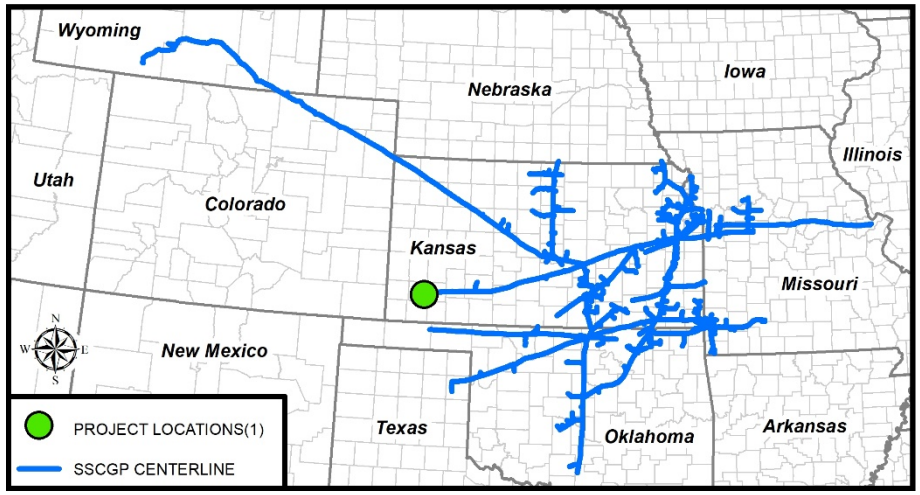

Benefit from Modernization:

Line RI currently transports "wet gas" and has potential for oxygen level upsets. A launcher and receiver will provide removal of liquids from the pipeline, ability to assess the integrity of the line, and ensure system reliability of gas supply.

Launcher/Receiver on Line RI 12" in Grant, KS

Install launcher and receiver facilities to enable in-line inspection on 7.7 miles of 16" to be conducted.

Cost Estimate: $1.7MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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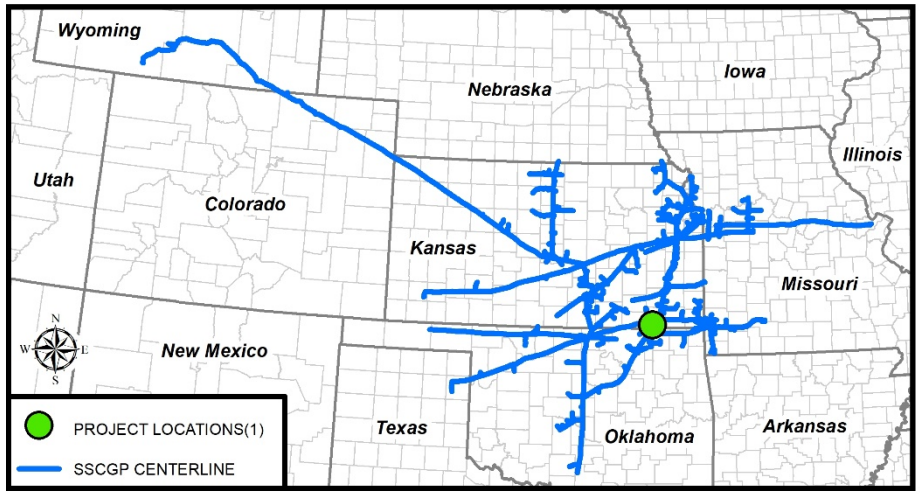

Benefit from Modernization:

Provide the capability of launching and receiving a full sized in-line inspection smart tool. The project modifies the launcher and receiver to allow completion of a baseline assessment and continued pipeline inspections.

Line BF Pigging Barrel Modification in Montgomery, KS

Modify pigging barrel on 16" Line BF to facilitate in-line inspection.

Cost Estimate: $0.9MM

Modernization Criterion:

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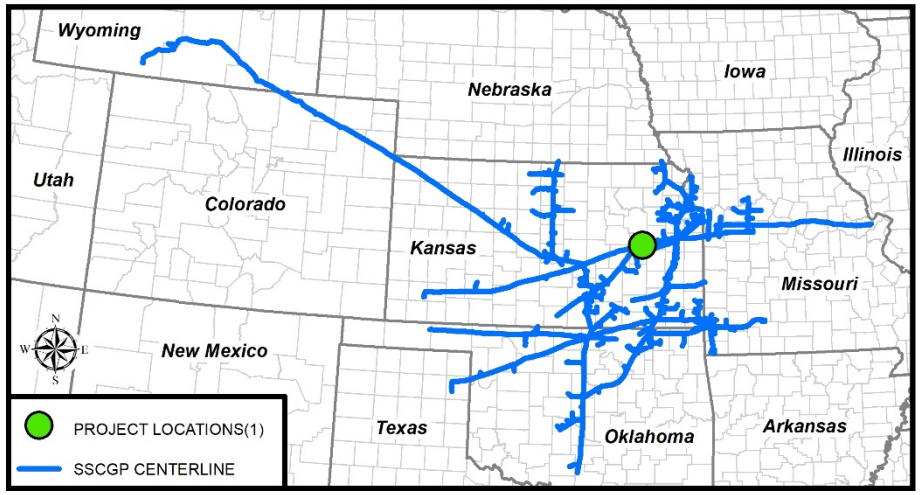

Benefit from Modernization:

The relocation of the pig receiver will allow in-line inspection of a currently unpiggable 359' HCA segment. Moving the pigging receiver will also allow for a drip to be installed to capture liquids before they enter Lines QB and QC.

Relocate South Glavin Receiver in Johnson, KS

Install 5R fitting and 26 MLV on line Q to make piggable. Remove existing tee and face inlet of tee downwards install new barred tee to inlet to allow pigging through. Tie receiving line into regulation run, downstream of valve upstream of regulation. Install filter pot on the receiving line for the receiver. Tie 8" receiving line from existing receiver back into 26" upstream of the receiver with 8" plug valve coming above grade. Pressure test all pipeline from new 5R fitting to the receiver and all of the receiver's associated piping (this would be considered the integrity assessment on this short section of pipe until line Q is ILI's again in 2020). Some additional work at this site include but not limited to would be to install 110' of temporary bypass from QB to QC, remove approximately 75' of above ground piping and associated odorization equipment and replace removed pipe with 26" below grade piping.

Cost Estimate: $1.8MM

Modernization Criterion:

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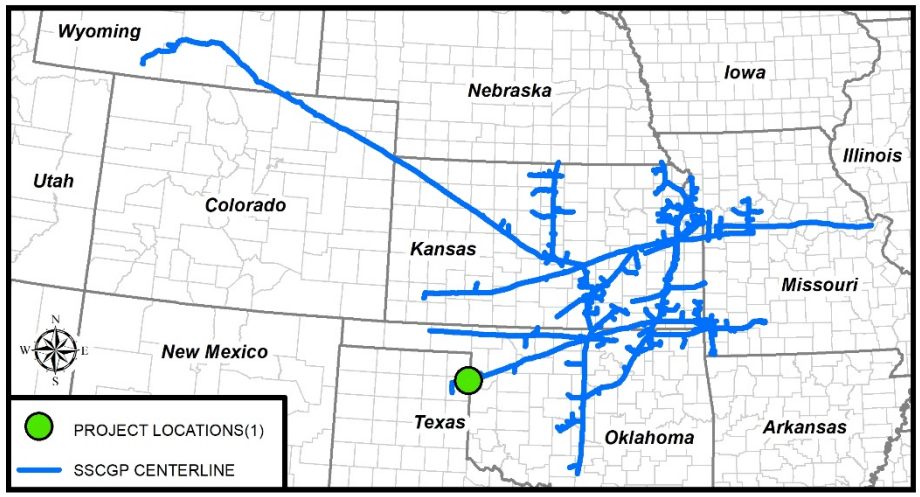
PIPE REPLACEMENT



Benefit from Modernization:

The mainline valve seal and operator does not operate properly. It blows hydraulic fluid from the top of the stem and the valve will not seal completely due to fluid from actuator leaking into the valve.

Line TL 26" Mainline Valve Replacement in Hemphill CO, TX

Site will need 26" double stopple bypass installed to isolate the mainline valve (MLV) area. The 26" MLV will be replaced with 26" MLV and 10" bypass valve setting. Actuation will also be replaced.

Cost Estimate: $1.5MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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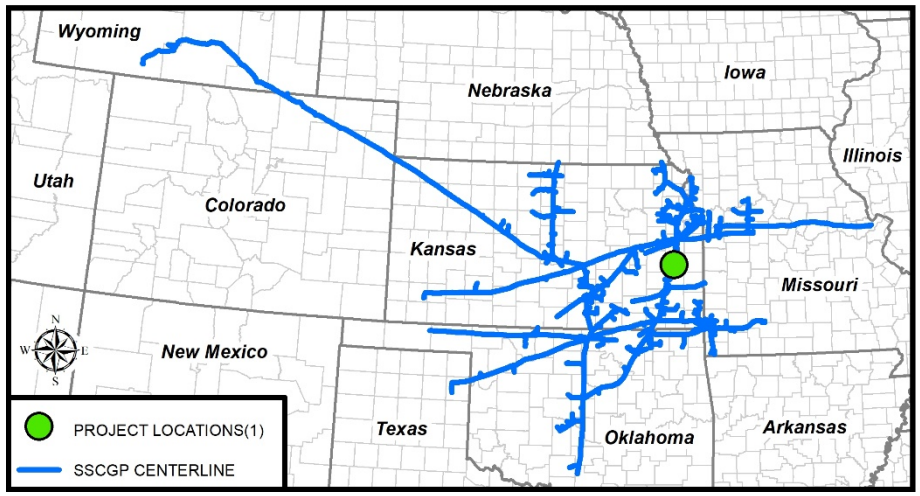
STORAGE



Benefit from Modernization:

There is no flow control on injection or withdrawal out of the Welda station and all flow is through Gate 23, which is a backpressure regulator that does not allow direct flow rate control and is inefficient. Upgrading to Ultrasonic measurement will decrease the need for plate changes, eliminate the bowed plate issues and increase overall measurement accuracy.

Flow Control and Measurement Upgrade Welda Storage Field

This project will replace Gate 23 with Flow Control to storage fields to eliminate bowed plates, erosional velocities, and vibration issues. The orifice measurement will be upgraded with ultrasonic measurement for more accurate measurement and elimination of bowed plates.

Cost Estimate: $8.8MM

Modernization Criterion:

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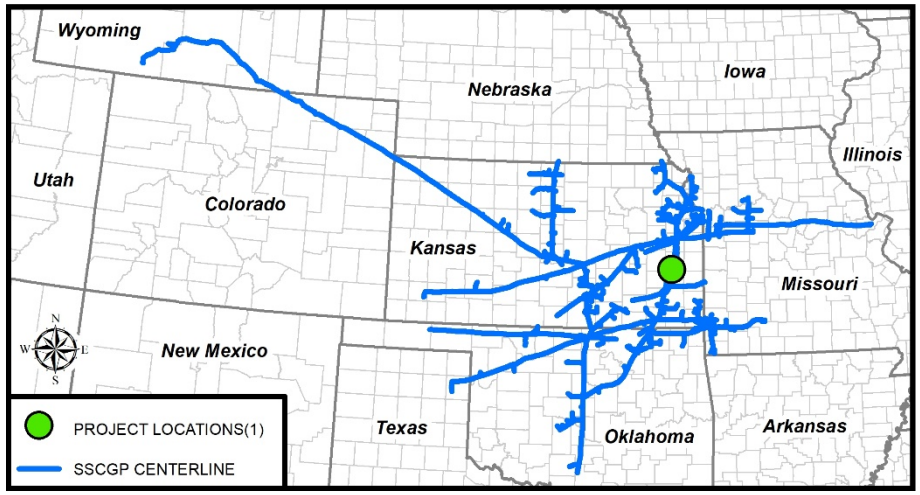
APPENDIX B: SPECIFIC PROJECT DETAILS

STORAGE



Benefit from Modernization:

Well monitoring is required under the new Storage Integrity regulations and in API RP 1171.

Colony Storage Field Well Monitoring

In order to meet Storage Integrity requirements, a wellhead measurement will be installed at Colony Storage Field and equipment will be updated.

Cost Estimate: $1.4MM

Modernization Criterion:

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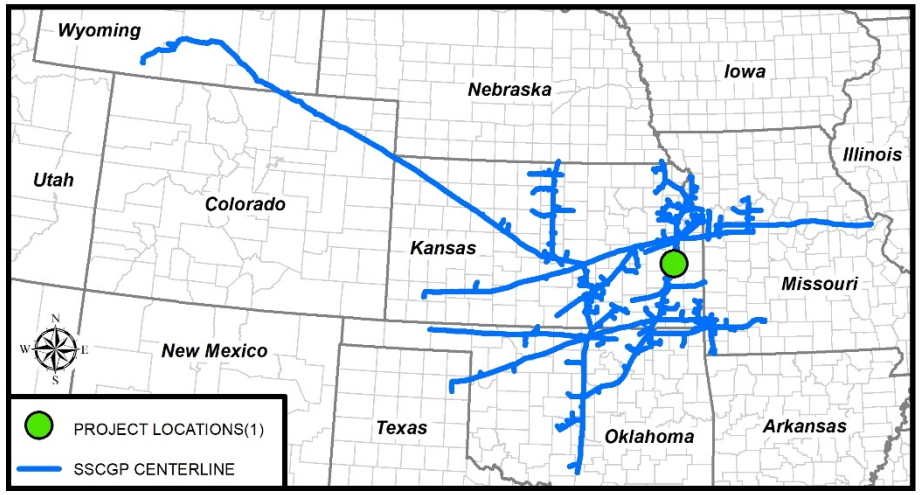

Benefit from Modernization:
There are a handful of wells that PHMSA may find do not meet RP 1171 requirements and will need to be worked on.

Welda Storage Field Well Compliance
Work will be performed on wells in the Welda Storage Field that do not meet requirements of RP 1171.

Cost Estimate: $0.6MM

Modernization Criterion:

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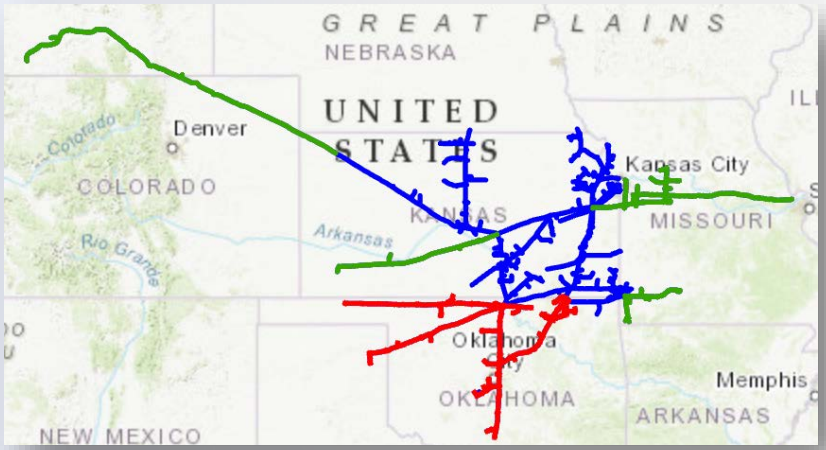
APPENDIX B: SPECIFIC PROJECT DETAILS

TECHNOLOGY



Benefit from Modernization:

The customer system enhancements will increase the speed and efficiency for conducting business on Southern Star while updating screens, processes and reports to modern day technology.

Customer System

Enhancements to improve system functionality including electronic contracting and scheduling. Improve EDI optionality, accuracy and reliability. Improve capacity release screens, downloads, forms and processes. Address feature requests from the Customer Advisory and Success Team (CAST) with the main focus on cut notices & contract approval emails change.

Cost Estimate: $2.6MM

Modernization Criterion:

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APPENDIX B: SPECIFIC PROJECT DETAILS

TECHNOLOGY

EAM

Enterprise Asset Management

Benefit from Modernization:

This project will increase efficiencies through effective asset management including planning, scheduling, and reporting on asset maintenance. EAM will also improve Southern Star's reliability to customers.

O&E/PC - Enterprise Asset Management

The Enterprise Asset Management system will track equipment maintenance and optimize maintenance scheduling.

Cost Estimate: $1.2MM

Modernization Criterion:

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APPENDIX B: SPECIFIC PROJECT DETAILS

TECHNOLOGY

Benefit from Modernization:

The implementation of an OSI PI data historian and predictive analytics will allow Southern Star to optimize operational reliability by improving reporting.

OSI PI Data Historian and Predictive Analytics

Southern Star needs a data historian to combine disparate data to improve reporting. Reporting includes "business intelligence – knowing what is going on", "predictive analytics – knowing things before they occur, and "optimization - what-if reporting or modeling".

Cost Estimate: $0.4MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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APPENDIX B: SPECIFIC PROJECT DETAILS

TECHNOLOGY

Vehicle Mobile Networking

This project involved extending the reach of Southern Star's network from offices to employee vehicles. This will aid employees working remotely, improve response times, and improve the utilization of Mobile Workforce and other applications.

Cost Estimate: $0.1MM

Benefit from Modernization:

Vehicle mobile networking will increase the efficiency and response time of employees to meet customer needs and maintain system reliability.

Modernization Criterion:

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APPENDIX B: SPECIFIC PROJECT DETAILS

TECHNOLOGY

3rd Party Video Surveillance Install

Cameras will be installed at compressor facilities to allow a 3rd party company to perform advanced analytics, reporting, and security surveillance after normal business hours.

Cost Estimate: $0.1MM

Benefit from Modernization:

The installation of cameras will increase security posturing at the local level and will reduce the potential for company loss.

Modernization Criterion:

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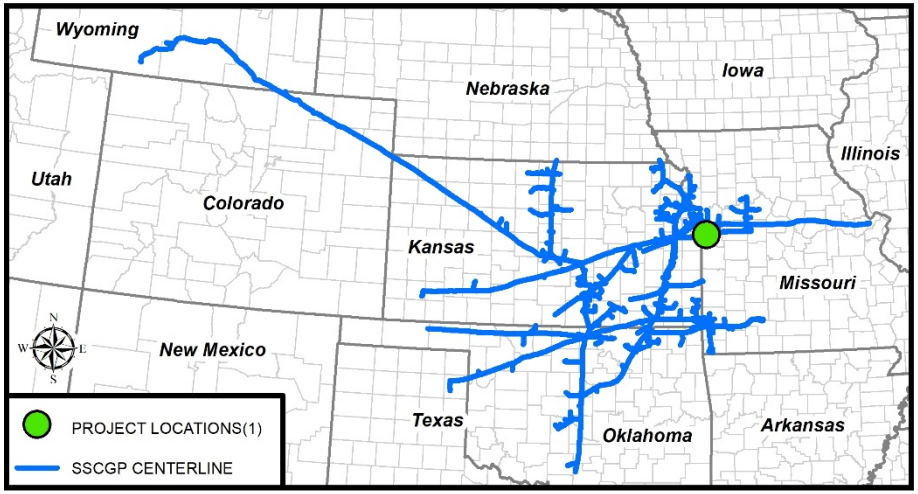
APPENDIX B-1

PROPOSED PROJECTS FOR 2019 ELIGIBLE FACILITY PLAN WITH MODERNIZATION CRITERIA

APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:

The project increases reliability as original distributers are worn, use excessive air and have dead spots.

Install Sav-Air Start Systems

Install Sav-Air Start Systems at the Peculiar Compressor Station in Cass County, MO.

Cost Estimate: $0.2MM

Modernization Criterion:

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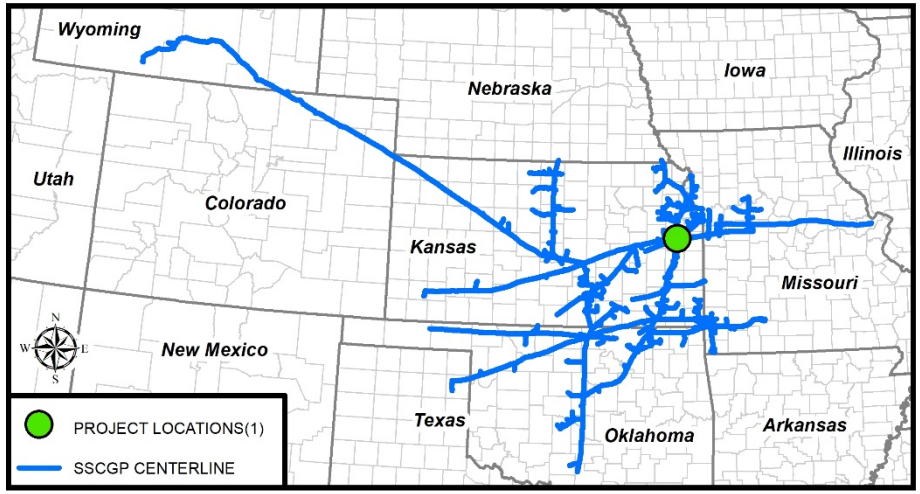
APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

COMPRESSION



Benefit from Modernization:

The installation of the coalescing filter separator will enable the downstream compression and pipelines to operate with less maintenance and greater efficiency.

Filter Separator on Line DP

The 60" coalescing filter separator will capture the black powder that has been causing problems at the Ottawa Compressor Station in Franklin County, KS.

Cost Estimate: $2.2MM

Modernization Criterion:

- PROJECTS TO MODIFY OR REPLACE EXISTING FACILITIES TO COMPLY WITH SAFETY OR ENVIRONMENTAL REGULATIONS ISSUED BY PHMSA, EPA, OR OTHER FEDERAL OR STATE GOVERNMENT AGENCIES
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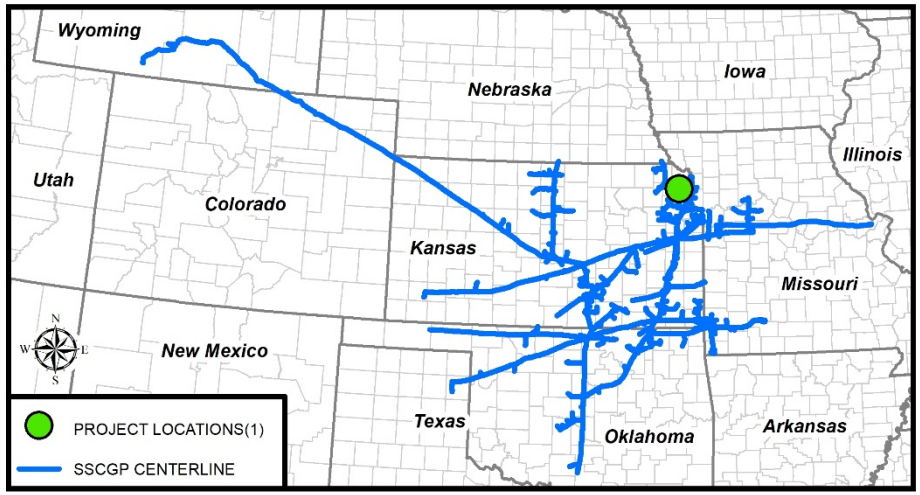
APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

EXPOSURE REMEDIATION



Benefit from Modernization:

The known exposed crossing is a high risk from a pipeline integrity and service reliability perspective. The remediation will result in an increase in the reliability of service to customers.

Exposure Remediation

Remediate 48-ft exposure on Line EH in Tonganoxie, KS, which will require a bore.

Cost Estimate: $2.3MM

Modernization Criterion:

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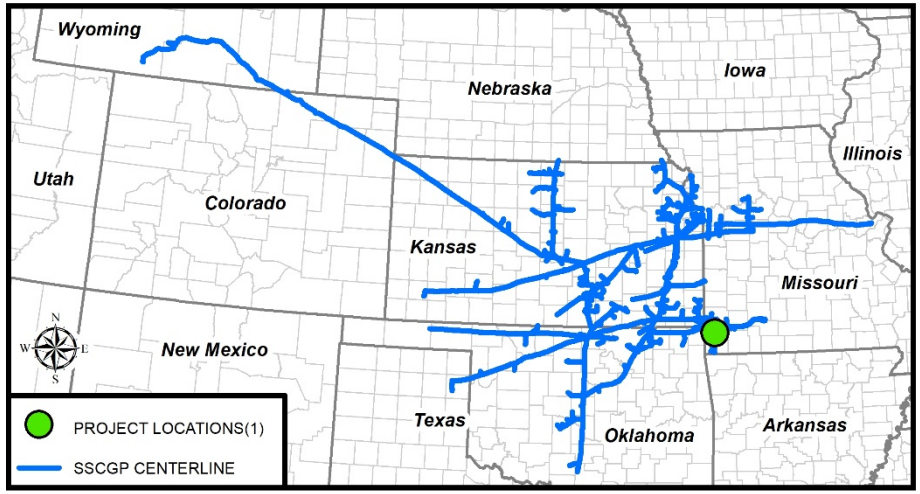
APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

MEASUREMENT



Benefit from Modernization:
Vendor no longer supports the meter and parts are no longer available therefore having to estimate gas volumes until meter is replaced.

Obsolete Turbine Meter
Replace (2) 4" obsolete turbine meters with ultrasonic at Neosho, MO #16765 – Newton CO, KS

Cost Estimate: $0.4MM

Modernization Criterion:

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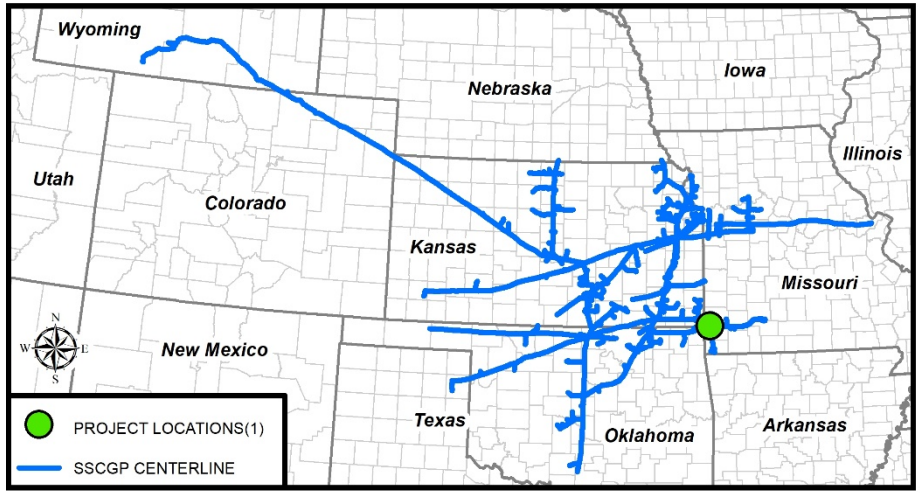
APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

PHMSA REGULATIONS



Benefit from Modernization:

The replacements to the new style supports allow for the removal of supports and inspection of coating at the support/pipe interfaces.

Concrete Pipe Support Replacements in Saginaw Station in Newton Co, MO

Replace concrete pier and pipe supports to newer style supports that allow for the removal of supports and inspection of coating at the support/pipe interfaces. This is required following the latest PHMSA audits.

Cost Estimate: $0.3MM

Modernization Criterion:

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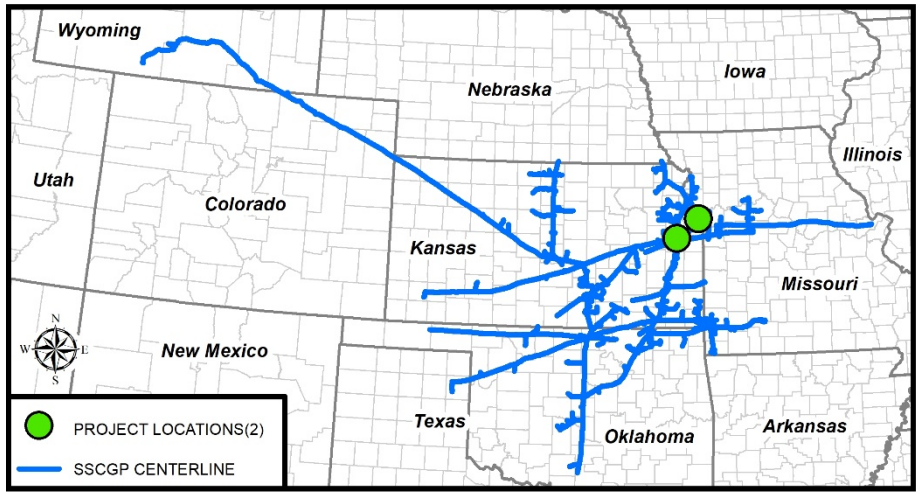
APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

PIGGABILITY



Benefit from Modernization:

The modification will allow volume to pass to bring in a pig and prevent liquids from getting downstream.

Line XE (Ottawa to Glavin) 26" Launcher and Receiver Modifications

At the receiver site, replace the current kicker line with 8" receiving line, as there is currently a bottleneck and does not allow enough volume to pass to bring in the pig. Also, includes the installation of new pig signals and a 26" valve to prevent liquids from getting pushed downstream since the drip was removed. At the launcher site, install new equalization line and valve.

Cost Estimate: $1.3MM

Modernization Criterion:

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APPENDIX B-1: PROPOSED SPECIFIC PROJECT DETAILS

PIPE REPLACEMENT

Rising Stem Valve Replacements

Replace Rising Stem Valves at the following locations:

- (2) 20" on Line XQA (Lake Quivira Receiver Site)
- 20" on Line DT (Ottawa 101)
- 20" on Line XM (Ottawa Badorf)
- 26" on Line XE (Tobin)

Cost Estimate: $2.5MM

Modernization Criterion:

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Benefit from Modernization:

The current rising stem valves do not provide a proper seal; therefore, replacement reduces outages, increases reliability, and reduces risk to personnel.