

**BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION**

IN THE MATTER OF THE )  
APPLICATION OF BLACK HILLS )  
NEBRASKA GAS, LLC d/b/a BLACK ) Application No. NG-112.1  
HILLS ENERGY SEEKING APPROVAL )  
OF A 2022 SYSTEM SAFETY AND )  
INTEGRITY RIDER. )

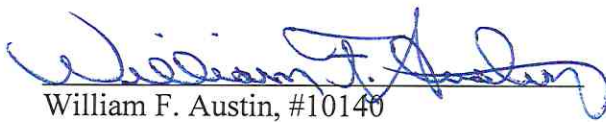
**NOTICE OF FILING OF REPORT OF THE PUBLIC ADVOCATE**

The Public Advocate, Intervenor in the above-referenced proceeding, does hereby file his report styled "Examination of the System Safety and Integrity Rider of Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy for the 2022 Program Year" prepared by Blue Ridge Consulting Services on behalf of the Public Advocate. Eight copies of the report, plus an electronic copy in pdf format, a copy of all text documents in Microsoft Word, and all work papers in electronic format are being submitted herewith in accordance with 291 NAC 9-004.12. Electronic and/or hard copies are being provided, as appropriate, in accordance with the Service List.

WHEREFORE, the Public Advocate requests the Commission to consider his report, to hold a hearing, as necessary or required, on the Application, as requested by Black Hills Nebraska Gas, LLC, and to enter an order, or such other action, as the Commission deems just and proper.

DATED this 29<sup>th</sup> day of October, 2021.

PUBLIC ADVOCATE

By:   
William F. Austin, #10140  
Blake|Austin Law Firm, LLP  
Cornhusker Plaza  
301 South 13<sup>th</sup> Street, Suite 101  
Lincoln NE 68508  
(402) 480-7003  
[waustin@blakeaustinlaw.com](mailto:waustin@blakeaustinlaw.com)

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CERTIFICATE OF SERVICE


The undersigned hereby certifies that a true and correct copy of Public Advocate's Notice of Filing Report was served electronically on this 29<sup>th</sup> day of October, 2021, upon the following:

Jonathan Smith, Nichole Mulcahy, Deena Ackerman, Sallie Dietrich, Dillion Keiffer-Johnson  
Nebraska Public Service Commission  
[PSC.NaturalGas@nebraska.gov](mailto:PSC.NaturalGas@nebraska.gov)

Douglas J. Law  
Black Hills Energy  
[douglas.law@blackhillscorp.com](mailto:douglas.law@blackhillscorp.com)

Robert J. Amdor  
Black Hills Energy  
[robert.amdor@blackhillscorp.com](mailto:robert.amdor@blackhillscorp.com)

Tyler Frost  
Black Hills Energy  
[Tyler.frost@blackhillscorp.com](mailto:Tyler.frost@blackhillscorp.com)

  
William F. Austin, #10140



**Before the Nebraska Public Service Commission  
Docket No. NG-112.1**

**Examination of the System Safety and Integrity Rider  
of Black Hills Nebraska Gas, LLC  
d/b/a Black Hills Energy  
for the 2022 Program Year**

**on behalf of the Nebraska Public Advocate**

**October 29, 2021**

Prepared by  
Blue Ridge Consulting Services, Inc.  
114 Knightsridge Road  
Travelers Rest, SC 29690  
(864) 420-8084

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## **DISCLAIMERS**

The words *audit* and *examination*, as used in this report, are intended, as they are commonly understood in the utility regulatory environment, to mean a regulatory review, a field investigation, or a means of determining the appropriateness of a financial presentation for regulatory purposes. The word *audit*, for example, is not intended in its precise accounting sense as an examination of booked numbers and related source documents for financial reporting purposes. Neither is the term *audit* in this case an analysis of financial statement presentation in accordance with the standards established by the American Institute of Certified Public Accountants (AICPA) and the Financial Accounting Standards Board (FASB). The reader should distinguish regulatory reviews such as those that Blue Ridge performs from financial audits performed by independent certified public accountants.

This document and the opinions, analyses, evaluations, and recommendations are for the sole use and benefit of the contracting parties. There are no intended third-party beneficiaries, and Blue Ridge shall have no liability whatsoever to third parties for any defect, deficiency, error, or omission in any statement contained in or in any way related to this document or the services provided.

This report was prepared based in part on information not within the control of the consultant, Blue Ridge Consulting Services, Inc. While it is believed that the information that has been provided is reliable, Blue Ridge does not guarantee the accuracy of the information relied upon.

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## **ORGANIZATION OF BLUE RIDGE'S REPORT**

This report is organized according to the following major sections: Executive Summary; Overview of Investigation; and Observations, Findings, and Recommendations. The report also contains appendices. The Executive Summary provides summaries of Black Hills Energy's application requests and Blue Ridge's findings and recommendations on the Company's requests, along with their impact.

The Overview of Investigation provides the background, purpose of the project, project scope, information reviewed.

The Observations, Findings, and Recommendations section documents Blue Ridge's analysis and recommendations regarding the components that comprise the System Safety and Integrity Rider (SSIR) Charge. That section addresses the eight questions identified under the purpose of the project:

- 1) Are the Company's processes and controls sufficient so as to not adversely affect the costs of the System Safety and Integrity Recovery Charge?
- 2) Does the application provide the information required by Commission orders and specified in the SSIR Tariff?
- 3) Are the System Safety and Integrity Projects eligible for recovery?
- 4) Is the revenue requirement associated with the Eligible System Safety and Integrity Costs requested by Black Hills Energy in compliance with Commission orders and as specified in the SSIR Tariff?
- 5) Is the System Safety and Integrity Rider Charge calculated in compliance with Commission orders and as specified in the SSIR Tariff?
- 6) Is the amount and timing of the System Safety and Integrity Rider Charge request within the limits established by the Commission?
- 7) What is the appropriate level of recovery of the System Safety and Integrity Rider Charge?
- 8) Did the Company timely file the annual surveillance filings with the required information in compliance with Commission orders?

The appendices include the background information reviewed, abbreviations and acronyms, data requests and information provided, and Blue Ridge's workpapers.

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**EXECUTIVE SUMMARY**

On August 2, 2021, Black Hills Nebraska Gas, LLC, d/b/a Black Hills Energy (hereinafter referred to as “BHE” or “Company”), filed an application with the Nebraska Public Service Commission (“Commission”) seeking approval to adjust the System Safety and Integrity Rider (SSIR) Charge to be effective January 1, 2022, for Rate Areas One, Two, Three, and Five. The adjusted 2022 SSIR Charges will apply to rate schedules applicable to all BH Nebraska Gas Jurisdictional Residential, Commercial, and Energy Option customers. The Company’s proposed SSIR Charge reflects the overall SSIR Charges applicable to the referenced rate schedules to cover the incremental annual revenue requirement impact of costs incurred by the Company with respect to SSIR Projects as defined on Tariff Sheets Nos. 127 through 131. These eligible projects were not included in the rate base calculation in the rate review for Nebraska assets in Commission Application No. NG-109. Each of the SSIR Projects will be in service and used and useful by December 31, 2022.

In its Application, the Company seeks approval of the jurisdictional revenue requirements of \$8,916,915 attributable to 2022 capital projects, totaling \$44,548,711, and the jurisdictional portion of 2022 Data Infrastructure Improvement Program (DIIP) costs recoverable through the SSIR, totaling \$3,982,000, as summarized in the following table.

**Table 1: BHE Proposed Jurisdictional Capital Projects and DIIP Costs with Associated Revenue Requirements**

Description	Capital Project Costs	Capital Project Revenue Requirement	DIIP Costs	DIIP Costs Revenue Requirement	Total Revenue Requirements
2021 Projects*	\$ 43,439,073	\$ 1,435,609	\$ 865,048	\$ 744,817	\$ 2,179,842
2022 Projects	44,548,711	4,050,068	3,982,000	3,431,238	7,481,306
Total	\$ 87,987,784	\$ 5,485,677	\$ 4,847,048	\$ 4,176,055	\$ 9,661,148
2022 Estimated SSIR Recovery**		\$ 5,485,677		\$ 3,431,238	\$ 8,916,915

\*Does not reflect true-up to actual costs

\*\*Requested Recovery includes current year DIIP and does not include DIIP from prior years

If approved by the Commission, the monthly SSIR Charges effective on January 1, 2022, are summarized below.

**Table 2: BHE Proposed Jurisdictional SSIR Charges**

Description	Residential	Commercial	Commercial Energy Options
2021 Approved SSIR Charge - \$/Month	\$0.62	\$1.23	\$1.23
2022 Proposed SSIR Charge - \$/Month	\$1.45	\$5.02	\$5.02
Total Proposed SSIR Charge - \$/Month	\$2.07	\$6.25	\$6.25
Total Proposed SSIR Charge - \$/Year	\$24.84	\$75.00	\$75.00

The Public Advocate performed an examination of the Company’s proposed 2022 SSIR and found nothing that would affect the proposed SSIR revenue requirements. However, Blue Ridge found that the Company plans to buy 27,061 ERTs (Electronic Reading Transmitters) from supplier(s) to install rather than use in part the 3,000–5,000 ERTs in inventory. The Company supplied this data after the cut-off date for data requests. Blue Ridge recommends that the Company provide additional information to facilitate determining whether the Company’s activity regarding ERT projects (1) is



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accounted for in accordance with 18 CFR, part 201, account 381 meters, (2) belongs in the SSIR, and (3) is the most economical use of ratepayer funds. Related issues include these:

- Why the existing ERTs are not used first—ERTs in inventory that were purchased in the past would likely have a lower unit cost, which would, in turn, lower the SSIR.
- Why the Company considers ERTs capital upon purchase and what in 18 CFR allows that designation.
- Whether the Company has 40G ERTs in stock and, if so, will they be written off as obsolete assets.

Until the Company provides this information, the Public Advocate recommends accepting the Company's proposed SSIR revenue requirements and SSIR Charges without the ERT projects. (totaling \$3, 846,675). Blue Ridge recommends the resultant revenue requirement of \$8,850,798, as shown in the table below. (Blue Ridge would reconsider the costs of ERT projects for inclusion if and when the Company supplies the requested information, including any necessary follow-up.)

**Table 3: Adjusted Revenue Requirements**

Line No.	Description	Reference	As Filed	Adjustment	Adjusted
1	Gross Plant - 13 Month Average December 31, 2022		\$ 50,292,721	\$ (591,796)	\$ 49,700,925
2	Accumulated Depreciation - 13 Month Avg December 31, 2022		(746,789)	1,513	(745,276)
3	ADIT Pro Rated (net of 190 and 282)		(485,750)	4,780	(480,969)
4	Total Rate Base		\$ 49,060,182	\$ (585,503)	\$ 48,474,679
5	Weighted Average Cost of Capital		6.71%	0.00%	6.71%
6	Return on Rate Base	Line 4 x Line 5	\$ 3,289,485	\$ (39,258)	\$ 3,250,227
7	Income Tax Expense		\$ 869,365	\$ (10,375)	\$ 858,990
8	Depreciation Expense		1,040,158	(13,111)	1,027,048
9	Property Tax Expense	Line 1 x 0.0057	286,669	(3,373)	283,295
10	Total Operating Expense		\$ 2,196,192	\$ (26,859)	\$ 2,169,333
11	Revenue Requirement	Line 6 + Line 7	\$ 5,485,677	\$ (66,117)	\$ 5,419,560
12	Plus: Data Integrity Improvement Project (DIIP) Expense		3,431,238	-	3,431,238
13	Revenue to be Collected in 2022	Line 11 + Line 13	\$ 8,916,915	\$ (66,117)	\$ 8,850,798

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## **OVERVIEW OF INVESTIGATION**

### **BACKGROUND**

On May 1, 2014, SourceGas Distribution LLC, Golden, Colorado (“SourceGas” or “Company”) filed an application with the Nebraska Public Service Commission (“Commission”) seeking approval to put into effect a system safety and integrity rider (SSIR) tariff and system safety and integrity rider charge. The Company’s application requested to adjust the Customer Charge applicable to all customers served under Rate Schedule CGS (Choice Gas Service) and Rate Schedule ACGS-NSS (Agricultural Choice Gas Service – Non-Seasonal Service) to recover certain system safety and integrity costs outside the context of a general rate case.

On October 28, 2014, the Commission issued an Order approving in part the Company’s request for an SSIR. The Commission approved the SSIR with certain modifications and conditions. In addition to providing for a more formal review process, the Order required that SourceGas file a general rate case every sixty (60) months, pay interest to ratepayers on any over collection of SSIR revenues, and make quarterly surveillance filings. Finally, in the Order, the Commission found that should SourceGas implement the SSIR charge, the utility would not file a general rate case prior to January 1, 2017.

On October 31, 2014, SourceGas filed SourceGas Distribution’s Nineteenth Revised Tariff Sheet No. 7, which reflected the addition of the Safety and Integrity Charge in SourceGas’s rates effective November 1, 2014.

In light of additional technical conferences and motions to reconsider, the SSIR was ultimately approved under the following provisions:

1. SourceGas must not file a general rate case prior to January 1, 2016.
2. A general rate case application pursuant to §66-1838 must be filed at least every sixty (60) months.
3. Future applications shall be filed no later than October 1 to allow for a more formalized review process and in order for a surcharge to be effective by February 1 of the following year.
4. All future SSIR filings will be made in the present docket.
5. SourceGas should file the final reconciliation calculations on or before October 1 annually.
6. Reconciliation calculations should include interest on any over-collection or under-collection of SSIR revenue.
7. SourceGas must file quarterly surveillance filings within sixty (60) days of the end of each quarter. Such filing shall include calculations of the rate base separated into regular and SSIR components, the realized rates of return on the rate base components, along with supporting calculations. Additionally, the filing should include an update regarding the status of the SSIR project costs, in service dates, and expected schedule over the ensuing duration of the SSIR.
8. No limit on the SSIR charge was implemented at this time. However, the Commission may impose a limit should the Commission find that the requested surcharge is of such a magnitude as to not be in the best interest of the ratepayers.
9. SourceGas may file an SSIR application for 2015 costs on or before November 20, 2014, with an implementation date of February 1, 2015. The filing will require a more limited

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review to ensure that the projects and associated costs are eligible and the calculations are accurate.

On February 12, 2016, Black Hills Nebraska Gas, LLC, d/b/a Black Hills Energy (BHE or “Company”) acquired SourceGas. BHE applied for renewal of the existing System Safety and Integrity Rider (SSIR).

On January 26, 2021, in Docket NG-109, the Commission entered an order approving a general rate increase for BHE and approved a stipulation reached between BHE and the Public Advocate renewing the SSIR for a period of five years. The Stipulation included the following language related to the SSIR.

**37. SSIR Renewal, Modification, and Statewide Expansion.**

The Parties agree that (1) the System Safety and Integrity Rider (“SSIR”) mechanism should be renewed for a period of five years, (2) the SSIR mechanism is expanded to cover safety infrastructure projects throughout all of the BH Nebraska Gas rate areas, (3) the Parties will continue to work collaboratively prior to the December 10<sup>th</sup> Technical Conference and continue collaborating prior to BH Nebraska Gas filing its 2022 SSIR application on drafting tariff language, SSIR application and audit requirements, and supporting SSIR projects based on measurable criteria that improve safety and mitigate risk, (4) modify the SSIR’s definition of eligible projects, categories, and criteria as will be agreed upon between the Parties subject to further agreed-upon refinement of the SSIR requirements over the next month and continue the collaboration prior to BH Nebraska Gas filing its 2022 SSIR Application, and (5) unless otherwise permitted by the Commission, the cost of installation or replacement of natural gas pipeline intended primarily to facilitate customer growth requirements, whether for identified or expected customers, will not be eligible for recovery under the SSIR tariff and other similar riders that permit the recovery of investment in capital investment projects that focus on customer safety.

The Parties agree that BH Nebraska Gas may include within the 2021 SSIR Projects the cost of those projects identified in Hearing Exhibit No. BH-JB- 2 (Mr. Bennett’s Direct Testimony Exhibit No. JLB-5 -2021 SSIR Application), with the exception of the four reliability pipeline looping projects identified by the Public Advocate in the Answer testimony of Charles Fijnvandraat. The Parties agree that the cost of the Data Integrity Improvement Program (“DIIP”) may be recovered through the SSIR Charge.

The Parties agree to develop mutually acceptable criteria to more accurately define shallow pipe and obsolete pipe replacements and to establish a defensible basis and measurable criteria to demonstrate which, if any, reliability projects should be SSIR eligible. The Parties commit to finalizing the necessary criteria prior to the filing of the BH Nebraska Gas 2022 SSIR Application.<sup>1</sup>

The System Safety and Integrity Rider (SSIR) Tariff was updated to reflect the Commission’s order following the rate case. Effective March 1, 2021, the tariff was modified to reflect the mutually acceptable criteria to more accurately define shallow pipe and obsolete pipe replacements and

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<sup>1</sup> NG-109 Joint Stipulation and Agreement of Settlement between Black Hills Nebraska, LLC d/b/a Blue Hills Energy and the Public Advocate of Nebraska (October 28, 2020), pages 15–16.

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to establish a defensible basis and measurable criteria to demonstrate which, if any, reliability projects should be SSIR eligible.<sup>2</sup>

The SSIR Tariff also requires the Public Advocate to conduct an examination of the Annual Application. The Public Advocate chose Blue Ridge Consulting Services, Inc. (“Blue Ridge”) to support the examination.

**PURPOSE OF PROJECT**

The purpose of the project is to conduct an examination of BHE’s System Safety and Integrity Rider 2022 program year. Part of the review is to confirm that the underlying actual and projected Eligible System Safety and Integrity Costs (“SSIR revenue requirement”) are in accordance with the SSIR Tariff and to confirm proper calculation of the SSIR True-Up Amount and the Deferred SSIR Balance.

Specifically, the following questions will be answered:

- 1) Are the Company’s processes and controls sufficient so as to not adversely affect the costs of the System Safety and Integrity Recovery Charge?

This task focuses on gaining an understanding of the Company’s processes and controls that impact the plant balances and expense categories within the SSIR to ensure that the cost controls are adequate and not unreasonable so as to impact the underlying costs and calculation of the proposed SSIR cost recovery charge rates and rate schedules.

- 2) Does the application provide the information required by Commission orders and specified in the SSIR Tariff?

This task evaluates whether BHE’s annual application was filed by September 1 and provides the required information.

Specifically, the approved SSIR Tariff requires that the Annual Application include the following:

- Pertinent information and supporting data related to Eligible System Safety and Integrity Costs, including, at a minimum, Project description and scope, Project costs, and projected in-service dates for the Projects budgeted to be completed in the upcoming calendar year
- Details of the Projects costs incurred during the previous calendar year, including an explanation of how the Project costs were managed and any deviations between budgeted and actual costs
- The calculation of the SSIR True-Up Amount, if any
- The calculation of the Deferred SSIR Balance, if any<sup>3</sup>

In addition, as part of its analysis, the Company shall identify and describe the proposed SSIR Projects that are for high-risk gas infrastructure by providing its risk assessment for each such Project, including, if applicable, the probability of failure, the consequences of failure

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<sup>2</sup> BHE SSIR Tariff, Second Revised Sheet Nos. 129 and 129.1 (March 1, 2021).

<sup>3</sup> BHE SSIR Tariff, First Revised Sheet No. 128, A, i-iv (September 1, 2020).

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for the Project, and how the Company prioritized the SSIR Project for which it seeks recovery.<sup>4</sup>

3) Are the System Safety and Integrity Projects eligible for recovery?

This task evaluates each of the Projects that BHE has included within its application against Commission orders and the SSIR Tariff to determine eligibility for recovery through the SSIR. Specific transactional testing criteria will be established to validate eligibility of the project and its associated costs.

The specific criteria for eligibility as an SSIR Project are set out in the SSIR Tariff at Second Revised Sheet Nos. 129-129.1 and generally include projects involving the Company's Transportation Integrity Management Program and the Company's Distribution Integrity Management Program as well as compliance with PHMSA rules and regulations and facility relocations required by entities possessing the power of eminent domain.

The SSIR Tariff further states that projects eligible for recovery under the SSIR Tariff generally include these types:

- i. Replacement of Bare Steel Distribution Mains
- ii. Replacement of High-Risk Transmission Pipelines
- iii. Replacement of Service Lines
- iv. Installation of Barricades to Protect At-Risk Meter, Regulator, and Valve settings
- v. Cathodic Protection and Corrosion Prevention
- vi. Town Boarder Station Upgrades or Replacements
- vii. Top of Ground, Shallow (less than three feet cover and posing risk) and Exposed Pipe
- viii. At-Risk Meter Relocations and Inside Meter Relocations with Replacement of Meter as part of a capital activity
- ix. Obsolete Infrastructure (e.g., PVC Pipe posing risk or the removal of which provides ancillary benefits supported by risk model analysis and results)
- x. Required Facility Relocations
- xi. Data Infrastructure Improvement Program

The SSIR Tariff further provides that the Company "shall use three distinct risk models corresponding to the TIMP, DIMP, and the At-Risk Meter Relocation (ARMR) Program. All three models shall use objective and external factors and provide scores that correlate to proactive analysis of system risk.<sup>5</sup>

"In addition to the risk models, the Company shall consider other criteria, such as the availability of internal and external crews; project management constraints; local economic development plans; customer inconvenience and impact; other specific regulatory requirements; threat assessment; corrosion control analysis; pipeline vintage; pipeline material; pipeline design and class location; pipeline configuration and segmentation; pipeline system constraints; pipeline replacement history; population density; pipeline maintenance and internal inspection history; pipeline piggability; existence and reliability of pipeline asset and testing records; pipeline leakage and other incident history; subject matter expert knowledge; Project timeframe; weather and climate constraints on the construction season; permitting constraints; probability of pipeline testing failures and

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<sup>4</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, C (September 1, 2020).

<sup>5</sup> BHE SSIR Tariff, Second Revised Sheet Nos. 129 and 129.1, Definitions, C (March 1, 2021).

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dewatering constraints; service outage management; and pipeline source of supply and availability of alternate gas supply.

“As part of the analysis, the Company shall identify and describe the proposed SSIR Projects that are for high-risk gas infrastructure by providing its risk assessment for each such SSIR Project, including, if applicable, the probability of failure, the consequences of failure for the SSIR Project, and how the Company prioritized the SSIR Project for which it seeks recovery.”<sup>6</sup>

- 4) Is the revenue requirement associated with the Eligible System Safety and Integrity Costs requested by BHE in compliance with Commission orders and as specified in the SSIR Tariff?

This task reviews the components and calculations used by BHE to determine its revenue requirement associated with recovery of the Eligible System Safety and Integrity Costs against what is required in Commission orders and the SSIR Tariff.

Specifically, the SSIR Tariff states that Eligible System Safety and Integrity Costs means (1) a return, at a percentage equal to the Company’s currently authorized weighted average cost of capital grossed up for taxes, on the projected increase in the jurisdictional component of the month ending net plant in-service balances associated with the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect, exclusive of all plant in-service included in the determination of the revenue requirement approved in the Company’s last general rate case; (2) the plant-related ownership costs associated with such incremental plant investment, including depreciation, accumulated deferred income taxes, and all taxes including income taxes and property taxes; and (3) the projected jurisdictional component of the operation and maintenance expenses related to the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect.<sup>7</sup>

The return and income taxes and plant related costs associated with improvements or upgrades to facilities, made at the discretion of the Company to extend service or for future growth that is not specifically required by statute or regulation, shall be excluded from Eligible System Safety and Integrity Costs.<sup>8</sup>

- 5) Is the System Safety and Integrity Rider Charge calculated in compliance with Commission orders and as specified in the SSIR Tariff?

This task reviews the components and calculations of the System Safety and Integrity Rider Charge to determine whether they comply with Commission orders and as specified in the SSIR Tariff.

Specifically, the System Safety and Integrity Rider Charge shall be equal to the Eligible System Safety and Integrity Costs, plus or minus the SSIR True-Up Amount, plus or minus the Deferred SSIR Balance, multiplied by the customer class allocation basis authorized by the Commission to determine the class cost of service in the Company’s most recent general rate case, divided by the applicable number of bills for the particular customer class, as follows:<sup>9</sup>

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<sup>6</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, C (September 1, 2020).

<sup>7</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, B (September 1, 2020).

<sup>8</sup> BHE SSIR Tariff, First Revised Sheet No. 128–129, Definitions, B (September 1, 2020).

<sup>9</sup> BHE SSIR Tariff, First Revised, Sheet Nos. 130–131, Section “SSIR Adjustment Calculation,” A (September 1, 2020).

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System Safety and Integrity Rider Charge =  $((A \pm B \pm C) * D) / E$

Where:

A = Eligible System and Safety and Integrity Costs

B = SSIR True-Up Amount

C = Deferred SSIR Balance

D = Customer class allocation basis authorized by the Commission to determine the class cost of service in the Company's most recent general rate case

E = Applicable number of bills for the particular customer class

The SSIR True-Up Amount shall be equal to the difference, positive or negative, between the Eligible System Safety and Integrity Costs as projected for a particular calendar year and the actual Eligible System Safety and Integrity Costs incurred by the Company for that particular calendar year, plus monthly interest calculated on that difference at a rate equal to the then current rate of interest on pipeline refunds established by the Federal Energy Regulatory Commission.<sup>10</sup>

The Deferred SSIR Balance shall be equal to the balance, positive or negative, of SSIR revenues at the end of a particular calendar year less the Eligible System Safety and Integrity Costs as projected by the Company for that particular calendar year, plus monthly interest calculated on that balance at a rate equal to the then current rate of interest on pipeline refunds established by the Federal Energy Regulatory Commission.<sup>11</sup>

The calculated rate shall be an adjustment to the Customer Charge applicable to the Company's Jurisdictional Residential, Commercial, and Commercial—EO customers.<sup>12</sup>

Whenever the Company implements changes in base rates as a result of a final Commission order in a general rate case setting new rates based on approved revenue requirements, the Company shall simultaneously adjust the SSIR to remove all costs that have been included in base rates.<sup>13</sup>

- 6) Is the amount and timing of the System Safety and Integrity Rider Charge request within the limits established by the Commission?

This task compares the amount and timing of BHE's System Safety and Integrity Rider Charge request to the limits established by the Commission.

Each proposed revision in the System Safety and Integrity Rider Charge shall be accomplished by filing an application by September 1 of each year to take effect on the following January 1 (the "Annual Application").<sup>14</sup>

The Company shall not make effective any revision to the System Safety and Integrity Rider Charge that includes the addition of new SSIR Projects not previously recovered through the SSIR Charge if the Company has not had a general rate proceeding decided or dismissed by

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<sup>10</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, D (September 1, 2020).

<sup>11</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, Item A (September 1, 2020).

<sup>12</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section "SSIR Adjustment Calculation," B (September 1, 2020).

<sup>13</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section "SSIR Adjustment with Changes in Base Rates, (September 1, 2020).

<sup>14</sup> BHE SSIR Tariff, First Revised, Sheet No. 127, Section "Annual Application and Quarterly Surveillance Filings," A. (September 1, 2020).

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issuance of a Commission order within sixty months immediately preceding the date upon which the revision to the System Safety and Integrity Rider Charge otherwise would take effect.<sup>15</sup>

The Company shall continue to make annual revisions to the SSIR Charge to reflect appropriate true-ups and adjustments to the calculations, consistent with the other provisions contained in the System Safety and Integrity Rider Tariff, for each year that the Company is allowed to collect the SSIR Charge.<sup>16</sup>

- 7) What is the appropriate level of recovery of the System Safety and Integrity Rider Charge?

This task accumulates Blue Ridge's recommended adjustments and provides a revised level of recovery for the Commission's consideration, if necessary.

- 8) Did the Company timely file the annual surveillance filing with the required information in compliance with Commission orders?

This task confirms that BHE timely filed the annual surveillance filings with the required information.

Specifically, BHE must file annual surveillance filings within sixty (60) days of the end of the calendar year. The filings shall include calculations of the rate base separated into regular and SSIR components, the realized rates of return on the rate base components and supporting calculations. Additionally, the filing shall include an update regarding the status of the current calendar year's SSIR project costs, projected in-service dates, and expected schedule over the remainder of the calendar year.<sup>17</sup>

## **PROJECT SCOPE**

The project scope includes the application filed by Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy on August 2, 2021: *Re: In the Matter of the Application of Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy seeking approval of a 2022 System Safety & Integrity Rider Charge*, Docket No. NG-112.1. The Application includes the 2022 proposed projects.

This application does not contain the reconciliation calculations that will be part of future filings. This review will be limited to ensuring that the proposed 2022 projects and associated costs are eligible and the calculations are accurate.

## **INFORMATION REVIEWED**

Blue Ridge reviewed the following information and has included electronic copies within Appendix A:

- 1) State Natural Gas Regulation Act §§ 66-1810, 66-1825 and 66-1838
- 2) Nebraska Administrative Code Title 291, Chapter 9 – Nebraska Public Service Commission
- 3) Docket No. NG-109 [Last Base Rate Case]

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<sup>15</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section ""SSIR Adjustment with Changes in Base Rates, (September 1, 2020).

<sup>16</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section ""SSIR Adjustment with Changes in Base Rates, (September 1, 2020).

<sup>17</sup>BHE SSIR Tariff, First Revised Sheet No. 128, Item D (September 1, 2020).



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- a. Hearing Exhibit No. BH-JB- 2 (Mr. Bennett’s Direct Testimony Exhibit No. JLB-5-2021 SSIR Application)
- b. Public Advocate Answer Testimony of Charles Fijnvandraat, page 10 [excluded four reliability pipeline looping projects]

**Table 4: NG-109 Excluded Reliability Pipeline Looping Projects<sup>18</sup>**

Line No.	Project #	Project Name	Criteria	Project Category / Account Allocator	In Service Date	Total Company Project Amount
87	FP.10063929	10063929-Giles to Valaretta Drive (system loop)	Reliability	Loops	21-Aug	\$127,760
88	FP.10064514	10064514-Hwy 31 & Giles DRS (system loop/bolster)	Reliability	Loops	21-Aug	\$120,000
89	FP.10072085	10072085-Columbus Capacity Loop	Reliability	Loops	21-Aug	\$40,600
90	FP.10072131	10072131-David City Capacity Loop	Reliability	Loops	21-Aug	\$121,000

- c. Joint Stipulation and Agreement of Settlement Between Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy and the Public Advocate of Nebraska (October 28, 2020)
  - d. Order Approving Stipulation and Settlement Agreement (January 26, 2021) [
- 4) Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy, Nebraska Natural Gas Tariff, filled with the Nebraska Public Service Company

During the audit process, Blue Ridge requested and was provided additional information. A list of the data requested is included as Appendix C. Electronic copies of the information obtained is also provided with this report.

## **OBSERVATIONS, FINDINGS, AND RECOMMENDATIONS**

This section documents Blue Ridge’s analysis regarding these System Safety and Integrity Rider and the evaluation questions identified under the Purpose of the Project section:

- 1) Are the Company’s processes and controls sufficient so as to not adversely affect the costs of the System Safety and Integrity Recovery Charge?
- 2) Does the application provide the information required by Commission orders and specified in the SSIR Tariff?
- 3) Are the System Safety and Integrity Projects eligible for recovery?
- 4) Is the revenue requirement associated with the Eligible System Safety and Integrity Costs requested by BHE in compliance with Commission orders and as specified in the SSIR Tariff?
- 5) Is the System Safety and Integrity Rider Charge calculated in compliance with Commission orders and as specified in the SSIR Tariff?
- 6) Is the amount and timing of the System Safety and Integrity Rider Charge request within the limits established by the Commission?

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<sup>18</sup> NG-109, Exhibit JLB-5, page 70.

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- 7) What is the appropriate level of recovery of the System Safety and Integrity Rider Charge?
- 8) Did the Company timely file the annual surveillance filing with the required information in compliance with Commission orders?

**1. PROCESSES AND CONTROLS**

1) Are the Company's processes and controls sufficient so as to not adversely affect the costs of the System Safety and Integrity Recovery Charge?
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This task focuses on gaining an understanding of the Company's processes and controls that impact the plant balances and expense categories within the SSIR to ensure that the cost controls are adequate and not unreasonable so as to impact the underlying costs and calculation of the proposed SSIR cost recovery charge rates and rate schedules.

To address this task, Blue Ridge first reviewed the work performed in its examination in the several audit reports submitted under Docket NG-0078, which preceded and informed the NG-112 renewal. Blue Ridge also requested and received policies and procedures for the identification and categorization of SSIR projects as well as the development of the SSIR.<sup>19</sup>

The Company stated that eligible projects must meet one of the following criteria: (1) complying with TIMP, (2) complying with DIMP, (3) complying with PHMSA regulations, or (4) facility relocations over \$20,000. In addition, the SSIR Application is broken down into the following categories:

1. Bare Steel Distribution
2. Transmission pipelines
3. Barricades
4. Cathodic Prevention and Corrosion Prevention
5. Town Border Stations
6. Top-of-Ground, Shallow, and Exposed pipe
7. At-Risk and Inside Meter Relocations
8. Obsolete Infrastructure
9. Facility Relocations
10. Data Infrastructure Improvement Program

The Company explained that the SSIR projects are developed through a collaboration among the Company's Pipeline System Integrity Engineers, BH Nebraska Operations, and Regulatory and Finance teams. Using historical records in conjunction with previous years' data, risk analysis and scoring is performed using the Company's risk models. From the results of this analysis, pipeline segments are scored and at-risk meter scoring are developed through Geospatial Information System (GIS). These results are then validated and reviewed through state-level meetings. Projects are then developed and run through a segmentation process to address the highest consequence first. It is through these steps that the Pipeline System Integrity team works with Operations to identify and develop SSIR Projects. The results of the process are reviewed through meetings annually.

The Company's processes and controls were found to be adequate and not unreasonable.

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<sup>19</sup> BHE response to SSIR 2022 PA-18.

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**2. REQUIRED INFORMATION**

2) Does the application provide the information required by Commission orders and specified in the SSIR Tariff?

This task evaluates whether BHE’s annual application was filed by September 1 and provides the required information.

**Requirement:** BHE filed its annual application on or before September 1.

Blue Ridge found that the Company filed its application on August 2, 2021.

**Requirement:** The approved SSIR Tariff requires that the Annual Report include pertinent information and supporting data related to Eligible System Safety and Integrity Costs, including, at a minimum, Project description and scope, Project costs, and projected in-service dates for the Projects budgeted to be completed in the upcoming calendar year<sup>20</sup>

The Company’s Application includes 77 projects (68 capital projects and nine DIIP projects) for 2022. Blue Ridge found that the Company provided project descriptions and scope, estimated project costs, and projected in-service dates for the 68 capital projects and nine DIIP projects.

The nine DIIP projects did not include in-service dates within the Application, but the Company provided additional information upon request.<sup>21</sup> In-service dates for these types of projects tend to be variable and are frequently phased into service as specific blocks of work become used and useful. The data related to the project will be readily available for employees to use while work continues on the remainder of the project. The estimated completion dates for the DIIP projects are provided below:

- Transmission/Gathering TVC Records—12/31/23
- Gas Service Card Mapping—12/31/22
- Distribution Main & Service Centerline Survey—12/31/26
- Distribution Data Attribute Improvement—12/31/26
- GIS Pressure Systems—12/31/23
- GIS Emergency Response Zones—12/31/24
- GIS CP Zones—12/31/26
- Document Management Migration—12/31/22

Several DIIP projects are multi-year and will be continued from a prior year. The following projects are two-year projects:

- Transmission/Gathering TVC Records
- Gas Service Card Mapping
- GIS CP Zones

The following DIIP projects are five-year projects:

- Transmission/Gathering TVC Records
- Gas Service Card Mapping

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<sup>20</sup> BHE SSIR Tariff, First Revised Sheet No. 128, A, i-iv (September 1, 2020).

<sup>21</sup> BHE response to SSIR 2022 PA-24.

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**Requirement:** The Annual Application shall include details of the Projects' costs incurred during the previous calendar year, including an explanation of how the Project costs were managed and any deviations between budgeted and actual costs.<sup>22</sup>

Blue Ridge found that the Company's Application includes the 2022 projected Projects, and the analysis of budgeted versus actual costs is not applicable. The budgeted versus actual costs will be provided in the October 1, 2022, filing.

**Requirement:** The Annual Application shall include the calculation of the SSIR True-Up Amount, if any.<sup>23</sup>

Blue Ridge found that the Company's Application included a placeholder for future SSIR True-Up Amounts. Future filings will include true ups based on customer bills, capital revenue requirements costs and DIIP costs.

**Requirement:** The Annual Application shall include the Calculation of the Deferred SSIR Balance, if any.<sup>24</sup>

Blue Ridge found that the Company's Application includes the 2022 projected Projects. The October 1, 2022, filing is expected to include any Deferred SSIR Balance.

**Requirement:** As part of its analysis, the Company shall identify and describe the proposed SSIR Projects that are for high-risk gas infrastructure by providing its risk assessment for each such Project, including, if applicable, the probability of failure, the consequences of failure for the Project, and how the Company prioritized the SSIR Project for which it seeks recovery.<sup>25</sup>

Blue Ridge found as part of our Project testing, discussed in the Eligibility of Projects section of this report, the Company provided the required information on the 77 projects included within the Company's Application.

### **3. ELIGIBILITY OF PROJECTS**

3) Are the System Safety and Integrity Projects eligible for recovery?
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This task evaluates each of the Projects that BHE has included within its application against Commission orders and the SSIR Tariff to determine eligibility for recovery through the SSIR. Specific transactional testing criteria were established to validate eligibility of the projects and their associated costs. This section also summarizes testing completed to confirm specific requirements addressed in other sections, such as required information and the exclusion of betterments.

**Requirement:** As stated in the SSIR Tariff, Eligible System Safety and Integrity Projects are one or more of the following:

1. TIMP: Projects to comply with Code of Federal Regulations Title 49 (Transportation), Part 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards), Subpart O (Gas Transmission Pipeline Integrity Management), including Projects in accordance with the Company's transmission integrity management program

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<sup>22</sup> BHE SSIR Tariff, First Revised Sheet No. 128, A, i-iv (September 1, 2020).

<sup>23</sup> BHE SSIR Tariff, First Revised Sheet No. 128, A, i-iv (September 1, 2020).

<sup>24</sup> BHE SSIR Tariff, First Revised Sheet No. 128, A, i-iv (September 1, 2020).

<sup>25</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, C (September 1, 2020).

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(TIMP) and Projects in accordance with State enforcement of Subpart O and the Company's TIMP

2. DIMP: Projects to comply with Code of Federal Regulations Title 49 (Transportation), Part 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards), Subpart P (Gas Distribution Pipeline Integrity Management), including Projects in accordance with the Company's distribution integrity management program (DIMP) and Projects in accordance with State enforcement of Subpart P and the Company's DIMP
3. PHMSA: Projects to comply with final rules and regulations of the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration that become effective on or after the filing date of the Application requesting approval of this SSIR
4. Relocations: Facility relocation projects with a per-Project total cost of \$20,000 or more, exclusive of all costs that have been, are being, or will be reimbursed otherwise, that are required due to construction or improvement of a highway, road, street, public way, or other public work by or on behalf of the United States, the State of Nebraska, a political subdivision of the State of Nebraska, or another entity having the power of eminent domain<sup>26</sup>

The SSIR Tariff further states that the following type projects are generally eligible for recovery under the SSIR Tariff:

- i. Replacement of Bare Steel Distribution Mains
- ii. Replacement of High-Risk Transmission Pipelines
- iii. Replacement of Service Lines
- iv. Installation of Barricades to Protect At-Risk Meter, Regulator, and Valve settings
- v. Cathodic Protection and Corrosion Prevention
- vi. Town Boarder Station Upgrades or Replacements
- vii. Top of Ground, Shallow (less than three feet cover and posing risk) and Exposed Pipe
- viii. At-Risk Meter Relocations and Inside Meter Relocations with Replacement of Meter as part of a capital activity
- ix. Obsolete Infrastructure (e.g., PVC Pipe posing risk or the removal of which provides ancillary benefits supported by risk model analysis and results)
- x. Required Facility Relocations
- xi. Data Infrastructure Improvement Program

The Company shall use three distinct risk models corresponding to the TIMP, DIMP, and the At-Risk Meter Relocation (ARMR) Program. All three models shall use objective and external factors and provide scores that correlate to proactive analysis of system risk.<sup>27</sup>

In addition to the risk models, the Company shall consider other criteria, such as the availability of internal and external crews; project management constraints; local economic development plans; customer inconvenience and impact; other specific regulatory requirements; threat assessment; corrosion control analysis; pipeline vintage; pipeline material; pipeline design and class location; pipeline configuration and segmentation; pipeline system constraints; pipeline replacement history; population density; pipeline maintenance and internal inspection history; pipeline piggability; existence and reliability of pipeline asset and testing records; pipeline leakage and other incident history; subject

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<sup>26</sup> Docket No. NG-0112, SSIR Tariff issued on June 1, 2020, Sheet No. 129, Section "Definitions."

<sup>27</sup> BHE SSIR Tariff, Second Revised Sheet Nos. 129 and 129.1, Definitions, C (March 1, 2021).

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matter expert knowledge; Project timeframe; weather and climate constraints on the construction season; permitting constraints; probability of pipeline testing failures and dewatering constraints; service outage management; and pipeline source of supply and availability of alternate gas supply.<sup>28</sup>

Description of Projects

The Company provided a narrative describing the 2022 SSIR Projects. The Company identified 12 types of projects, totaling \$54,528,161, and provided background, classification under the SSIR Tariff, objective criteria analyzed, project description, and the specific projects. The following list includes the 12 types of projects, number of projects, and total cost by type:

1. Meter Relocations—eight projects totaling \$21,918,625
2. Replacement of Bare Steel Distribution Main—two projects totaling \$2,500,000
3. Town Border Stations—33 projects totaling \$1,541,625
4. MEGA Rule Projects—four projects totaling \$520,800
5. Obsolete Pipe Replacement—four projects totaling \$3,931,710
6. Top of Ground (TOG), Span, Shallow and Exposed Pipe Replacement—Seven projects totaling \$15,275,097
7. Obsolete Infrastructure—10 projects totaling \$4,858,304
8. Replacement of Transmission Pipeline—no projects or costs included
9. Barricades—no projects or costs included
10. Cathodic Protection and Corrosion Prevention—no projects or costs included
11. Facility Relocation Projects—no costs included
12. Date Infrastructure Improvement Program (DIIP)—nine projects totaling \$3,982,000

The Company's Application includes 77 (68 capital projects and nine DIIP projects) projects for 2022.

A modified excerpt from the Company's application listing the 2022 proposed projects by type is provided in the following table.

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<sup>28</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, C (September 1, 2020).

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**Table 5: 2022 Projects Sorted by Type<sup>29</sup>**

Line No.	Category	Project #	Project Name	Criteria	In-Service	Year	Actual/Forecast	Jurisdictional Totals	Non-Jurisdictional Totals	Costs
1	Meter Relocation	10077450	10077450: ARMR - Holdrege	DIMP	11/30/22	2022	Forecast	\$1,980,608	\$101,472	\$2,082,080
2		10077458	10077458: ARMR - Kearney	DIMP	11/30/22	2022	Forecast	\$2,294,419	\$117,549	\$2,411,968
3		10077472	10077472: ARMR - McCook	DIMP	11/30/22	2022	Forecast	\$1,419,349	\$72,718	\$1,492,067
4		10077433	10077433: ARMR - Albion	DIMP	11/30/22	2022	Forecast	\$288,089	\$14,759	\$302,848
5		10077444	10077444: ARMR - Columbus	DIMP	11/30/22	2022	Forecast	\$1,731,618	\$88,715	\$1,820,333
6		10077462	10077462: ARMR - Lincoln	DIMP	11/30/22	2022	Forecast	\$10,084,124	\$516,638	\$10,600,762
7		10077439	10077439: ARMR - Alliance	DIMP	11/30/22	2022	Forecast	\$615,789	\$31,549	\$647,338
8		10077490	10077490: ARMR - Scottsbluff	DIMP	11/30/22	2022	Forecast	\$2,436,405	\$124,824	\$2,561,229
<b>Meter Relocation Total</b>										<b>\$21,918,625</b>
9	Replacement of Bare Steel Distribution Main	10077475	10077475: Bare Steel - Norfolk	DIMP	11/1/22	2022	Forecast	\$1,821,882	\$368,118	\$2,190,000
10		10077461	10077461: Bare Steel-Lincoln	DIMP	11/1/22	2022	Forecast	\$257,893	\$52,107	\$310,000
<b>Replacement of Bare Steel Distribution Main Total</b>										<b>\$2,500,000</b>
11	Town Border Station (TBS)	10077477	10077477: Line Heater - Norfolk	TIMP	11/1/22	2022	Forecast	\$3,794	\$1,378	\$5,172
12		10077430	10077430: Line Heater - Albion	TIMP	11/1/22	2022	Forecast	\$6,701	\$2,436	\$456
13		10077430	10077430: Line Heater - Albion	TIMP		2022	Forecast	\$6,701	\$2,436	
14		10077430	10077430: Line Heater - Albion	TIMP		2022	Forecast	\$6,701	\$2,436	
15		10077448	10077448: Line Heater - Holdrege	TIMP		2022	Forecast	\$6,701	\$2,436	
16		10077448	10077448: Line Heater - Holdrege	TIMP		2022	Forecast	\$6,701	\$2,436	
17		10077448	10077448: Line Heater - Holdrege	TIMP		2022	Forecast	\$6,701	\$2,436	
18		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
19		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
20		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
21		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
22		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
23		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$6,701	\$2,436	
24		10077469	10077469: Line Heater - McCook	TIMP		2022	Forecast	\$6,701	\$2,436	
25		10077477	10077477: Line Heater - Norfolk	TIMP		2022	Forecast	\$6,701	\$2,436	
26		10077499	10077499: Line Heater - Sutton	TIMP		2022	Forecast	\$6,701	\$2,436	
27		10077499	10077499: Line Heater - Sutton	TIMP		2022	Forecast	\$6,701	\$2,436	
28		10077499	10077499: Line Heater - Sutton	TIMP		2022	Forecast	\$6,701	\$2,436	
29		10077499	10077499: Line Heater - Sutton	TIMP		2022	Forecast	\$6,701	\$2,436	
30		10077499	10077499: Line Heater - Sutton	TIMP		2022	Forecast	\$6,701	\$2,436	
31		10077430	10077430: Line Heater - Albion	TIMP	11/1/22	2022	Forecast	\$42,208	\$15,342	\$259
32		10077430	10077430: Line Heater - Albion	TIMP		2022	Forecast	\$42,208	\$15,342	
33		10077430	10077430: Line Heater - Albion	TIMP		2022	Forecast	\$42,208	\$15,342	

<sup>29</sup> NEPA NG-112 SSIR Project Matrix Final.xlsx.

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Line No.	Category	Project #	Project Name	Criteria	In-Service	Year	Actual/Forecast	Jurisdictional Totals	Non-Jurisdictional Totals	Costs
34		10077430	10077430: Line Heater - Albion	TIMP		2022	Forecast	\$42,208	\$15,342	
35		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$42,208	\$15,342	
36		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$42,208	\$15,342	
37		10077456	10077456: Line Heater - Kearney	TIMP		2022	Forecast	\$42,208	\$15,342	
<b>Town Border Station (TBS) Total</b>										<b>\$5,887</b>
38	MEGA Rule Projects		MEGA RULE - MAOP Reconfirmation - Bartley	TIMP	11/30/22	2022	Forecast	\$14,414	\$11,386	\$25,800
39			MEGA RULE - MAOP Reconfirmation - Fullerton	TIMP	11/30/22	2022	Forecast	\$139,665	\$110,335	\$250,000
40			MEGA RULE - MAOP Reconfirmation - Lexington	TIMP	11/30/22	2022	Forecast	\$103,352	\$81,648	\$185,000
41			MEGA RULE - MAOP Reconfirmation - Ord	TIMP	11/30/22	2022	Forecast	\$33,520	\$26,480	\$60,000
<b>MEGA Rule Projects Total</b>										<b>\$520,800</b>
42	Obsolete Pipe Replacement	10075257N - Scottsbluff 4	10075257N - Scottsbluff 4: Chappell South	DIMP	11/30/22	2022	Forecast	\$271,964	\$54,952	\$326,916
43		10077520	10077520: PVC - York (SG)	DIMP	11/30/22	2022	Forecast	\$1,223,842	\$247,280	\$1,471,122
44		10077520	10077520: PVC - York (SG)	DIMP	11/30/22	2022	Forecast	\$913,803	\$184,635	\$1,098,438
45		10077520	10077520: PVC - York (SG)	DIMP	11/30/22	2022	Forecast	\$861,223	\$174,011	\$1,035,234
<b>Obsolete Pipe Replacement Total</b>										<b>\$3,931,710</b>
46	Top of Ground (TOG), Span, Shallow and Exposed Pipe Replacement	10077446	10077446: TOG - Holdrege	DIMP	11/30/22	2022	Forecast	\$2,027,153	\$409,594	\$2,436,747
47		10077446	10077446: TOG - Holdrege	DIMP	11/30/22	2022	Forecast	\$4,371,222	\$883,218	\$5,254,440
48		10075105N	10075105N: TOG Trans - Holdrege - 12 Edison	TIMP	11/30/22	2022	Forecast	\$728,537	\$147,203	\$875,740
49		10077453	10077453: TOG - Kearney	DIMP	11/30/22	2022	Forecast	\$1,482,571	\$299,560	\$1,782,131
50		10075111N	10075111N: TOG Trans - Kearney - 15 Upland	TIMP	11/30/22	2022	Forecast	\$2,094,543	\$423,210	\$2,517,753
51		10077453	10077453: TOG - Kearney	DIMP	11/30/22	2022	Forecast	\$1,912,411	\$386,407	\$2,298,818
52		10077474	10077474: TOG Trans - McCook	TIMP	11/30/22	2022	Forecast	\$91,066	\$18,402	\$109,468
<b>Top of Ground (TOG), Span, Shallow and Exposed Pipe Replacement Total</b>										<b>\$15,275,097</b>
53	Town Border Station (TBS)	10077493	10077493: TBS Replacement - Sidney	DIMP	11/30/22	2022	Forecast	\$91,677	\$33,323	\$125,000
54		10077493	10077493: TBS Replacement - Sidney	DIMP	11/30/22	2022	Forecast	\$91,677	\$33,323	\$125,000
55		10077455	10077455: TBS Replacement - Kearney	DIMP	11/30/22	2022	Forecast	\$121,013	\$43,987	\$165,000
56		10077455	10077455: TBS Replacement - Kearney	DIMP	11/30/22	2022	Forecast	\$121,013	\$43,987	\$165,000
57		10077455	10077455: TBS Replacement - Kearney	DIMP	11/30/22	2022	Forecast	\$121,013	\$43,987	\$165,000
58		10077438	10077438: TBS Replacement - Alliance	DIMP	11/30/22	2022	Forecast	\$157,685	\$57,315	\$215,000
<b>Town Border Station (TBS) Total</b>										<b>\$960,000</b>
59	Obsolete Infrastructure	10075199N	10075199N: Chart Replacements - McCook		11/30/22	2022	Forecast	\$9,097	\$1,468	\$10,565
60		10075200N	10075200N: Chart Replacements - Holdrege		11/30/22	2022	Forecast	\$15,365	\$2,479	\$17,844



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Line No.	Category	Project #	Project Name	Criteria	In-Service	Year	Actual/Forecast	Jurisdictional Totals	Non-Jurisdictional Totals	Costs
61		10075203N	10075203N: Chart Replacements - Omaha		11/30/22	2022	Forecast	\$164,429	\$26,537	\$190,966
62		10075255N	10075255N: Chart Replacements - Lincoln		11/30/22	2022	Forecast	\$141,253	\$22,797	\$164,050
63		10075287N	10075287N: Chart Replacements - Scottsbluff		11/30/22	2022	Forecast	\$15,934	\$2,572	\$18,506
64		10077436	10077436: Chart Replacements - Albion		11/30/22	2022	Forecast	\$25,850	\$4,172	\$30,022
65		10075279N	10075279N: LSG ERT Upgrade - SCOTTSBLUFF		11/30/22	2022	Forecast	\$799,428	\$120,470	\$919,898
66		10075280N	10075280N: LSG ERT Upgrade - MCCOOK		11/30/22	2022	Forecast	\$943,920	\$142,245	\$1,086,165
67		10075281N	10075281N: LSG ERT Upgrade - ALBION		11/30/22	2022	Forecast	\$896,314	\$135,071	\$1,031,385
68		10063950N	10063950N: Lincoln AMI		11/30/22	2022	Forecast	\$1,207,012	\$181,891	\$1,388,903
								<b>Obsolete Infrastructure Total</b>		<b>\$4,858,304</b>
69	Date Infrastructure Improvement Program (DIIP)				N/A					\$1,139,000
70					N/A					\$961,000
71					N/A					\$1,137,000
72					N/A					\$719,000
73										\$0
74										\$0
75										\$0
76										\$0
77					N/A					\$26,000
								<b>Date Infrastructure Improvement Program (DIIP) Total</b>		<b>\$3,982,000</b>
								<b>Grand Total</b>		<b>\$53,952,423</b>

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Project Testing

Each 2022 Project was evaluated based on objective criteria identified as T1 through T9 in the following section.<sup>30</sup> The findings of Blue Ridge’s review against the criteria are summarized below.

T1 Did each Project include the Project description and scope, costs, and in-service date required by the SSIR Tariff and Commission Orders?

November is the target month to have all construction work near or at completion to avoid any weather impacts. Exact in-service dates remain flexible throughout the contractor selection process. Schedule flexibility most-often results in better pricing.<sup>31</sup>

Blue Ridge found that the Company provided the project description, scope, costs, and estimated in-service dates required by the SSIR Tariff and Commission Orders. The actual information is expected to be provided in the October 1 2022, filing.

T2 For the proposed projects that are for high-risk gas infrastructure, did the Company provide a risk assessment, including the probability of failure, the consequence of failure, and how Company prioritized the project for recovery?

Blue Ridge reviewed the project descriptions to determine if risk rankings were provided and can be evaluated once the projects are complete. For sampling purposes, we obtained the Risk Ranking detail used for Town Border Stations (TBS) to understand the selection criteria and to review Risk Ranking scores. We understand the process of how risk-ranking scores are developed and how the portfolio of investments is reviewed among the subject-matter experts.<sup>32</sup> The process used is not unreasonable, and the process is auditable.

Blue Ridge concludes that the Company provided Risk Rankings as objective criteria in the filing where appropriate and in accordance with the SSIR criteria.

T3 Does the project qualify as an eligible System Safety and Integrity Project?

As stated in the SSIR Tariff, Eligible System Safety and Integrity Projects must meet one or more of the following:

1. TIMP: Projects to comply with Code of Federal Regulations Title 49 (Transportation), Part 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards), Subpart O (Gas Transmission Pipeline Integrity Management), including Projects in accordance with the Company’s transmission integrity management program (TIMP) and Projects in accordance with State enforcement of Subpart O and the Company’s TIMP
2. DIMP: Projects to comply with Code of Federal Regulations Title 49 (Transportation), Part 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards), Subpart P (Gas Distribution Pipeline Integrity Management), including Projects in accordance with the Company’s distribution integrity management program (DIMP) and Projects in accordance with State enforcement of Subpart P and the Company’s DIMP

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<sup>30</sup> NEPA NG-112 SSIR Project Matrix Final.xlsx.

<sup>31</sup> BHE response to SSIR 2022 PA-19.

<sup>32</sup> BHE response to SSIR 2022 PA-02. PA-03, PA-18, PA-24, PA-27,

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3. PHMSA: Projects to comply with final rules and regulations of the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration that become effective on or after the filing date of the Application requesting approval of this SSIR
4. Relocations: Facility relocation projects with a per-Project total cost of \$20,000 or more, exclusive of all costs that have been, are being, or will be reimbursed otherwise, that are required due to construction or improvement of a highway, road, street, public way, or other public work by or on behalf of the United States, the State of Nebraska, a political subdivision of the State of Nebraska, or another entity having the power of eminent domain

The SSIR Tariff further states, generally, these type projects as eligible for recovery under the SSIR Tariff:

- i. Replacement of Bare Steel Distribution Mains
- ii. Replacement of High-Risk Transmission Pipelines
- iii. Replacement of Service Lines
- iv. Installation of Barricades to Protect At-Risk Meter, Regulator, and Valve settings
- v. Cathodic Protection and Corrosion Prevention
- vi. Town Boarder Station Upgrades or Replacements
- vii. Top of Ground, Shallow (less than three feet cover and posing risk) and Exposed Pipe
- viii. At-Risk Meter Relocations and Inside Meter Relocations with Replacement of Meter as part of a capital activity
- ix. Obsolete Infrastructure (e.g., PVC Pipe posing risk or the removal of which provides ancillary benefits supported by risk model analysis and results)
- x. Required Facility Relocations
- xi. Data Infrastructure Improvement Program

The Company categorized the 77 projects within the 2022 Project List based on the following four qualifications for eligibility:

- DIMP—24 projects included totaling \$41,082,471
- TIMP—34 projects included totaling \$4,605,386
- Obsolete Infrastructure—10 projects included totaling \$4,858,304
- Data Infrastructure Improvement Program—nine projects included totaling \$3,982,000
  - The Company explained that the DIIP is a company-wide initiative for all states in which a regulated Black Hills Energy utility operates. After projects were identified, a schedule was developed prioritizing the projects. Projects were prioritized considering subject matter expert input from the DIIP steering committee as well as considering the integrity risks of assets that the projects will address.<sup>33</sup>

Blue Ridge found that all the projects within the 2022 Project list are eligible for recovery through the SSIR.

- T4 Did the Company properly exclude the cost of Betterments for projects that extended service or for future growth?

The SSIR Tariff states that the return and income taxes and plant-related costs associated with improvements or upgrades to facilities, made at the discretion of the Company to extend service

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<sup>33</sup> BHE response to SSIR 2022 PA-24.

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of for future growth that is not specifically required by statute or regulation, shall be excluded from Eligible System Safety and Integrity Costs.<sup>34</sup>

Blue Ridge found one project that could have extended service or increased throughput due to an increase in replacement pipe size. The Company explained that the increased pipe size was to stay within economical pipe material and lower cost and the project will not extend service or increase throughput.<sup>35</sup> We conclude, subject to review of actual project costs in 2022, that the Company properly excluded the cost of Betterments as none of the 77 projects within the 2022 Project List would have extended service or future growth.

T5 Are the project estimates in sufficient detail and do they include supporting documentation to support estimated costs?

- 19 line heaters are being replaced with catalytic panel heaters at an estimated cost of \$9,137 each, and another seven line heaters are being replaced with water-bath-style line heaters at an estimated cost of \$57,550 each. The Company explained that heater types are determined by the pressure drop and max flow through the station the heater will serve. Higher pressure drops and flow require bath-style heaters while catalytic heaters are sufficient for lower pressure drops and flow.<sup>36</sup>
- One line heater that costs \$5,172 is to be removed in Winside, NE. The Company explained that this cost represents cost of removal of old (retired) assets.<sup>37</sup> Due to the Winside station longer needing a heater and safety concerns, the decision was made to remove these assets as opposed to abandoning them in place.<sup>38</sup>
- Six of the seven TOG projects are estimated at \$41.46 a foot. One TOG project—Kearney, Nebraska – TOG Replacement 2402209-2 (Phase 1)—was estimated at \$41.49 a foot. The Company explained that all TOG projects were estimated based on 2020 cost per mile actuals. Any difference between projects comes from rounding issues. The price per mile is consistent across all TOG projects. The Kearney, Nebraska – TOG Replacement 2402209-2 (Phase 1) project is listed as replacing 55,400 feet, or 10.5 miles. 10.5 miles calculates to 55,440 feet, resulting in the variance noted in the request.<sup>39</sup>
- Regarding the nine 2022 Data Infrastructure Improvement Program (DIIP) projects
  - The Company provided the following additional information regarding eliminating internal costs that are not included in the SSIR. Details of the cost estimates, including internal and external costs, can be found in Exhibit 2 table M which was filed on August 2, 2021. Internal costs were calculated as a percentage of the external project cost at approximately 10.3%. This percentage estimate was derived using actual spends that were available from a previously complete and similar type of project.<sup>40</sup>
  - The Company provided the following additional information regarding contractor estimates. The large majority of the costs are from outsourced work but will also include internal labor costs to support the projects. The only

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<sup>34</sup> BHE SSIR Tariff, First Revised Sheet No. 128–129, Definitions, B (September 1, 2020).

<sup>35</sup> BHE response to SSIR 2022 PA-23.

<sup>36</sup> BHE response to SSIR 2022 PA-21.

<sup>37</sup> For purposes of the SSIR Revenue Requirements, BHE includes cost of removal in plant in service rather than as a reduction to the reserve for depreciation.

<sup>38</sup> BHE response to SSIR 2022 PA-21.

<sup>39</sup> BHE response to SSIR 2022 PA-22.

<sup>40</sup> BHE response to SSIR 2022 PA-24.

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contractor estimate that is currently available to provide is the Gas Service Card Mapping contractor estimate (see “Attachment PA 003-024 Gas Service Card Estimate”). This project is currently under contract and is in production. For the other projects, BH Nebraska Gas has developed initial internal project estimates, but the projects are not yet at the stage where contractor estimates can be developed.<sup>41</sup>

Blue Ridge found the Company’s response not unreasonable and the project estimates in the 2022 Project List have sufficient detail to support the estimated costs. Actual costs will be provided in the October 1 filing.

T6 Should any of the projects, or work within the projects, have been classified as O&M expense in accordance with Title 18 of the Code of Federal Regulations (18 CFR)?

Blue Ridge found that, except for the DIIP projects that are not included in the SSIR, the Company properly classified the projects as capital in nature. Blue Ridge did have questions as to the proper accounting for Electronic Reading Transmitters (ERTs).

The Company stated that ERTS are considered a separate unit of property and are capitalized upon purchase. ERTS are retired in two ways. If an ERT is attached to a meter, it is retired at the Meter Shop when the meter is in-tested. If an ERT is exchanged in the field, a program runs to complete the exchange removing the 40G ERT from the meter and attaching the 100G ERT to the existing meter. A program grabs the removed 40G ERT information from the Itron FDM (Field Deployment Manager, the installation management program) and completes the retirement. All active ERTs remain active assets until they are replaced, and then they will be retired. The meter sampling program starts when a domestic meter turns 15 years of age, reviewing meter testing data and the likelihood that the meters would need to be exchanged in a short timeframe. Any domestic meter lot over the age of 15 has sample meters pulled randomly. So, lot size, meter testing data, and failed lots are considered with an AMI project. This consideration helps avoid duplicate truck runs and customer inconveniences.<sup>42</sup>

The Company plans on buying 27,061 ERTs from supplier(s) and installing those rather than using, in part, the 3,000–5,000 ERTs in inventory. This data was provided after the cut-off date for data requests. Blue Ridge recommends that the Company provide additional information to facilitate determining whether the Company’s activity regarding ERT projects (1) is accounted for in accordance with 18 CFR, (2) belongs in the SSIR, and (3) is the most economical use of ratepayer funds. Related issues include these:

- Why the existing ERTs are not used first—ERTs in inventory that were purchased in the past would likely have a lower unit cost, which would, in turn, lower the SSIR.
- Why the Company considers ERTs capital upon purchase and what in 18 CFR allows that designation
- Whether the Company has 40G ERTs in stock and, if so, will they be written off as obsolete assets

Until the additional data is available to Blue Ridge, we cannot render a decision on the reasonableness of the ERT projects. Therefore, Blue Ridge recommends that, until such time as

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<sup>41</sup> BHE response to SSIR 2022 PA-24.

<sup>42</sup> BHE response to SSIR 2022 PA-25.

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the necessary information can be provided, the jurisdictional costs for ERT projects (totaling \$3,846,674) be removed from the Company's proposed SSIR Charges.

T7 Is there anything in the review that indicates the project or its estimated costs should not be included in the SSIR?

With the exception of the ERTs discussed in T6, in which further information is needed prior to drawing a conclusion, Blue Ridge found that the 2022 projects qualify for inclusion in the SSIR. The project costs are estimates and the nature of the projects have been explained. Blue Ridge will review the actual costs in 2022.

T8 Does the project satisfy all other criteria (such as the availability of internal and external crews; project management constraints; local economic development plans; customer inconvenience and impact; other specific regulatory requirements; threat assessment; corrosion control analysis; pipeline vintage; pipeline material; pipeline design and class location; pipeline configuration and segmentation; pipeline system constraints; pipeline replacement history; population density; pipeline maintenance and internal inspection history; pipeline piggability; existence and reliability of pipeline asset and testing records; pipeline leakage and other incident history; subject matter expert knowledge; Project timeframe; weather and climate constraints on the construction season; permitting constraints; probability of pipeline testing failures and dewatering constraints; service outage management; and pipeline source of supply and availability of alternate gas supply)?

Within this audit, Blue Ridge is reviewing information related to project estimates. Based on our review of testing steps (T1–T8) above, we should have sufficient detail to complete this testing step when the actual project detail is available.

#### **4. REVENUE REQUIREMENT**

4) Is the revenue requirement associated with the Eligible System Safety and Integrity Costs requested by BHE in compliance with Commission orders and as specified in the SSIR Tariff?

This task reviews the components included and the calculations used by BHE to determine its revenue requirement associated with recovery of the Eligible System Safety and Integrity Costs against what is required in Commission orders and the SSIR Tariff.

The SSIR Tariff states that Eligible System Safety and Integrity Costs means (1) a return, at a percentage equal to the Company's currently authorized weighted average cost of capital grossed up for taxes, on the projected increase in the jurisdictional component of the month ending net plant in-service balances associated with the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect, exclusive of all plant in-service included in the determination of the revenue requirement approved in the Company's last general rate case; (2) the plant-related ownership costs associated with such incremental plant investment, including depreciation, accumulated deferred income taxes, and all taxes including income taxes and property taxes; and (3) the projected jurisdictional component of the operation and maintenance expenses related to the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect.<sup>43</sup>

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<sup>43</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, B (September 1, 2020).

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In addition, the SSIR Tariff requires that the return and income taxes and plant related costs associated with improvements or upgrades to facilities, made at the discretion of the Company to extend service or for future growth that is not specifically required by statute or regulation, shall be excluded from Eligible System Safety and Integrity Costs.<sup>44</sup>

**Return**

Return is what the investors in the utility receive for the use of their money in the enterprise. The investment capital is a combination of debt and equity; thus, the return includes both interest on the debt and earnings on the equity. Return is expressed in dollars, while the rate of return is the percentage relationship that the return bears to the total investment. The rate of return includes the weighted cost of long-term debt and the allowed return on common equity. The rate of return is applied to the rate base to determine the earnings required.

**Requirement:** The SSIR Tariff states that the return is determined by applying a percentage equity to the Company’s currently authorized weighted average cost of capital grossed up for taxes, on the projected increase in the jurisdictional component of the month ending net plant in-service balances associated with the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect, exclusive of all plant in-service included in the determination of the revenue requirement approved in the Company’s last general rate case.<sup>45</sup>

The return is calculated by multiplying rate base, which is comprised of utility plant in service, accumulated deferred income taxes, and accumulated depreciation, by the rate of return. Each component is discussed below.

**Rate of Return**

The rate of return includes the weighted cost of long-term debt and the allowed return on common equity.

**Table 6: Weighted Average Cost of Capital Calculation<sup>46</sup>**

	Capital Structure	Cost Rate	After Tax Wtd. Cost of Capital	Revenue Conversion Factor	Pre Tax Wtd. Cost of Capital
	(a)	(b)	(c) = (a) x (b)	(d)	(e) = (c) x (d)
Long-Term Debt	50.00%	3.91%	1.96%	1.0000	1.96%
Common Equity	50.00%	9.50%	4.75%	1.3731	6.52%
Authorized Rate of Return	<u>100.00%</u>		<u>6.71%</u>		<u>8.48%</u>

Blue Ridge found the Company’s computation of the after-tax weighted-average rate of return on Exhibit 2, Schedule J, not unreasonable. The capital structure and cost rates matched those approved in the Company’s last base rate case, NG-109.

<sup>44</sup> BHE SSIR Tariff, First Revised Sheet No. 128–129, Definitions, B (September 1, 2020).

<sup>45</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, B (September 1, 2020).

<sup>46</sup> BHE SSIR Application, Exhibit 2, Schedule J - Capital Structure.

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Rate Base

Rate base is the investor-owned property and plant used in supplying utility service to the customer. Each component included in rate base is discussed below.

*Utility Plant in Service: System Safety and Integrity Projects*

Utility Plant in Service represents the utility company's investment in production, transmission, and distribution facilities in buildings, vehicles, and general equipment needed to operate the utility's business. Specific guidelines are established and followed to provide consistency in classifying expenditures as capital or expense. Under traditional rate-of-return ratemaking, the net investment in utility plant is the major component of rate base.

**Table 7: SSIR Gross Plant in Service Projected Balances as of December 31, 2022<sup>47</sup>**

Description	TIMP	DIMP	Obsolete Infrastructure	Total
<b>13-Month Average</b>				
Total Company	\$ 10,244,996	\$ 41,929,255	\$ 4,552,983	\$ 56,727,235
Jurisdictional	8,432,459	37,904,182	3,956,080	50,292,721
% Jurisdiction	82.31%	90.40%	86.89%	88.66%
<b>End of Period</b>				
Total Company	\$ 14,141,865	\$ 76,691,345	\$ 8,663,857	\$ 99,497,067
Jurisdictional	11,505,407	68,956,711	7,525,666	87,987,784
% Jurisdiction	81.36%	89.91%	86.86%	88.43%

Blue Ridge found the Company's calculation of the 13-month average jurisdictional plant balance as of December 31, 2022, not unreasonable. Exhibit 2, Schedule K, systematically allocates total company plant additions by project criteria and category to jurisdiction and FERC account based on factors derived from the Company's last base rate case, NG-109. Blue Ridge verified the mathematical computations therein and confirmed the jurisdictional totals accurately carried forward to the Company's calculation of the 13-month average on Exhibit 2, Schedule D, and ultimately to the revenue requirement calculation on Schedule C. We found no exceptions.

*Accumulated Depreciation*

Accumulated depreciation represents the aggregate total past depreciation expenses accrued on plant in service adjusted for retirements and net salvage (including cost of removal). It is a reduction to rate base.

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<sup>47</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedules D - Gross Plant and K - Project Listing & Allocation.



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**Table 8: Accumulated Depreciation**  
**Projected 13-Month Average Balances as of December 31, 2022<sup>48</sup>**

Description	TIMP	DIMP	Obsolete Infrastructure	Total
Gross Plant in Service	\$ 8,432,459	\$ 37,904,182	\$ 3,956,080	\$ 50,292,721
Accumulated Depreciation	(111,049)	(572,088)	(63,652)	(746,789)
Net Plant in Service	<u>\$ 8,321,410</u>	<u>\$ 37,332,094</u>	<u>\$ 3,892,427</u>	<u>\$ 49,545,932</u>

Blue Ridge found the Company's calculation of the 13-month average accumulated depreciation balance by project criteria as of December 31, 2022, not unreasonable. Exhibit 2, Schedule E, computes monthly depreciation expense, based on a composite annual rate of 2.04 percent, and the accumulated reserve through each measurement period. We reviewed the mathematical calculation for accuracy and verified the underlying depreciation rates used to develop the composite rate applied to gross plant matched those approved in the Company's last base rate case, NG-109. We found no exceptions.

*Accumulated Deferred Income Tax*

Income tax includes the total federal, state, and local tax owed to the taxing authorities on the operating income generated by the utility. There are instances when some items of income and/or expense are properly included in the book income of one period but on the income tax return for a different period. These timing differences for plant-related items are typically related to accelerated depreciation allowed for tax purposes that differ from the method used to calculate depreciation for book purposes. The income taxes associated with these timing differences are shown as accumulated deferred income tax (ADIT). Typically, ADIT reduces rate base.

**Table 9: ADIT Net Projected 13-Month Average Balances as of December 31, 2022<sup>49</sup>**

Acc.	Description	TIMP	DIMP	Obsolete Infrastructure	Total
282	Accelerated Depreciation	\$ (89,526)	\$ (545,440)	\$ (61,665)	\$ (696,632)
190	Net Operating Losses (NOL)	48,178	150,858	11,847	210,882
	ADIT, net	<u>\$ (41,349)</u>	<u>\$ (394,582)</u>	<u>\$ (49,819)</u>	<u>\$ (485,750)</u>

Blue Ridge found the Company's calculation of the 13-month average ADIT balance as of December 31, 2022, not unreasonable. Schedules E and I in Exhibit 2 compute the Company's book and tax depreciation, respectively. The results of each are carried forward to Schedule F wherein the book-tax difference and annual ADIT activity is determined. Schedule G presents the cumulative ending annual ADIT balances, while Schedule H calculates the 13-month average as of each measurement period. We reviewed the calculation and verified the depreciation and tax rate applied therein. We found no exceptions.

Blue Ridge notes that the Company's ADIT calculation reflects the generation of both deferred tax liabilities (DTL) and deferred tax assets (DTA) through December 31, 2022. Schedule N computes the DTA activity which is attributable to forecasted net operating losses (NOL) on the Company's tax return. Based on the timing of the SSIR plant additions and forecasted book-

<sup>48</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedule E - Accumulated Depreciation.

<sup>49</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedule H - ADIT Average Balances.

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tax depreciation differences, we found no reason to dispute the Company’s inclusion of an NOL deferred tax asset.

Return

Return is what the investors in the utility receive for the use of their money in the enterprise. It is calculated by applying rate of return to rate base.

**Table 10: Return on Rate Base (After Tax) Calculation <sup>50</sup>**

Description	TIMP	DIMP	Obsolete Infrastructure	Total
Gross Plant in Service	\$ 8,432,459	\$ 37,904,182	\$ 3,956,080	\$ 50,292,721
Accumulated Depreciation	(111,049)	(572,088)	(63,652)	(746,789)
ADIT, net	(41,349)	(394,582)	(49,819)	(485,750)
Total Rate Base	\$ 8,280,061	\$ 36,937,513	\$ 3,842,609	\$ 49,060,182
Authorized Rate of Return	6.71%	6.71%	6.71%	6.71%
Return on Rate Base	\$ 555,178	\$ 2,476,660	\$ 257,647	\$ 3,289,485

Blue Ridge found the Company’s computed return (as shown above) on an after-tax basis not unreasonable. We recomputed the Company’s calculation and found no exceptions.

**Plant-Related Ownership Costs**

The SSIR Tariff states that the plant-related ownership costs associated with incremental plant investment, include depreciation, accumulated deferred income taxes, and all taxes, including income taxes and property taxes.<sup>51</sup>

Plant-related ownership costs are calculated from the monthly forecasted incremental increases to plant investment as Projects are placed in-service.

Depreciation

Depreciation is the expense of using property and allocates a portion of the total cost of plant to one accounting period.

Blue Ridge found the Company’s calculated depreciation expense for the 12-months ended December 31, 2022, not unreasonable. We reviewed the supporting workpaper for the 2.04 percent composite depreciation rate applied to the end of month gross plant balance on Schedule E. The underlying rates by plant account matched those approved in the Company’s last base rate case, NG-109, with no exceptions.

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<sup>50</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedule C – Revenue Requirement.

<sup>51</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, B (September 1, 2020).

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**Table 11: Development of Composite Depreciation Rate<sup>52</sup>**

Account	Account Description	Depreciable Amount (1)	Proposed Rate	Proposed Expense	Settled Rate (2)	Settled Expense
374.01	Distribution Plant - Land	1,540,540	0.00%	-	0.00%	-
374.02	Land Rights (Non-Depreciable)	176,100	0.00%	-	0.00%	-
374.03	Land Rights - Right of Way (Depreciable)	5,981,059	0.95%	56,820.06	0.95%	56,820.06
375.01	Structures and Improvements	4,779,830	0.76%	36,326.70	0.76%	36,326.70
375.20	Structures and Improvements - Other	12,119	2.14%	259.36	2.14%	259.36
376	Distribution Plant - Mains	368,534,043	1.45%	5,343,743.63	1.37%	5,048,916.39
378	Distribution Plant - Meas. & Reg. Sta. Equip. - General	20,627,024	2.71%	558,992.36	2.71%	558,992.36
379	Measuring & Regulating Station Equip.- City Gate Check St	4,504,804	1.41%	63,517.74	1.41%	63,517.74
380	Distribution Plant - Services	132,537,973	3.54%	4,691,844.25	2.68%	3,552,017.68
381	Meters	42,451,357	4.79%	2,033,420.02	4.79%	2,033,420.02
382.01	Meter Installations	15,027,221	2.67%	401,226.80	2.67%	401,226.80
383.01	Distribution Plant - House Regulators	64,404,963	3.26%	2,099,601.78	2.68%	1,726,053.00
383.71	Distribution Plant - House Regulators - Farm Taps	626,094	2.49%	15,589.75	2.21%	13,836.69
384.01	House regulator installations	1,517,403	1.21%	18,360.58	1.21%	18,360.58
385	Industrial Measuring & Regulating Station Equipment	8,058,395	2.58%	207,906.59	2.58%	207,906.59
386	Other Property on Customers' Premises	35,279	1.04%	366.90	1.04%	366.90
387	Other Equipment	206,520	2.06%	4,254.31	2.06%	4,254.31
Totals		671,020,726		15,532,231		13,722,275
Composite Rate				2.31%		2.04%

(1) Source: See *Depr Study Section* tab; Gannett Fleming Depreciation Study

(2) Source: Rates changed pursuant to BHE/NE PA Settlement Agreement

**Income Tax**

Income tax represents the total federal, state, and local tax owed to the taxing authorities on the operating income generated by the utility. The SSIR Tariff allows for the inclusion of all taxes, including income taxes and property taxes.<sup>53</sup>

**Table 12: Development of Composite Income Tax Rate<sup>54</sup>**

Line	Description	Calculation	Rate
1	State Tax Rate		7.81%
2	Federal Tax Rate		21.00%
3	State Tax Deduction	100% - Line 1	92.19%
4	Federal Effective Rate	Line 2 x Line 3	19.36%
5	Composite Tax Rate	Line 1 + Line 4	27.17%

Blue Ridge found the Company's computed current and deferred income tax expense for the 12 months ended December 31, 2022, not unreasonable. We verified the calculations to derive taxable income and the composite income tax rate on Schedule F. We found no exceptions.

<sup>52</sup> BHE response to SSIR 2022 PA-14.

<sup>53</sup> Docket No. NG-0112, SSIR Tariff issued on June 1, 2020, Sheet No. 128, Section "Definitions," B.

<sup>54</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedule F - Tax Expense Calculation.

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Property Taxes

Property tax is the tax assessed on property by the local government. The tax is usually based on the value of property owned multiplied by the annual tax rate.

**Table 13: Property Tax Expense Calculation**

Description	TIMP	DIMP	Obsolete Infrastructure	Total
Gross Plant in Service	\$ 8,432,459	\$ 37,904,182	\$ 3,956,080	\$ 50,292,721
Property Tax Rate	0.57%	0.57%	0.57%	0.57%
Property Tax Expense	\$ 48,065	\$ 216,054	\$ 22,550	\$ 286,669

Blue Ridge found the Company’s projected property tax expense not unreasonable. The property tax rate applied in the SSIR Application is 0.57 percent. The Company explained, “This property tax rate was based on Tax Year 2019 Nebraska Department of Revenue Final Appraisals for Black Hills Gas Distribution, LLC (NE Business Unit), Company #380, and for Black Hills Nebraska Gas Utility Company, LLC, Company #390, and the associated property tax bills. At the time of the 2021 SSIR Application NG-109 filing, this was the most recent tax year for which actual data was available. Even though the same calculation using Tax Year 2020 information resulted in a higher rate of .0063 as shown on the attached workpaper, Attachment PA 001-013 Property Tax Rate Calculation, the .0057 property tax rate was used in the current SSIR Application NG-112.1 for consistency.”<sup>55</sup>

The property tax rate is applied to the average gross plant-in-service balance on Schedule C. We reviewed the calculation and identified no issues.

**Operation and Maintenance Expenses**

The SSIR Tariff allows recovery of the projected jurisdictional component of the operation and maintenance expenses related to the Projects for the particular calendar year in which the System Safety and Integrity Rider Charge shall be in effect.<sup>56</sup>

In addition to the revenue requirement computed on Schedule C, the Company is proposing to include incremental O&M expense of \$3,982,000 for 2022 external Data Integrity Improvement Project (DIIP) costs. The 2022 SSIR revenue requirements reflects only the expenses projected in 2022 and does not include the prior years’ costs.

**Table 14: DIIP External Costs for the 12-Month Period Ending December 31, 2022<sup>57</sup>**

Description	Forecast
Transmission/Gathering TVC Records NE	\$ 1,139,000
Gas Service Card Mapping NE	961,000
Distribution Main & Service Centerline Survey NE	1,137,000
Distribution Data Attribute Improvement NE	719,000
Document Management Migration NE	26,000
Total External Costs	<u>\$ 3,982,000</u>

<sup>55</sup> BHE response to SSIR 2022 PA-13.

<sup>56</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, B (September 1, 2020).

<sup>57</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedule M - DIIP Support.

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Blue Ridge found the inclusion of DIIP costs as O&M expenses consistent with the approved SSIR Tariff.

**Betterments**

**Requirement:** The SSIR Tariff states that the return and income taxes and plant-related costs associated with improvements or upgrades to facilities, made at the discretion of the Company to extend service for future growth that is not specifically required by statute or regulation, shall be excluded from Eligible System Safety and Integrity Costs.<sup>58</sup>

As discussed in Testing Step T4, Blue Ridge found that the Company did not include costs for projects that would extend service for future growth.

**Revenue Requirement Calculation**

Blue Ridge found the Company’s calculation of the SSIR revenue requirement, including the incremental DIIP expense projected for 2022, not unreasonable. Blue Ridge performed mathematical checks on the detailed revenue requirement schedules and verified that the amounts rolled forward correctly.

**Table 15: Revenue Requirement Calculation<sup>59</sup>**

Line No.	Description	Reference	Amount
1	Gross Plant - 13 Month Average December 31, 2022		\$ 50,292,721
2	Accumulated Depreciation - 13 Month Average December 31, 2022		(746,789)
3	ADIT Pro Rated (net of 190 and 282)		(485,750)
4	Total Rate Base		\$ 49,060,182
5	Weighted Average Cost of Capital		6.71%
6	Return on Rate Base	Line 4 x Line 5	\$ 3,289,485
7	Income Tax Expense		\$ 869,365
8	Depreciation Expense		1,040,158
9	Property Tax Expense	Line 1 x 0.0057	286,669
10	Total Operating Expense		\$ 2,196,192
11	Revenue Requirement	Line 6 + Line 7	\$ 5,485,677
12	Plus: Incremental Data Integrity Improvement Project (DIIP) Expense		3,431,238
13	Revenue to be Collected in 2022	Line 11 + Line 13	\$ 8,916,915

However, although Blue Ridge found the calculation and roll forward of amounts not unreasonable, due to the outstanding issue of ERT justification, adjustments to the costs were required. The adjusted revenue requirement table appears in section 7 of this report—“Recommended Recovery.”

<sup>58</sup> BHE SSIR Tariff, First Revised Sheet No. 128–129, Definitions, B (September 1, 2020).

<sup>59</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedules A - SSIR Rate Calculation and C - Revenue Requirement.

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**5. SYSTEM SAFETY AND INTEGRITY RIDER CHARGE CALCULATION**

5) Is the System Safety and Integrity Rider Charge calculated in compliance with Commission orders and as specified in the SSIR Tariff?

This task reviews the components and calculations of the System Safety and Integrity Rider Charge to determine whether they comply with Commission orders and as specified in the SSIR Tariff.

**Requirement:** The System Safety and Integrity Rider Charge shall be equal to the Eligible System Safety and Integrity Costs, plus or minus the SSIR True-Up Amount, plus or minus the Deferred SSIR Balance, multiplied by the customer class allocation basis authorized by the Commission to determine the class cost of service in the Company’s most recent general rate case, divided by the applicable number of bills for the particular customer class, as follows:<sup>60</sup>

$$\text{System Safety and Integrity Rider Charge} = ((A \pm B \pm C) * D) / E$$

Where:

A = Eligible System and Safety and Integrity Costs

B = SSIR True-Up Amount

C = Deferred SSIR Balance

D = Customer class allocation basis authorized by the Commission to determine the class cost of service in the Company’s most recent general rate case

E = Applicable number of bills for the particular customer class

Blue Ridge found that the Company’s methodology to calculate the System Safety and Integrity Rider Charge is in accordance with the SSIR Tariff. The Company’s Total SSIR Revenue Requirement, which includes the SSIR Revenue Requirement, and placeholders for Deferred SSIR Balance and SSIR True-Up Amounts, that are allocated to the customer classes using the jurisdictional utility classes of customer allocations approved in the most recent general rate proceeding. The class-allocated SSIR Revenue Requirement was then allocated using the annual number of bills from the most recent general rate case.<sup>61</sup>

**Requirement:** The SSIR True-Up Amount shall be equal to the difference, positive or negative, between the Eligible System Safety and Integrity Costs as projected for a particular calendar year and the actual Eligible System Safety and Integrity Costs incurred by the Company for that particular calendar year, plus monthly interest calculated on that difference at a rate equal to the then current rate of interest on pipeline refunds established by the Federal Energy Regulatory Commission.<sup>62</sup>

Blue Ridge found the true-up provision not applicable to this SSIR Application as the actual results for the full 2021 rate year are not available.

**Requirement:** The Deferred SSIR Balance shall be equal to the balance, positive or negative, of SSIR revenues at the end of a particular calendar year less the Eligible System Safety and Integrity Costs as projected by the Company for that particular calendar year, plus monthly interest calculated

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<sup>60</sup> BHE SSIR Tariff, First Revised, Sheet Nos. 130–131, Section “SSIR Adjustment Calculation,” A (September 1, 2020).

<sup>61</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Table A SSIR Rate Calculation and Table B True up Calculation.

<sup>62</sup> BHE SSIR Tariff, First Revised Sheet No. 130, Definitions, D (September 1, 2020).

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on that balance at a rate equal to the then current rate of interest on pipeline refunds established by the Federal Energy Regulatory Commission.<sup>63</sup>

Blue Ridge found the Deferred SSIR Balance provision not applicable to this SSIR Application as the actual results for the full 2021 rate year are not available.

**Requirement:** The calculated rate shall be an adjustment to the Customer Charge applicable to the Company’s Jurisdictional Residential, Commercial, and Commercial—EO customers.<sup>64</sup>

Blue Ridge found the Company applied the calculated rate change for the 2021 SSIR Projects to the monthly Customer Charge applicable to the Company’s Jurisdictional Residential, Commercial, and Commercial—EO customers.<sup>65</sup>

**Requirement:** Whenever the Company implements changes in base rates as a result of a final Commission order in a general rate case setting new rates based on approved revenue requirements, the Company shall simultaneously adjust the SSIR to remove all costs that have been included in base rates.<sup>66</sup>

Blue Ridge found that this task is not applicable. A general rate case has not occurred since the implementation of the SSIR. No adjustment is required to adjust the SSIR to remove all costs that have been included in base rates.

In conclusion, Blue Ridge found that the System Safety and Integrity Rider Charge were calculated in compliance with Commission orders and as specified in the SSIR Tariff.

## **6. AMOUNT AND TIMING OF REQUEST**

6) Is the amount and timing of the System Safety and Integrity Rider Charge request within the limits established by the Commission?
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This task compares the amount and timing of BHE’s System Safety and Integrity Rider Charge request to the limits established by the Commission.

**Requirement:** Each proposed revision in the System Safety and Integrity Rider Charge shall be accomplished by filing an application by September 1 of each year to take effect on the following January 1 (the “Annual Application”).<sup>67</sup>

Blue Ridge found that the Application to change the SSIR charge under review was filed on August 2, 2021.

**Requirement:** The Company shall not make effective any revision to the System Safety and Integrity Rider Charge that includes the addition of new SSIR Projects not previously recovered through the SSIR Charge if the Company has not had a general rate proceeding decided or dismissed

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<sup>63</sup> BHE SSIR Tariff, First Revised Sheet No. 128, Definitions, Item A (September 1, 2020).

<sup>64</sup> BHE SSIR Tariff, First Revised , Sheet No. 131, Section “SSIR Adjustment Calculation,” B (September 1, 2020).

<sup>65</sup> NG-112.1, BHE SSIR Application (August 2, 2021), Cover Letter and Exhibit 2, Table A SSIR Rate Calculation.

<sup>66</sup> BHE SSIR Tariff, First Revised , Sheet No. 131, Section “SSIR Adjustment with Changes in Base Rates, (September 1, 2020).

<sup>67</sup> BHE SSIR Tariff, First Revised, Sheet No. 127, Section “Annual Application and Quarterly Surveillance Filings,” A. (September 1, 2020).

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by issuance of a Commission order within sixty months immediately preceding the date upon which the revision to the System Safety and Integrity Rider Charge otherwise would take effect.<sup>68</sup>

Blue Ridge found the Company's last base rate case (Docket No. NG-109), decided on January 26, 2021, is within sixty months of the Company's filing examined in this report. Sixty months from January 26, 2021, is January 25, 2026.<sup>69</sup>

**Requirement:** The Company shall continue to make annual revisions to the SSIR Charge to reflect appropriate true-ups and adjustments to the calculations, consistent with the other provisions contained in the System Safety and Integrity Rider Tariff, for each year that the Company is allowed to collect the SSIR Charge.<sup>70</sup>

Blue Ridge found that the Company is allowed to collect the SSIR Charge.

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<sup>68</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section ""SSIR Adjustment with Changes in Base Rates, (September 1, 2020).

<sup>69</sup> Application No. NG-109, Order Approving Stipulation and Settlement Agreement (January 26, 2021) page 14.

<sup>70</sup> BHE SSIR Tariff, First Revised, Sheet No. 131, Section ""SSIR Adjustment with Changes in Base Rates, (September 1, 2020).



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**7. RECOMMENDED RECOVERY**

7) What is the appropriate level of recovery of the System Safety and Integrity Rider Charge?

This task accumulates Blue Ridge’s recommended adjustments and provides a revised level of recovery for the Commission’s consideration, if necessary.

The Company proposed the following recommended BHE jurisdictional SSIR Revenue Requirement

**Table 16: Recommended BHE Jurisdictional SSIR Revenue Requirement**

Description	Capital Project Costs	Capital Project Revenue Requirement	DIIP Costs	DIIP Costs Revenue Requirement	Total Revenue Requirements
2021 Projects*	\$ 43,439,073	\$ 1,435,609	\$ 865,048	\$ 744,817	\$ 2,179,842
2022 Projects	44,548,711	4,050,068	3,982,000	3,431,238	7,481,306
Total	\$ 87,987,784	\$ 5,485,677	\$ 4,847,048	\$ 4,176,055	\$ 9,661,148
2022 Estimated SSIR Recovery**		\$ 5,485,677		\$ 3,431,238	\$ 8,916,915

\*Does not reflect true-up to actual costs

\*\*Requested Recovery includes current year DIIP and does not include DIIP from prior years

**Table 17: Recommended Fixed Charge Rate by Class**

Description	Residential	Commerical	Commercial Energy Options
2021 Approved SSIR Charge - \$/Month	\$0.62	\$1.23	\$1.23
2022 Proposed SSIR Charge - \$/Month	\$1.45	\$5.02	\$5.02
Total Proposed SSIR Charge - \$/Month	\$2.07	\$6.25	\$6.25
Total Proposed SSIR Charge - \$/Year	\$24.84	\$75.00	\$75.00

Blue Ridge removed the jurisdictional costs for the ERT projects (totaling \$3, 846,675) from SSIR Charges for the reasons given above in testing step T6 of section 3 “Eligibility of Projects.”

**Table 18: Calculation of Jurisdictional Costs of ERT Projects<sup>71</sup>**

Line No.	Project #	Project Name	In-Svc	Total Company	Jurisdiction
159	FP.10075279N	10075279N: LSG ERT Upgrade - SCOTTSBLUFF	Nov-22	\$ (919,898)	(799,428)
160	FP.10075280N	10075280N: LSG ERT Upgrade - MCCOOK	Nov-22	(1,086,165)	(943,920)
161	FP.10075281N	10075281N: LSG ERT Upgrade - ALBION	Nov-22	(1,031,385)	(896,314)
162	FP.10063950N	10063950N: Lincoln AMI	Nov-22	(1,388,903)	(1,207,012)
		Total		\$ (4,426,352)	\$ (3,846,674)
				100.00%	86.90%

Blue Ridge recommends the resultant revenue requirement of \$8,850,798, as shown in the table below. (Blue Ridge would reconsider the costs of ERT projects for inclusion if and when the Company supplies the requested information, including any necessary follow-up.)

<sup>71</sup> WP ADJ 2022 SSIR Model NG112.1 – 08-02-2021.xlsx, tab “BR-WP Table for Report.”

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**Table 19: 2021 Adjusted Revenue Requirement Calculation<sup>72</sup>**

Line No.	Description	Reference	As Filed	Adjustment	Adjusted
1	Gross Plant - 13 Month Average December 31, 2022		\$ 50,292,721	\$ (591,796)	\$ 49,700,925
2	Accumulated Depreciation - 13 Month Avg December 31, 2022		(746,789)	1,513	(745,276)
3	ADIT Pro Rated (net of 190 and 282)		(485,750)	4,780	(480,969)
4	Total Rate Base		\$ 49,060,182	\$ (585,503)	\$ 48,474,679
5	Weighted Average Cost of Capital		6.71%	0.00%	6.71%
6	Return on Rate Base	Line 4 x Line 5	\$ 3,289,485	\$ (39,258)	\$ 3,250,227
7	Income Tax Expense		\$ 869,365	\$ (10,375)	\$ 858,990
8	Depreciation Expense		1,040,158	(13,111)	1,027,048
9	Property Tax Expense	Line 1 x 0.0057	286,669	(3,373)	283,295
10	Total Operating Expense		\$ 2,196,192	\$ (26,859)	\$ 2,169,333
11	Revenue Requirement	Line 6 + Line 7	\$ 5,485,677	\$ (66,117)	\$ 5,419,560
12	Plus: Data Integrity Improvement Project (DIIP) Expense		3,431,238	-	3,431,238
13	Revenue to be Collected in 2022	Line 11 + Line 13	\$ 8,916,915	\$ (66,117)	\$ 8,850,798

## 8. ANNUAL SURVEILLANCE FILINGS

8) Did the Company timely file the annual surveillance filings with the required information in compliance with Commission orders?

This task confirms that BHE timely filed the annual surveillance filings with the required information as required by Commission order.

**Requirement:** BHE must file annual surveillance filings within sixty (60) days of the end of the calendar year. The filings shall include calculations of the rate base separated into regular and SSIR components, the realized rates of return on the rate base components, and supporting calculations. Additionally, the filing shall include an update regarding the status of the current calendar year's SSIR project costs, projected in-service dates, and expected schedule over the remainder of the calendar year.<sup>73</sup>

Blue Ridge found that the Company has not yet filed the 2021 annual surveillance filings. The filing is due sixty (60) days of the end of the calendar year or March 1, 2022.

For informational purposes the following table compares the Company's estimated 2021 SSIR project costs (excluding the Reliability Looping projects) from NG-109<sup>74</sup> to the 2021 estimated SSIR project costs reflected in the current filing. The DIIP Costs are also compared in the following table.

<sup>72</sup> WP ADJ 2022 SSIR Model NG112.1 – 08-02-2021.xlsx, tab "BR-WP Table for Report," based on NG-112.1, BHE SSIR Application (August 2, 2021), Exhibit 2, Schedules A - SSIR Rate Calculation and C - Revenue Requirement.

<sup>73</sup>BHE SSIR Tariff, First Revised Sheet No. 128, Item D (September 1, 2020).

<sup>74</sup> NG-109 Exhibit JLB-5, pages 63, 70, and 72.

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**Table 20: 2021 Estimated SSIR Project Costs (NG-109 vs NG-112.1)**

	<b>2021 Project Costs</b>		
	<b>NG-109</b>	<b>NG-112.1</b>	
	<b>Estimate</b>	<b>Estimate</b>	<b>Difference</b>
Reliability	\$ 3,649,050		
Looping Projects Excluded in NG-109 Settlement	(409,360)		
Adjusted Reliability	\$ 3,239,690	\$ 3,307,064	\$ 67,374
TIMP	7,879,133	7,873,741	(5,392)
DIMP	32,266,359	32,258,268	(8,091)
Total SSIR Project Costs	<u>\$43,385,182</u>	<u>\$43,439,073</u>	<u>\$ 53,891</u>
DIIP Costs	<u>\$ 865,048</u>	<u>\$ 865,048</u>	<u>\$ -</u>

It is anticipated that any differences will be explained in the annual surveillance filing.

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**APPENDICES**

Appendix A: Background Information

Appendix B: Abbreviations and Acronyms

Appendix C: Data Requests and Information Provided

Appendix D: Workpapers

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**APPENDIX A: BACKGROUND INFORMATION REVIEWED**

The following background documents were reviewed and are included electronically on the attached computer diskette.

- 1) State Natural Gas Regulation Act §§ 66-1810, 66-1825 and 66-1838
- 2) Nebraska Administrative Code Title 291, Chapter 9 – Nebraska Public Service Commission
- 3) Docket No. NG-109 [Last Base Rate Case]
  - a. Hearing Exhibit No. BH-JB- 2 (Mr. Bennett’s Direct Testimony Exhibit No. JLB-5-2021 SSIR Application)
  - b. Excerpt from Direct Testimony of Kevin M. Jarosz, page 29 DIIP Descriptions
  - c. Excerpt from Direct Testimony of Marc I. Lewis, pages 36–40 DIIP
  - d. Public Advocate Answer Testimony of Charles Fijnvandraat, page 10 [excluded four reliability pipeline looping projects
  - e. Joint Stipulation and Agreement of Settlement Between Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy and the Public Advocate of Nebraska (October 28, 2020)
  - f. Order Approving Stipulation and Settlement Agreement (January 26, 2021)
- 4) Black Hills Nebraska Gas, LLC d/b/a Black Hills Energy, Nebraska Natural Gas Tariff, filled with the Nebraska Public Service Company

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**APPENDIX B: ABBREVIATIONS AND ACRONYMS**

The following abbreviations and acronyms may be used in this report.

ADIT	Accumulated Deferred Income Taxes
AFUDC	Allowance for Funds Used during Construction
ARDA	Accumulated Reserve for Depreciation, Depletion, and Amortization
ARMR	At-Risk Meter Relocation
ARO	Asset Retirement Obligation
ACVG	Alternating Current Voltage Gradient
CFR	Code of Federal Regulations
CGS	Choice Gas Service
CIAC	Contributions in Aid of Construction
CIS	Close Interval-Survey
CP	Cathodic Protection
CWIP	Construction Work In Progress
DIIP	Data Infrastructure Improvement Program
DIMP	Distribution Integrity Management Program
DTA	Deferred Tax Asset
DTL	Deferred Tax Liability
ERT	Electronic Reading Transmitters
FDM	Field Deployment Manager (Itron's installation management program)
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
HDD	Hydraulic Directional Drill
ICCP	Impressed Current Cathodic Protection
IR	Information Request
ISR	Infrastructure System Replacement
KMIGT	Kinder Morgan Interstate Gas Transmission LLC
MAOP	Maximum Allowable Operating Pressure
NOL	Net Operating Loss
PHMSA	Pipeline and Hazardous Materials Safety Administration
PSI	Per Square Inch
P/W	Painted and Wrapped
SSIR	System Safety and Integrity Rider
TBS	Town Border Stations
TIMP	Transmission Integrity Management Program
TOG	Top of Ground
UPIS	Utility Plant in Service

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**APPENDIX C: DATA REQUESTS AND INFORMATION PROVIDED**

The following is a list of the data requests submitted. BHE provided responses electronically. The responses are included on the provided USB drive.

- PA-1. At-Risk Meter Relocation program: Please describe the At-Risk Meter Relocation (ARMR) program and selection process. Include any updated prioritization-ranking models used and copies of the latest supporting procedures and identification workflow diagrams.
- PA-2. DIMP:
  - a. Please provide a copy of the Company's latest PHMSA-filed Gas Distribution Integrity Management Program (DIMP).
  - b. Please provide copies of any completed audits (internal or external) that reviewed this program.
- PA-3. TIMP:
  - a. Please provide a copy of the Company's latest PHMSA-filed Gas Transmission Integrity Management Program (TIMP).
  - b. Please provide copies of any audits (internal or external) completed that reviewed this program.
- PA-4. Please provide a copy of the most recent Damage Prevention procedure.
- PA-5. In reference to the SSIR Projects-Applications, section K, Data Infrastructure Improvement Program (DIIP):
  - a. For each of the Specific projects listed as having expenditures for 2022, what is the total estimated budget by project, and over what period of time will those project expenditures be incurred?
  - b. For each of the Specific projects listed but not expected to have costs charged in 2022, what is the total estimated budget by project, and over what period of time will those project expenditures be incurred?
  - c. For the projects listed in NB-109 Testimony of Marc I. Lewis confidential Exhibit No. MIL-13 Data Infrastructure Improvement Program but not listed as projects for 2022, what is the total estimated budget by project, and over what period of time will those project expenditures be incurred?
- PA-6. In reference to the SSIR Projects—Application, section K. Data Infrastructure Improvement Program (DIIP), the application states that the “Company has initiated a similar DIIP for transmission lines” (page 32).
  - a. Are any of the costs associated with the transmission DIIP reflected in the Company's SSIR forecasted \$3,982,000 included in the SSIR rate request? If so, how much of those costs are associated with transmission?
  - b. How has the Company allocated the development of the DIIP between distribution and transmission?
- PA-7. In reference to the SSIR Projects—Application, section L, Obsolete Infrastructure:
  - a. Specific Project Electronic Reading Transmitters (ERT) Upgrades A. How many ERTs are being replaced in 2022?
  - b. How many ERTs does the Company currently have in stock and is expected to have prior to 1/2/2022?
  - c. Where are those ERTs recorded (Capital or M&S)?
- PA-8. In reference to the SSIR Projects—Application, section E. Town Border Stations (TBS):

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- a. For the six individual projects listed in parts a–f, please provide the individual work sheets that calculated the risk model score for each of these projects.
  - b. In reference to NG-109 Discovery PA 07-213 Replacement of Town Border stations, please describe the gap of the average risk score provided in that response to the risk scores of those projects selected in NG-112, SSIR 2022 TBS work plan.
- PA-9. In reference to the SSIR Projects—Application, section F. Top of Ground (TOG). How much TOG pipe remains in the service territory?
- PA-10. In reference to the SSIR Application, Exhibit 2, Bill Count, please provide the actual bill count by customer category for the twelve months ended December 31, 2020.
- PA-11. In reference to the SSIR Application, Exhibit 2, Bill Count, please discuss how the pro forma customer growth rates were developed.
- PA-12. In reference to the SSIR Application, Exhibit 2, Bill Count, why is annual growth in commercial bill count escalated annually by 0.8% instead of 0.7%?
- PA-13. In reference to the SSIR Application, Exhibit 2, Schedule C - Revenue Requirement, please provide the source documentation and workpapers used to develop the property tax rate of 0.057%.
- PA-14. In reference to the SSIR Application, Exhibit 2, Schedule E - Accumulated Depreciation, please provide the source documentation and workpapers used to develop the composite depreciation rate of 2.04%.
- PA-15. In reference to the SSIR Application, Exhibit 2, Schedule K - Project Listing & Allocation, please explain the Account Allocator and how the factors are developed by Project. Provide supporting workpapers.
- PA-16. In reference to the SSIR Application, Exhibit 2, Schedule M - DIIP Support, please discuss how the forecast for the DIIP program costs is developed.
- PA-17. 2021 DIIP Revenue Requirements: Please provide the calculation for the 2021 DIIP Revenue Requirements that results in a Total DIIP Jurisdictional Revenue Requirement. There appears to be a \$584 difference, if the same methodology used for 2022 is applied to the 2021 DIIP costs as summarized in the following table.

Year	SSIR Eligible DIIP	Allocation Factor of Account 880 from Rate Review	Calculated DIIP Juris Rev Req	Implied or Stated In Application	Difference
2021	865,048	86.17%	745,401	744,817	(584)
2022	3,982,000	86.17%	3,431,238	3,431,238	0
Total			4,176,639	4,176,055	(584)

- PA-18. Process and Controls. Please provide the policies and procedures (and/or flow charts) for these items:
- a. The identification and categorization of SSIR projects
  - b. The development of the SSIR (Include sources for all components, how components are gathered and entered, and approval requirements—who provides approvals, for what items, and when approvals are needed in the process)
- PA-19. **General:** Why are all the estimated in-service dates November 2022?
- PA-20. **Bare Steel Replacement:** Lincoln Nebraska – Bare Main Replacement. Please provide the risk model score.



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- PA-21. **Town Border Stations (TBS):** Multiple Locations—Nebraska—Line Heater Replacements
- a. Please explain why 19 line heaters are being replaced with catalytic panel heaters at an estimated cost of \$9,137 each and another 7 line heaters are being replaced with water-bath-style line heaters at an estimated cost of \$57,550 each.
  - b. Does the \$5,172 cost for the line heater to be removed in Winside, NE, represent cost of removal? If not, why not? If so, why would this cost be in the SSIR rather than treated as a normal cost to remove the assets which would be charged to the accumulated reserve?
- PA-22. **Top of Ground:** Six of the seven TOG projects are estimated at \$41.46 a foot. Why is Kearney, Nebraska—TOG Replacement 2402209-2 (Phase 1) estimated at \$41.49 a foot?
- PA-23. **MEGA Rule:**
- a. Fullerton Nebraska: Please confirm that the TBS between the new location and the existing location that will replace 2" steel main with 4" PE main will not generate additional revenue and/or throughput.
  - b. Lexington Nebraska: Please explain why pressure testing a line where no assets are either added or replaced is considered a capital activity?
  - c. Ord Nebraska: Please explain why pressure testing a line where no assets are either added or replaced is considered a capital activity?
- PA-24. **Data Infrastructure Improvement Program (DIIP):**
- a. How did the Company determine which projects should be included in the DIIP for 2022?
  - b. What are the estimated completion dates (in-service dates) for each project?
  - c. Are any of the projects a continuation from a prior year?
  - d. Please provide the estimated cost detail for each project that resulted in the elimination of internal costs that are not included in the SSIR?
  - e. Are the projects outsourced? If so, please provide the contractor estimates for each project.
  - f. Will any of the projects eliminate an existing project? If so, what programs will be eliminated?
  - g. Will the projects be used by more than BHE—Nebraska? If so, what other entities will use them and how are the project costs split between entities?
- PA-25. **Obsolete Infrastructure: Electronic Reading Transmitters (ERT) Upgrades:**
- a. Are the 40 ERTs considered a separate unit of property?
  - b. Are ERTs capitalized upon purchase? If so, and the 40G ERTs are obsolete, will the remaining 40G ERTs in capital be written off?
  - c. Why does the age of the meter determine if it will be replaced along with the 40G ERT?
- PA-26. **Chart Replacements:**
- a. What FERC account is Chart Recording Equipment charged to?
  - b. Does the Company have any Chart Recording Equipment not to be replaced in inventory or in capital? If so, and the equipment is obsolete, why is it not being written off?
- PA-27. **Risk Ranking Scores** Please describe how risk modeling assigns risk scores and how project risk scores calculated from one SSIR category are compared to other SSIR categories ie: risk scores for Top of Ground vs. Town Border Stations vs. Bare Steel Replacement

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**APPENDIX D: WORKPAPERS**

Workpapers that support Blue Ridge's analysis are listed below. All workpapers are included on the provided USB drive.

- NEPA NG-112 SSIR Project Matrix Final.xlsx
- NG-109 Loops removed from 2021 SSIR Projects
- WP ADJ 2022 Model NG112.1 – 08-02-2021.xlsx
- WP Tables for Report 2022 SSIR Model NG112.1 - 08-02-2021.xlsx
- WP V&V 2022 SSIR Model NG112.1 - 08-02-2021.xlsx