

## NiSource Inc. 2022 Climate Data Verification Statement

### INTRODUCTION

Trinity Consultants, Inc. (“Trinity”) was contracted by NiSource Inc. (“NiSource”) to verify its greenhouse gas (“GHG”) emissions inventory for its North America operations for the 2022 calendar year time period. NiSource is reporting 2022 GHG emissions as part of its responses to the 2023 Carbon Disclosure Project (“CDP”) Investor Questionnaire. According to CDP provisions, NiSource has the option to have this annual report independently verified by an accredited Verification Body (“VB”). The GHG inventory compiled by NiSource and the GHG inventory verification performed by Trinity is a component of NiSource’s long-term GHG management strategy.

NiSource has sole responsibility for the preparation of the data collection, analysis, compilation, and external reports. Trinity’s verification and assurance engagement are based on the assumption that NiSource’s data and information are sufficient, accurate, and complete. Trinity’s responsibility in performing the verification and assurance work is to the management of NiSource only and is solely for NiSource’s benefit in accordance with the terms of the contract. Our verification statement, however, represents Trinity’s independent opinion and is intended to inform all stakeholders, including NiSource. Trinity disclaims any liability or responsibility for Trinity’s work to CDP or to any other party who may have access to this statement or the verification report.

### SCOPE OF VERIFICATION AND ASSURANCE

The scope of work agreed with NiSource includes the following:

- ▶ Organizational boundaries for the GHG inventory are all North America sites operating under NiSource’s operational control;
- ▶ Verification was carried out to a limited level of assurance;
- ▶ Verification was conducted using the ISO 14064-3:2019 Standard;
- ▶ The reporting of the GHG emissions was conducted using World Business Council for Sustainable Development (“WBCSD”) / World Resources Institute (“WRI”) Greenhouse Gas Protocol;
- ▶ GHG emission quantities were verified for calendar year 2022 from January 1, 2022, to December 31, 2022;
- ▶ Emissions data verified includes Scope 1, Scope 2, and Scope 3 [*Category 3: Fuel-and-energy-related activities, not included in Scope 1 and 2* (purchased/distributed electricity) and *Category 11: Use of sold products* (customer end-use combustion emissions)]; and
- ▶ Verification activities were conducted in March through June of 2023.

### VERIFICATION METHODOLOGY

The objective of verification and assurance engagement by Trinity was to provide an independent and objective review of the emissions data report for North America enterprise-wide emissions for Scope 1, 2, and 3, for the calendar year 2022. The emissions data report is reviewed against the criteria and standards stated below:

### HEADQUARTERS

- ▶ World Resources Institute / World Business Council for Sustainable Development Greenhouse Gas Protocol - A Corporate Accounting and Reporting Standard.
- ▶ ISO14064-3:2019 – Greenhouse Gases Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas assertions.

Trinity applied a risk-based approach throughout the assurance engagement, concentrating on the areas that Trinity believes are at risk of materiality.

The following tasks and methodologies were applied during the verification of NiSource's GHG data, inventory, supporting documents, and management processes:

- ▶ Identify and review conformance with the assurance level declared in the CDP questionnaire response and the accuracy requirements using ISO 14064-3:2019 verification standards as appropriate;
- ▶ Review and verify emission estimates with the applicable GHG emission calculations/reporting protocols and principles such as WRI/WBCSD Greenhouse Gas Protocol;
- ▶ Review and verify GHG facility data for completeness and accuracy;
- ▶ Review a selection of data provided from a sampling of NiSource facilities (Michigan City, R.M. Schafer, and Sugar Creek) which is consistent with the selected level of assurance;
- ▶ Review NiSource's data management systems for emission data, transactions, bookkeeping records, reports, and compliance documents;
- ▶ Evaluate and check materiality of any misstatement in actual data;
- ▶ Review, identify, and list all deficiencies and conformance gaps; and
- ▶ Provide NiSource with an official verification statement with a verification summary that includes the findings of the verification process and any improvements and corrective actions taken.

## CONCLUSIONS

NiSource's GHG assertions by Scope 1, Scope 2, and Scope 3 categories for the calendar year 2022 are as follows:

- ▶ Scope 1 emissions of 6,350,413 metric tonnes CO<sub>2</sub>e
- ▶ Scope 2 emissions of 76,591 metric tonnes CO<sub>2</sub>e
- ▶ Scope 3 emissions of 51,062,672 metric tonnes CO<sub>2</sub>e
  - Upstream emissions of 2,074,295 metric tonnes CO<sub>2</sub>e
  - Downstream (Gas NiSource owns) emissions of 10,104,049 metric tonnes CO<sub>2</sub>e
  - Downstream (Gas NiSource does not own) emissions of 38,884,328 metric tonnes CO<sub>2</sub>e

Based on verification activities performed, Trinity attests with a **limited assurance** that no discrepancies were identified that would indicate that the activity data, emissions calculations, and equations supporting the company's GHG emission quantities reported to CDP are not represented fairly in accordance with WRI/WBCSD GHG Protocols.

## LIMITATIONS

Trinity's work did not include visits or physical inspections of any of NiSource's operating facilities. Trinity's approach to this verification was not intended to detect all weaknesses in management controls. The verification was performed on corporate management controls on a sample basis, as noted previously. Further, it should be noted that the reliability of environmental data may be subject to inherent uncertainties, based on the established methods used to measure or calculate the underlying information.

## INDEPENDENCE

Trinity is an independent professional services firm that specializes in environmental, health and safety, and sustainability compliance, risk, and performance management. Trinity is ISO 9001:2015 certified at its corporate office in Dallas, Texas. Trinity's Quality Management System, based on the ISO standard, is implemented throughout its consulting operations, including verification services companywide. Trinity was not involved in the preparation of any part of NiSource's data or report. This engagement is Trinity's sixth year of providing verification services for NiSource.

### TRINITY CONSULTANTS



Charles C. Lee, Ph.D.  
Principal Consultant | Manager of Consulting Services – Irvine  
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September 29, 2023

Enclosures: Attachment 1 – Verification Plan  
Attachment 2 – Sampling Plan  
Attachment 3 – Materiality Assessment Summary  
Attachment 4 – Log of Issues and Findings

**ATTACHMENT 1**  
**Verification Plan**

# 2022 CDP CLIMATE DATA - VERIFICATION PLAN

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September 2023

Project 230501.0048



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NiSource Inc. (“NiSource”) is one of the nation’s largest natural gas distribution companies, as measured by the number of customers. NiSource’s principal subsidiaries include NiSource Gas Distribution Group, Inc., a natural gas distribution holding company, and Northern Indiana Public Service Company (“NIPSCO”), a gas and electric company. NiSource’s natural gas distribution operations serve approximately 4 million customers in six states. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns five<sup>1</sup> distribution subsidiaries that provide natural gas to approximately 2.3 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, and Maryland. NiSource generates, transmits, and distributes electricity through its subsidiary NIPSCO to approximately 468,000 customers in 30 Northern Indiana counties and engages in wholesale and transmission transactions.

Trinity Consultants, Inc. (“Trinity”) was contracted by NiSource to verify its greenhouse gas (“GHG”) emissions inventory for its global operations for the 2022 calendar year. NiSource is reporting GHG emissions to the 2023 Carbon Disclosure Project (“CDP”) Investor Questionnaire. According to CDP requirements, this annual report can be independently verified by accredited Verification Bodies (“VB”). The GHG inventory compiled by NiSource and the GHG inventory verification performed by Trinity is a component of NiSource’s long-term GHG management strategy.

### Purpose

According to the CDP verification standards, which include ISO 14064-3 “Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions,” the accredited VB is required to obtain sufficient information from NiSource to prepare a Verification Plan. The Verification Plan shall be developed using the following minimum information:

- ▶ Information to allow the verification team to develop a general understanding of the facility or entity boundaries, operations, emissions, sources and electricity transactions, as applicable;
- ▶ Information regarding the training or qualification of personnel involved in developing the emissions data report;
- ▶ Description of the methodologies used to quantify and report greenhouse gas emissions, electricity consumptions, and other required data; and
- ▶ Information about data management systems used to track greenhouse gas emissions, electricity consumption, and other required data.

### Scope of Services

According to Trinity’s proposal, the scope of work for this verification project is in general accordance with requirements set forth by ISO 14064-3, which include the following material tasks:

- ▶ Preparation of Verification Plan
- ▶ Preparation of Sampling Plan
- ▶ Data Evaluation – Materiality and Conformance Analysis
- ▶ Verification Statement preparation

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<sup>1</sup> NiSource sold Columbia Gas of Massachusetts in calendar year 2020.

Unless identified explicitly by our proposal, all other tasks or work are not included in the scope of services for this verification project and are deemed non-scope items.

### **Limitations and Exceptions**

This plan and accompanying documents have been prepared following generally accepted practices provided by applicable rules and protocols and contains all of the limitations inherent. The conclusions, findings, and opinions resulting from the implementation of this Verification Plan will be based in part on the information provided by NiSource, its representatives, or others. The possibility remains that such information provided by others is incorrect. If so, Trinity must be notified immediately to determine whether any modifications to our conclusions, findings, or opinions are necessary.



## NISOURCE FACILITY INFORMATION

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### Contact Information

<b>Facility Name:</b>	NiSource Inc.
<b>Facility Address:</b>	801 E. 86th Ave. Merrillville, IN 46410
<b>Facility Contact:</b>	Keith Weber
<b>Title:</b>	Program Manager
<b>Phone Number:</b>	+1 (219) 238-3029
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<b>NAICS Code:</b>	221210 – Natural Gas Distribution

### Facility Description

NiSource is one of the nation's largest natural gas distribution companies, as measured by the number of customers. NiSource's principal subsidiaries include NiSource Gas Distribution Group, Inc., a natural gas distribution holding company, and NIPSCO, a gas and electric company. NiSource derives all of its revenues and earnings from the operating results of these rate-regulated businesses substantially.

NiSource's natural gas distribution operations serve approximately 4 million customers in six states and operate about 60,000 miles of pipeline. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns five<sup>2</sup> distribution subsidiaries that provide natural gas to approximately 2.3 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, and Maryland. Additionally, NiSource also distributes natural gas to approximately 821,000 customers in Northern Indiana through its wholly-owned subsidiary NIPSCO.

NiSource generates, transmits, and distributes electricity through its subsidiary NIPSCO to approximately 468,000 customers in 30 counties in the northern part of Indiana and engages in wholesale and transmission transactions. NIPSCO facilities have a net capability of 3,400 MW, including two coal generating facilities, one natural gas generating facility, two hydroelectric generating plants, and two wind generating plants. Additionally, NIPSCO operates 500 MW of wind energy. NIPSCO transmission system consists of 12,800 miles of transmission and distribution and is interconnected with five neighboring electric utilities.

NIPSCO participates in the MISO transmission service and wholesale energy market. The MISO is a nonprofit organization created in compliance with FERC regulations to improve the flow of electricity in the regional marketplace and to enhance electric reliability. Additionally, the MISO is responsible for managing energy markets, transmission constraints, and the day-ahead, real-time, FTR, and ancillary markets. NIPSCO transferred functional control of its electric transmission assets to the MISO, and transmission service for NIPSCO occurs under the MISO Open Access Transmission Tariff. Other sources include aviation, fleet, and estimated emissions associated with natural gas and electric consumption from NiSource owned buildings.

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<sup>2</sup> NiSource sold Columbia Gas of Massachusetts in calendar year 2020.

## Report Identification

The following summarizes the key elements of the applicable greenhouse gas emissions report subject to this verification plan:

**Report Year:** 2022  
**Report Due Date:** July 26, 2023  
**Verification Ready:** March 17, 2023  
**Verification Due Date:** July 26, 2023

## Reporting Personnel

The following table identifies the relevant parties involved with providing information and/or preparation of the CDP subject to this Verification Plan, including pertinent training or qualifications:

**Table 1. List of Personnel Associated with CDP Report**

<b>Company</b>	<b>Name</b>	<b>Title</b>	<b>Qualifications</b>	<b>Contribution</b>
NiSource Inc.	Keith Weber	Program Manager	Expert level knowledge of all GHG emission quantification methods and CDP requirements	Development of GHG emission estimates and responses to CDP questionnaire

## VERIFICATION SCHEDULE

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The following is an estimated schedule for this verification project, which is subject to change based on project conditions and circumstances.

**Start Date:** March 17, 2023

**Expected Completion:** July 26, 2023

**Personnel to Interview:** Keith Weber

Trinity will interview the various personnel who are involved in the quality assurance of reported data during the verification process and will review additional information necessary to resolve and complete any issues raised during the desk review. The objective of the interview will be to:

- ▶ Understand the GHG management system; and
- ▶ Verify that the data has been monitored, transferred, and reported under the requirements.

Trinity will finalize the verification deliverables upon the receipt of satisfactory responses to the list of findings. This final verification deliverable will briefly document the verification process, methodology, and results. The deliverable will indicate whether the emissions data report, as monitored and reported, meets the WBCSD/WRI GHG Protocol criteria. The verification statement and supporting documentation will undergo a senior internal review. The documentation will then be submitted to NiSource. Following the completion of the verification process, Trinity will issue the verification statement. NiSource will be responsible for submission to the CDP.

## VERIFICATION PLANNING

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The verification planning involved the activities listed below:

1. A preliminary assessment to identify the root causes of actual or potential errors and control system weaknesses;
  - ▶ NiSource's data has been reviewed to identify any actual or potential errors.
  - ▶ At this stage, no actual errors have been identified.
  - ▶ Areas of potential errors have been assessed in detail in the sampling plan.
  - ▶ The sampling plan outlines the risk assessment that is conducted based on the review of the information systems and controls.
2. An assessment of past verifications either of the organization or similar organizations in the same industry;
  - ▶ There is no change in geographic boundaries, organizational boundaries, and operational boundaries.
3. Identification of specific risks and types of material discrepancies. The risks identified are:
  - ▶ Magnitude of emissions
  - ▶ The complexity of the scope of the organization's emissions
  - ▶ Emissions calculations
  - ▶ Data acquisition equipment, including sources (meters, CEMS, procedures, analytical equipment, calibrations, and maintenance)
  - ▶ Data sampling and frequency (which data are used and how often data is collected)
  - ▶ Data processing and tracking (including the manipulation and transformation of raw data)
  - ▶ Management policies or practices in developing emissions data reports (i.e., accountability, QA/QC procedures, sign off)
4. The design of an appropriate sampling plan to detect material discrepancies.
  - ▶ The sampling plan is prepared based on the above-identified risks.

## EMISSION SOURCES

The primary greenhouse gas emission sources at NiSource’s facilities are as follows:

- ▶ Fuel combustion sources, including the following:
  - Natural gas combustion units (including building heat units, compressors, etc.)
  - Diesel combustion units
  - Electric generation units (natural gas, coal)
  - Customer end-use natural gas combustion
- ▶ Electricity related sources, including:
  - Electricity transmission and distribution
  - Electricity transmission and distribution losses
  - Electricity purchases
- ▶ Fugitive sources, including the following:
  - Local natural gas distribution pipelines and station fugitives
  - Liquefied natural gas/petroleum gas storage facility fugitives
  - Underground storage facility fugitives
- ▶ Mobile sources
- ▶ SF<sub>6</sub> used in breakers

Table 2 summarizes each of the sources, along with the fuel type and emission calculation method. GHG emissions have been reported based on the following emission scopes:

- ▶ Scope 1: Stationary combustion units and auxiliary/emergency units including those reporting under the Federal Mandatory Reporting Rule, mobile and fugitive emissions, process emissions, and Refrigerants and SF<sub>6</sub>;
- ▶ Scope 2: Indirect emissions resulting from the purchase and use of electricity and heat/steam; and
- ▶ Scope 3: NiSource currently categorizes the power it purchases from the market and delivers to customers as Scope 3 (Category 3: Fuel-and-energy-related activities, not included in Scope 1 and 2). The customer end-use combustion emissions are included in this assessment (Category 11: Use of sold products).

**Table 2. NiSource Greenhouse Gas Emission Sources**

Reported Sources	Type of Fuel	Calculation Methodology
Combustion sources (Scope 1 Emissions)	Natural gas, coal, diesel, jet fuel, gasoline, LNG, LPG	Emission factors from: <ul style="list-style-type: none"> <li>• CBECS (2018 Data) Published 2023</li> <li>• 40 CFR 98 Subpart C Tables</li> <li>• 40 CFR 98 Subpart W Tables</li> <li>• EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks</li> </ul>
Purchased Electricity and Electricity Transmission and Distribution Losses (Scope 2 Emissions)	Not Applicable	Emission factors from: <ul style="list-style-type: none"> <li>• CBECS (2018 Data) Published 2023</li> <li>• eGrid (2021 Data) Published 2023</li> </ul>

Reported Sources	Type of Fuel	Calculation Methodology
Purchased/Distributed Electricity and Customer End-Use Combustion Emissions (Scope 3 Emissions)	Natural gas	Emission factors from: <ul style="list-style-type: none"> <li>• eGrid (2021 Data) Published 2023</li> <li>• 40 CFR 98 Subpart C Tables</li> </ul>

NiSource breaks their GHG emissions down by grouping GHG contributing activities. These activities are listed below (all activities are Scope 1 unless otherwise noted):

1. Local Gas Distribution – Fugitive & Vented Sources
2. Local Gas Distribution – Combustion Sources
3. Underground Storage Facilities – Fugitive, Vented & Combustion
4. Mobile Sources
5. Building Natural Gas Usage
6. LNG/LPG – Fugitive & Combustion Sources
7. Electrical Generation Sources
8. Electric Transmission (SF<sub>6</sub>)
9. Building Electricity Usage (Scope 2)
10. Electric Transmission and Distribution Line Losses (Scope 2)
11. Electricity Distribution (Scope 3 - Category 3: Fuel-and-energy-related activities, not included in Scope 1 and 2)
12. Customer End-Use Emissions (Scope 3 - Category 11: Use of sold products)

NiSource estimates building Electricity and Natural Gas usage based on the size of their facilities and their respective locations. An internal department in NiSource maintains, collects, and updates lease/building information for NiSource properties throughout the country every year. The mobile source data is obtained from fuel usage reports which are tracked and generated by a third-party fleet management provider.

The fuel used in electricity generation equipment is recorded in a software system called Aligné. The system aggregates daily usage data from gas meters or user inputs and aggregates them in monthly reports. For equipment that combusts fuel not recorded in Aligné, operators manually record on fuel usage on documents that are handed to the environmental compliance team to calculate emissions. The electricity that NiSource purchases through MISO and distributes to consumers is obtained in the annual purchase records/contract with MISO.

Fugitive emissions are accounted for by using the component count method described in 40 CFR Part 98 Mandatory Greenhouse Gas Reporting Program Subpart W for Oil and Gas Production Facilities or emission factors from EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks. NiSource facility operators take an annual inventory of the number of components/equipment that are in service and report it to the environmental compliance team.

Customer end-use combustion emissions are based on the total natural gas supply delivered to customers, as reported in the U.S. Energy Information Administration (EIA) Form EIA-176 reports and natural gas combustion emission factors in 40 CFR 98, Appendix Table C-1.

## REQUESTED DOCUMENTS

Trinity requested numerous documents and other supporting technical information, which will be reviewed as part of the accredited verification process. Table 3 summarizes the key documents requested for verification.

**Table 3. Primary Documents Requests**

Date Requested	Date Received	Document Description
March 20, 2023	April 6, 2023	<ul style="list-style-type: none"> <li>• GHG inventory workbooks</li> <li>• EPA GHG reports</li> <li>• Natural gas data</li> <li>• Underground storage data</li> <li>• Mobile equipment data</li> </ul>
March 20, 2023	April 10, 2023	<ul style="list-style-type: none"> <li>• Building natural gas, electricity data</li> <li>• Real estate list of all NiSource sites</li> <li>• Electric generation data</li> <li>• Electricity generation data – renewable generation backup</li> <li>• Customer end-use data (EIA-176)</li> <li>• CEMS data for Hg, PM, NOx, and SO2</li> <li>• Electricity generation data - natural gas backup data</li> <li>• Electricity generation data – diesel fuel usage sample</li> </ul>
March 20, 2023	April 13, 2023	<ul style="list-style-type: none"> <li>• Additional GHG inventory workbooks</li> <li>• GHG Summary Workbook</li> <li>• SF6 data</li> <li>• Employment records/workforce data</li> </ul>
March 20, 2023	April 17, 2023	<ul style="list-style-type: none"> <li>• Electric generation backup data</li> <li>• SF6 data</li> <li>• Aviation backup data</li> </ul>
March 20, 2023	April 18, 2023	<ul style="list-style-type: none"> <li>• LNG, LPG data</li> <li>• LNG/LPG backup data</li> <li>• Electricity generation data – renewable generation backup</li> </ul>
April 19, 2023	April 20, 2023	<ul style="list-style-type: none"> <li>• Underground storage backup data</li> <li>• Corrected electric generation spreadsheet</li> <li>• Corrected indirect electric spreadsheet</li> <li>• Corrected building natural gas spreadsheet</li> <li>• SF6 data clarification</li> <li>• Underground storage data clarification</li> </ul>
April 19, 2023 / April 21	April 21, 2023	<ul style="list-style-type: none"> <li>• Electricity generation backup data</li> <li>• Corrected electric generation spreadsheet</li> <li>• Corrected indirect electric spreadsheet</li> <li>• Lease sample</li> </ul>



Date Requested	Date Received	Document Description
		<ul style="list-style-type: none"> <li>• Underground storage backup data</li> <li>• Corrected mobile equipment spreadsheet</li> <li>• Gas meter calibration records</li> <li>• Renewable purchases backup data</li> <li>• Additional SF6 clarification</li> </ul>
April 19, 2023 / April 21	April 21, 2023	<ul style="list-style-type: none"> <li>• Updated building natural gas data</li> </ul>
April 21, 2023	May 23, 2023	<ul style="list-style-type: none"> <li>• Updated GHG Summary file</li> <li>• Updated customer emissions workbook</li> </ul>
March 20, 2023	May 25, 2023	<ul style="list-style-type: none"> <li>• Ash/gypsum data</li> <li>• Waste data</li> <li>• Water data</li> </ul>
April 21, 2023	May 25, 2023	<ul style="list-style-type: none"> <li>• Coal feeder calibration data</li> </ul>
March 20, 2023	May 31, 2023	<ul style="list-style-type: none"> <li>• Additional waste data</li> </ul>
March 20, 2023	June 1, 2023	<ul style="list-style-type: none"> <li>• Ash backup data</li> </ul>
June 1, 2023	June 2, 2023	<ul style="list-style-type: none"> <li>• Updated ash data</li> <li>• Finalized ash/gypsum data</li> <li>• Updated water data</li> </ul>
June 1, 2023	June 5, 2023	<ul style="list-style-type: none"> <li>• Final summary of CDP data to be reported</li> <li>• Final DJSI Metrics</li> </ul>

**ATTACHMENT 2**

**Sampling Plan**

# 2022 CDP CLIMATE DATA - SAMPLING PLAN

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September 2023

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**Trinity**  
Consultants 

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# 1. INTRODUCTION

Trinity Consultants (“Trinity”) has developed this sampling plan (“the plan”) for NiSource Inc. (“NiSource”) based on the guidance provided in ISO 14064-3. The plan will be revised as necessary during the course of the verification process, as updates and other information are received. The purpose of the plan is to develop a procedure to evaluate and confirm emissions data reported to the Carbon Disclosure Project (“CDP”). The plan is based on an analysis of the largest emission sources and identification of specific risks associated with NiSource’s GHG Inventory reporting.

NiSource is one of the nation’s largest natural gas distribution companies, as measured by the number of customers. NiSource’s principal subsidiaries include NiSource Gas Distribution Group, Inc., a natural gas distribution holding company, and Northern Indiana Public Service Company (“NIPSCO”), a gas and electric company. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns five<sup>1</sup> distribution subsidiaries that provide natural gas to approximately 2.3 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, and Maryland. NiSource also distributes natural gas to about 821,000 customers in Northern Indiana through its wholly-owned subsidiary NIPSCO. NiSource generates, transmits, and distributes electricity through its subsidiary NIPSCO to approximately 468,000 customers across 30 Northern Indiana counties by engaging in wholesale and transmission transactions. NIPSCO owns and operates three coal-fired electric generating stations, a Combined Cycle Gas Turbine (CCGT) plant with net capability of 535 MW, three gas-fired generating units located at NIPSCO’s coal-fired electricity generating stations with a net capability of 196 MW, and two hydroelectric generating plants with a net capability of 10 MW.

**Table 1-1. List of NiSource Inc. Emission Sources (All Scopes)**

Emission Source	Emission Type	Reported Emissions	
		MT CO <sub>2</sub> e	Contribution (%)
Gas Distribution – Fugitive & Vented	Scope 1	745,337	1.30
Gas Distribution – Combustion	Scope 1	65,977	0.11
Underground Storage – Fugitive & Vented	Scope 1	24,824	0.04
Underground Storage – Combustion	Scope 1	4,745	0.01
Mobile	Scope 1	51,521	0.09
Indirect Electric	Scope 2	25,843	0.04
Building Natural Gas	Scope 1	7,277	0.01
LNG/LPG	Scope 1	1,104	0.00
Electrical Generation	Scope 1	5,436,060	9.46
Purchased Power	Scope 3	2,074,295	3.61
Electric Transmission & Distribution (line losses)	Scope 2	50,748	0.09
Customer End-Use (Gas NiSource owns)	Scope 3	10,104,049	17.58

<sup>1</sup> NiSource sold Columbia Gas of Massachusetts in calendar year 2020.

Emission Source	Emission Type	Reported Emissions	
		MT CO <sub>2</sub> e	Contribution (%)
Customer End-Use (Gas NiSource does not own)	Scope 3	38,884,328	67.64
Electric Transmission & Distribution (SF <sub>6</sub> )	Scope 1	13,570	0.02
<b>TOTAL</b>		<b>57,489,676</b>	<b>100.00</b>

**Table 1-2. List of NiSource Inc. Emission Sources (Scope 1 and 2)**

Emission Source	Emission Type	Reported Emissions	
		MT CO <sub>2</sub> e	Contribution (%)
Gas Distribution – Fugitive & Vented	Scope 1	745,337	11.60
Gas Distribution – Combustion	Scope 1	65,977	1.03
Underground Storage – Fugitive & Vented	Scope 1	24,824	0.39
Underground Storage – Combustion	Scope 1	4,745	0.07
Mobile	Scope 1	51,521	0.80
Indirect Electric	Scope 2	25,843	0.40
Electric Transmission & Distribution (line losses)	Scope 2	50,748	0.79
Building Natural Gas	Scope 1	7,277	0.11
LNG/LPG	Scope 1	1,104	0.02
Electrical Generation	Scope 1	5,436,060	84.58
Electric Transmission & Distribution (SF <sub>6</sub> )	Scope 1	13,570	0.21
<b>TOTAL</b>		<b>6,427,004</b>	<b>100.00</b>

The majority of Scope 1 emissions are generated from the combustion of natural gas, coal, LNG, LPG, and diesel, mobile and fugitive emissions, process emissions, and SF<sub>6</sub>. Scope 2 emissions are the result of purchased electricity that has been generated outside of the facilities' boundaries and line losses resulting from electric transmission and distribution. Scope 3 emissions are from the power that has been purchased from the market and delivered to customers and end-use customer natural gas combustion emissions (*Category 3: Fuel-and-energy-related activities, not included in Scope 1 and 2 and Category 11: Use of sold products* respectively).

Although verification is not currently a mandatory requirement under CDP, NiSource has voluntarily opted to undergo the verification process for an increased benefit in the CDP scoring methodology. NiSource understands that the verification review process consists of a review of the GHG data as well as the systems, models, protocols, and controls in place for GHG data collection and management. As such, independent verifiers (such as Trinity) will be able to bring objectivity and experience to the data review process and identify any gaps. Ultimately this will assist NiSource's efforts for continuous improvement of its reporting practices and the accuracy of the data, which may be used for internal development and cost-saving programs.

The CDP requires that verification be performed to a standard that is recognized and approved by CDP, and conforms to the following criteria for verification standards:

- ▶ **Relevance:** The standard should specify that it relates to a third-party audit or verification process. For a program related standard, third-party verification should be specified as part of the program compliance.
- ▶ **Competency:** The standard should include a statement regarding the competency of verifiers, where its program and verification parties are stipulated. Competency is assumed to be determined by the second party and therefore, need not be explicit in the standard.
- ▶ **Independence:** The standard should contain a requirement that ensures that impartiality is maintained in cases where the same external organization compiles and verifies a responding company's inventory.
- ▶ **Terminology:** The standard should specify the meaning of any terms used for the level of the finding (e.g., limited assurance; reasonable assurance).
- ▶ **Methodology:** The standard should describe a methodology for the verification that includes the verification of the process and/or system controls and the data.
- ▶ **Availability:** The standard should be available for scrutiny.

The CDP requires that verification be performed to a standard that is recognized and approved by CDP. Selected examples of approved standards include, but are not limited to:

- ▶ ISO 14064-3;
- ▶ Accountability 1000 Assurance Standard;
- ▶ The Climate Registry (TCR) General Verification Protocol; or
- ▶ California GHG MRR Verification Standards (CA MRR).

Trinity is an accredited verification body per California GHG MRR verification standards, which is one of the approved verification standards that meets CDP's verification criteria. The following discussion provides an overview of inventory verification.



## 2. RANKING BY EMISSION SOURCES

ISO 14064-3 requires the Sampling Plan include a ranking of the emission sources by the amount of contribution to total MT CO<sub>2</sub> and ranking of the emissions sources with the largest calculation uncertainty, which are provided by the following tables. Trinity will assess the level of uncertainty (excluding inherent uncertainty) associated with each emission source in NiSource's inventory to identify the particular facilities, emission sources, and GHGs that pose the highest risk of material misstatements.

**Table 2-1. NiSource CDP Sampling Plan – Ranking of All Reported Emission Sources**

<b>Rank</b>	<b>Source Description</b>	<b>Reported Total (MT CO<sub>2</sub>e)</b>	<b>Contribution (%)</b>
<b>1</b>	Customer End-Use (Gas NiSource does not own)	38,884,328	67.64
<b>2</b>	Customer End-Use (Gas NiSource owns)	10,104,049	17.58
<b>3</b>	Electrical Generation	5,436,060	9.46
<b>4</b>	Purchased Power	2,074,295	3.61
<b>5</b>	Gas Distribution – Fugitive & Vented	745,337	1.30
<b>6</b>	Gas Distribution – Combustion	65,977	0.11
<b>7</b>	Mobile	51,521	0.09
<b>8</b>	Electric Transmission & Distribution (line losses)	50,748	0.09
<b>9</b>	Indirect Electric (location-based method)	25,843	0.04
<b>10</b>	Underground Storage – Fugitive & Vented	24,824	0.04
<b>11</b>	Electric Transmission & Distribution (SF <sub>6</sub> )	13,570	0.02
<b>12</b>	Building Natural Gas	7,277	0.01
<b>13</b>	Underground Storage – Combustion	4,745	0.01
<b>14</b>	LNG/LPG	1,104	0.00
	<b>Total</b>	<b>57,489,676</b>	<b>100.00</b>

**Table 2-2. NiSource CDP Sampling Plan – Ranking of Largest Uncertainty for Emission Sources**

<b>Rank</b>	<b>Source Description<sup>a</sup></b>	<b>Risk Description</b>
<b>1</b>	Electrical Generation	This source has the largest contribution to the Scope 1 and 2 CO <sub>2</sub> e emissions, accounting for > 84% of the reported amount and therefore have the largest impact on materiality.  These sources account for < 16% of the total reported Scope 1 and 2 CO <sub>2</sub> e emissions and therefore have the least impact on materiality. The sources are ranked in order of uncertainty.
<b>2</b>	Gas Distribution – Fugitive & Vented	
<b>3</b>	Gas Distribution – Combustion	
<b>4</b>	Mobile	
<b>5</b>	Electric Transmission & Distribution (line losses)	
<b>6</b>	Indirect Electric (location-based method)	
<b>7</b>	Underground Storage – Fugitive & Vented	
<b>8</b>	Electric Transmission & Distribution (SF <sub>6</sub> )	
<b>9</b>	Building Natural Gas	
<b>10</b>	Underground Storage – Combustion	
<b>11</b>	LNG/LPG	

a. Includes Scope 1 and 2 emission sources.

Based on the risk assessment above, the activities identified as high or medium risk will be further investigated. The above-identified risks are relevant for all the emission sources for NiSource, including stationary, mobile, fugitive, refrigerants, and purchased electricity. A further assessment of the magnitude of emissions from each source has been conducted to determine the specific facilities that will be reviewed as part of the sampling plan in the verification process.

## 3. UNCERTAINTY RISK ASSESSMENT

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ISO 14064-3 requires a qualitative narrative of uncertainty risk assessment in the following areas: Data acquisition equipment, data sampling and frequency, data processing and tracking, emissions calculations, product data, data reporting, and management policies and practices.

### 3.1 Data Acquisition Equipment

#### 3.1.1 Natural Gas

Natural Gas is utilized in the following emission sources:

- ▶ Local Distribution Companies NG Combustion
- ▶ Local Distribution Companies NG Fugitive and Vented
- ▶ Electricity Generation Combustion
- ▶ Building Natural Gas Usage
- ▶ Facility Equipment Combustion (LNG LPG Facilities)
- ▶ Liquefied Natural Gas Usage - Equipment Fugitive and Vented
- ▶ Underground Storage Wells
- ▶ Customer Emissions

NiSource measures the total amount of natural gas delivered to end-users for each facility. This amount is multiplied by a throughput-based CO<sub>2</sub> equivalent emission factor for each respective facility to calculate the amount of CO<sub>2</sub> emissions from LDC natural gas combustion. For this verification, the verification team will request natural gas distribution records for a few selected facilities. These records are from the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration gas distribution system annual reports.

The LDC facility fugitive emissions are estimated using EPA subpart W component/service count methodology. NiSource surveys each facility for components that could leak natural gas such as meters, pipelines, regulators, transmission – distribution stations, and metering & regulation stations, and calculates GHG emissions using the most recent EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks emission factors for natural gas system sources.

NiSource records the total natural gas usage for each electricity generation station used to generate electricity. The facilities track natural gas usage using a database called Align, which records information coming out of the Distributed Control System including gas flow transmitters. Additionally, each facility receives monthly gas bill statements from local Natural Gas suppliers. For this verification, the verification team will request either gas meter calibration records and gas bill statements for a few selected electricity generation stations to verify the natural gas usage used for electricity generation.

NiSource estimates the natural gas usage of its facilities by taking the size (square footage) of their facility buildings and multiplying it by natural gas consumption factors obtained from the EIA – Commercial Buildings Energy Consumption Survey (CBECS). For the purpose of this verification, the verification team will request records of the actual square footage for a few selected facilities and viewed via screenshare.

The LNG / LPG facility GHG emissions are separated into combustion emissions and fugitive/vented emissions. NiSource estimates NG combustion emissions by multiplying the total annual natural gas throughput for each

equipment (boiler, vaporizer, engine, etc.) with default emission factors using 40 CFR 98 Equation C-1. For the purpose of this verification, the verification team will request records that demonstrate how the annual natural gas throughput for a few selected equipment is obtained. NiSource estimates fugitive emissions from LNG / LPG facilities using the most recent EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks emission factors for natural gas system sources. This takes into account the number of facilities the engines at LNG storage facilities to estimate emissions. For this verification, the verification team will not request fugitive data as previous verification efforts have not found this to be an issue, nor were there any outstanding issues during the 2022 verification efforts.

For underground storage facilities, NiSource estimates emissions from three types of activities: (1) equipment fuel combustion, (2) vented and fugitive emissions from compressors, wells, and stations, (3) equipment leaks and wellhead leaks. NiSource uses the most recent EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks emission factors for natural gas system sources to calculate fugitive and vented leaks. NiSource obtains the annual natural gas throughput for each combustion equipment and calculates GHG emissions using 40 CFR 98 Equation C-1. For the purpose of this verification, the verification team will request a record showing how the annual natural gas throughput for selected combustion equipment is obtained.

For customer emissions, NiSource estimates the emissions from deliveries of natural gas that NiSource does and does not own to end-use consumers by relying on EIA 176 reports to get the volumes and heat contents of the natural gas. Emissions are calculated using 40 CFR 98 Equation C-1.

### **3.1.2 Diesel Fuel**

Diesel Fuel is utilized in the following emission sources:

- ▶ Facility Equipment Combustion (LNG LPG Facilities)
- ▶ Electricity Generation Combustion
- ▶ Mobile Sources

NiSource estimates diesel combustion emissions by multiplying the total diesel fuel throughput for various equipment in the LNG and LPG facilities with default emission factors using 40 CFR 98 Equation C-1. The amount of diesel fuel combusted in the LNG and LPG facilities is minimal, and therefore the verification team will request records for this source based on availability.

NiSource records the annual diesel fuel usage for various pump engines and emergency generators in its electricity generation facilities. The GHG emissions are calculated using 40 CFR 98 Equation C-1. For this verification, the verification team will request the records showing diesel fuel usage of at least one piece of equipment.

NiSource calculates diesel fuel usage for off-road mobile equipment based on monthly purchase records from suppliers. Also, NiSource calculates on-road heavy-duty truck and other company car diesel usage based on fuel purchases (in gallons) maintained by a third-party fleet management provider. The emission factors are obtained from various sources (40 CFR 98, Appendix Table C-1, Bureau of Transportation, EPA420-F-05-001, and Department of Energy Technical Guidelines).

### **3.1.3 Coal**

Coal is utilized in the following emission source:

- ▶ Electricity Generation Combustion

NiSource records the total coal throughputs for each electricity generation station. The facilities track coal usage using a database called Aligne, which records information coming out of the Distributed Control System including coal feed scales. The facilities also receive monthly coal purchase statements from coal suppliers. For purposes of this verification, the verification team will request coal purchase records for selected electricity generation station and calibration records for at least one feed scale.

### 3.1.4 Gasoline

Gasoline is utilized in the following emission sources:

- ▶ Mobile Sources

NiSource calculates gasoline usage for off-road mobile equipment based on monthly purchase records from suppliers. NiSource calculates gasoline usage for its cars, SUVs, Vans, Light Duty and Medium Duty trucks based on fuel purchases (in gallons) maintained by a third-party fleet management provider. The emission factors are obtained from various sources (40 CFR 98, Appendix Table C-1, Bureau of Transportation, EPA420-F-05-001, and Department of Energy Technical Guidelines).

### 3.1.5 Jet Fuel

Jet Fuel is utilized in the following emission sources:

- ▶ Mobile Sources

NiSource calculates GHG emissions from jet fuel for its aviation sources using 40 CFR 98 Equation C-1. The annual throughput for jet fuel is obtained from NiSource Aviation Services records.

### 3.1.6 Electricity

NiSource estimates the purchased electricity usage of its facilities by taking the size of its facility buildings and multiplying it by electricity consumption factors obtained from the EIA – Commercial Buildings Energy Consumption Survey (CBECS), aligned with the location-based method. For the purpose of this verification, the verification team will request records of the actual square footage for a few selected facilities.

NiSource estimates the transmission losses from MISO and NIPSCO-owned purchase power using the amount of transmission loss (MWh) and the most recent 2021 eGRID (released 1/30/2023) emission factors. The eGRID rate for MISO balancing authority used (BACO2RTA, BACH4RTA and BAN2ORTA). For this verification, the verification team will request records to verify how the transmission losses were determined.

NiSource also purchases electricity from several renewable suppliers, including MISO, Barton, Buffalo Ridge, Jordan Creek, Rosewater, Indiana Crossroads I, and Feed-In Tariff. This purchased electricity is distributed to customers, and NiSource classifies this emission source as Scope 3. For this verification, the verification team requested settlement reports and transmission loss records from MISO and the Renewable Energy Certificate audit done by a third party, as these sources do not contribute to GHG emissions.

### 3.1.7 LNG/LPG

For LNG/LPG emissions, NiSource estimates the emissions using the combustion and fugitive/vented emissions at for CVA and NIPSCO. Combustion emissions are calculated using 40 CFR 98 Equation C-1. NiSource estimates fugitive emissions from LNG / LPG facilities using the most recent EPA Inventory of U.S. Greenhouse

Gas Emissions and Sinks emission factors for natural gas system sources. This takes into account the number of facilities the engines at LNG storage facilities to estimate emissions. Vented emissions are estimated using the amount of gas vented and the density of CH<sub>4</sub>.

## **3.2 Data Sampling and Frequency**

### **3.2.1 Natural Gas**

Natural gas data was provided for the entire year for the selected emission sources. The verification body sees it feasible to verify data for the entire year for the selected sources. For R.M. Schahfer Units 14, 15, 16A/B, 17, 18, the monthly closing statements from accounting are used to verify the data against the Aligne database. It is noted that monthly closing statements were provided for all units. Additionally, the verification team requested calibration records Natural Gas-fired units CT-11 and CT-12 at Sugar Creek and Natural Gas-fired units 16A and 16B at R.M. Schahfer.

Additionally, natural gas data used by the facilities are calculated based on square footage. The data was provided for all facilities, and the verification body sees it as sufficient to verify only selected facilities.

In addition, all EIA 176 reports are sampled against the scope 3 customer emissions. The verification body sees it feasible to verify data for all facilities for the selected sources.

### **3.2.2 Diesel Fuels**

Diesel fuel data is provided by the supplier and was requested for the mobile sources and provided for the entire year. The verification body sees it as appropriate to verify the entire year of data. Diesel fuel used in miscellaneous sources at electricity generation stations was sampled for a few selected sources.

### **3.2.3 Coal**

Coal throughput data was provided for the entire year for the selected sources. The verification body sees it as appropriate to verify the data for the entire year for the selected sources. The invoices for Michigan City U-12 were compared to the Aligne data. Additionally, the verification team requested the calibration records for Coal-fired U12 at Michigan City.

### **3.2.4 Gasoline**

Gasoline data was provided on a fuel-basis for the entire year. The verification body sees it as appropriate to verify the provided data for the entire year.

### **3.2.5 Jet Fuel**

Jet fuel is provided by NiSource Corporate Services and was provided for the entire year. The verification body sees it as appropriate to verify the provided data for the entire year.

### **3.2.6 Electricity**

Electricity usage data was provided in the form of square footage for all of the NiSource facilities. The information was provided for all facilities. The verification body sees it as feasible to only verify selected facilities.

One supplier, MISO, also provided the electricity that was purchased for distribution. The verification body found it adequate to only verify the transmission losses from the supplier, which were also audited by the Indiana Office of Utility Consumer Counselor (OUCC).

Electricity generation data was also provided daily for the entire year from the largest generating NiSource facility. The verification body sees it as adequate to only verify selected generating facilities.

### **3.2.7 LNG/LPG**

LNG/LPG data was provided through an internal spreadsheet that tracks LNG/LPG usage.

## **3.3 Data Processing and Tracking**

### **3.3.1 Natural Gas**

Natural gas data was provided for selected NiSource generating facilities. This data comes from the Distributed Control System which is based on gas transmitters and later loaded into the Aligne database, after which reports are generated and used for computing in Excel spreadsheets. Because fuel use is taken from a secondary source, the risk for uncertainty is medium due to Excel formulas, linking between spreadsheets, and reliance on internal gas meters.

### **3.3.2 Diesel Fuels**

Diesel fuel data is provided by the supplier and was requested for the mobile sources and provided for the entire year. Because the supplier directly provides the data, the risk for uncertainty is low, although there is the potential for error from Excel formulas and linking spreadsheets. Some additional facility diesel fuel usage data is based on hand-written or excel records, which are recorded and transcribed by facility personnel. The risk for uncertainty is medium due to the transcription by personnel.

### **3.3.3 Coal**

NiSource records coal usage using the Aligne database, which records data from the Distributed Control System based on coal feed scales. Reports are generated using Aligne and used for computing in Excel spreadsheets. The monthly coal statements were provided for selected facilities and compared to the provided Aligne records. The Coal feeder scale calibration for Unit 12 was also requested. Because the coal is taken from a secondary source, the risk for uncertainty is medium due to Excel formulas, linking between spreadsheets, and reliance on internal meters.

### **3.3.4 Gasoline**

NiSource calculates the total gasoline based on the total fuel usage. The fuel purchases are maintained by a third-party fleet management provider. Because the supplier directly provides the data, the risk for uncertainty is low, although there is the potential for error from Excel formulas and linking spreadsheets.

### **3.3.5 Jet Fuel**

Jet fuel is provided by NiSource Corporate Services and was provided for the entire year. Because the department instead of invoices is providing this data, the risk of uncertainty is medium, although the impact that these specific emissions have is low.

### **3.3.6 Electricity**

Electricity usage is calculated for facility buildings based on the square footage and consumption factors that are readily available. A real estate agency provides the square footage, and thus the level of uncertainty is low. Additionally, the monthly and total purchased electricity is provided by the renewable supplier; thus, the level of uncertainty is low. Additional renewable electricity purchases were verified from a third-party audit; thus, the level of uncertainty is low. Electricity generated is cataloged in Aligne based on invoices sent to NiSource's customers, and therefore the level of uncertainty is low.

### **3.3.7 LNG/LPG**

LNG and LPG usage is provided by an internal spreadsheet that keeps track of various LNG/LPG usage. Although the risk of uncertainty is medium, due to the lack of third party invoices, the impact that these specific emissions have is low.

## **3.4 Emissions Calculations**

The facility's overall GHG emissions subject to this verification scope are mostly from Natural Gas and Coal consumption used for electricity generation. Since the facility uses its records from the Distributed Control System and calibrates its gas meters and coal feed scales, the risk of uncertainty is minimized. Additionally, the natural gas and coal usage can be cross-referenced using supplier invoices. Potential calculation discrepancy can arise from the lapse in data transfer from the meters/scales to the Distributed Control System. The verification team will evaluate the natural gas and electricity bills for the sampled facilities with priority and GHG emissions worksheet for the reporting year. The team will review the facility's GHG emissions estimation methodology to verify the proper application of formula(s), emission factors, accurate data transfer, and accuracy of calculations.



## 4. DATA CHECKS

An initial data check is performed during the desk review, and the data checks are continued throughout the verification process. Additional detail is contained in Table 4-1. The desk review includes a review of the GHG emission data report, the calculation worksheet, and other emission factors and documents provided by NiSource. The data will be checked for missing data, the accuracy of the formula and emissions factors and a QA/QC check of the spreadsheets will be completed. Trinity will cross verify the data in the spreadsheet with source data, utility bills, and review of the QA/QC procedures. Trinity will sample utility bills from the facilities based on the sampling plan for review and verification.

**Table 4-1. Data Checks**

<b>Data Check</b>	<b>Source / Product / Transaction</b>	<b>Assessment Method</b>	<b>Summary of Information Analyzed</b>
1	Monthly natural gas data	Quantitative	Review of gas meter scale calibration records and screenshare of Align Report Generation. Cross-reference of gas usage for each month versus Align records to verify usage reported in the GHG summary spreadsheet. Summation of Align records to verify reported natural gas usage used to calculated GHG emissions.
2	Electricity purchases	Quantitative	Electricity purchase records from MISO and other renewable suppliers to verify reported GHG emissions.
3	Diesel data	Quantitative	Summation of diesel delivery shipment for each month to verify reported diesel GHG emissions for all applicable facilities.
4	Coal data	Qualitative & Quantitative	Review of coal feed scale calibration records and screenshare of Align Report Generation. Cross-reference of coal delivery shipment for each month versus Align records to verify coal GHG emission for all applicable facilities. Summation of Align records to verify reported coal usage used to calculated GHG emissions.
5	Gasoline data	Quantitative	Summation of fuel purchases from third-party fleet management provider to verify usage reported in the GHG summary spreadsheet.
6	Jet fuel data	Quantitative	Cross reference of fuel usage from Corporate Services Department with usage to verify usage reported in the GHG summary spreadsheet.
7	LNG/LPG data	Quantitative	Summation of all LNG and LPG usage to verify usage reported in the GHG summary spreadsheet.

**ATTACHMENT 3**

**Materiality Assessment Summary**

## Materiality Assessment Summary

Reporting Year 2022: CDP Verification

Emission Source	Emission Scope	NiSource Calculations (MT CO <sub>2</sub> e)	Trinity Calculations (MT CO <sub>2</sub> e)	% Error
Gas Distribution - Fugitive & Vented	Scope 1	745,337	744,799	0.07%
Gas Distribution - Combustion	Scope 1	65,977	65,977	0.00%
Underground Storage	Scope 1	29,569	29,539	0.10%
Mobile	Scope 1	51,521	51,521	0.00%
Building Natural Gas	Scope 1	7,277	7,273	0.06%
LNG/LPG	Scope 1	1,104	1,104	0.04%
Electric Generation	Scope 1	5,436,060	5,436,058	0.00%
Electric Transmission & Distribution (SF6)	Scope 1	13,570	13,569	0.00%
<b>Scope 1 Total</b>	<b>Scope 1</b>	<b>6,350,413</b>	<b>6,349,841</b>	<b>0.01%</b>
Indirect Electric	Scope 2	25,843	25,832	0.04%
Electric Transmission & Distribution (line losses)	Scope 2	50,748	50,748	0.00%
<b>Scope 2 Total</b>	<b>Scope 2</b>	<b>76,591</b>	<b>76,580</b>	<b>0.01%</b>
Purchased Power	Scope 3	2,074,295	2,074,295	0.00%
Customer End-Use Emissions (Gas NiSource owns)	Scope 3	10,104,049	10,104,049	0.00%
Customer End-Use Emissions (Gas NiSource does not own)	Scope 3	38,884,328	38,884,328	0.00%
<b>Scope 3 Total</b>	<b>Scope 3</b>	<b>51,062,672</b>	<b>51,062,672</b>	<b>0.00%</b>

**Notes:**

1. This materiality assessment was based on selected sources from the enterprise.
2. Scope 1 emissions were verified for all sources, excluding fugitive and vented sources.
3. Scope 2 emissions were verified for sources limited to indirect energy from electricity purchases and line losses from electric transmission and distribution.
4. Scope 3 emissions [*Category 3: Fuel-and-energy-related activities, not included in Scope 1 and 2 and Category 11: Use of sold products*] were verified for sources limited to purchased electricity energy for distribution to end-users and customer end-use emissions respectively

**ATTACHMENT 4**

**Log of Issues and Findings**

**Log of Issues and Findings**  
Reporting Year 2022: CDP Verification

Item No.	Category	Metric	Findings / Issues	Issue Type	Resolution / Correction or Comments	Status
1	Scope 1	Electric Generation	<u>Sugar Creek</u> - Diesel fuel usage for the emergency generator and fire pump engine is inconsistent with Part 70 Quarterly Reports in "FuelUsageQ4-2022 Sugar Creek" spreadsheet.	Calculation	<u>4/20/2023</u> : Diesel fuel usage updated to be consistent with Part 70 Quarterly Reports.	Corrected
2	Scope 1	Building Natural Gas	<u>All</u> - Calculated gas consumption emission factors (MMBtu/sq ft) using CBECS 2018 Natural Gas Factors uses incorrect HHV for Natural Gas.	Calculation	<u>4/20/2023</u> : Updated HHV of natural gas to align with Table C-1 to Subpart C of 40 CFR 98.	Corrected
3	Scope 1	Building Natural Gas	<u>COH</u> - The total square footage for COH buildings is inconsistent with the total square footage for COH in "Real Estate Facilities Leased-Owned" spreadsheet.	Calculation	<u>4/20/2023</u> : Removed duplicate entry of COH building in calculation spreadsheet and created unique names for each building to align with total square footage provided by NiSource corporate.	Corrected
4	Scope 1	Building Natural Gas	<u>COH, NIPSCO, CPA</u> - Please provide records for the square footage of the following sites: Arena District (COH), Hammond Operating Center (NIPSCO), and Monaca Operating Center (CPA).	Additional Information	<u>4/21/2023</u> : Lease records provided for the requested sites but small discrepancies observed between provided data and that used in calculations. Hammond Operating Center Lease data not provided due to lack of availability. Requested additional lease data and clarification on how the "Real Estate Facilities Leased-Owned" spreadsheet is maintained (See Item No. 17).	Additional Information Needed (See Item No. 17)
5	Scope 1	SF6	<u>NIPSCO</u> - Please provide data to support the difference in "End of Year Inventory" for SF6 of 8,045.5 lbs and that from the "2022 Nipsco End of Year SF6 Audit" from 12/12/2022 which shows 7,629.6 lbs.	Additional Information	<u>4/20/23</u> : Portable SF6 gas reclaim unit and portable SF6 gas carts are not included in the audit but are added to the year-end inventory in addition to SF6 cylinders.	No Issue
6	Scope 1	Underground Storage	<u>CPA</u> - Natural gas HHV used in calculations is inconsistent with EPA GHGI default for natural gas.	Calculation / Additional Information	<u>4/20/23</u> : CPA has a gas sample analyzed each year and the HHV from the gas sample was used in calculations. Gas sample provided to confirm HHV.	No Issue
7	Scope 1	Underground Storage	<u>CPA</u> - Combustion fuel consumption is inconsistent with data in "Emission Inventory Production Report - Blackhawk 2022". Please provide "Blackhawk fuel consumption and op hours" PDF containing hand written fuel consumption records for 2022.	Calculation	<u>4/21/23</u> : Backup provided. Emission inventory report through PA DEP rounds and aggregates emission sources leading to slight differences compared to raw data. Percent error for combustion sources is less than 1%.	No Issue

**Log of Issues and Findings**  
Reporting Year 2022: CDP Verification

Item No.	Category	Metric	Findings / Issues	Issue Type	Resolution / Correction or Comments	Status
8	Scope 1	Underground Storage	<u>NIPSCO</u> - Please provide raw data (e.g., fuel usage records) to support 21.33 MMscf of natural gas combusted for TLA#3/TLA#4 Compressors shown in "Royal Center fuel usage 2022" spreadsheet .	Additional Information	<u>4/21/23</u> : Backup data provided to support compressor natural gas usage. Data is from internal gas meters.	No Issue
9	Scope 1	SF6	<u>NIPSCO</u> - Please clarify why the 8 recycled cylinders shipped back to NIPSCO in invoice 32890478 are not included in "All 2022 SF6 Transactions NIPSCO and Linde with invoices 04132023MS"	Clarification	<u>4/21/23</u> : The line item associated with the 8 recycled cylinders represent reclaimed cylinders that were sent back to the supplier in 2021. These were empty cylinders which were reconditioned and send back to NiSource in 2022 as empty cylinders and are therefore not included in the inventory.	No Issue
10	Scope 1	SF6	<u>NIPSCO</u> - Cylinders shipped in invoice 69269701 (Order #64885189) is inconsistent with "All 2022 SF6 Transactions NIPSCO and Linde with invoices 04132023MS".	Clarification	<u>4/21/23</u> : Some of the cylinders included on the invoice were empty and were not indicated as such on the invoice. The total amount of SF6 destroyed was verified to be consistent with the calculation spreadsheet. No further information needed.	No Issue
11	Scope 1	Gas Distribution	<u>All</u> - Clarify or explain use of "Mains - Unprotected steel" CO2/CH4 emission factor for "Mains - Other" fugitive emissions.	Clarification	<u>4/21/23</u> : Per call with Keith Weber, if a main is classified as other, it is most likely unprotected steel based on distribution knowledge. This is also a reasonably conservative assumption based on Inventory of U.S. Greenhouse Gas Emissions and Sinks emission factors.	No Issue
12	Scope 1	Mobile Equipment	<u>All</u> - Please confirm the spreadsheet "NiSource All fuel and Mileage, 2022" is generated based on data by a third-party fleet management provider.	Clarification	<u>4/21/23</u> : Per call with Keith Weber, it was confirmed that the spreadsheet is provided by NiSource's third-party fleet management provider.	No Issue
13	Scope 1	Mobile Equipment	<u>NIPSCO</u> - Calculated MMBtu of jet fuel uses incorrect HHV for jet (N714CG).	Calculation	<u>4/21/23</u> : Mobile equipment calculation spreadsheet updated to reference the correct HHV for jet fuel in calculations.	Corrected
14	Scope 1	Electric Generation	<u>Sugar Creek</u> - Please explain NG usage differences between those recorded in Align database and those from the Midwestern Gas Transmission Company Invoices.	Calculation / Clarification	<u>4/21/23</u> : Align values are calculated from fuel flow gas meters and the gas chromatograph at the plants and/or the coal feed scale. As a result, there may be some discrepancies between invoiced and Align values. Since Electric Generation is the largest contribution to Scope 1 GHG Emissions, verification team will request gas meter/coal scale feed calibration records.	Additional Information Needed (See Item No. 19)

**Log of Issues and Findings**  
Reporting Year 2022: CDP Verification

Item No.	Category	Metric	Findings / Issues	Issue Type	Resolution / Correction or Comments	Status
15	Scope 1	Electric Generation	<u>R.M. Schahfer</u> - Provide records to support 21,984 gallons of propane used in Dryco Heater.	Additional Information	<u>4/21/23</u> : Backup data provided to support propane usage.	No Issue
16	Scope 1	Electric Generation	<u>Jordan Creek Wind</u> - Please provide invoice or other raw data to support 148,770.21 MWh of wind purchases in February 2022.	Additional Information	<u>4/21/23</u> : Hourly backup data provided to support February wind purchases. The verification team confirmed that the data is revenue quality metered data. The PPA provider is paid based on the data provided.	No Issue
17	Scope 1	Building Natural Gas	<u>COH and NIPSCO</u> - Please provide records of the square footage for: 1) Bangs Fabrication Shop (COH) and 2) Gary Operating Center (AETNA) (NIPSCO).	Additional Information	<u>5/23/23</u> : Additional records provided, but lease square footage still showing minor discrepancies (<2%). Per communications with Keith Weber and NiSource's real estate department, they use software named "Harbor Flex" to manage their lease information and start/end dates. The lease details are entered into the Software which is used to generate "Real Estate Facilities Leased-Owned" spreadsheet. Since the differences in square footage are minor and building natural gas contributes 0.1% of CO2e emissions for Scope 1 and 2, there is sufficient explanation to resolve.	No Issue
18	Scope 3	Customer Emissions	<u>CKY</u> - Natural gas volume used in calculations does not match EIA Report.	Calculation	<u>5/23/23</u> : Natural gas volume updated to be consistent with EIA report for CKY.	Corrected
19	Scope 1	Electric Generation	<u>Sugar Creek, R.M. Schahfer, Michigan City</u> - Please provide calibration records for: 1) CT11 and CT12 (Sugar Creek), 2) 16A and 16B (R.M. Schahfer) and 3) Unit 12 (Michigan City)	Additional Information	<u>4/21/23</u> : CT11 and CT12 (Sugar Creek) and 16A and 16B (R.M. Schahfer) gas meter calibration records provided. <u>5/25/23</u> : Unit 12 (Michigan City) coal feeder scale calibration provided.	No Issue