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NiSource Inc.
2020 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 2020 calendar year time period. NiSource is reporting 2020 GHG emissions as part of its responses to the 2021 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 report. Trinity's verification and assurance engagement are based on the assumptions that the 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 assurance statement, however, represents Trinity's independent opinion and is intended to inform all stakeholders, including NiSource. Trinity disclaims any liability or responsibility on 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 were conducted using World Business Council for Sustainable Development ("WBCSD") / World Resources Institute ("WRI") Greenhouse Gas Protocol;
- GHG emission quantities were verified for the calendar year 2020 from January 1, 2020, to December 31, 2020;
- Emissions data verified includes Scope 1, Scope 2, and Scope 3 (Business travel and other indirect emissions); and
- Verification activities were conducted in March through July of 2021.

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 2020. The emissions data report is reviewed against the criteria and standards stated below:

- 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, Sugar Creek, and Bailly) 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 2020 are as follows:

- Scope 1 emissions of 7,272,053 metric tonnes CO_2e
- Scope 2 emissions of 31,410 metric tonnes CO_2e (location-based method)
- Scope 3 emissions of 51,336,138 metric tonnes CO_2e

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 fifth year of providing verification services for NiSource.

TRINITY CONSULTANTS

Charles C. Lee, Ph.D.
Principal Consultant | Manager of Consulting Services – Irvine
California Air Resources Board Accredited Lead Verifier

July 27, 2021

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

2020 CDP CLIMATE DATA - VERIFICATION PLAN

NiSource Inc.

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July 2021

Project 210501.0066

TABLE OF CONTENTS

EXECUTIVE SUMMARY

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 3.4 million customers in seven states and operate about 59,000 miles of pipeline. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns five[1] distribution subsidiaries that provide natural gas to approximately 2.6 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 463,000 customers in 20 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 2020 calendar year. NiSource is reporting GHG emissions to the 2021 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

[1] 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.

Contact Information

Facility Name:	NiSource Inc.
Facility Address:	801 E. 86th Ave. Merrillville, IN 46410
Facility Contact:	Keith Weber
Title:	Program Manager
Phone Number:	+1 (219) 238-3029
Email Address:	kweber@nisource.com
NAICS Code:	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 3.4 million customers in seven states and operate about 59,000 miles of pipeline. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns five[2] distribution subsidiaries that provide natural gas to approximately 2.6 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, and Maryland. Additionally, NiSource also distributes natural gas to approximately 812,000 customers in Northern Indiana through its wholly-owned subsidiary NIPSCO.

NiSource generates, transmits, and distributes electricity through its subsidiary NIPSCO to approximately 463,000 customers in 20 counties in the northern part of Indiana and engages in wholesale and transmission transactions. NIPSCO owns and operates three coal-fired electric generating stations. The three operating facilities have a net capability of 2,540 MW. NIPSCO also owns and operates Sugar Creek, a CCGT plant with a net capability of 535 MW, three gas-fired generating units located at NIPSCO's coal-fired electric generating stations with a net capability of 196 MW and two hydroelectric generating plants with a net capability of 10 MW. These facilities provide for a total system operating net capability of 3,281 MW. NIPSCO's transmission system, with voltages from 69,000 to 345,000 volts, consists of 2,805 circuit miles. NIPSCO 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.

[2] 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: 2020

Report Due Date: July 28, 2021

Verification Ready: March 12, 2021

Verification Due Date: July 28, 2021

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

Company	Name	Title	Qualifications	Contribution
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
NiSource Inc.	Julie Shea	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

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

Start Date:	March 12, 2021
Expected Completion:	July 28, 2021
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

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.

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 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_6 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_6;
- 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. The customer end-use combustion emissions are included in this assessment.

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	EPA 40 CFR Part 98 Subpart C and Subpart W Emission factors from: • CBECS (2012 Data) Published 2017 • 40 CFR 98 Subpart C Tables • 40 CFR 98 Subpart W Tables
Purchased Electricity (Scope 2 Emissions)	Not Applicable	Emission factors from: • CBECS (2012 Data) Published 2017 • eGrid (2019 Data) Published 2021
Purchased/Distributed Electricity and Customer End-Use Combustion Emissions (Scope 3 Emissions)	Not Applicable	Emission factors from: • eGrid (2019 Data) Published 2021 • 40 CFR 98 Subpart C Tables

DATA MANAGEMENT SYSTEM

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_6)
9. Building Electricity Usage (Scope 2)
10. Electricity Distribution (Scope 3)
11. Customer End-Use Emissions (Scope 3)

NiSource estimates building Electricity and Natural Gas usage based on the size of their facilities and their respective locations. An internal department in NiSource 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 Aligne. 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 Aligne, 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. 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.

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 12, 2021	March 30, 2021	• Underground storage data • Mobile data • Building natural gas, electricity data • Real estate list of all NiSource sites • LNG, LPG data
March 12, 2021	April 5, 2021	• EPA GHG Reports • Natural gas data • Electricity generation data • Air emission data • Water data • Bottom ash and fly ash data • Gypsum data
March 12, 2021	April 13, 2021	• EPA GHG Reports • Waste data • Customer end-use data
March 12, 2021	April 20, 2021	• Revised purchased power data • Summary of CDP and IAR Sustainability data • SF_6 data
March 12, 2021	April 21, 2021	• Additional SF_6 data
May 4, 2021	May 19, 2021	• Additional gypsum data • Additional air emissions data • Additional SF_6 Data • Additional underground storage data • Additional electric generation data
May 27, 2021	June 3, 2021	• Additional mobile data • Revised underground storage data • Revised LNG, LPG data • Additional SF_6 Data • Additional purchased power data • Revised waste data
May 27, 2021	July 6, 2021	• Revised summary of DJSI and IAR sustainability data to be reported • Revised air emissions data
May 27, 2021	July 23, 2021	• Revised summary of CDP data, DJSI data, and IAR sustainability data to be reported

ATTACHMENT 2

Sampling Plan

2020 CDP CLIMATE DATA - SAMPLING PLAN

NiSource Inc.

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July 2021

Project 210501.0066

TABLE OF CONTENTS

LIST OF TABLES

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[1] distribution subsidiaries that provide natural gas to approximately 2.6 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, and Maryland. NiSource also distributes natural gas to about 812,000 customers in Northern Indiana through its wholly-owned subsidiary NIPSCO. NiSource generates, transmits, and distributes electricity through its subsidiary NIPSCO to approximately 463,000 customers across 20 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)

		Reported Emissions	
Emission Source	**Emission Type**	**MT CO_2e**	**Contribution (%)**
Gas Distribution – Fugitive & Vented	Scope 1	781,761	1.33
Gas Distribution - Combustion	Scope 1	63,105	0.11
Underground Storage – Fugitive & Vented	Scope 1	26,201	0.04
Underground Storage – Combustion	Scope 1	3,785	0.01
Mobile	Scope 1	50,610	0.09
Indirect Electric (location-based method)	Scope 2	31,410	0.05
Building Natural Gas	Scope 1	8,269	0.01
LNG/LPG	Scope 1	355	0.001
Electrical Generation	Scope 1	6,332,981	10.80
Purchased Power	Scope 3	2,585,983	4.41
Electric Transmission & Distribution	Scope 1	4,986	0.01
Customer End-Use	Scope 3	48,750,155	83.14
TOTAL		**58,639,600**	**100.00**

[1] NiSource sold Columbia Gas of Massachusetts in calendar year 2020.

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

		Reported Emissions	
Emission Source	**Emission Type**	**MT CO_2e**	**Contribution (%)**
Gas Distribution – Fugitive & Vented	Scope 1	781,761	10.70
Gas Distribution - Combustion	Scope 1	63,105	0.86
Underground Storage – Fugitive & Vented	Scope 1	26,201	0.36
Underground Storage – Combustion	Scope 1	3,785	0.05
Mobile	Scope 1	50,610	0.69
Indirect Electric (location-based method)	Scope 2	31,410	0.43
Building Natural Gas	Scope 1	8,269	0.11
LNG/LPG	Scope 1	355	0.005
Electrical Generation	Scope 1	6,332,981	86.71
Electric Transmission & Distribution	Scope 1	4,986	0.07
TOTAL		**7,303,462**	**100.00**

The majority of Scope 1 emissions are generated from the combustion of natural gas, LNG, LPG, and diesel, mobile and fugitive emissions, process emissions, and refrigerants, and SF_6. Scope 2 emissions are the result of purchased electricity that has been generated outside of the facilities' boundaries. 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.

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_2 and ranking of the Scope 1 and 2 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 Reported Emission Sources

Rank	Source Description	Reported Total (MT CO_2e)	Contribution (%)
1	Customer End-Use	48,750,155	83.14
2	Electrical Generation	6,332,981	10.80
3	Purchased Power	2,585,983	4.41
4	Gas Distribution – Fugitive & Vented	781,761	1.33
5	Gas Distribution - Combustion	63,105	0.11
6	Mobile	50,610	0.09
7	Indirect Electric (location-based method)	31,410	0.05
8	Underground Storage – Fugitive & Vented	26,201	0.04
9	Building Natural Gas	8,269	0.01
10	Electric Transmission & Distribution	4,986	0.01
11	Underground Storage – Combustion	3,785	0.01
12	LNG/LPG	355	0.001
Total		**58,639,600**	**100.00**

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

Rank	Source Description[a]	Risk Description
1	Electrical Generation	This source has the largest contribution to the CO_2e emissions, accounting for > 86% of the reported amount and therefore have the largest impact on materiality.
2	Gas Distribution – Fugitive & Vented	These sources account for < 14% of the total reported CO_2e emissions and therefore have the least impact on materiality. The sources are ranked in order of uncertainty.
3	Gas Distribution - Combustion	
4	Mobile	
5	Indirect Electric (location-based method)	
6	Electric Transmission & Distribution	
7	Underground Storage – Fugitive & Vented	
8	Building Natural Gas	
9	LNG/LPG	
10	Underground Storage – Combustion	

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

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

NiSource measures the total amount of natural gas delivered to end-users for each facility. This amount is multiplied by a throughput based CO_2 equivalent emission factor for each respective facility to calculate the amount of CO_2 emissions from LDC natural gas combustion. For the purpose of this verification, the verification team will request natural gas distribution records for a few selected facilities.

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 40 CFR 98.233(r) population count methodology instead of the leak survey methodology in 40 CFR 98.233(q).

NiSource records the total natural gas usage for each electricity generation station. The facilities receive monthly gas bill statements from local Natural Gas suppliers and enter the monthly gas usage into a spreadsheet. For purposes of this verification, the verification team will request gas bill statements for a few selected electricity generation stations.

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.

The LNG / LPG facility GHG emissions are separated into combustion emissions and fugitive 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 40 CFR 98.233(q) leak survey methodology. Each surveyed leaking component is multiplied by the default 40 CFR 98 Subpart W emission factor in Table W-6 to obtain

the GHG emissions. For this verification, the verification team will not request leak data as previous verification efforts have not found this to be an issue, nor were there any outstanding issues during the 2020 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 utilizes the 40 CFR 98.233(q) leak survey methodology to calculate emissions from equipment and wellhead leaks. For fugitive and vented leaks, NiSource utilizes a GHG calculator to obtain the emission factor for fugitive and vented emissions from various activities. 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.

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 not request records for this source.

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 receive monthly coal purchase statements from coal suppliers and enter the monthly coal throughput into a spreadsheet. For purposes of this verification, the verification team will request coal purchase records for selected electricity generation station.

3.1.4 Gasoline

Gasoline is utilized in the following emission sources:

- Mobile Sources

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 also purchases electricity from MISO and Buffalo Ridge and Barton windpower generation facilities. This purchased electricity is distributed to customers, and NiSource classifies this emission source as Scope 3. For this verification, the verification team will request specific daily settlement reports and transmission loss records from MISO, as Buffalo Ridge and Barton windpower do not contribute to GHG emissions.

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.

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.

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.

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.

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 Aviation Services Records 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.

The 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.

3.3 Data Processing and Tracking

3.3.1 Natural Gas

Natural gas data was provided for selected NiSource generating facilities. This data is 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 and linking between spreadsheets.

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.

3.3.3 Coal

NiSource receives monthly coal purchase statements from coal suppliers and enters the data into the Aligne database, after which reports are generated and used for computing in Excel spreadsheets. The monthly coal statements were provided for selected facilities. Because the coal is taken from a secondary source, the risk for uncertainty is medium due to Excel formulas and linking between spreadsheets.

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 Aviation Services Records 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 MISO; 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.

3.4 Emissions Calculations

The facility's overall GHG emissions subject to this verification scope are mostly from Natural Gas and Electricity consumption. Since the facility can rely on Natural Gas and Electricity suppliers for metering accuracy, the risk of uncertainty is minimized. Potential calculation discrepancy can arise from the application of erroneous estimation methodology or lapse in data transfer from electronic invoice data to an emissions estimation worksheet. 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

Data Check	Source / Product / Transaction	Assessment Method	Summary of Information Analyzed
1	Monthly natural gas data	Quantitative	Summation of usage in monthly gas data to verify usage reported in the GHG summary spreadsheet.
2	Electricity purchases	Quantitative	Electricity purchase records from MISO 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	Quantitative	Summation of coal delivery shipment for each month to verify coal GHG emission for all applicable facilities.

ATTACHMENT 3

Materiality Assessment Summary

Materiality Assessment Summary

Reporting Year 2020: CDP Verification

Emission Source	Emission Scope	NiSource Calculations (MT CO_2e)	Trinity Calculations (MT CO_2e)	% Error
Gas Distribution - Fugitive & Vented	Scope 1	781,761	769,351	1.59%
Gas Distribution - Combustion	Scope 1	63,105	63,105	0.00%
Underground Storage	Scope 1	29,986	29,720	0.89%
Mobile	Scope 1	50,610	50,455	0.31%
Building Natural Gas	Scope 1	8,269	8,298	0.35%
LNG/LPG	Scope 1	355	354	0.15%
Electric Generation	Scope 1	6,332,981	6,283,000	0.79%
Electric Transmission & Distribution (SF6)	Scope 1	4,986	4,986	0.00%
Scope 1 Total	**Scope 1**	**7,272,053**	**7,209,269**	**0.86%**
Indirect Electric	Scope 2	31,410	31,410	0.00%
Scope 2 Total	**Scope 2**	**31,410**	**31,410**	**0.00%**
Purchased Power	Scope 3	2,585,983	2,585,983	0.00%
Customer End-Use Emissions	Scope 3	48,750,155	48,750,155	0.00%
Scope 3 Total	**Scope 3**	**51,336,138**	**51,336,138**	**0.00%**

Notes:

1. This materiality assessment was based on selected sources from the enterprise.
2. Scope 1 emissons were verified for all sources, exlcuding fugitive and vented sources.
3. Scope 2 emissions were verified for sources limited to indirect energy from electricity purchases.
4. Scope 3 emissions were verified for sources limited to purchased electricity energy for distribution to end-users and customer end-use emissions.

Prepared by: Trinity Consultants
Prepared for: NiSource, Inc.

ATTACHMENT 4

Log of Issues and Findings

Log of Issues and Findings
Reporting Year 2020: CDP Verification

Item No.	Category	Metric	Findings / Issues	Issue Type	Resolution / Correction or Comments	Status
1	All	All	All - Provide summary of CDP data, DJSI data, and IAR sustainability data to be reported and CDP tool inputs (Items 0B and 0C in Data Request).	Additional Information	07/06/21 & 07/23/21: Summary of metrics to verify provided.	No Issue
2	Scope 1	Underground Storage	CPA - Provide 2020 AES Submission	Additional Information	05/19/21: AES Submission for PA Blackhawk provided.	No Issue
3	Scope 1	Electric Generation	All - Provide raw CO2 CEMS Data for Michigan City, RM Schaher, and Sugar Creek Generating Station.	Additional Information	05/19/21: Spreadsheet with raw CO2 CEMS Data for Michigan City, RM Schaher, and Sugar Creek Generating Station provided. No additional information required.	No Issue
4	Scope 1	Electric Generation	RMSGS - Provide bulk propane purchased during 2020 at Schahfer Station or confirm no purchases in 2020.	Clarification / Additional Information	05/19/21: Bulk propane purchases during 2020 for Schahfer Station provided. No additional information required.	No Issue
5	Scope 1	SF6	NIPSCO - Provide SF6 report (last year from Betty Herrera) and supporting documentation for transactional and inventory amounts.	Additional Information	05/19/21: Supporting documentation for transactional and inventory amounts provided. Additional documentation for SF6 end of year inventory required.	No Issue
6	Scope 1	Mobile Equipment	All - Explan how the spreadsheet "4B (Mobile Fuel Report 2020 Summary)" is tracked and generated.	Clarification/Calculation	06/03/21: Explanation provided. Data is generated from mileage reports, which is generated by a 3rd party fleet management provider.	No Issue
7	Scope 1	Underground Storage	CPA - Summation error in the reported vented emissions at the Blackhawk, PA Station.	Calculation	06/03/21: Summation error corrected to report all vented emissions at Blackhawk, PA Station.	Corrected
8	Scope 1	Underground Storage - Fugitive & Vented Emissions	CPA, NIPSCO - Calculations do not use 2021 GHGI values for CO2 and CH4 emission factors to estimate fugitive and vented emissions.	Calculation	06/03/21: Calculations updated to use 2021 GHGI values for CO2 and CH4 emission factors.	Corrected
9	Scope 1	Underground Storage - Combustion Emissions	CPA, NIPSCO - Combustion calculations use natural gas HHV inconsistent with 40 CFR Part 98, Subpart C, Appendix Table C-1.	Calculation	06/03/21: Calculations updated to use HHV in 40 CFR Part 98, Subpart C, Appendix Table C-1.	Corrected
10	Scope 1	LNG/LPG Storage - Fugitive Emissions	NIPSCO - Calculations do not use 2021 GHGI values for CO2 and CH4 emission factors to estimate fugitive emissions. The resulting percent difference is 14.6%.	Calculation	06/03/21: Calculations updated to use 2021 GHGI values for CO2 and CH4 emission factors.	Corrected
11	Scope 1	LNG/LPG Storage	NIPSCO - Provide supporting documentation (fuel usage logs, meter readings, operating hour logs, etc.) for LNG facility data from Brian Boldry. Refer to "NiSource Company Data" tab in the spreadsheet "NiSource 2020 GHG Inventory LNG LPG Facilities".	Additional Information	06/03/21: Supporting documentation for LNG facility data provided.	No Issue
12	Scope 1	SF6	NIPSCO - Provide supporting data for end of year SF6 inventory. Last year the file "SF6 Audit- Raystone- December 2nd 2019 (with EDP calcs)" was provided.	Additional Information	06/03/21: SF6 Raystone Audit provided for 2020 calendar year.	No Issue
13	Scope 3	Purchased Power	NIPSCO - Provide supporting data for electricity purchased/losses. Last year the file titled "EnvironmentalPolicyRequest020620" was provided.	Additional Information	06/03/21: Supporting data for electricity purchased and lossed provided.	No Issue