Carbon Competitiveness Incentive Regulation

Verification Report for:

[Facility Name] [Reporting Period] [Compliance Report or Benchmark Application]

Proponent:

Click here to enter text.

Prepared by:

Click here to enter text

Prepared for:

Click here to enter text.

Version:

Choose an item.

Date:

December 10, 2018

Instructions for Verification Template

1. *This template is used for verifications of compliance reports and applications submitted under the Carbon Competitiveness Incentive Regulation. The template for verification of offset projects are provided on the offset website.*
2. *Instructions in italics are provided for each heading throughout the report. The document is not restrict but do not alter the format, layout, and the headings. Additional headings are provided should the verifier want to provide additional information that is not covered in the current headings. Instructions may be removed once the sections have been completed.*
3. *Complete report in Verdana 10pt font (no italics).*
4. *After the report is complete, right click the table of contents and ‘update field’ and then ‘update page numbers only.*
5. *Appendix F is available for additional information, tables, diagrams etc.*

Table of Contents

[1.0 Verification Summary 4](#_Toc531593881)

[2.0 Introduction 6](#_Toc531593882)

[2.1 Objective 6](#_Toc531593883)

[2.2 Scope 6](#_Toc531593884)

[2.2.1 Reporting Period 6](#_Toc531593885)

[2.2.2 Geographical and Organizational Boundaries 6](#_Toc531593886)

[2.2.3 Facility Processes and Activities 6](#_Toc531593887)

[2.2.4 Facility Products 6](#_Toc531593888)

[2.2.5 GHG Emission Sources and Specified Greenhouse Gas Emissions 6](#_Toc531593889)

[2.2.6 Negligible Emission Sources 7](#_Toc531593890)

[2.2.7 Forecasting Facilities 7](#_Toc531593891)

[2.3 Level of Assurance 8](#_Toc531593892)

[2.4 Criteria 8](#_Toc531593893)

[2.5 Materiality 8](#_Toc531593894)

[3.0 Methodology 8](#_Toc531593895)

[3.1 Procedures 8](#_Toc531593896)

[3.2 Risk Assessment 9](#_Toc531593897)

[3.3 Team 10](#_Toc531593898)

[3.4 Schedule 11](#_Toc531593899)

[4.0 Results 11](#_Toc531593900)

[4.1 Assessment of Data Management Systems and Controls 11](#_Toc531593901)

[4.2 Assessment of Data and Information 11](#_Toc531593902)

[4.3 Assessment against Criteria 12](#_Toc531593903)

[4.4 Evaluation of the Assertion 13](#_Toc531593904)

[4.5 Summary of Findings 13](#_Toc531593905)

[4.6 Opportunity for Improvement 16](#_Toc531593906)

[5.0 Closure 16](#_Toc531593907)

[5.1 Verification Statement 16](#_Toc531593908)

[5.2 Limitation of Liability 16](#_Toc531593909)

[5.3 Confirmations 16](#_Toc531593910)

[6.0 References 17](#_Toc531593911)

[Appendix A: Conflict of Interest Checklist 18](#_Toc531593912)

[Appendix B: Statement of Qualifications (SOQ) 20](#_Toc531593913)

[Appendix C: Final Verification Plan and Sampling Plan 22](#_Toc531593914)

[Appendix D: Detailed Findings and Issues 25](#_Toc531593915)

[Appendix E: Statement of Verification 27](#_Toc531593916)

[Appendix F: Supplemental Information/Diagrams/Tables/Figures 30](#_Toc531593917)

List of Tables

[Table 1: Summary of Findings 11](#_Toc441751201)

[Table 2: Detailed Findings and Issues Log 20](#_Toc441751202)

# Verification Summary

|  |  |
| --- | --- |
| Item | Description |
| **Facility Name and Company Name**  *List company name and facility name.* |  |
| **Facility Description**  *Provide a brief description of the facility including facility location and boundary.* |  |
| **Reporter Contact**  *Enter contact name, company name, mailing address, phone number and email address.* |  |
| **GHG Assertion (Annual)**  *Enter the facility's Total Regulated Emissions (TRE), the emissions by source category and gas type, imported heat, electricity and hydrogen, imported and exported CO2, CO2 used in urea production, and product types and quantities in the applicable production units.* |  |
| **Total Regulated Emissions (tonnes CO2e)** |  |
| **Products (type, quantity, and units):** |  |
| **Product #1** |  |
| **Product #2** |  |
| **Product #3** |  |
| **Product #4** |  |
| **Product #5** |  |
| **Product #6** |  |
| **Applicable Benchmarks:**  *Enter all benchmarks that are applicable for the facility including established, assigned, transition allocation, and cost containment allocation benchmarks. These benchmarks should correspond with the product(s) listed above that the facility is producing. The units are in tonnes CO2 per unit of product.* |  |
| **Product #1 Benchmark** |  |
| **Product #2 Benchmark** |  |
| **Product #3 Benchmark** |  |
| **Product #4 Benchmark** |  |
| **Product #5 Benchmark** |  |
| **Product #6 Benchmark** |  |
| **Imported Electricity (MWh)** |  |
| **Imported Industrial Heat (GJ)** |  |
| **Imported Hydrogen (tonnes)** |  |
| **Imported CO2 (tonnes CO2)** |  |
| **Exported CO2 (tonnes CO2)** |  |
| **CO2 in Urea Production (tonnes CO2)** |  |
| **Emissions from Combustion of Clear Fuels (tonnes CO2e)** |  |
| **Contact Information for Designated Signing Authority**  *Enter the designated signing authority's name, employer’s name, address, phone number email.* |  |
| **Contact Information for Peer Reviewer**  *Enter the peer reviewer's name, employer’s name, address, phone number email.* |  |
| **Previous Verifications of This Facility**  *Enter previous verifications conducted and the corresponding year. This includes verifications conducted by any member of the verification team or their respective employers. This includes verifications conducted under the Specified Gas Emitters Regulation.* |  |

## Forecasting Facilities – GHG Assertion

*Complete this section for forecasting facilities only. This section can be deleted for all other facilities.*

*Provide the assertion for each reporting period including the facility’s fund payment to credit ratio. The verifier is required to verifying the assertion for each reporting period and confirm whether the facility’s fund payment to credit ratio meets regulatory requirements. Note that the facility’s assertion for reporting period 4 (i.e. annual period) should be the same as the reported values provided in Section 1.0 Verification Summary.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Facility Assertions | Reporting Periods | | | |
| **1** | **2** | **3** | **4** |
| **Total Regulated Emissions (tonnes CO2e)** |  |  |  |  |
| **Product (type, quantity, and units):** |  |  |  |  |
| **Product #1** |  |  |  |  |
| **Product #2** |  |  |  |  |
| **Product #3** |  |  |  |  |
| **Product #4** |  |  |  |  |
| **Product #5** |  |  |  |  |
| **Product #6** |  |  |  |  |
| **Imported Electricity (MWh)** |  |  |  |  |
| **Imported Industrial Heat (GJ)** |  |  |  |  |
| **Imported Hydrogen (tonnes)** |  |  |  |  |
| **Imported CO2 (tonnes CO2)** |  |  |  |  |
| **Exported CO2 (tonnes CO2)** |  |  |  |  |
| **CO2 in Urea Production (tonnes CO2)** |  |  |  |  |
| **Emissions from Combustion of Clear Fuels (tonnes CO2e)** |  |  |  |  |

# Introduction

*Provide an introduction to the facility, the verification process, and any other pertinent background information.*

*This should include a description of the compliance report or application being verified, facility boundary, facility identification information, GHG historical performance, summary of changes since the previous compliance report and/or operating year, as applicable.*

## Objective

*Describe the objective of the verification which includes the requirement to provide an opinion for the verification at the required assurance level.*

## Scope

*Define the scope in terms of: reporting period, geographical, organizational, activities and processes, products produced by the facility, emission source categories, specified greenhouse gases, imported indirects (electricity, industrial heat, and hydrogen), imported and exported CO2, CO2 used in urea production, and negligible emission sources.*

### Reporting Period

### Geographical and Organizational Boundaries

### Facility Processes and Activities

### Facility Products

### GHG Emission Sources and Specified Greenhouse Gas Emissions

### Negligible Emission Sources

## Level of Assurance

The Choose an item was conducted to a **reasonable level of assurance**.

*Choose type of verification from the dropdown box above.*

*Provide explanation and expectations for the verification at the required level of assurance.*

## Criteria

*Outline the program criteria used and relevant supporting documentation (acts, regulations, protocols, standards, guidance documents, project documentation etc.).*

## Materiality

*Define the materiality of the verification based on the requirements of Part 1 of the Standard for Validation, Verification and Audit.*

# Methodology

*Summary of the assessments/tests/reviews/evaluations that were conducted during the verification.*

## Procedures

*Describe the verification procedures (including the planning, assessment, site visit, desk-top review activities, report preparation, peer review process) performed to assess the following:*

* *Assessment of conflict of interest and contract execution (include Conflict of Interest Checklist in Appendix A)*
* *Nature, scale and complexity of the verification activity*
* *Completeness of the facility or project GHG information and assertion*
* *Facility's or project's GHG information system and controls*
* *Assessment of GHG data and information*
* *Assessment against criteria*
* *Assessment of the GHG assertion*

## Risk Assessment

*Describe how the risk based approach was used to develop and implement the sampling plan. Identify how the procedures to evaluate the categories of risk including the inherent, control, and detection risks. Include this risk assessment and Sampling Plan in the Verification Plan in Appendix C.*

*Provide the risk assessment in the table below and add rows as appropriate to cover all of the source categories and risk areas as appropriate. Source or risk areas may include individual source categories (stationary fuel combustion, flaring, etc.), data management system, facility boundary, etc.*

*For forecasting facilities, a risk assessment may be conducted per reporting period.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source or Risk Area | Attributes | Inherent Risk | Control Risk | Detection Risk | Procedure to Mitigate Risk |
| "Source or Area #1" | Occurrence |  |  |  |  |
|  | Completeness |  |  |  |  |
|  | Accuracy |  |  |  |  |
|  | Classification |  |  |  |  |
|  | Transparency |  |  |  |  |
|  | Consistency |  |  |  |  |
| "Source or Area #2" | Occurrence |  |  |  |  |
|  | Completeness |  |  |  |  |
|  | Accuracy |  |  |  |  |
|  | Classification |  |  |  |  |
|  | Transparency |  |  |  |  |
|  | Consistency |  |  |  |  |

## 

## Team

*Fill in the table below with information on the verification team members including the designated signing authority and/or lead verifier, peer reviewer, and other verification team members. Required information on team members include their roles, ISO 14064-3 training, training dates, experience and qualifications. Add rows as necessary to include all verification team members.*

*The Statement of Qualifications must be signed and included in Appendix B.*

| Verification Team |  |
| --- | --- |
| **Designated Signing Authority (DSA)** | *Add name* |
| Completed ISO 14064-3 Training? | *Y/N* |
| Training Dates | *Add date* |
| Minimum of 4 years of experience? | *Y/N* |
| Technical experience as outlined in section 3(1) in Part 1? | *Y/N* |
| Description of team member experience and qualifications |  |
| **Lead Verifier (if different than DSA)** | *Add Name* |
| Completed ISO 14064-3 Training? | *Y/N* |
| Training Dates | *Add date* |
| Minimum of 4 years of experience? | *Y/N* |
| Technical experience as outlined in section 3(1)(e) in Part 1? | *Y/N* |
| Description of team member experience and qualifications | *Add description.* |
| **Peer Reviewer** |  |
| Completed ISO 14064-3 Training? | *Y/N* |
| Training Dates | *Add date* |
| Minimum of 4 years of experience? | *Y/N* |
| Technical experience as outlined in section 3(1)(f) in Part 1? | *Y/N* |
| Description of team member experience and qualifications | *Add description* |
| **Other Verification Team Members** |  |
| Other verification team member (i.e. verifier, technical expert, etc.) | *Add other team members. Add additional rows as needed to include information on the verification team members.* |
| Description of role, qualification and experience |  |

## Schedule

*Provide a list or table of verification activities and dates. Indicate when the site visit was conducted and when the verification was completed.*

# Results

*Add introduction to results section here, if desired.*

## Assessment of Data Management Systems and Controls

*Provide a summary of the facility's data management system(s) and quality assurance/quality control (QA/QC) systems. Include information on the selection and management of data, process for collecting and consolidating data for reporting, QA/QC systems, design and maintenance of the data management system, and results from previous assessments if applicable. Comment on whether the facility's data management system and controls are adequate for the purpose of compliance reporting and/or submission of an application.*

## Assessment of Data and Information

*Provide a summary of findings from the assessment of the data and information used and reported by the facility in a compliance report or application including the following:*

* *List of data and information collected during the verification and the source of data.*

*For example:*

* *Natural gas usage for 12 months provided by third party fuel supplier, "Company ABC";*
* *Gas composition data for March 20XX, July 20XX, and September 20XX from the facility's data control system (DCS) for "Source A";*

* *Indicate whether the source of data and information is acceptable and reasonable for use in the facility's compliance reporting or application.*
* *Indicate whether the methodologies used by the facility complies with the mandatory quantification methodologies that are applicable for the facility. For example: Did the facility applies the correct sampling and measurement frequencies for fuel consumption?*
* *For parameters where there are no mandatory quantification methodologies, indicate whether the methodologies applied by the facility is reasonable and appropriate.*

## Assessment against Criteria

*Provide a description of how the criteria is met or not met per the criteria listed in section 2.4.*

## Evaluation of the Assertion

Based on the performance of the verification, it is the opinion of the verifier that the GHG Assertion: Choose an item.

*Indicate whether the evidence provided supports the facility's assertion. Provide a conclusion on whether the assertion meets the materiality requirements and the level of assurance agreed to at the beginning of the verification process.*

## Summary of Findings

*Provide a summary of material and immaterial discrepancies in Table 1. See specific instructions below to populate Table 1.*

*Include a more detailed description and log of results in Table 2 Detailed Findings and Issues Log in Appendix D. Table 2 will include both resolved and unresolved issues from the verification. Unresolved issues should be brought forward to Table 1.*

*Add introduction to this section, if desired.*

Table 1: Summary of Findings

*Result #: Number the finding with the year and provide a unique # for each finding (i.e. 18-01, 18-02).*

*Type of Error: Indicate the type of error (qualitative or quantitative).*

*Description of Finding: Provide a summary statement (1-4 sentences) for each unresolved immaterial finding and each material finding (resolved or unresolved). A detailed description of all material and immaterial findings should be provided in Table 2 of Appendix D.*

*Parameter: Indicate what parameter was evaluated, which may be a particular product produced by the facility, imported/exported indirects or CO2 emissions from a specific source (e.g. stationary fuel combustion), etc.*

*Unit of Parameter: Indicate the applicable unit of the parameter that was assessed (e.g. MWh for electricity, GJ for industrial heat, or tonnes CO2e for emissions).*

*Discrepancy (∆i): Provide the value of the discrepancy identified for the parameter in the applicable unit and indicate whether it is an overstatement with (+) or understatement with (-). In brackets, indicate the % discrepancy in relation to the individual parameter (e.g., if emissions, then the % of TRE, etc.). It is acceptable to indicate a range in the discrepancy if it cannot be determined in absolute terms (e.g. understatement of -100 to -250 tonnes CO2e). For qualitative findings, indicate "N/A" in this field.*

*Total Error: Provide the total error based on Equation 5-8 in the Standard for Validation, Verification, and Audit.*

| Result # | Type of Error | Description of Finding | Parameter | Unit of Parameter | Quantification of Discrepancy (∆i) |
| --- | --- | --- | --- | --- | --- |
| ex. 18-01 | Quantitative | The emission factor applied by the facility for "Source A" does not comply with the emission factor prescribed by the Quantification Methodologies. | Source A (stationary fuel combustion) | tonnes CO2e | 1511 (1.80%) |
| 18-02 | Quantitative | The metered quantity of imported electricity does not match the reported quantity in the facility's compliance report, representing an understatement in the reported value. | Imported electricity | MWh | -25,000 (12.1%) |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total Error** | | | |  |  |
| **Forecasting Facility:** | | | |  |  |
| **Total Error for reporting period 1** | | | |  |  |
| **Total Error for reporting period 2** | | | |  |  |
| **Total Error for reporting period 3** | | | |  |  |
| **Total Error for reporting period 4** | | | |  |  |

## 

## Opportunity for Improvement

*This section is to be filled for reverifications conducted for the Government of Alberta only. For all other verifications, please indicate N/A.*

*Provide feedback on the data management system and controls, transparency, completeness of the inventory, additions to the quantification methodology document or diagrams, etc. Include positive considerations and observations also.*

*Identify strengths and weaknesses that may help to improve the report/s for the current facility, sector, and compliance program. Identify ways in which the project/facility could be more easily verified.*

# Closure

## Verification Statement

*Include the signed Statement of Verification in Appendix E.*

*Instructions to insert a pdf: 1. Click Insert>Object 2. In the Object dialog box click Create from File and then click Browse. 3. Find the pdf you want to insert then click Insert. 4. Click OK.*

*Paste a signed version of the Verification Statement from the facility compliance form. Include the conclusion on the GHG assertion and any qualification or limitations and the level of assurance.*

*Provide the verification conclusion in the drop down box below.*

The verification conclusion is Choose an item.

## Limitation of Liability

*Insert limitation of liability statement and include information in an Appendix F if applicable.*

## Confirmations

*Document information confirmed, including any discrepancies or inconsistencies, as per the Confirmations section in the Standard for Validation, Verification and Audit. Verifier may include other confirmations that were conducted.*

| Confirmation Item | Conclusion |
| --- | --- |
| Administrative/facility information and required data and information have been correctly reported in the appropriate fields in the compliance report or application. |  |
| Quantification Methodologies Document has been provided. |  |
| Simplified process flow diagrams and energy diagrams. |  |
| Fuel usage |  |
| Statement of Certification signed and provided with compliance report or application. |  |
| Negligible emissions (if present) have been quantified and included in the facility's Direct Emissions (DE) |  |
| For forecasting facilities, the fund to credit ratio was met for all four reporting periods. |  |
| For oil sands facilities, the area fugitive calculations accounts for all of the sources and calculates the areas for each source, as required. |  |

# References

*Author. Year. Title. (no hyperlinks)*

Appendix A: Conflict of Interest (COI) Checklist

*Insert signed copy of the Conflict of Interest Checklist*

Appendix B: Statement of Qualifications (SoQ)

*Insert signed copy of the Statement of Qualifications.*

Appendix C: Final Verification Plan and Sampling Plan

The Verification Plan should include, but not be limited to the following:

* *Date sent to Facility/project representative*
* *Facility's assertion*
  + *Contribution analysis*
* *Description of facility operations, processes, emission sources categories, facility boundaries, applicable greenhouse gas emissions, data management system, and other pertinent information to the verification*
* *Level of assurance required under the Regulation;*
* *Verification scope*
* *Verification criteria*
* *Applicable materiality threshold*
* *Verification team member qualifications and roles*
* *Verification and site visit schedule*

*Risk assessment (section 3.2)*

* *Sampling Plan and Verification Procedures*

*Details on the required elements of a verification plan are outlined in the Standard for Validation, Verification and Audit.*

Appendix D: Detailed Findings and Issues

Table 2: Detailed Findings and Issues Log

*Item (YR-##): Number the issue with the year and provide a unique # for the issue.*

*Description of the issue/question: Indicate the source category or risk area that the issue or question relates to. Describe the issue or question that was raised during the verification. Indicate whether this issue results in a discrepancy (overestimate or underestimate) or if a verification requirement is not met. Indicate what evidence or information was reviewed.*

*Summary of information exchanged: Indicate the response from the facility and any information and/or data that was provided in response to the question or issue.*

*Resolution: Indicate how the question or issue was resolved. For immaterial discrepancies, the facility may select not to resolve the issue.*

*Conclusion: Provide a conclusion and if applicable provide the quantification of the discrepancy that was identified in the units of the parameter being evaluated. For example, an omission discrepancy of 1000 tonnes was identified in the product A.*

*Note that unresolved issues (immaterial or material) should be included in Table 1.*

| Item (YR-##) | Description of the Issue Identified or Question | Summary of information exchanged | Resolution | Conclusion (including quantification of discrepancy) |
| --- | --- | --- | --- | --- |
| YR-## |  |  |  |  |
| 15-01 |  |  |  |  |
| 15-02 |  |  |  |  |
| 15-03 |  |  |  |  |
|  |  |  |  |  |

Appendix E: Statement of Verification (SoV)

*Insert signed copy of the Statement of Verification.*

**Appendix F: Supplemental Information/Diagrams/Tables/Figures**