Technology Innovation and Emissions Reduction Regulation (TIER)

Final or Draft Verification Report for:

<add facility name>

<add benchmark or compliance years> <choose submission type>

<choose a facility type>

Company Name:

<add company name>

Third Party Assurance Provider:

<add third party assurance provider name>.

Date:

<add date of report>

Instructions for Verification Report Template

1. This report template is used for verifications of compliance reports, benchmark applications, and data reports submitted under the Technology Innovation and Emissions Reduction Regulation (TIER). A separate template is used for the verification of emission offset projects, which is provided in the Alberta Emission Offset System website: <https://www.alberta.ca/alberta-emission-offset-system.aspx>
2. Instructions for completing the verification report is provided in italics. This report template is not restricted except for certain fields, but avoid altering the format, layout and headings. Headings and sections may be added if the verifier would like to provide additional information that is not covered in the template. As well, the verifier may add rows to tables as needed.
3. Instructions that are not content controlled may be deleted once the sections have been completed. Where there are fields with content controls, please provide the required details or responses per the instructions or NA if not applicable.
4. After the report is complete, right click the table of contents and 'update field' and then 'update page numbers' only.
5. Submit the verification report in both PDF and MS Word format.
6. Signed forms including the Conflict of Interest Checklist (Appendix A), Statement of Qualification (Appendix B), and Statement of Verification (SOV) (Appendix E) should be included in the PDF version of the verification report. These forms do not need to be included in the MS Word version of the report submitted.
7. For benchmark applications, add the signed SOVs in Appendix E for each product (multi-product benchmark form) if the facility has multi-products.
8. A copy of the verifier's verification plan (Appendix C) may be included in the PDF version of the verification report. The verification plan does not need to included in the MS Word version of the report.
9. Appendix F is available for additional information, tables, diagrams, etc.

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Appendix A Conflict of Interest (COI) Checklist

Appendix B Statement of Qualifications (SOQ)

Appendix C Final Verification Plan and Sampling Plan

Appendix D Detailed Findings and Issues

Appendix E Statement of Verification (SOV)

Appendix F Supporting Information (if applicable)

Verification Summary

| Item | Description | | | |
| --- | --- | --- | --- | --- |
| Facility Name | <add facility name> | | | |
| Company Name | <add company name> | | | |
| Facility Type | <choose a facility type> | | | |
| Facility Description | Provide a brief description of the facility including facility location and boundary. | | | |
| Reporter Contact | Enter contact name, company name (if different than the facility's company name), phone number and email address. | | | |
| Facility Assertion  Enter the facility's Total Regulated Emissions (TRE), allowable emissions (AE), compliance owed, emission performance credits generated, imported heat, electricity and hydrogen, imported and exported CO2, CO2 used in urea production, and product types and quantities in the applicable production units for the applicable compliance or benchmark years. | | | | |
| Type of Submission | <choose submission type> | | |
| Compliance or Benchmark Year(s) |  |  |  |
| Total Regulated Emissions (tonnes CO2e) |  |  |  |
| Allowable Emissions (tonnes CO2e) |  |  |  |
| Compliance Owed (tonnes CO2e) |  |  |  |
| Emission Performance Credits Generated (tonnes CO2e) |  |  |  |
| Products (type, quantity, and units): |  |  |  |
| Product #1 |  |  |  |
| Product #2 |  |  |  |
| Product #3 |  |  |  |
| Product #4 |  |  |  |
| Product #5 |  |  |  |
| Product Benchmarks | Enter all benchmarks that are applicable for the facility including facility-specific benchmarks, high performance benchmarks, and cost containment allocation benchmarks. These benchmarks should correspond with the product(s) listed above. The units are in tonnes CO2e 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) |  |  |  |
| Indirect Emissions for Benchmark Applications Only  This section is only applicable for benchmark applications. Provide information below if applicable for the facility. | | | |
| Self Generation Emissions (EE) (tonnes CO2e) |  |  |  |
| Product #1:  <add name of product #1> | | | |
| Electricity Used (MWh)  (for multi-product facilities with self-generation) |  |  |  |
| Heat Used (GJ)  (for multi-product facilities with self-generation) |  |  |  |
| Product #2:  <add name of product #1> | | | |
| Electricity Used (MWh)  (for multi-product facilities with self-generation) |  |  |  |
| Heat Used (GJ)  (for multi-product facilities with self-generation) |  |  |  |
| Product #3:  <add name of product #1> | | | |
| Electricity Used (MWh)  (for multi-product facilities with self-generation) |  |  |  |
| Heat Used (GJ)  (for multi-product facilities with self-generation) |  |  |  |
| Contact Information for Designated Signing Authority | | | | |
| Name | <add DSA name> | | |
| Employer's Name |  | | |
| Phone Number |  | | |
| Email Address |  | | |
| Contact Information for Lead Verifier | | | |
| Name | <add lead verifier name> | | |
| Employer's Name |  | | |
| Phone Number |  | | |
| Email Address |  | | |
| Contact Information for Co-Lead Verifier, if applicable | | | |
| Name | <add co-lead verifier name> | | |
| Employer's Name |  | | |
| Phone Number |  | | |
| Email Address |  | | |
| Contact Information for Peer Reviewer | | | |
| Name | <add peer reviewer name> | | |
| Employer's Name |  | | |
| Phone Number |  | | |
| Email Address |  | | |
| Previous Verifications Conducted for this Facility  Indicate the previous years that the verifier, including any team members, that have conducted verifications for the facility. This includes verifications conducted by team members who may have been working for another verification company. | | | |
| 2020 | Y/N | | |
| 2019 | Y/N | | |
| 2018 | Y/N | | |
| 2017 | Y/N | | |
| 2016 | Y/N | | |
| 2015 | Y/N | | |
| 2014 | Y/N | | |
| 2013 | Y/N | | |
| Benchmark Application under CCIR or TIER | Y/N | | |

# Introduction

Provide an introduction for the verification report including details in each of the sections below.

## 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 and organizational boundaries, processes and activities, facility products, 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 or Benchmark Period

This <choose submission type> covers the period of <add benchmark or compliance years>.

### Geographical and Organizational Boundaries

Provide a description of the facility's geographical and organizational boundaries.

### Facility Processes and Activities

Add a description of the facility's processes and activities, including changes in operations and compliance reporting and historical GHG performance.

### Facility Products

Add a description of the facility's products.

### GHG Emission Sources, Source Areas, and Specified Greenhouse Gas Emissions

Please indicate which parameters are applicable for the facility (Y/N).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Source Areas | CO2 | CH4 | N2O | HFCs | PFCs | NF3 | SF6 | Electricity (MWh) | Heat (GJ) | Hydrogen (tonnes) |
| Stationary fuel combustion emissions |  |  |  |  |  |  |  |  |  |  |
| Industrial process emissions |  |  |  |  |  |  |  |  |  |  |
| Venting emissions |  |  |  |  |  |  |  |  |  |  |
| Flaring emissions |  |  |  |  |  |  |  |  |  |  |
| On-site transportation emissions |  |  |  |  |  |  |  |  |  |  |
| Waste and wastewater emissions |  |  |  |  |  |  |  |  |  |  |
| Industrial product use emissions |  |  |  |  |  |  |  |  |  |  |
| Biomass CO2 emissions |  |  |  |  |  |  |  |  |  |  |
| Imported indirects |  |  |  |  |  |  |  |  |  |  |
| Imported / exported CO2 |  |  |  |  |  |  |  |  |  |  |
| CO2 consumed in urea |  |  |  |  |  |  |  |  |  |  |
| Add other sources as applicable |  |  |  |  |  |  |  |  |  |  |

Notes:

NA - not applicable source at the facility

CO2 - carbon dioxide, CH4 methane, N2O - nitrous oxide, HFCs - hydrofluorocarbons, PFCs - perfluorocarbons, NF3 - nitrogen trifluoride, SF6 - sulphur hexafluoride

### Negligible Emission Sources

Provide a list of the facility's negligible emission sources or indicated NA if not applicable.

## Level of Assurance

The <verification or re-verification> was conducted to a reasonable level of assurance.

The verification is conducted to a reasonable level of assurance which provides a high level of assurance, but not absolute, that the facility's assertion is materially correct and prepared in accordance with the Technology Innovation and Emissions Reduction Regulation and referenced standards.

## Criteria

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

## Materiality

The materiality for the verification is set at <5% or 2%> based on the facility's total regulated emissions and allowable emissions.

The materiality is assessed by calculating the total error in accordance with Equation 5-8 in the Standard for Validation, Verification and Audit and assessing whether the total error exceeds <5% or 2%>.

# Verification Procedures

## Description of Verification Procedures

Describe the verification procedures (such as planning, assessments conducted, site visit, desk-top reviews, peer review process) that were performed to assess the following:

* 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 boundary and sources in the facility's assertion
* Facility's data management system and controls
* Accuracy of facility data and information used in the facility's assertion
* Use of quantification methodologies in the facility's assertion (i.e. Were mandatory quantification methodologies applied and whether the facility received approvals for any deviations)
* Whether all criteria have been met

## Verification Schedule

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

## Risk Assessment

Complete the risk assessment table below to address the risks associated with various sources and risk areas. This should include an assessment of the facility boundary, data management system, and individual source categories (stationary fuel combustion, flaring, etc.). Include this risk assessment table and a sampling plan in the verification plan (Appendix C). Rows may be added as needed.

1. Risk Assessment

| Source or Risk Area | Attributes | Inherent Risk | Control Risk | Detection Risk | Procedure to Mitigate Risk |
| --- | --- | --- | --- | --- | --- |
| Facility Boundary | Occurrence |  |  |  |  |
| Completeness |  |  |  |  |
| Accuracy |  |  |  |  |
| Classification |  |  |  |  |
| Transparency |  |  |  |  |
| Consistency |  |  |  |  |
| Data Management System | Occurrence |  |  |  |  |
| Completeness |  |  |  |  |
| Accuracy |  |  |  |  |
| Classification |  |  |  |  |
| Transparency |  |  |  |  |
| Consistency |  |  |  |  |
| example: Stationary fuel combustion emissions | Occurrence |  |  |  |  |
| Completeness |  |  |  |  |
| Accuracy |  |  |  |  |
| Classification |  |  |  |  |
| Transparency |  |  |  |  |
| Consistency |  |  |  |  |

# Verification Team

Fill in the table below with information on the verification team members. Required information on team members include their roles, ISO 14064-3 training, training dates, experience and qualifications. Rows may be added as needed. The Statement of Qualifications must be signed and included in Appendix B.

1. Verification Team Qualifications

| Verification Team Qualifications | Response |
| --- | --- |
| Verification Body | |
| The third party assurance provider is accredited as a verification body to ISO Standard 14065:2013 by an accreditation organization that is a member of the International Accreditation Forum (IAF) per section 27(1) of TIER. | Y/N |
| If accredited, provide IAF Accreditation Organization: | <choose an organization>  Specify if other: Click or tap here to enter text. |
| If accredited, provide the sectors accredited: | <enter sectors that verification body is accredited for> |
| The third party assurance provider is not accredited, but meets the requirements in section 27(3) of TIER. | Y/N/NA |
| Designated Signing Authority (DSA) | <add DSA name> |
| The DSA meets the qualifications specified in sections 3(1)(e) and 6(3) in the Standard for Validation, Verification and Audit | Y/N |
| Lead Verifier | <add lead verifier name> |
| Completed ISO 14064-3 training | Y/N |
| Training dates |  |
| Minimum of 4 years of experience | Y/N |
| Technical experience as outlined in section 3(1)(f) in Part 1 of the Standard for Validation, Verification and Audit | Y/N |
| Completed Alberta Verification Training | Y/N |
| Description of team member experience and qualifications |  |
| Co-Lead Verifier (if applicable) | <add co-lead verifier name> |
| Completed ISO 14064-3 training | Y/N |
| Training dates |  |
| Minimum of 4 years of experience | Y/N |
| Technical experience as outlined in section 3(1)(f) in Part 1 of the Standard for Validation, Verification and Audit. | Y/N |
| Completed Alberta Verification Training | Y/N |
| Description of team member experience and qualifications |  |
| Peer Reviewer | <add peer reviewer name> |
| Completed ISO 14064-3 Training | Y/N |
| Training dates |  |
| Minimum of 4 years of experience | Y/N |
| Technical experience as outlined in section 3(1)(g) in Part 1 of the Standard for Validation, Verification, and Audit | Y/N |
| Completed Alberta Verification Training | Y/N |
| Other verification team member (i.e. verifier, technical expert, etc.) | <add other team member names and add rows as needed> |
| Description of role, qualification and experience |  |

# Verification Findings

Add introduction to the verification findings, if desired.

## Assessment of Facility Boundary and Transparency and Completeness of Emission Sources and Other Reported Data

Provide findings from the assessment of the facility boundary and transparency and completeness of emission sources and reported data in the facility's submission.

## Assessment of Data Management Systems and Controls

Provide findings from the assessment of the facility's data management system and controls. 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 whether the facility's data management system and controls are adequate for the purpose of compliance reporting and/or benchmark applications.

## Assessment of Data and Information

Provide findings from the assessment of the data and information used and reported by the facility 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 report or application.

### Metering and Instrumentation

Provide an assessment of the metering and instrumentation used at the facility to quantify fuels, feedstock, and products.

## Assessment of Quantification Methodologies

Provide findings from the assessment of quantification methodologies used by the facility including:

* Did facility follow the mandatory quantification methodologies applicable to the facility?
* Did the facility receive approval from the director for deviations to mandatory quantification methodologies?
* Was the QMD prepared in accordance with the Standard for Completing Greenhouse Gas Compliance and Forecasting Reports?
* For sources or parameters where there are no mandatory quantification methodologies, indicate whether the methodologies applied by the facility is reasonable and appropriate.
* Did the facility follow the correct sampling frequencies for fuel and feeds consumed?

## Assessment of Criteria

Provide findings from assessment of criteria as listed in section 1.4.

## Results from the Site Visit

The site visit was conducted at <add facility name> on <add site visit date>.

Provide description of activities that were conducted during the physical site visit. If approval was given to the verifier to waive the physical site visit, please provide reasons for the waiver and descriptions of other activities performed.

## Summary of Material or Significant Findings

Provide a summary of material and significant findings in Table 3. Include a more detailed description and log of results in Table 4 Detailed Findings and Issues Log in Appendix D. Table 4 will include both resolved and unresolved issues from the verification. Significant or material unresolved issues should be brought forward to Table 3. Add introduction to this section, if desired.

1. Summary of Material and/or Significant Findings

| Result # | Type of Error | Description of Finding | Parameter | Unit of Parameter | Quantification of Discrepancy (i), if applicable |
| --- | --- | --- | --- | --- | --- |
| Number the finding with the year and provide a unique # for each finding (YR-##). | Indicate whether error is qualitative or quantitative. | Provide a summary statement (1-4 sentences) for each material and significant finding (resolved or unresolved). | Indicate which parameter was evaluated (i.e. product, an emission source, imported indirects, etc.) | Indicate the applicable unit of the parameter assessed (e.g. MWh for electricity). | For quantitative discrepancies, provide the discrepancy in the units of the parameter and indicate whether it is an overstatement (+) or understatement (-). It is acceptable to indicate a range in the discrepancy if it cannot be determined in absolute terms. |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Total Error |  |  |  |  | Provide the total error based on Equation 5-8 in the Standard for Validation, Verification and Audit |

## Opportunity for Improvement

This section is to be filled out for reverifications conducted for the Government of Alberta only. For all other verifications, please indicate NA.

# Closure

## Verification Conclusion

The verification conclusion is <positive / negative / qualified>.

Provide a verification statement detailing the verifier's conclusion. If there are any qualifications, please provide details of the qualifications in this section. This verification statement should be consistent with the verification statement provided in the Statement of Verification (Appendix E).

An example of a positive verification statement may be:

Based on a verification conducted by \_\_\_\_\_\_\_\_\_\_, the facility assertion prepared by \_\_\_\_\_\_\_\_\_\_ was determined to be free of material misstatements, fairly presented, substantiated by sufficient and appropriate evidence, and was prepared in accordance with the Technology Innovation and Emissions Reduction Regulation and relevant criteria.

## Limitation of Liability

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

## Confirmations

Provide confirmation that the following information has been included in the submission and have been assessed as part of the verification.

| Confirmation Item | Response (Y/N/NA) |
| --- | --- |
| Administrative/facility information and required data and information have been correctly reported in the appropriate fields in the compliance report or benchmark application. |  |
| Quantification Methodologies Document (QMD) has been provided and the verifier has assessed whether mandatory quantification methodologies were applied. If not, confirmed whether deviations were approved by the director. |  |
| Simplified process flow diagrams and energy diagrams meets the requirements of the Standard for Competing Greenhouse Gas Compliance and Forecasting Reports. |  |
| Fuel usage has been reported. |  |
| Negligible emissions (if present) have been quantified and included in the facility's Direct Emissions (DE). |  |
| For oil sands facilities, the area fugitive calculations account for all of the sources and calculates the areas for each source, as required by the Area Fugitives Directive. As well, confirm that the submission of required forms and geospatial information are accurate and complete. |  |

# References

Add references for materials used in the verification including author, year, and title, as applicable. Indicate NA if not applicable.

Appendix A: Conflict of Interest (COI) Checklist

Appendix B: Statement of Qualifications (SOQ)

Appendix C: Final Verification Plan and Sampling Plan

The verification plan should include, but not be limited to the following:

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

1. Detailed Findings and Issues Log

| Item | Description of the Issue or Question | Summary of Information Exchange | Resolution | Conclusion |
| --- | --- | --- | --- | --- |
| Number the issue with the year and provide a unique # for the issue (YR-##). Add rows as needed. | Indicate the source category or risk area that the issue or question relates to. Describe the issue or question 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 of information was reviewed. | Indicate the response from the facility and any information and/or data that was provided in response to the question or issue. | Indicate how the question or issue was resolved. For immaterial discrepancies, the facility may select not to resolve the issue. | Provide a conclusion and if applicable provide the quantification of the discrepancy that was identified in the units of the parameter. For example, an omission discrepancy of 1000 tonnes was identified in the production of product A. Note that unresolved issues (material or significant) should be included in Table 3. |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Appendix E: Statement of Verification (SOV)

Appendix F: Supporting Information