The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard

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Saskatchewan

1. Introduction

1(1) This Standard is adopted under *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*.

1(2) Any terms defined in *The Management and Reduction of Greenhouse Gases Act* or *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations* hold the same definition in this Standard.

1(3) If there is any conflict between this Standard and the Act or the Regulations, the Act or the Regulations prevails over this Standard.

2. Definitions

"Accredited verification body" means a verification body that is accredited in accordance to ISO 14065 by either the Standards Council of Canada (SCC) or the American National Standards Institute (ANSI).

"Act" means *The Management and Reduction of Greenhouse Gases Act.*

"Aggregate facility" means a collection of individual facilities which meet the requirements of subsection 3(3) within *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard*.

"Associated gas" means gas that is produced at an oil well.

"Authorized signing officer" means a person designated from within a regulated facility's organization who has authority to accept legal responsibility for the information provided in the facility's emissions return or baseline submission, is in a position to knowledgeably attest to the completeness and accuracy of the return or submission, and provides a signed declaration for the emissions return, baseline submission or other information required or requested by the minister.

"Baseline emissions" means regulated emissions associated with the production of a product at a regulated facility in a single baseline year that are used in calculating the baseline emissions level for the facility.

"Biomass" means non-fossilized plants or plant materials, animal waste or any product made of either of these, including wood and wood products, charcoal, and agricultural residues, biologically derived organic matter in municipal and industrial wastes, landfill gas, bio-alcohols, black liquor, sludge digestion gas and animal – or plant – derived oils, but does not include plant or plant materials used as an input in the production of char or briquettes.

"Cogeneration" means, for purposes other than gas-to-power operations:

(a) the integrated operation of one or more combustion turbines and steam generators that recover any heat from combustion turbine exhaust gases to supply steam for useful purposes; or

(b) the production of electricity using waste heat or heat recovered from a process that occurs on-site at a regulated facility for the purpose of producing one or more products at a regulated facility.

"Direct emissions" means the sum of all emissions from regulated source categories included in Table 5 of Appendix D from sources that are owned or operated by the regulated emitter and that are associated with the production of a product at a regulated facility.

"Emission quantification methodology" means the procedure employed by a regulated emitter in accordance with subsection 3(5) to quantify the level of emissions at a regulated facility.

"Flaring emissions" means the controlled release of emissions from industrial activities derived from the combustion of gas or liquid stream produced at a facility, the purpose of which is not to produce heat or work to be used at a facility. This includes emissions from waste petroleum incineration; hazardous emission prevention systems (in pilot or active mode); well testing; natural gas gathering systems; natural gas processing plant operation; crude oil production; pipeline operations; petroleum refining; chemical fertilizer production; steel production.

"Gas-to-power operation" means the generation of electricity from the combustion of associated gas that is integrated into a regulated facility within the upstream oil and gas sector.

"Independent reviewer" means a person who is qualified, according to subsection 20(6), to review the work of the verification team prior to a statement of verification being created.

"Industrial process emissions" means emissions from an industrial process that involves a chemical or physical reaction other than combustion, the purpose of which is not to produce heat or work to be used at a facility. This does not include venting from hydrogen production associated with fossil fuel production. Emissions from fuel combustion used to provide heat for an industrial process, whether they be internal or external to the industrial process equipment, are not considered industrial process emissions.

"Industrial product use emissions" means emissions from the use of a product for an industrial process that does not involve a chemical or physical reaction and does not react in the process. This includes releases from the use of SF_6, HFCs, and PFCs as cover gases, and the use of HFCs and PFCs in foam blowing. This does not include releases from PFCs and HFCs in refrigeration, air conditioning, semiconductor manufacturing, fire extinguishing, solvents, aerosols and SF_6 in explosion protection, leak detection, electronic application and fire extinguishing.

"IPCC" means the Intergovernmental Panel on Climate Change under the United Nations.

"ISO" means the International Organization for Standardization.

"ISO 14064-3" means standard ISO 14064-3:2006, published by the ISO and entitled "Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions".

"ISO 14065" means standard ISO 14065, published by the ISO, as amended from time to time.

"Leakage emissions" means the uncontrolled release or leak of emissions from fossil fuel production, processing, transmission and distribution; iron and steel coke batteries; or CO_2 capture, transport, injection and storage infrastructure for long-term geological storage.

"Level of assurance" means the depth of detail that a verification team designs into the verification process to determine if there are any material errors, omissions, or misrepresentations.

“Materiality” means the assessment of individual errors, omissions, and misstatements that would misrepresent a regulated facility’s greenhouse gas emissions or production.

“On-site transportation emissions” means the emissions from machinery used for the transport or movement of substances, materials, equipment or products that are used in the production process within the boundary of a regulated facility.

“Performance standard” means the amount of CO_2e emissions a regulated emitter is allowed to emit without incurring a compliance obligation when producing a unit of product at a regulated facility in the given reduction period of the product.

“Production quantification methodology” means the procedure employed by a regulated emitter to quantify the level of production at a regulated facility, including detailing the stage of production at which the measurement takes place.

“Regulations” means *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*.

“Statement of verification” means the formal written declaration by the verification team that provides assurance on the statements in a submission or return by a regulated emitter for a regulated facility in accordance with the applicable verification criteria in subsection 20(10).

“Venting emissions” means the controlled release of process emissions or emissions contained in waste gas released to the atmosphere. This includes emissions of CO_2 associated with carbon capture, transport, injection and storage; from hydrogen production associated with fossil fuel production and processing; of casing gas; of gases associated with a liquid or a solution gas; of treater, stabilizer or dehydrator off-gas; of blanket gases; from pneumatic devices which use natural gas as a driver; from compressor start-ups, pipelines and other blowdowns; from metering and regulation control loops.

“Verification report” means a written report prepared by a verification team during the verification process with respect to a regulated facility.

“Verification team” means a team consisting of one or more qualified persons who satisfy the criteria in subsection 20(3) that conducts a verification on a regulated facility.

“Waste emissions” means emissions resulting from waste disposal activities at a facility including landfilling of solid waste, flaring of landfill gas, and waste incineration. This does not include emissions resulting from the combustion of waste fuels to produce heat or work to be used at a facility.

“Wastewater emissions” means the emissions resulting from industrial wastewater and industrial wastewater treatment at a facility.

3. Reported Data

3(1) When reporting data in a submission or return for a regulated facility, a regulated emitter shall report all compliance obligations rounded to the nearest whole number and all other numerical data to four decimal digits.

3(2) A regulated emitter shall convert all quantified emissions included in a submission or return to tonnes of CO_2e.

3(3) Subject to subsection 4(8)**,** a regulated emitter shall ensure that all regulated emissions from a regulated facility are included and accounted for in all submissions and returns.

3(4) A regulated emitter must quantify the production at a regulated facility for a baseline or compliance year, using the quantification method selected according to section 10, within a margin of error of ± 5 percent.

3(5) A regulated emitter shall ensure that the production and emissions quantification methodologies used to quantify the production and emissions of a product at a regulated facility are held constant for each baseline year used to establish a baseline emissions intensity and each compliance year included in a subsequent emissions return.

3(6) If, for any reason beyond the control of the regulated emitter, the data required to quantify the emissions for a product at a regulated facility are missing for a compliance year or baseline year, a regulated emitter shall calculate replacement data using:

(a) quantification methods from Environment and Climate Change Canada's Greenhouse Gas Reporting Program if those methods are applicable; or

(b) IPCC Guidelines for National Greenhouse Gas Inventories.

3(7) For the purposes of subsection 3(6), a regulated emitter shall use:

(a) for a baseline year, the most recently published version of the chosen quantification methods;

(b) for a new facility establishing a baseline for the second compliance year:

(i) the quantification methods used when establishing a baseline for the first compliance year; or

(ii) if replacement data was not used when establishing a baseline for the first compliance year, the most recently published version of the chosen quantification methods; or

(c) for a compliance year:

(i) the quantification methods used for the baseline years; or

(ii) if replacement data was not used when establishing a baseline year, the most recently published version of the chosen quantification methods.

3(8) A regulated emitter shall ensure any measuring device that is used to determine a quantity for the purposes of reporting data in a submission or return for a regulated facility is:

(a) installed, operated, maintained and calibrated in accordance with the manufacturer's specifications or any applicable generally recognized national or international industry standard; and

(b) maintained to be accurate within ± 5 percent.

3(9) A gas-to-power operation cannot be integrated into more than one regulated facility at the same time.

4. Concerning Emissions

4(1) All categories in Table 5 of Appendix D are considered to be regulated source categories.

4(2) Stationary fuel combustion is the only regulated source category for a regulated facility in the upstream oil and gas sector.

4(3) A regulated emitter shall:

(a) include in the direct emissions for a regulated facility all emissions associated with the on-site generation of electricity for the regulated facility, unless the regulated emitter can demonstrate that the emissions are already subject to a reduction requirement under a different regulation; and

(b) if applicable, exclude from clause (a) the emissions associated with a gas-to-power operation that is integrated into the regulated facility.

4(4) In calculating the total emissions for the industrial process source category at a regulated facility, a regulated emitter shall include emissions from the following sources:

(a) electric arc furnaces, argon-oxygen decarburization vessels or vacuum degassing, and ladle furnaces;

(b) nitric acid production and ammonia steam reforming;

(c) catalyst regeneration, sulphur recovery, and coke calcining; and

(d) addition of carbonate compound into a lime kiln.

4(5) A regulated emitter shall exclude CO_2 emissions from the following emission sources when calculating a regulated facility's direct emissions:

(a) from the combustion of biomass;

(b) from the aerobic decomposition of biomass; and

(c) from the fermentation of biomass.

4(6) For the purposes of subsection 4(5), a regulated emitter shall report CH_4 and N_2O emissions for the

conditions listed in clauses (a) to (c).

4(7) A regulated emitter shall include the following emission sources in a regulated facility's baseline submission and emissions return, but will be provided 100 percent allocation for the purpose of determining a regulated facility's performance standard for a product:

(a) industrial process emissions; and

(b) emissions associated with electricity generated using cogeneration.

4(8) A regulated emitter who owns or operates a regulated facility in the upstream oil and gas sector that has an integrated gas-to-power operation shall not include the stationary fuel combustion emissions from the gas-to-power operation in the direct emissions for a product produced at the regulated facility.

4(9) A regulated emitter who owns or operates a regulated facility in the upstream oil and gas sector that has an integrated gas-to-power operation during a compliance year shall include the stationary fuel combustion emissions from the gas-to-power operation in:

(a) the regulated facility's permitted emissions for the compliance year; and

(b) the regulated facility's total regulated emissions for the compliance year.

4(10) For the purpose of establishing the baseline emissions intensity for a product at a regulated facility, a regulated emitter shall not allocate a quantity of regulated emissions to more than one product produced at the regulated facility.

4(11) A regulated emitter may omit the emissions from a source from an emissions return or baseline submission if the emissions associated with that source are less than 0.5 percent of the total regulated emissions for that regulated facility during the baseline or compliance year covered by the return or submission.

5. Registration

5(1) When preparing an application to register a regulated facility pursuant to section 5 or voluntarily register a facility pursuant to section 6 of the Regulations, the regulated emitter, or owner or operator of a facility being voluntarily registered, as applicable, must:

(a) complete any required forms;

(b) provide a facility boundary map for the facility;

(c) ensure that all information provided respecting the facility is accurate;

(d) include a signed declaration from the authorized signing officer attesting to the accuracy and completeness of the registration; and

(e) submit all required information to the minister in the manner specified by the minister.

5(2) If an individual facility within an aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard* has total regulated emissions of 25,000 tonnes CO_2e or more and is required to be transferred from the aggregate facility under subsection 6(1) of that Standard, the registration of the individual facility shall transfer such that the individual facility becomes a regulated facility under this Standard beginning January 1 of the year after the year in which the facility has total regulated emissions of 25,000 tonnes CO_2e or more.

6. Responsibility for a Regulated Facility

6(1) The owner or operator of a regulated facility on December 31 of a compliance year is considered responsible for all requirements of that regulated facility in regards to the Regulations and this Standard for the entirety of that compliance year.

6(2) The owner or operator of a regulated facility with an integrated gas-to-power operation is considered responsible for all emissions from the gas-to-power operation for the portion of the compliance year that the gas-to-power operation was integrated into the regulated facility.

6(3) A regulated emitter that transfers a regulated facility to an aggregate facility that they own or operate in a compliance year is not required to adhere to the requirements of this Standard and instead shall be responsible for all requirements of that individual facility as part of the aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard* for the compliance year.

7. Reduction Periods

7(1) For the purposes of Section 11 and Table 1 of the Regulations, a regulated emitter shall establish a reduction period for each product commercially produced at a regulated facility every compliance year according to the following:

(a) the first reduction period is applicable for every product produced at a regulated facility during the regulated facility's first compliance year;

(b) subject to subsection 7(3), for every subsequent compliance year, the subsequent reduction period is applicable for every product produced at the regulated facility; and

(c) if additional reduction periods are not available, the final reduction period applies for every product produced at the regulated facility.

7(2) When a regulated facility has the baseline emissions intensity for a product re-established, the regulated facility will maintain the same reduction period for that product.

7(3) If a regulated facility is deemed to be exempt from accruing compliance obligations for the purpose of standby for at least 6 months of a compliance year, the reduction period for each product commercially produced at the regulated facility shall not advance to the subsequent reduction period in the following compliance year.

7(4) If an operator removes a regulated facility from registration according to section 7 of the Regulations and subsequently registers that facility at another time, the reduction period continues for that facility as though it was never removed from registration.

7(5) If a regulated facility registered pursuant to this Standard was previously an individual facility within an aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard*, the reduction period applicable to that aggregate facility is maintained as the initial reduction period for the regulated facility upon transfer from the aggregate facility and registration pursuant to this Standard.

7(6) Subsequent reduction periods for a regulated facility identified in subsection 7(5) are established as per the provisions of this section.

8. Maintenance of the First Compliance Year

8(1) If a regulated facility registered pursuant to this Standard was previously an individual facility within an aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard*, the first compliance year of that aggregate facility is maintained as the first compliance year for the regulated facility registered pursuant to this Standard, unless an earlier first compliance year had been established for the regulated facility, in which case the earlier year is maintained as the first compliance year.

9. Determining Baseline Years

9(1) For a regulated facility that was not previously an individual facility within an aggregate facility registered pursuant to *The Management and Reductions of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard* and is not a new facility, a regulated emitter shall select the baseline years for a regulated facility using the following criteria:

(a) the baseline years must be three consecutive calendar years; and

(b) the baseline years must be chosen from the five calendar years preceding the first compliance year for the regulated facility.

9(2) For a regulated facility that was previously an individual facility within an aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard* and is not a new facility, a regulated emitter shall select the baseline years for a regulated facility using the following criteria:

(a) the baseline years must be three consecutive calendar years; and

(b) the baseline years must be chosen from the five calendar years preceding the year in which the regulated facility is considered registered as a regulated emitter under this Standard.

9(3) A regulated emitter shall establish the baseline years for a new facility in the following manner:

(a) for the first compliance year, the regulated emitter shall use the previous two calendar years;

(b) for the second compliance year, the regulated emitter shall use the previous three calendar years; and

(c) the same three calendar years as in clause 9(3)(b) will be used for all subsequent compliance years for the regulated facility unless the baseline emissions intensity for a product is re-established according to the Regulations and this Standard.

9(4) For purposes of subsection 7(13) of the Regulations, if the data from the baseline years established in subsections 9(1) or 9(2) is unavailable or insufficient from a regulated facility that is exiting standby, the owner or operator of the facility may apply to establish baseline information for the facility on the basis of other considerations respecting the special circumstances of the facility.

10. Products

10(1) As part of the baseline submission for a regulated facility, a regulated emitter shall propose the product(s) and corresponding production quantification methodologies that account for all emissions released at the regulated facility and provide a transparent and accurate representation of the activities at the regulated facility.

10(2) Subject to subsections 10(3) and 10(4), the product(s) and unit of measure of those products selected for a regulated facility must be held constant for all baseline and compliance years.

10(3) If a regulated facility begins production of a new product, the regulated emitter for that regulated facility may establish a unit of measure and baseline emissions intensity for that new product.

10(4) If a regulated facility ends production of a product that has an established baseline emissions intensity:

(a) the regulated emitter for that regulated facility must send written notice to the minister as soon as is practicable to notify the minister that production of the product has ended; and

(b) the regulated emitter shall not include that product in any subsequent submissions or returns

10(5) The complexity-weighted barrel (CWB) methodology will be accepted as a product for regulated facilities in the refining and upgrading of petroleum sector.

10(6) The generation of electricity and, if applicable, useful heat from a gas-to-power operation integrated into a regulated facility shall not be considered a product for the purpose of the Regulations and this Standard.

11. Calculating Direct Emissions

11(1) A regulated emitter shall determine the total emissions for each regulated source category in Table 5 of Appendix D from each source owned or controlled by the regulated emitter for each product produced at the regulated facility by:

$$\boldsymbol{ES_{i\text{-a-y}} = \sum_{p} E_{i\text{-a-y-p}} \times GWP_p}$$

where:

$\boldsymbol{ES_{i\text{-}a\text{-}y}}$ is the total emissions for regulated source category y for product a in year i, expressed in tonnes of CO_2e;

$\boldsymbol{E_{i\text{-}a\text{-}y\text{-}p}}$ is the total emissions of a particular prescribed greenhouse gas species p from regulated source category y, other than from a gas-to-power operation that is integrated into the regulated facility, for product a in year i, expressed in tonnes of the prescribed greenhouse gas species p;

$\boldsymbol{GWP_p}$ is the global warming potential for the particular prescribed greenhouse gas species p as listed in Appendix C;

$\boldsymbol{a}$ is the product produced at the regulated facility;

$\boldsymbol{i}$ is the baseline year for the purpose of calculating baseline emissions or the compliance year for the purpose of calculating total regulated emissions;

$\boldsymbol{p}$ is a prescribed greenhouse gas species; and

$\boldsymbol{y}$ is a regulated source category included in Table 5 of Appendix D.

11(2) A regulated emitter shall determine the direct emissions for each product at a regulated facility by:

$$\boldsymbol{DE_{i\text{-a}} = \sum_{y} ES_{i\text{-a-y}}}$$

where:

$\boldsymbol{DE_{i\text{-}a}}$ is the direct emissions for the regulated facility for the purpose of producing product a in year i, expressed in tonnes of CO_2e;

$\boldsymbol{ES_{i\text{-}a\text{-}y}}$ is the total emissions for regulated source category y for product a in year i, expressed in tonnes of CO_2e;

$\boldsymbol{a}$ is the product produced at the regulated facility;

$\boldsymbol{i}$ is the baseline year for the purpose of calculating baseline emissions or the compliance year for the purpose of calculating total regulated emissions; and

$\boldsymbol{y}$ is a regulated source category included in Table 5 of Appendix D.

12. Baseline Submissions

12(1) When preparing a baseline submission for a regulated facility, a regulated emitter shall:

(a) complete any required forms;

(b) provide a Quantification Methodology Document with the required emissions and production information in accordance with the Quantification Methodology Document Template for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*;

(c) in the event that a regulated facility has an on-site cogeneration unit, provide a simplified process flow diagram of the cogeneration unit layout and the following information for each baseline year:

(i) the total amount of fuel used by the cogeneration unit;

(ii) the total emissions from cogeneration;

(iii) the heat production emissions from cogeneration;

(iv) the electricity production emissions from cogeneration;

(v) the total net heat produced by cogeneration;

(vi) the total electricity production from cogeneration; and

(vii) the operating time of the cogeneration unit;

(d) provide a signed declaration from an authorized signing officer for the regulated facility attesting to the accuracy of all information provided in and completeness of the baseline submission;

(e) include a completed Verification Report Template for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard* and a signed statement of verification from a qualified person who performed a verification on the regulated facility; and

(f) submit all required information to the minister in the manner specified by the minister.

12(2) Prior to submitting a baseline submission, a regulated emitter shall ensure that all information contained within the baseline submission is verified by a qualified person.

12(3) For a regulated facility that is not a new facility, a regulated emitter shall submit a completed and verified baseline submission within 6 months of the date of registration or transfer of registration pursuant to this Standard for regulated facilities which were previously an individual facility within an aggregate facility registered pursuant to *The Management and Reduction of Greenhouse Gases (Upstream Oil and Gas Aggregate Facility) Standard*.

12(4) For a regulated facility that is a new facility, a regulated emitter shall submit a completed and verified baseline submission by June 1 of the first and second compliance year.

12(5) After a submitted baseline submission for a regulated facility has been reviewed for completeness, the regulated emitter will be provided a written response that:

(a) approves the information provided in the baseline submission for the regulated facility; or,

(b) indicates the baseline submission for the regulated facility is incomplete or has errors, details of the problem(s) or issue(s), and/or any action required by the regulated emitter, including:

(i) providing additional information that may be requested or required;

(ii) any corrective action that may be required; and/or

(iii) if applicable, having the baseline submission re-verified.

12(6) Upon receipt of a written response in clause 12(5)(b), a regulated emitter shall fulfil any actions required and resubmit the required information prior to the deadline indicated in the written response.

12(7) Upon resubmission of required information in clause 12(5)(b), the information will be reviewed and the regulated emitter will be provided a written response that:

(a) provides a statement in accordance with subsection 12(5); or

(b) establishes the baseline emissions intensity for each product produced at the regulated facility.

13. Calculating Baseline Emissions Intensity

13(1) For the purpose of calculating the baseline emissions intensity for a product at a regulated facility, the baseline emissions for a product at a regulated facility are determined by:

$$\boldsymbol{BE_{i-a} = DE_{i-a}}$$

where:

$\boldsymbol{BE_{i\text{-}a}}$ is the baseline emissions for the purpose of producing product a in baseline year i, expressed in tonnes of CO_2e;

$\boldsymbol{DE_{i\text{-}a}}$ is the direct emissions for the regulated facility, as determined in subsection 11(2), for the purpose of producing product a in baseline year i, expressed in tonnes of CO_2e;

$\boldsymbol{a}$ is the product produced at the regulated facility; and

$\boldsymbol{i}$ is a baseline year.

13(2) A regulated emitter shall determine the baseline emissions level for a product at a regulated facility by:

$$\boldsymbol{BEL_a = \frac{1}{n}\sum_{i=1}^{n} BE_{i-a}}$$

where:

$\boldsymbol{BEL_a}$ is the baseline emissions level for the purpose of producing product a during the baseline years, expressed in tonnes of CO_2e;

$\boldsymbol{BE_{i\text{-}a}}$ is the baseline emissions for the purpose of producing product a in baseline year i, expressed in tonnes of CO_2e;

$\boldsymbol{a}$ is the product produced at the regulated facility in baseline year i;

$\boldsymbol{i}$ is a baseline year; and

$\boldsymbol{n}$ is the number of baseline years.

13(3) A regulated emitter shall determine the baseline production level for a product at a regulated facility by:

$$\boldsymbol{BPL_a = \frac{1}{n}\sum_{i=1}^{n} P_{i-a}}$$

Where:

$\boldsymbol{BPL_a}$ is the baseline production level for product a in the baseline years;

$\boldsymbol{P_{i\text{-}a}}$ is the amount of product a produced at the regulated facility in baseline year i;

$\boldsymbol{a}$ is the product produced at the regulated facility in baseline year i;

$\boldsymbol{i}$ is a baseline year; and

$\boldsymbol{n}$ is the number of baseline years.

13(4) A regulated emitter shall determine the baseline emissions intensity for a product at a regulated facility by:

$$\boldsymbol{BEI_a = \frac{BEL_a}{BPL_a}}$$

where:

$\boldsymbol{BEI_a}$ is the baseline emissions intensity for product a, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{BEL_a}$ is the baseline emissions level for the purpose of producing product a during the baseline years, expressed in tonnes of CO_2e; and

$\boldsymbol{BPL_a}$ is the baseline production level for product a in the baseline years.

14. Re-establishing Baseline Emissions Intensity

14(1) A regulated emitter shall notify the minister within 30 days if one of the conditions in clauses 13(3)(a) through 13(3)(g) of the Regulations is satisfied.

14(2) For the purpose of 14(1), the addition of a gas-to-power operation to or removal of a gas-to-power operation from a regulated facility is not considered a change in one of the conditions noted in clause 13(3)(g) of the Regulations.

14(3) If a regulated emitter applies or is required to re-establish the baseline emissions intensity for a product at a regulated facility, the regulated emitter shall verify any information required to re-establish the baseline emissions intensity that has been changed or has not been verified in a previous submission.

14(4) If a regulated emitter applies or is required to re-establish the baseline emissions intensity for a product at a regulated facility, the regulated emitter is not required to re-establish the baseline emissions intensity for another product at the regulated facility if the minister is satisfied that the baseline emissions intensity for the other product is not affected.

14(5) In an application submitted by a regulated emitter to re-establish the baseline emissions intensity for a product at a regulated facility, the regulated emitter shall provide the information necessary to properly review the current and proposed baseline emissions intensity, including:

(a) a statement by the regulated emitter as to why the application to change the baseline emissions intensity for the product at the regulated facility is being made;

(b) the proposed new baseline emissions intensity;

(c) evidence that demonstrates the proposed baseline emissions intensity in clause 14(5)(b) is representative for the product at the regulated facility; and

(d) demonstration that verification required by subsection 14(3) has occurred, if applicable.

14(6) Upon submission of an application by a regulated emitter the application will be reviewed and the regulated emitter provided with a written response that indicates:

(a) the proposed baseline emissions intensity has been accepted;

(b) the application was incomplete or contained omissions or errors, with corrective actions and information that is required to be submitted; or

(c) the application has been denied, with reasons for the denial.

14(7) Upon resubmission of required information by the regulated emitter the information will be reviewed, in accordance with section 17 of the Act, and the regulated emitter will be provided with:

(a) a written response in accordance with subsection 14(6); or

(b) a written response establishing the baseline emissions intensity for the product at the regulated facility.

15. Calculating Performance Standards

15(1) A regulated emitter shall determine the performance standard for each product produced at a regulated facility for each reduction period.

15(2) A regulated emitter shall determine the performance standard for each product produced at a regulated facility in a given reduction period by:

$$\boldsymbol{PS_{k\text{-}a} = PSA_{k\text{-}a} \times BEI_a}$$

where:

$\boldsymbol{PS_{k\text{-}a}}$ is the performance standard for product a in reduction period k, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{PSA_{k\text{-}a}}$ is the performance standard allocation for product a in reduction period k as determined by Table 1 of the Regulations;

$\boldsymbol{BEI_a}$ is the baseline emissions intensity for product a at the regulated facility, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{a}$ is the product produced at the regulated facility in reduction period k; and

$\boldsymbol{k}$ is the current reduction period for product a, as established in section 7.

15(3) If the production of a product at a regulated facility results in industrial process emissions or is allocated emissions associated with electricity generated using cogeneration, a regulated emitter shall determine the performance standard for that product in a given reduction period by:

$$\boldsymbol{PS_{k\text{-}a} = PSA_{k\text{-}a} \times \left(BEI_a - \frac{\sum_{i=1}^{n}(IP_{i\text{-}a} + EG_{i\text{-}a})}{\sum_{i=1}^{n} P_{i\text{-}a}} \right) + \frac{IP_{k-a} + EG_{k-a}}{P_{k-a}}}$$

where:

$\boldsymbol{PS_{k\text{-}a}}$ is the performance standard for product a in reduction period k, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{PSA_{k\text{-}a}}$ is the performance standard allocation for product a in reduction period k as determined by Table 1 of the Regulations;

$\boldsymbol{BEI_a}$ is the baseline emissions intensity for the regulated facility for product a, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{IP_{i\text{-}a}}$ is the industrial process emissions associated with the production of product a in baseline year i, if applicable, expressed in tonnes of CO_2e;

$\boldsymbol{EG_{i\text{-}a}}$ is the portion of stationary fuel combustion emissions associated with electricity generated on-site at the regulated facility using cogeneration that are allocated to the production of product a in baseline year i, if applicable, expressed in tonnes of CO_2e;

$\boldsymbol{P_{i\text{-}a}}$ is the amount of product a produced at the regulated facility in baseline year i;

$\boldsymbol{IP_{k\text{-}a}}$ is the industrial process emissions associated with the production of product a in reduction period k, if applicable, expressed in tonnes of CO_2e;

$\boldsymbol{EG_{k\text{-}a}}$ is the portion of stationary fuel combustion emissions associated with electricity generated on-site at the regulated facility using cogeneration that are allocated to the production of product a in reduction period k, if applicable, expressed in tonnes of CO_2e;

$\boldsymbol{P_{k\text{-}a}}$ is the amount of product a produced at the regulated facility in reduction period k;

$\boldsymbol{a}$ is the product produced at the regulated facility in reduction period k;

$\boldsymbol{k}$ is the current reduction period for product a, as established in section 7;

$\boldsymbol{i}$ is the baseline year; and

$\boldsymbol{n}$ is the number of baseline years used in calculating the baseline emissions intensity for product a.

16. Emissions returns

16(1) When preparing an emissions return for a regulated facility, a regulated emitter shall:

(a) complete any required forms;

(b) provide a Quantification Methodology Document with the required emissions and production information, in accordance with the Quantification Methodology Document Template for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*;

(c) provide a signed declaration from an authorized signing officer for the regulated facility attesting to the accuracy of all information provided in and completeness of the emissions return;

(d) include a completed verification report in accordance with the Verification Report Template for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard* and a signed statement of verification from a qualified person who performed a verification on the regulated facility; and

(e) submit all required information to the minister in the manner specified by the minister.

16(2) Prior to submitting an emissions return a regulated emitter shall ensure that all information contained within the return is verified by a qualified person.

16(3) A regulated emitter shall submit the completed, verified emissions return for a regulated facility by June 1 of the compliance year established in Appendix A.

16(4) A regulated emitter is not required to submit an emissions return for a compliance year for a regulated facility if the facility is deemed to be in standby under section 7 of the Regulations from January 1 to December 31 of that compliance year.

16(5) If a regulated facility is deemed to be in standby for part of a compliance year, the regulated emitter shall:

(a) include in the emissions return for the compliance year evidence that proves the facility was in standby during the compliance year; and

(b) exclude from the emissions return for the compliance year emissions and production information for the portion of the compliance year that the regulated facility was in standby and the 3-month exemption period specified in section 7(9) of the Regulations.

16(6) If a regulated facility was deemed to be in standby for part of a compliance year and remains exempt from accruing a compliance obligation for a portion of the subsequent compliance year as specified in section 7(9) of the Regulations, the regulated emitter shall exclude from the emissions return for the subsequent compliance year the emissions and production information for the portion of the subsequent compliance year that the regulated facility was exempt from accruing a compliance obligation.

16(7) After a submitted emissions return for a regulated facility has been reviewed for completeness, the regulated emitter will be provided with:

(a) a written response approving the information provided in the emissions return and confirming any compliance obligation owed by the regulated emitter; or

(b) a written response indicating the emissions return is incomplete or has errors, details of the problem(s) or issue(s), and/or any action required by the regulated emitter, including:

(i) providing additional information that may be requested or required;

(ii) any corrective action that may be required; and/or

(iii) if applicable, having the emissions return re-verified.

16(8) Upon receipt of a written response in clause 16(7)(b), a regulated emitter shall fulfil any actions required and resubmit the required information prior to the compliance return deadline for that compliance year.

16(9) Upon resubmission of required information in clause 16(7)(b), the information will be reviewed and the regulated emitter will be provided a written response subject to subsection 16(7).

17. Total Regulated Emissions

17(1) A regulated emitter shall determine the total regulated emissions for a regulated facility during a compliance year by:

$$\boldsymbol{TE_i} = \sum_{\boldsymbol{a=1}}^{\boldsymbol{m}} (\boldsymbol{DE_{i\text{-}a}}) + \boldsymbol{GP_i}$$

where:

$\boldsymbol{TE_i}$ is the total regulated emissions for the regulated facility in compliance year i, expressed in tonnes of CO_2e;

$\boldsymbol{DE_{i\text{-}a}}$ is the direct emissions released by the regulated facility for the purpose of producing product a in compliance year i, expressed in tonnes of CO_2e;

$\boldsymbol{GP_i}$ is the stationary fuel combustions emissions from a gas-to-power operation integrated into the regulated facility during compliance year i, if applicable, expressed in tonnes of CO_2e.

$\boldsymbol{a}$ is a product produced at the regulated facility;

$\boldsymbol{i}$ is the compliance year; and

$\boldsymbol{m}$ is the number of products produced at the regulated facility during compliance year i.

18. Permitted Emissions

18(1) A regulated emitter shall determine the permitted emissions for a regulated facility for a given compliance year by:

$$\boldsymbol{PE_i = \sum_{a=1}^{m} (PS_{k\text{-}a} \times P_{i\text{-}a}) + (0.95 \times GP_i)}$$

where:

$\boldsymbol{PE_i}$ is the permitted emissions for a regulated facility in compliance year i, expressed in tonnes of CO_2e;

$\boldsymbol{PS_{k\text{-}a}}$ is the performance standard for product a in reduction period k, expressed in tonnes of CO_2e per unit of product a;

$\boldsymbol{P_{i\text{-}a}}$ is the amount of product a produced at the regulated facility in compliance year i;

$\boldsymbol{GP_i}$ is the stationary fuel combustions emissions from a gas-to-power operation integrated into the regulated facility during compliance year i, if applicable, expressed in tonnes of CO_2e.

$\boldsymbol{a}$ is a product produced at the regulated facility in compliance year i;

$\boldsymbol{i}$ is the compliance year;

$\boldsymbol{k}$ is the reduction period for product a; and

$\boldsymbol{m}$ is the number of products produced at the regulated facility in compliance year i.

19. Compliance Returns

19(1) If it is determined based on an emissions return for a compliance year for a regulated facility that the regulated emitter owes a compliance obligation, the regulated emitter shall submit a compliance return by October 31 of the year indicated in the schedule established in Appendix A.

19(2) The compliance return must include the following information:

(a) any required forms; and

(b) a description of the compliance options demonstrating how the compliance obligation has been met, including:

(i) a payment into the Saskatchewan Technology Fund for compliance;

(ii) all performance credits submitted for compliance; and

(iii) all offset credits submitted for compliance.

19(3) After a submitted compliance return for a regulated facility has been reviewed for completeness, the regulated emitter will be provided with:

(a) a written response approving the information provided in the compliance return and confirming that the compliance obligation has been fulfilled; or

(b) a written response indicating that the compliance return is incomplete or has errors, details of the problem(s) or issue(s), and/or any action required by the regulated emitter, including:

(i) providing additional information that may be requested or required; and/or

(ii) any corrective action that may be required.

19(4) Upon receipt of a written response in clause 19(3)(b), a regulated emitter shall fulfil any actions required and resubmit the required information prior to the deadline established in the written response.

19(5) Upon resubmission of required information in clause 19(3)(b), the information will be reviewed, and the regulated emitter will be provided a written response subject to subsection 19(3).

19(6) There are no provisions in this Standard or the Regulations that guarantee the availability of any compliance option for the purpose of fulfilling a compliance obligation, other than payment to the minister for deposit to the Saskatchewan Technology Fund.

20. Verification Requirements

20(1) If there is any conflict between this Standard and the ISO 14064-3 or ISO 14065 standards, this Standard prevails.

20(2) For the purpose of performing the verification on a baseline submission or emissions return under the Regulations, a qualified person is a person employed by an accredited verification body.

20(3) A regulated emitter shall ensure that a verification team performing verification on a regulated facility meets the following criteria:

(a) all members of a verification team are employed by an accredited verification body; and

(b) the accredited verification body employing the members of the verification team meets the requirements of and is accredited under ISO 14065.

20(4) For the purpose of verifying a baseline submission or an emissions return for a regulated facility in accordance with the Regulations and this Standard, a regulated emitter shall provide access to the regulated facility, any personnel, records, and other information or resources as requested by the verification team conducting the verification.

20(5) A regulated emitter shall ensure that a verification report is prepared for the regulated facility in accordance with the Verification Report Template for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard* and the ISO 14064-3 standard.

20(6) A regulated emitter shall ensure that before a positive, qualified positive or adverse verification statement is prepared, the determination that forms the basis of the statement is reviewed by an independent reviewer who meets the following qualifications:

(a) the person is employed by an accredited verification body;

(b) the person is not a member of the verification team carrying out the verification with respect to the regulated facility; and

(c) the person has not been a member of a verification team that has performed verification with respect to the regulated facility for at least three compliance years.

20(7) A regulated emitter shall ensure that the verification of emissions and production data associated with the emissions return or baseline submission for a regulated facility is completed to a reasonable level of assurance in accordance with the ISO 14064-3 standard.

20(8) Materiality is determined according to the following formula:

$$Materiality = \frac{A}{B} \times 100\%$$

where

A is:

(a) for the purposes of the verification of greenhouse gas emissions, the sum of the absolute value of all overstatements and understatements of emissions resulting from errors, omissions, and misstatements of greenhouse gas emissions, in tonnes of CO_2e; or

(b) for the purposes of the verification of production data, the sum of the absolute value of all

overstatements and understatements of production quantification resulting from errors, omissions, and misstatements of production information, in the unit of production selected by the regulated emitter according to section 10; and

B is:

(a) for the purposes of the verification of greenhouse gas emissions, the total regulated emissions, in tonnes of CO_2e, as corrected by the third party verifier; or

(b) for the purposes of the verification of production data, the total amount of product produced, in the unit of production selected by the regulated emitter according to section 10, as corrected by the third party verifier.

20(9) For the purpose of completing a verification statement for a regulated facility, a material discrepancy in the emissions and production data reported by the regulated emitter will exist if the level of materiality exceeds the following thresholds:

(a) for greenhouse gas emissions,

(i) 5 percent of quantified greenhouse gas emissions for a regulated facility emitting less than 500,000 tonnes CO_2e in the given compliance year; and

(ii) 2 percent of quantified greenhouse gas emissions for a regulated facility emitting 500,000 tonnes CO2e or more in the given compliance year; and

(b) for production, 0.1 percent of quantified product for the regulated facility.

20(10) A regulated emitter shall ensure that at the end of the verification process, a statement of verification is prepared reflecting a type of verification in Column 1 of Table 1 based on the corresponding determination made by the verification team in Column 2 of Table 1.

20(11) To ensure impartiality with respect to a regulated facility undergoing verification, a regulated emitter shall ensure that:

(a) an accredited verification body does not verify an emissions return for the regulated facility if conducting the verification would result in more than seven consecutive verifications on emissions returns for the regulated facility by that same accredited verification body; and

(b) a verification team does not perform verification for the regulated facility if there is known to be a current or potential threat to compromise the impartiality of:

(i) a member of the verification team; or

(ii) the accredited verification body for which the verification team is employed.

Table 1
Types of Verification

Type of Verification	Determination of Verification Team
Positive	Both of the following circumstances apply: (i) there is a reasonable level of assurance that the emissions return or baseline submission contains no material discrepancy in emissions or production parameters; and (ii) the emissions return or baseline submission was prepared in accordance with this Standard.
Qualified Positive	Both of the following circumstances apply: (i) there is a reasonable level of assurance that the emissions return or baseline submission contains no material discrepancy in emissions or production parameters; and (ii) the emissions return or baseline submission was prepared substantially in accordance with this Standard.
Adverse	One or both of the following circumstances apply: (i) there is a reasonable level of assurance that the emissions return or baseline submission contains a material discrepancy in emissions or production parameters; and/or (ii) the emissions return or baseline submission was not prepared substantially in accordance with this Standard.

20(12) For the purposes of performing verification with respect to a regulated facility, a site visit to the facility is required if:

(a) three years have elapsed since the last time a verification team visited the regulated facility for the purposes of conducting a verification of a baseline submission or emissions return;

(b) the most recent verification with respect to the regulated facility resulted in an adverse verification statement being submitted to the minister;

(c) the verification is the first by the accredited verification body with respect to the regulated facility; or

(d) verification of baseline emissions intensity data is required in accordance with subsection 14(3).

20(13) A site visit conducted at a regulated facility under the requirements of the Government of Canada's *Output-Based Pricing System Regulations* while that facility was subject to the Government of Canada's *Output-Based Pricing System Regulations* is also considered a site visit for the purposes of the Regulations and this Standard.

20(14) A regulated emitter shall ensure that all records and information respecting the verification of an emissions return or baseline submission are retained and accessible upon request for at least seven years after the date on which the records or information are created.

Appendix A: Schedule for Emissions and Compliance Returns

Table 2: Schedule for Emissions and Compliance Returns													
Compliance Year[1]	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**C11**	**C12**	**Compliance Year following C12**
Verified Emissions Return Submitted[2] for:		C1	C2		C3 & C4		C5 & C6		C7 & C8		C9 & C10		C11 & C12
Compliance Return Submitted[3] for:			C1 & C2		C3 & C4		C5 & C6		C7 & C8		C9 & C10		C11 & C12

[1] Emissions and compliance returns continue to be required every second compliance year for the duration of the program.

[2] Emissions returns must be submitted by June 1 of the year indicated.

[3] Compliance returns must be submitted by October 31 of the year indicated.

Appendix B: Sectors Excluded from the Regulations

Table 3: Excluded Sectors
Agriculture
Transportation (other than on-site transportation)
Pipelines[1]
Landfills
Public Institutions (Universities and Hospitals)
Electricity[2]

[1] The pipeline sector includes all pipelines that transport or distribute processed natural gas and their associated installations including storage installations but excluding straddle plants or other gas processing installations.

[2] The electricity sector includes those facilities for which the generation of electricity is considered as the main or sole product of the facility.

Appendix C: Global Warming Potentials[1]

Table 4: Global Warming Potentials for Prescribed Greenhouse Gas Species		
Greenhouse Gas	**Chemical Formula**	**100 Year Global Warming Potential**
Carbon Dioxide	CO_2	1
Methane	CH_4	25
Nitrous Oxide	N_2O	298
Sulphur Hexafluoride	SF_6	22,800
Perfluorocarbons (PFCs)		
Perfluoromethane	CF_4	7,390
Perfluoroethane	C_2F_6	12,200
Perfluropropane	C_3F_8	8,830
Perfluorobutane	C_4F_{10}	8,860
Perfluorocyclobutane	c-C_4F_8	10,300
Perfluoropentane	C_5F_{12}	9,160
Perfluorohexane	C_6F_{14}	9,300
Hydrofluorocarbons (HFCs)		
HFC-23	CHF_3	14,800
HFC-32	CH_2F_2	675
HFC-41	CH_3F	92
HFC-43-10mee	$CF_3CHFCHFCF_2CF_3$	1,640
HFC-125	CHF_2CF_3	3,500
HFC-134	CHF_2CHF_2	1,100
HFC-134a	CH_2FCF_3	1,430
HFC-143	CH_2FCHF_2	353
HFC-143a	CH_3CF_3	4,470
HFC-152a	CH_3CHF_2	124
HFC-227ea	CF_3CHFCF_3	3,220
HFC-236fa	$CF_3CH_2CF_3$	9,810
HFC-245ca	$CH_2FCF_2CHF_2$	693

1 Global warming potentials taken from IPCC's Fourth Assessment report.
See https://www.ipcc.ch/site/assets/uploads/2018/05/ar4-wg1-errata.pdf

Appendix D: Regulated Source Categories

Table 5: Regulated Source Categories Included in Direct Emissions									
Greenhouse Gas	Stationary Fuel Combustion Emissions	Industrial Process Emissions	Industrial Product Use Emissions	Venting Emissions	Flaring Emissions	Leakage Emissions	On-site Transportation Emissions	Waste Emissions	Waste-water emissions
Carbon dioxide[1]	*	*	N/A	*	*	*	*	*	*
Methane	*	*	N/A	*	*	*	*	*	*
Nitrous oxide	*	*	N/A	*	*	*	*	*	*
Sulphur hexafluoride	N/A	*	*	N/A	N/A	N/A	N/A	N/A	N/A
Hydrofluorocarbons (HFC)	N/A	By species	By species	N/A	N/A	N/A	N/A	N/A	N/A
Perfluorocarbons (PFC)	N/A	By species	By species	N/A	N/A	N/A	N/A	N/A	N/A

[1] excluding CO_2 emissions from biomass combustion, decomposition and fermentation