Compliance Obligation and Performance Credit Estimation Guidance Document

for Regulated Emitters Subject to *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*

Version 01.00

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Summary of Revisions

Version	Date	Summary of Revisions
01.00	July 2021	• Initial publication of *Compliance Obligation and Performance Credit Estimation Guidance Document for Regulated Emitters Subject to The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*

1.0 Introduction

Note: This guide is intended for regulated facilities who have registered with the Ministry of Environment under *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*.

The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations (the Regulations) and *The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard* (the Baselines, Returns and Verification Standard) came into effect on January 1, 2019. The Regulations and the Baselines, Returns and Verification Standard establish emissions intensity targets for regulated emitters, and are a fulfillment of the commitment made in Saskatchewan's climate change strategy, *Prairie Resilience*, to reduce industrial greenhouse gas (GHG) emissions in a manner that respects impacts to competitiveness and keeps Saskatchewan's economy strong. *The Management and Reduction of Greenhouse Gases (Performance Credit) Standard* (the Performance Credit Standard) came into effect in July 2021. The Performance Credit Standard establishes how performance credits may be earned and used.

The Baselines, Returns and Verification Standard requires all regulated emitters to submit an emissions return for each regulated facility per compliance year. The emissions return is used to assess a regulated facility's performance under the Regulations for each compliance year by comparing its total regulated emissions against its permitted emissions. The emissions return identifies whether a regulated facility is below, has met, or exceeded its allowable emissions in a compliance year, and is used to determine whether a compliance obligation is owed or performance credits were earned. If a regulated facility exceeds its allowable emissions, a compliance obligation is owed and a compliance return is required to demonstrate to the Ministry of Environment how the regulated emitter fulfilled that compliance obligation. If a regulated facility is below its allowable emissions, the facility may be eligible to earn performance credits, as per the Performance Credit Standard.

1.1 Before Using this Guide

This guide is intended for owners or operators of regulated facilities that are currently registered under the Regulations with an approved baseline emissions intensity by the Ministry of Environment. The regulated emitter must register the facility, establish its baseline emissions intensity, and submit an emissions return for the facility for the compliance year before calculating the compliance obligation.

For more information on how to register, establish a baseline emissions intensity, and/or complete an emissions return submission for a facility, please visit:

https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/a-made-in-saskatchewan-climate-change-strategy/guidance-for-emitters.

1.2 Purpose of this Guide

The purpose of this guide is to provide regulated emitters with an understanding of the compliance obligation and performance credit calculations and guidance to estimate the compliance obligation and, if applicable, the amount of performance credits earned by a regulated facility in a compliance year. The body of this document describes the process used by the Ministry of Environment to calculate

compliance obligation and performance credits in a compliance year, as per the Regulations; the Baseline, Returns and Verification Standard; and the Performance Credit Standard.

Please note: This guide is for informational purposes and the calculation of compliance obligation and performance credits by the regulated emitter should be considered as an estimate only. The Ministry of Environment will calculate the formal compliance obligation using data submitted for each facility in the baseline and emissions return submissions. This will ensure that the proper values are used within the calculations; specifically, this will eliminate rounding errors and ensure consistency. The Ministry of Environment will inform regulated emitters the compliance obligation owed or performance credits earned at a regulated facility in each compliance year, as applicable.

2.0 Information Required for Calculations

The following information will be required to estimate the compliance obligation incurred and performance credits earned, if applicable, in a compliance year by a regulated facility.

- Baseline emissions intensity for each product, approved by the Ministry of Environment;
- Performance standard allocation for the sector the regulated facility operates in, as per Table 1 in the Regulations;
- Production quantity reported in the emissions return for each product in the compliance year; and
- Total regulated emissions reported in the emissions return for the regulated facility in the compliance year.

For facilities that produced industrial process emissions and/or emissions associated with electricity generated on-site using cogeneration, the following information will also be required. This information can be found in the baseline submitted to the Ministry of Environment for the regulated facility.

- Production quantity for each product in each baseline year, for facilities that produced industrial process emissions and/or emissions associated with electricity generated on-site using cogeneration;
- Industrial process emissions for each product in each baseline year, if applicable,
- Emissions associated with electricity generated on-site using cogeneration for each product in each baseline year, if applicable;
- Industrial process emissions for each product in the compliance year, if applicable; and
- Emissions associated with electricity generated on-site using cogeneration for each product in the compliance year, if applicable.

3.0 Total Regulated Emissions

Total regulated emissions are the quantity of GHG emissions, measured in tonnes of carbon dioxide equivalents (CO_2e), that a regulated facility emits in a compliance year. Total regulated emissions for the regulated facility are determined by summing the direct emissions for each product. The total regulated emissions for a regulated facility in a compliance year are determined using the following formula:

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

where:

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

A numerical example for calculating total regulated emissions is provided in Appendix A of this document.

4.0 Performance Standard

A performance standard is the amount of emissions, measured in tonnes of CO_2e, that a regulated emitter is allowed to emit when producing a unit of product at a regulated facility in the given reduction period, without incurring a compliance obligation. The performance standard for each product is determined using the following formula:

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

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.

If the regulated facility produces a product that results in industrial process emissions or emissions associated with electricity generated using cogeneration, the performance standard for that product in a given reduction period is determined by:

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

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;

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

$\boldsymbol{EG_{i-a}}$ 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;

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

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

$\boldsymbol{EG_{k-a}}$ 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;

$\boldsymbol{P_{k-a}}$ 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;

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

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

A numerical example for calculating performance standards is provided in Appendix A of this document.

5.0 Permitted Emissions

Permitted emissions is the quantity of GHG emissions, measured in tonnes of CO_2e, that a regulated facility is allowed to emit in a compliance year without incurring a compliance obligation. Permitted emissions for the regulated facility are determined by summing the allowable emissions for each product, which are calculated using the performance standard and the production quantity in the compliance year. The permitted emissions for a regulated facility in a compliance year are determined using the following formula:

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

where:

- $\boldsymbol{PE_i}$ is the permitted emissions for a regulated facility in compliance year i, expressed in tonnes of CO_2e;
- $\boldsymbol{PS_{k-a}}$ is the performance standard for product a in reduction period k, expressed in tonnes of CO_2e per unit of product a;
- $\boldsymbol{P_{i-a}}$ is the amount of product a produced at the regulated facility in compliance year i;
- $\boldsymbol{GP_i}$ is the stationary fuel combustion 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.

A numerical example for calculating permitted emissions is provided in Appendix A of this document.

6.0 Compliance Obligation

A compliance obligation is incurred by a regulated facility if the total regulated emissions for that facility exceed the permitted emissions for that facility in the compliance year. The compliance obligation is determined using the following formula:

$$\boldsymbol{CO = TE - PE}$$

where:

$\boldsymbol{CO}$ is the compliance obligation for the regulated facility measured in tonnes of CO_2e;

$\boldsymbol{TE}$ is the total regulated emissions measured in tonnes of CO_2e by the regulated facility during the compliance year; and

$\boldsymbol{PE}$ is the permitted emissions for the regulated facility during the compliance year measured in tonnes of CO_2e.

If the regulated facility's total regulated emissions are equivalent to its permitted emissions for the compliance year (i.e. the result of the above calculation is zero), then no further actions are required.

If the regulated facility's total regulated emissions are greater than its permitted emissions for the compliance year (i.e. the result of the above calculation is a positive value), then the regulated emitter will have incurred a compliance obligation. Compliance obligations may be fulfilled by utilizing any combination of the available compliance options.

If the regulated facility's total regulated emissions are less than its permitted emissions for the compliance year (i.e. the result of the above calculation is a negative value), then the regulated emitter may qualify to earn performance credits.

A numerical example for calculating compliance obligation is provided in Appendix A of this document.

7.0 Performance Credit Emissions Limit

The performance credit emissions limit is the maximum amount of CO_2e emissions, measured in tonnes, that a regulated facility is allowed to emit in order to earn performance credits. The performance credit emissions limit for the facility is determined using the following formula:

$$\boldsymbol{PCEL_i = PE_i \times (1 - CT)}$$

where:

$\boldsymbol{PCEL_i}$ is the performance credit emissions limit for the regulated facility in compliance year i, measured in tonnes of CO_2e;

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

$\boldsymbol{CT}$ is the performance credit threshold for the regulated facility; and

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

A numerical example for calculating performance credit emissions limit is provided in Appendix A of this document.

8.0 Performance Credits

Performance credits may be earned by a regulated facility in a compliance year, if the total regulated emissions are below the performance credit emissions limit. The number of performance credits earned by a regulated emitter are calculated as follows:

$$\boldsymbol{PC_i = PCEL_i - TE_i}$$

where:

- $\boldsymbol{PC_i}$ is the number of performance credits earned by a regulated emitter in compliance year i, measured in tonnes of CO_2e;
- $\boldsymbol{PCEL_i}$ is the performance credit emissions limit for the regulated facility in compliance year i, measured in tonnes of CO_2e;
- $\boldsymbol{TE_i}$ is the total regulated emissions for the regulated facility in compliance year i, measured in tonnes of CO_2e; and
- $\boldsymbol{i}$ is the compliance year.

A numerical example for calculating performance credits is provided in Appendix A of this document.

9.0 Following Approval of an Emissions Return Submission

Following the review and approval of a verified emissions return for a regulated facility for a compliance year, the Ministry of Environment will provide the regulated emitter an approval letter which will contain the calculated compliance obligation and the number of performance credits earned, if applicable.

10.0 Additional Questions

For further questions on how the compliance obligation and performance credits will be calculated, please contact the Ministry of Environment Climate Change Branch at OBPSENV@gov.sk.ca.

Appendix A: Numerical Example of Compliance Obligation

The following example is intended to provide regulated emitters with the guidance necessary to estimate the compliance obligation and performance credits, if applicable, for a regulated facility.

Regulated emitters may use the following calculations to estimate the compliance obligation and performance credits for a regulated facility, if desired. **However, the Ministry of Environment will determine the formal compliance obligation and number of performance credits for a regulated facility and will inform the regulated emitter of this information through a written response.**

This example follows a bottom-up approach, beginning with the total regulated emissions, followed by permitted emissions, compliance obligation, and finally, performance credits for the regulated facility.

This example makes the following assumptions:

(i) The compliance year is 2019;
(ii) This is the first reduction period for the facility;
(iii) The facility is an existing facility;
(iv) The regulated emitter previously submitted baseline information using 2014, 2015 and 2016 as the baseline years;
(v) The regulated facility produces one product, which will be referred to as “widgets”;
(vi) The facility produces industrial process emissions;
(vii) There is one cogeneration unit on-site at the regulated facility;
(viii) There are no gas-to-power operations integrated into the regulated facility; and
(ix) The facility is in a sector with a five per cent performance standard allocation by reduction period 12, as per Table 1 in the Regulations.

As per the Baselines, Returns and Verification Standard, regulated emitters shall report all numerical data to four decimal digits. This means that all GHG and production information reported in the baseline and emissions return submissions was rounded to four decimal digits, including emissions for each GHG species for each regulated source category, production quantity and cogeneration information. After this initial data is reported, no rounding should occur through all subsequent calculations. As per the Baselines, Returns and Verification Standard, the compliance obligation shall be rounded to the nearest whole number. As per the Performance Credit Standard, the calculated performance credits shall be rounded to the nearest whole number.

Please note that the calculations below are rounded at each step for the purpose of demonstration only. To estimate compliance obligation and performance credits, regulated emitters **should not** round values after each step in the calculation.

1. Total Regulated Emissions

The GHG emissions associated with production of widgets must first be aggregated into the appropriate regulated source categories. The direct emissions associated with the production of widgets in the compliance year can then be determined by summing the emissions from each regulated source category from that year. The emissions from each source category, as well as the direct emissions are summarized in Table A1.

Table A1: Greenhouse gas emissions from each source category and direct emissions in the 2019 compliance year

Source Category	Emissions in 2019 (tonnes CO_2e)
Stationary Fuel Combustion	88,000.0000
Industrial Process Emissions	39,500.0000
Venting	2,700.0000
Flaring	2,800.0000
On-site Transportation	300.0000
Direct Emissions	**133,300.000**

In this case, as the regulated facility produces only one product, the total regulated emissions in the compliance year is equal to the direct emissions. For the 2019 compliance year, the total regulated emissions associated with the production of widgets is:

$$TE_{2019} = \sum_{a=1}^{1} DE_{2019-widgets} + GP_{2019}$$

$$TE_{2019} = 133{,}300.0000\ tonnes\ CO_2e$$

If more guidance is needed to determine GHG emissions from each source category and/or direct emissions at a regulated facility, please refer to the *Emissions Return Guidance Document for Regulated Emitters Subject to The Management and Reduction of Greenhouse Gases (Baselines, Returns and Verification) Standard*, which can be found at:

https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/a-made-in-saskatchewan-climate-change-strategy/guidance-for-emitters.

2. Performance Standard Allocation

Prior to calculating the performance standard for widgets for the compliance year, the performance standard allocation must be determined. These calculations are with respect to the 2019 compliance year which is the regulated facility's first compliance year and therefore the first reduction period is applicable. Further, the assumption at the beginning of the example indicates that the regulated facility is in a sector with a five per cent performance standard allocation by reduction period 12. Using Table 1 in the appendix of the Regulations, the sector and reduction period for the facility determine that the performance standard allocation for widgets in the first reduction period is:

$$PSA_{1-widgets} = 0.9958$$

3. Performance Standard

The performance standard for the regulated facility requires information from three sources. First, the performance standard allocation for the current compliance year must be known. Second, baseline information must be obtained from the approved baseline submission for the regulated facility. Finally, GHG emissions and production data for the current compliance year must be known.

The baseline emissions intensity for each product should be copied from the baseline approval letter issued by the Ministry of Environment. The remaining baseline information should be copied directly from the baseline form submitted for the regulated facility. This information is included in Table A2.

Table A2: Baseline information

Baseline Year	Production (widgets)	Industrial Process Emissions (tonnes CO_2e)	Stationary Fuel Combustion Emissions from Cogeneration[1] (tonnes CO_2e)	Baseline Emissions Intensity (tonnes CO_2e/widgets)
2014	22,000.0000	32,500.0000	23,800.0000	4.9600
2015	24,000.0000	35,000.0000	28,800.0000	
2016	29,000.0000	31,000.0000	26,100.0000	

[1]The portion of stationary fuel combustion emissions associated with electricity generated on-site at the regulated facility using cogeneration for the purpose of producing widgets in each baseline year.

The emission and production data from the current compliance year that is required to calculate the performance standard for the regulated facility is shown in Table A3. This data should be copied directly from the emissions return form submitted for the regulated facility.

Table A3: Current compliance year data

Compliance Year	Production (widgets)	Industrial Process Emissions (tonnes CO_2e)	Stationary Fuel Combustion Emissions from Cogeneration (tonnes CO_2e)
2019	25,200.0000	39,500.0000	30,300.0000

Using the above information, the performance standard for widgets produced at the regulated facility in the 2019 compliance year is:

$$PS_{1-widget} = PSA_{1-widgets} \times \left(BEI_{widgets} - \frac{\sum_{i=1}^{3}(IP_{i-widgets}+EG_{i-widgets})}{\sum_{i=1}^{3}P_{i-widgets}}\right) + \frac{IP_{1-widgets}+EG_{1-widgets}}{P_{1-widgets}}$$

$$PS_{1-widget} = (0.9958) \times \left(4.9600\ \frac{tonnes\ CO_2e}{widgets} - \frac{(32{,}500.0000+35{,}000.0000+31{,}000.0000+23{,}800.0000+28{,}800.0000+26{,}100.0000)\ tonnes\ CO_2e}{(22{,}000.0000+24{,}000.0000+29{,}000.0000)\ widgets}\right) + \frac{(39{,}500.0000+30{,}300.0000)\ tonnes\ CO_2e}{25{,}200.0000\ widgets}$$

$$PS_{1-widget} = (0.9958) \times \left(4.9600\ \frac{tonnes\ CO_2e}{widgets} - \frac{177{,}200.0000\ tonnes\ CO_2e}{75{,}000.0000\ widgets}\right) + \frac{69{,}800.0000\ tonnes\ CO_2e}{25{,}200.0000\ widgets}$$

$$PS_{1-widget} = (0.9958) \times \left(4.9600\ \frac{tonnes\ CO_2e}{widgets} - 2.3627\ \frac{tonnes\ CO_2e}{widgets}\right) + 2.7698\ \frac{tonnes\ CO_2e}{widgets}$$

$$PS_{1-widget} = (0.9958) \times \left(2.5973\ \frac{tonnes\ CO_2e}{widgets}\right) + 2.7698\ \frac{tonnes\ CO_2e}{widgets}$$

$$PS_{1-widget} = 2.5864\ \frac{tonnes\ CO_2e}{widgets} + 2.7698\ \frac{tonnes\ CO_2e}{widgets}$$

$$PS_{1-widget} = 5.3562 \ \frac{tonnes\ CO_2e}{widgets}$$

4. Permitted Emissions

The permitted emissions for the regulated facility in the compliance year are determined using the performance standard calculated above and the level of production reported for widgets in the emissions return. The permitted emissions for the 2019 compliance year are calculated as follows:

$$PE_{2019} = \sum_{a=1}^{1} \left(PS_{1-widgets} \times P_{2019-widgets}\right) + (0.95 \ \times \ GP_{2019})$$

$$PE_{2019} = \left(5.3562 \frac{tonnes\ CO_2e}{widgets} \times 25{,}200.0000\ widgets\right) + (0.95 \ \times 0\ tonnes\ CO_2e)$$

$$PE_{2019} = 134{,}976.2400\ tonnes\ CO_2e$$

5. Compliance Obligation

Next, the compliance obligation for the regulated facility in the compliance year is calculated. This is done by subtracting the permitted emissions for the facility from the total regulated emissions reported in the compliance year. If the result is a positive value, a compliance obligation is owed by the regulated emitter. If the result is a negative value, the regulated emitter may be eligible to earn performance credits. The compliance obligation calculation for this regulated facility in the 2019 compliance year is:

$$CO = TE - PE$$

$$CO = 133{,}300.0000\ tonnes\ CO_2e - 134{,}976.2400\ tonnes\ CO_2e$$

$$CO = -1{,}676.2400\ tonnes\ CO_2e$$

$$CO = -1{,}676\ tonnes\ CO_2e$$

Therefore, the regulated facility's total regulated emissions are below its permitted emissions in 2019. No compliance obligation is incurred and the facility may be eligible to earn performance credits.

6. Performance Credit Threshold

Prior to calculating the performance credit threshold limit for the regulated facility for the compliance year, the performance credit threshold must be determined. The performance credit thresholds are based on the performance standard allocations for each sector, as provided in the Regulations. The assumption at the beginning of the example indicates that the regulated facility is in a sector with a five per cent performance standard allocation by reduction period 12. Using Table 1 in the appendix of the Regulations with Table 1 in the appendix of the Performance Credits Standard, the sector and performance standard allocation for the facility determine that the performance credit threshold for the regulated facility is $CT = 0.20$.

7. Performance Credit Threshold Limit

The performance credit threshold limit for the regulated facility in the compliance year is determined using the permitted emissions and performance credit threshold determined above. The performance credit threshold limit for the 2019 compliance year is calculated as follows:

$$PCEL_{2019} = PE_{2019} \times (1 - CT)$$

$$PCEL_{2019} = 134{,}976.2400\ tonnes\ \ CO_2e\ \times (1 - 0.20)$$

$$PCEL_{2019} = 107{,}980.9920\ tonnes\ CO_2e$$

8. Performance Credits

The quantity of performance credits the regulated emitter may earn in a compliance year is based on the performance credit threshold limit and the total regulated emissions at the facility during the compliance year. The performance credits for the regulated facility are calculated as follow:

$$PC_{2019} = PCEL_{2019} - TE_{2019}$$

$$PC_{2019} = 107{,}980.9920\ tonnes\ CO_2e - 133{,}300.0000\ tonnes\ CO_2e$$

$$PC_{2019} = -25{,}319.0080\ tonnes\ CO_2e$$

$$PC_{2019} = -25{,}319\ tonnes\ CO_2e$$

Since the total regulated emissions at the facility exceed the performance credit threshold limit, no performance credits are earned. In order for a regulated facility to earn performance credits, the value resulting from this equation must be greater than zero. If the value is greater than zero, the regulated emitter may earn that many credits.

Appendix B: Potential Outcomes for a Regulated Facility in a Compliance Year

There are four potential outcomes for a regulated facility in a compliance year including:

1. The total regulated emissions are equal to the permitted emissions, resulting in a compliance obligation of zero.
2. The total regulated emissions are greater than the permitted emissions, resulting in a compliance obligation being incurred.
3. The total regulated emissions are less than the permitted emissions; this can result in two different scenarios:
    a. The total regulated emissions are greater than the performance credit emissions limit, resulting in no performance credits earned.
    b. The total regulated emissions are less than the performance credit emissions limit, resulting in performance credits earned.

Table B1: Comparison of potential outcomes for a regulated facility in a compliance year

Scenario	**1**	**2**	**3a**	**3b**
Facility	Facility A	Facility B	Facility C	Facility D
Sector	Refining and upgrading of petroleum	Mining	Upstream oil and gas stationary fuel combustion	Fertilizer manufacturing
Total Emissions, TE (tonnes CO_2e)	52,614.2200	84,656.2369	95,212.0273	71,226.1326
Permitted Emissions, PE (tonnes CO_2e)	52,614.2200	84,278.2695	99,670.6408	89,245.3659
Compliance Obligation, CO (tonnes CO_2e)	0	378*	– 4,459*	– 18,019*
Performance Credit Threshold, CT	**X**	**X**	0.10	0.20
Performance Credit Emissions Limit, PCEL (tonnes CO_2e)	**X**	**X**	89,703.5767	71,396.2927
Performance Credits, PC (tonnes CO_2e)	**X**	**X**	– 5,508*	170*
Result	No compliance obligation incurred or performance credits earned	Owes compliance obligation of 378 tonnes CO_2e	No performance credits earned	170 performance credits earned

*Rounded to the nearest whole number