

Draft Protocol Review Session February 27, 2008
Methane Emission Reduction Protocol Review

Sector	Name	Organization	Email	Response
Consultant	Kelly B. Campbell	Blue Source	kellybc@bluesourcecan.com	<i>Attending</i>
	Jessica Goforth	Blue Source	jessicag@bluesourcecan.com	<i>Attending</i>
Project Proponent	Rod Sikora	Keyera	Rod_sikora@keyera.com	<i>Attending</i>
Government	Michael Brown	ERCB	Michael.brown@ercb.ca	<i>Attending</i>
	James Vaughen	ERCB	James.vaughan@ercb.ca	<i>Not attending</i>
Academic / Technical Experts	Jalal Abedi	University of Calgary	jabedi@ucalgary.ca	<i>Not attending</i>
	John Squarek	CAPP	John.squarek@capp.ca	<i>Attending</i>
	David Picard	Clearstone	David.picard@clearstone.ca	<i>Not attending</i>
Industry Stakeholders	Omar Hurtado	EnCana	Omar.hurtado@encana.com	<i>Attending</i>
	Vince Elenko	EnCana	Vince.elenko@encana.com	<i>Attending</i>
	Blair Rudy	EnCana	Blair.rudy@encana.com	<i>Not attending</i>
	Matthew Bonko	EnCana	Matthew.bonko@encana.com	<i>Not attending</i>
	Wayne Hillier	Husky	Wayne.hillier@huskeyenergy.com	<i>Not attending</i>
	Roy Kanten	Shell	Roy.kanten@shell.com	<i>Attending</i>
	Brian Ross	Nexen	Brian_ross@nexeninc.com	<i>Attending</i>
Observers	Amanda Stuparyk	C3	astuparyk@climatechangececentral.com	<i>Attending</i>
	Karen Haugen-Kozyra	C3	karenhk@climatechangececentral.com	<i>Attending</i>

1. **Introductions - Protocol Developer**

2. **Why We're Here – Alberta Policy Context – Karen Haugen-Kozyra, Amanda Stuparyk, C3 Observers**

- 1) Alberta Regulatory Framework
- 2) Offsets – C Market in AB
- 3) Projects start after Jan 1, 2002
- 4) Real (one of main GHGs), demonstrable, quantifiable
- 5) Not regulated by law
- 6) Clearly defined ownership (verifier will seek clear ownership)
- 7) Generated in Alberta - investment / project undertaken in Alberta
- 8) Not double counted (only serialize on one system)
- 9) Verified by 3rd party (chartered account/certified engineer)
- 10) Ex Poste Verification
- 11) Protocols are based on the ISO 14064 Part 2 Standard.

3. **Principles to Guide Protocol Decisions/Development - C3**

- 1) Environmental Integrity
- 2) Usability/Practicability
- 3) Adapting Precedents
- 4) Life Cycle Analysis

4. **Introduction to the Protocol - (Slow walk through/introduction of the protocol) Blue Source**

- Overview of the Protocol
- Generation of offsets
- Approach to quantification - Projection-based
- Alberta Protocol Format; ISO 14064-2 Approach;
- Layout of protocol, process flow diagrams; SS diagrams.

5. **Review of the Protocol - Blue Source - Review of Draft Alberta Protocol: (Section by Section)**

Detailed run-through of the Protocol including process flow / lifecycle diagrams, identification and description of SSs, justification for exclusion or inclusion of SSs, quantification approach, appendices, etc as follows:

- Section 1.0. Scope and Description – Applicable to oil and gas facilities. Projects must show reduction in emissions based on virtually continuous monitoring, direct measurement and complete site coverage. The scope of the protocol has been limited to reductions in methane emissions from venting and fugitive emission sources at any point in the oil and gas production, transportation and processing chain. Is the scope sufficiently broad as to capture the full scope of possible methane emission reduction projects? – No comments.
- Protocol Approach
 - Q: Assumption is that methane whose emission is avoided in the project condition is flared. Is the flexibility mechanism allowing the project proponent project proponents to provide evidence to demonstrate that gas is not flared suitable for project proponents to apply? This approach was selected to be conservative. Reasonable?

- Comment: If facility is selling methane it is likely going to be sold. Methane would not be flared. For a gas facility however, flaring might be the only option.

** Protocol will be modified. It will be assumed that methane is flared only at facilities that do not sell methane as an end-product.

- Protocol Applicability
- Flexibility Mechanisms

- Q: Is the flexibility mechanism allowing the project proponent project proponents to provide evidence to demonstrate that gas is not flared suitable? – No comments

- Definitions

- Functional equivalence defined by ensuring the facility does not require re-permitting as a result of the project and is operational in both the project and baseline conditions. This unit of comparison was selected as fugitive emissions are not based on facility throughput. It also ensures that changes that don't result in the same number of sources or equipment may be compared. Is this reasonable? – No comments.

- Project SS Diagrams
- Section 2.2. Baseline Identification

–Q. baseline: uncertainty factor to account for directive 060: If project is already implemented comment was made that there should be no deduction since baseline emissions will represent facility emissions following implementation of the directive.

- Comment: Most facilities will already have a program that meets the requirements of D060 implemented by the time the protocol is approved.

- Q: What about facilities that implement a project prior to implementing a direct inspection and maintenance program? Suggestion that the protocol approach not include a discount factor. Instead protocol could include a flexibility mechanism that allows facilities that implement a project prior to implementing a DI&M program to apply the protocol by applying a discount factor to account for the impacts of the program.

- Group was under consensus. Change will be made accordingly.

- Q. baseline: Is the proposed baseline monitoring period of one month appropriate? Should it be quarterly?:

Discussion of appropriate duration of baseline monitoring period -

- Comment: Typically protocols are required to use three years of historical data. Comment: Issue here is that historical data doesn't exist. In addition, costs of monitoring are significant and the goal isn't to incent project developers to delay fixing leaks until the end of an extended monitoring period (i.e. more than three months).

- Comment: What about a three month monitoring period to define the baseline? Not sure if this should be conducted for three consecutive months or throughout the year to capture the impact of seasonal variations. In the past, facilities have typically run monitoring consecutively for a number of months.

- Comment: Keyera ran seven months of testing at one of their facilities and noted that there's a lot of variability of methane emissions over time. Certain sources could be seasonal (i.e. tank vapors).

- Comment: Only seasonal source of emissions is tanks, because they heat up more in the summer. Studies have shown that breathing losses are lower than working losses.

- Comment: Need to come up with strong examples of seasonality and data to support that emissions don't vary significantly over time.

**More research on baseline monitoring period needed, Blue Source to conduct further research / analysis of the variability of emissions over time. Issue tabled.

Q: What is the required frequency of monitoring in the project condition? – Methane emissions must be monitored virtually continuously for each month of the year

- Comment: Didn't realize this was required. Equipment used is very expensive and a shorter monitoring period for project emissions should be considered. Maybe the same length of time as the baseline monitoring period – maybe three months? Discussion of project monitoring period.

** Project monitoring period will be reassessed based on research of variation of emissions over time.

- Soliciting comments on Baseline SS Diagrams and descriptions
- Section 2.4 Selection of Project and Baseline SSs

- Comment: Why are N₂O emissions for the SS P3 Flaring not calculated? This source is excluded on the basis that it is likely negligible. This is not sufficient and further explanation should be included.

**To be conservative, quantification of the N₂O emissions from the combustion of methane will be included.

- Section 2.5 Quantification

Table 2.5 Review Quantification

Comment: Methane density value used (density at normal temperature and pressure), not consistent with other protocols. – value will be updated to standard temperature and pressure conditions

Q: Metering requirements reasonable? – No comments

Q: Calculation of B5 – Does the industry improvement discount factor as outlined in Appendix B adequately address the issue of emission reductions being surplus to regulations? – No comments

- Section 2.6 Management of Data Quality
- Table 2.5 Contingent Data Collection
- Appendix A

List of technologies that provide continuous monitoring, complete site coverage and direct quantification provided.

Soliciting comments on: whether the list of applicable technologies covers all potentially applicable technologies currently available

- Appendix B

** Deadline for Comments – March 15th

6. Next steps - Blue Source / C3

- Further analysis of the variability of methane emissions over time to be conducted at the request of C3 – to determine if the proposed partial monitoring period to quantify baseline emissions is appropriate / provides an accurate representation of a facility's baseline emissions.
- Blue Source / Project developer to do further research and commission AIRDAR to conduct analysis of data sets.