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Mine Methane Capture Protocol 2nd Stakeholder Meeting

Ontario & Quebec Adaptation
March 17, 2017

Agenda



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1. Process update
2. Discussion points
3. Changes to draft protocol
4. Stakeholder questions
5. Next steps



Item 1

PROCESS UPDATE

Work plan



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Timeline (expected)	Task
January	<i>PAT works with Ministries to develop task teams and coordinate outreach.</i>
February 17	<i>Draft shared with TTT; 1st TTT Meeting</i>
February 24	<i>TTT comments are due to the Reserve.</i>
February 27 – March 1	<i>PAT will revise the protocol based on TTT comments.</i>
March 2	<i>Draft shared with Stakeholders; 1st Stakeholder Meeting</i>
March 9	<i>Stakeholder & TTT comments due</i>
March 10-15	<i>PAT will revise the protocol based on stakeholder and TTT comments</i>
March 17	Second meeting (webinar) with the stakeholder group, including TTT members, to discuss the revised protocol
March 22	<i>Comments due on SH-2 Draft (by end of day) (Previous Final Deadline of Protocol)</i>
March 20-29	<i>PAT works on AMM and makes final determination/recommendations to ministry; PAT revises protocol based on SH and TTT comments</i>
April 3	<i>Meeting with the TTT to discuss any outstanding issues</i>
April 4	<i>Finalize protocol text.</i>
April 7	<i>Final, revised protocol will be submitted to the Ministry for approval</i>



Item 2

DISCUSSION POINTS



Protocols vs regulations

- The Reserve is only able to address issues related to the protocols themselves, and not the implementation of the protocols
- Cannot address programmatic issues, such as:
 - GWPs
 - Language about regulatory compliance (such as, “material” violations)
 - Whether or not the Regulation allows for a “qualified positive verification statement”

Consistency Across Protocols



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- Wherever possible, we are striving for consistency across protocols in every area possible:
 - Common template (continually updating for all)
 - T and P reference standards (table in Appendix)
 - QA/QC Requirements
 - Missing Data substitution (more detail on later slide)

Location



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- The protocol applies to coal mines anywhere in Canada
- Each Ministry will determine how the protocol will be implemented in their regulatory program

Update on Abandoned Mines



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- Numerous stakeholder comments strongly encouraging us to include abandoned mine methane (AMM)
- Emission decline curve used in California MMC Protocol applicable to US only; not directly applicable for use in Canada
 - Would need to develop a new decline curve (based on IPCC methodology, which underlies CA curve). Unlikely in current timeframe.
 - Still confirming whether all necessary data is available to develop Canadian curve. Will report back to ministries on this next week.
- Stakeholder comment: Consider direct metering of AMM destroyed to inform baseline.
 - CAR is concerned this is not sufficiently conservative due to our current understanding of AMM extraction practices
 - Comments and information on techniques welcome



Methane Boundaries (Section 2.1)

- Stakeholder comment that we should add and/or improve upon section on mine boundaries.
- We have made some edits, and made sure it doesn't get lost (within Section 2.1), but could potentially provide additional guidance
 - One stakeholder recommended additional specificity, like what is included in California COP
- Is this sufficient? Should we include more?

Project emissions from supplemental natural gas (Section 4)



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- These project emissions must be deducted
 - Policy decision supported by ON & QC
- The capping of fossil fuels under cap and trade does not take away from the environmental impact of these GHG emissions
- Emissions would still occur in the project scenario

Temporal Accounting for Pre-Mining Drainage (Section 5.1.1)



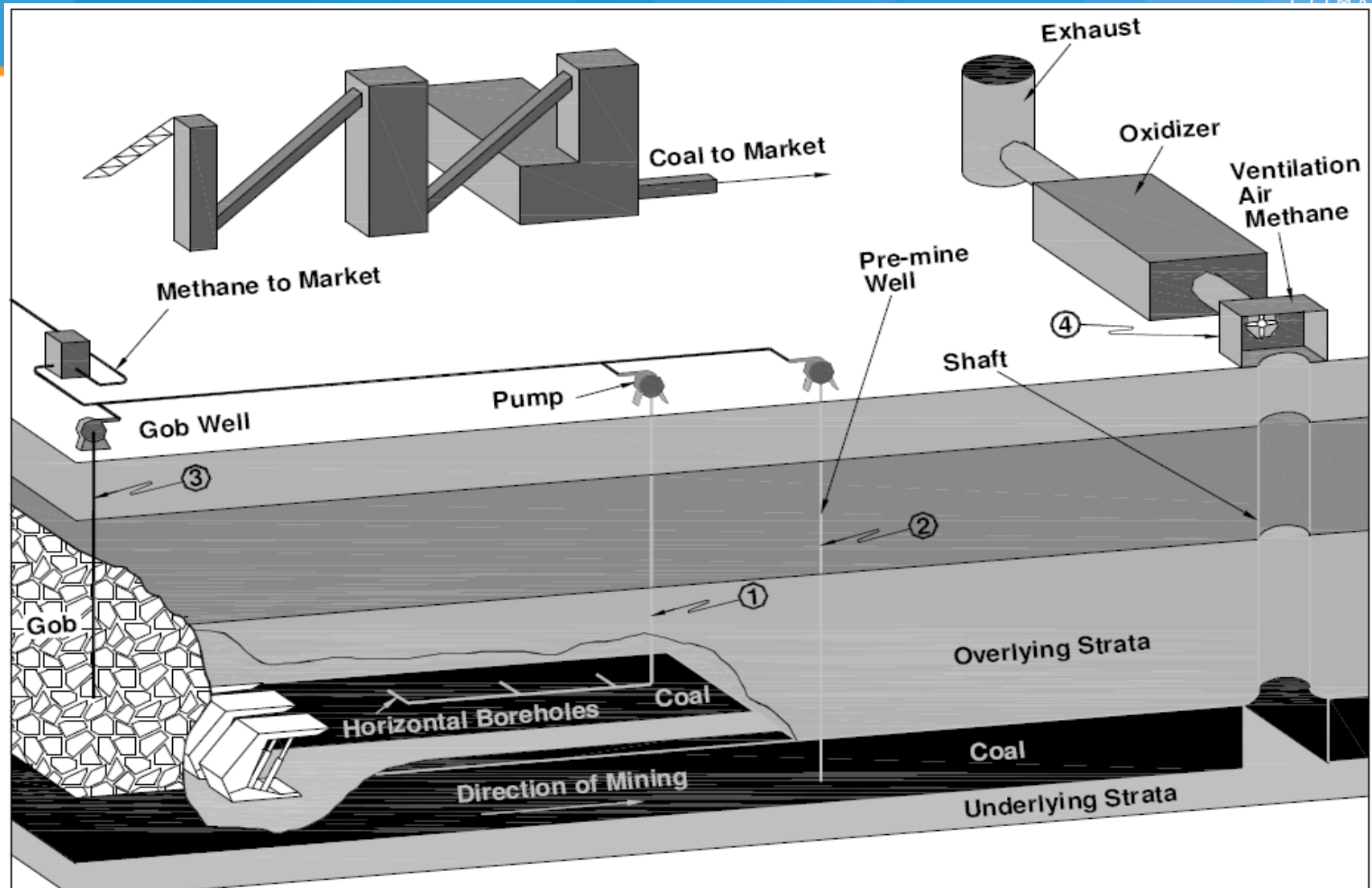
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- Methane captured by a pre-mining surface well used to extract methane before a mining operation has additional guidance for accounting
- Methane emissions from past periods are considered only during the project reporting period in which the emissions would have occurred (i.e. when the well is mined through)
- All MM protocols have different language, with some significant additional language in California COP.
- Is the current language sufficiently clear?

Schematic of Degasification Types



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1) Horizontal Pre-Mining 2) Surface Pre-Mining 3) Post-Mining and 4) VAM; Source: US EPA *Identifying Opportunities for Methane Recovery at U.S. Coal Mines: Profiles of Selected Gassy Underground Coal Mines 2002 – 2006*, EPA -430-K-04-003, January 2009, p 2-5.



Item 3

PROTOCOL CHANGES

Minor changes



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- Addressed some typos and missing elements noted by TTT and Stakeholders (including typos in equations, VAM monitoring guidance)
- Minor language reorganization and clarification throughout the document (including minor consistency revisions)
 - Still need to ensure consistency of some terms
- Renamed “qualifying device” to “eligible device,” and “non-qualifying device” to “ineligible device”
 - Still need to consistently refer to “ineligible device” instead of “pre-project”

Figure 4.1. GHG Assessment Boundary for Active Underground and Active Surface Mines

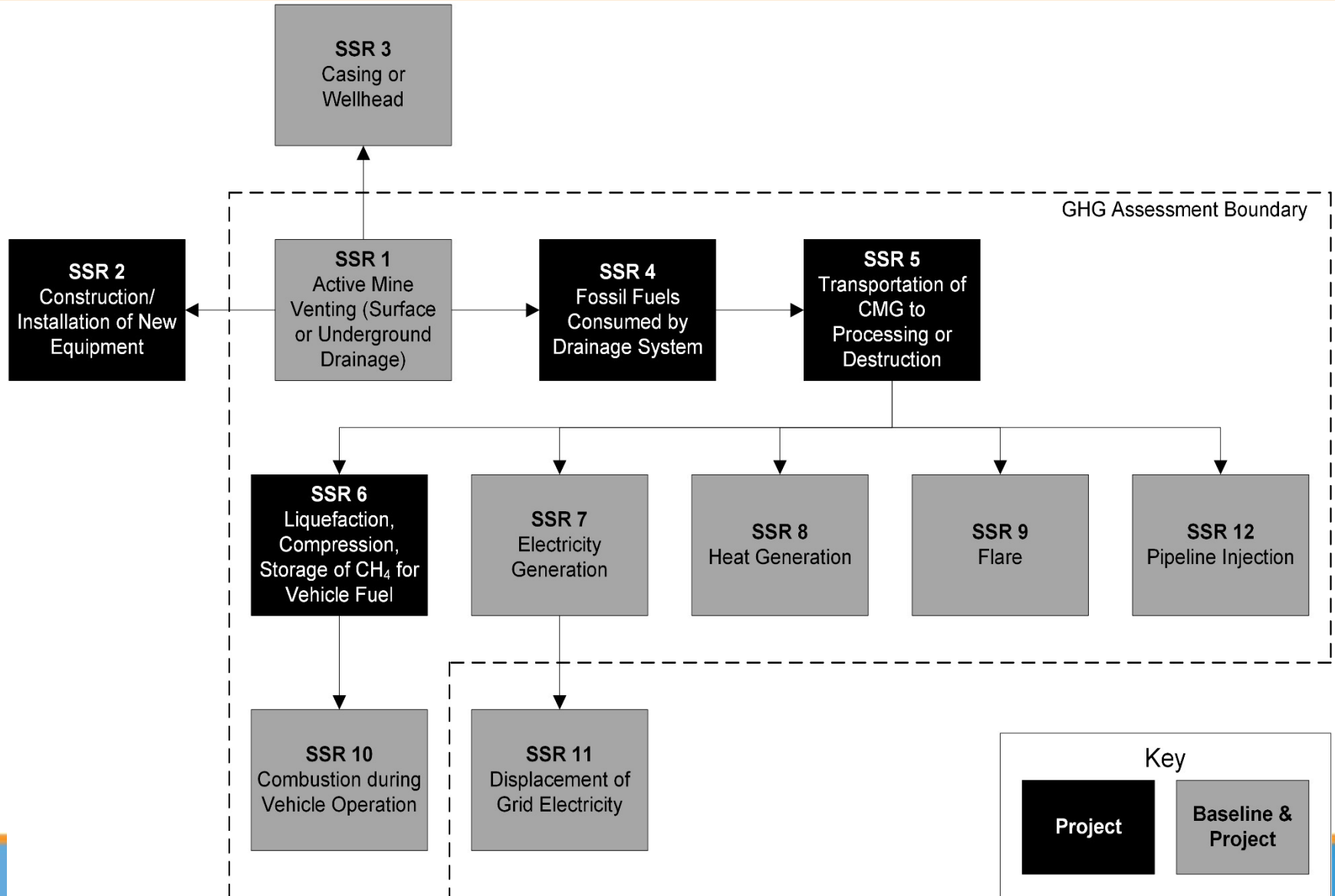
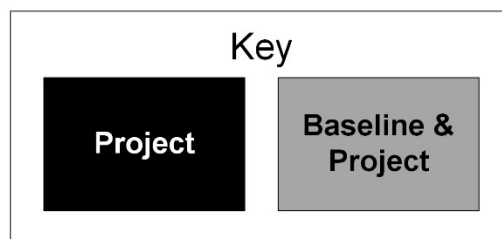
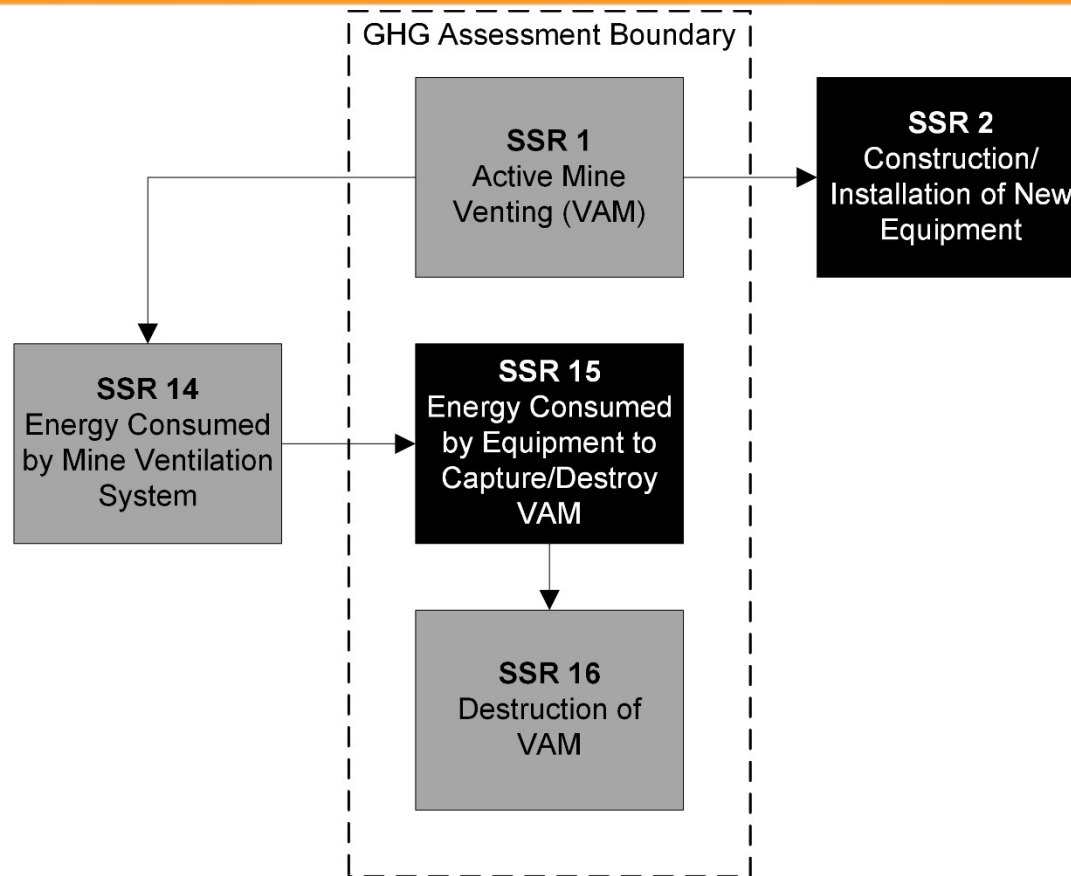


Figure 4.2. GHG Assessment Boundary for Ventilation Air Methane Mines



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Additional heat and electricity consumption (Section 5.1.2)



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- Will include quantification steps for additional heat and additional electricity consumption used to capture and destroy methane during the reporting period
- Corresponds to SSRs 7 and 8 (drainage projects)
- Will update Equation 5.5 and add two new equations or expand Equation 5.6
- Volume or MWh and corresponding CO₂ emission factor from Regulation

Data management & surveillance (Section 6)

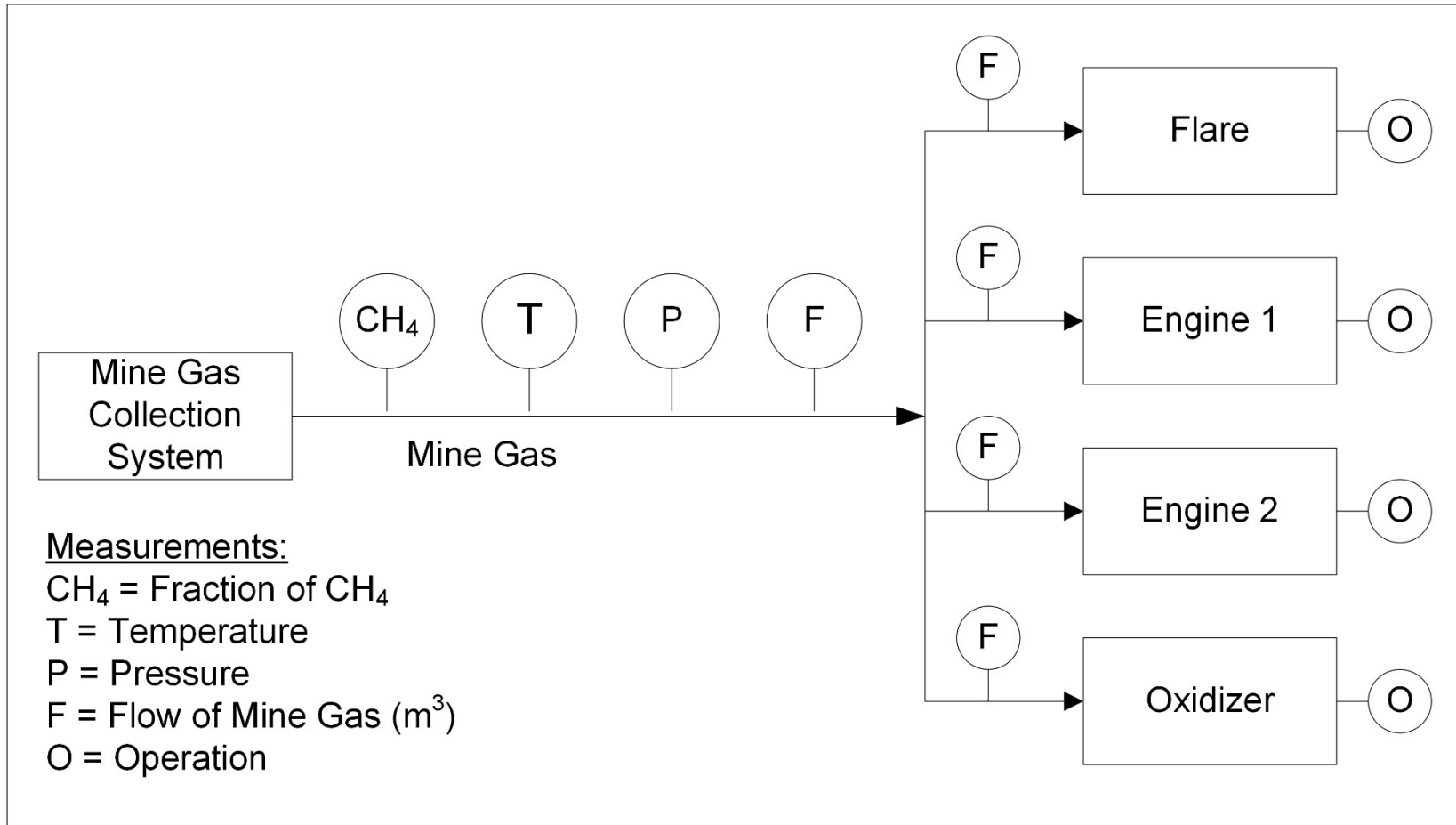


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- Consistency of protocols a top priority
- Require application of a transparent methodology to validate all project data
- Allow for averaging meters with application of the 10% discount for non-continuous metering
- Exempt operational monitoring where system engineering would prevent CH₄ release when nonoperational
- Relaxed cleaning and inspection requirements
- Remove temporary meter field check requirement



Metering Arrangement Diagram (Fig 6.1)



More frequent monitoring for VAM (Section 6.3)



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- Stakeholders noticed that we erroneously left out more frequent VAM measurement frequency requirements
- We have added the language from QC VAM Protocol
- The following parameters must be measured continuously, recorded every 2 minutes, totalized as an hourly average.
 - The flow of ventilation air sent to each destruction device (adjusted for temperature and pressure)
 - The fraction of methane in the ventilation air delivered to each destruction device



Destruction efficiency (Appendix A)

- Some revisions based on conversations/ comments LFG Protocol revisions
- Included missing default value for natural gas pipeline injection
- Clarified that site-specific values are encouraged and preferred, rather than defaults



Data substitution (Appendix B)

- Allow for electricity production data to be used to fill data gaps larger than 7 days
- Electric output must be monitored continuously and totalized no less than monthly
- Comment from stakeholder (not yet resolved): Include data substitution for Temperature and Pressure?



Item 4

STAKEHOLDER QUESTIONS



Item 5

NEXT STEPS

Submit comments



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- Stakeholder Team to review draft protocol and submit comments to the Reserve no later than:
 - **Wednesday, March 22, 2017** (end of day)
 - TLang@climateactionreserve.org
- Microsoft Word document, organized by protocol section
- Any comments related to the regulation should be directed to the appropriate Ministry

Contact Information



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All documents posted here:

<http://www.climateactionreserve.org/mine-methane-capture-and-destruction/>