

Memorandum

Date: February 27, 2025

From: John Storey-Bishoff, Executive Director
Climate Regulation and Carbon Markets
Environment and Protected Areas

To: Alberta Emissions Offset Stakeholders:

Subject: Quantification Protocol for Greenhouse Gas Emissions Reductions from Pneumatic Devices v 3.0 - Clarification and Guidance

The purpose of this memorandum is to provide clarification and further guidance on the following requirements of the Quantification Protocol for Greenhouse Gas Emissions Reductions from Pneumatic Devices version 3.0 (the Protocol):

- 1.) Overall Vent Gas Limit monthly reporting;
- 2.) Reconciliation requirement for the volume of chemical injected and the volume of chemical delivered to site for sites with multiple pneumatic pumps;
- 3.) Biannual inspection requirements for pumps; and
- 4.) Correction to the equation for the calculated volume of chemical injected by a pneumatic pump ($Q_{c,j}$) under B7 in Table 6.

1.) Overall Vent Gas Limit monthly reporting

Sections 1.2 and 4.1.4 of the Protocol require the use of a capped dynamic baseline limited to a maximum cap determined by the Overall Vent Gas (OVG) limit established under Directive 060: Upstream Petroleum Industry Flaring, Incinerating and Venting. Accurate monthly accounting at the site level for eligible emissions reductions from pneumatic devices must be combined with total venting for the site as reported in Petrinex to demonstrate the emission offset project below the OVG limit. Should the combined total exceed the OVG limit under D060, the exceedance must be captured and addressed through the process outlined in section 4.1.4 of the Protocol.

Where accurate monthly accounting for eligible emission reductions is not available, the project must do one of the following:

- 1.) Use a monthly average based on the previous 12-month period of eligible emission reductions at the site level and apply a multiplier of 1.42 to the monthly average. The multiplier assumes the volume injected at the site increased by 1.5 in the shoulder months (October and March) and doubled in the coldest months (November to February) compared to the warmer months

(April to September). The multiplier is applied to ensure potential monthly exceedances are not hidden within the monthly average.

- 2.) Or, the project must assume that all pumps on site are injecting the maximum daily volume (based on manufacturer specifications) over the entire month for all pneumatic pumps on site to determine total volume of chemical injected as it applies to the OVG limit.

If the estimated eligible emissions reductions, when combined with the Petrinex reported total, exceed the OVG limit under D060, the exceedance must be captured and addressed through the process outlined in section 4.1.4 of the Protocol. Or, the project can contact the Director of Emission Offsets to discuss alternative methods to address the exceedance, however any alternative methods must be approved via deviation request.

2.) Reconciliation requirement for the volume of chemical injected and the volume of chemical delivered to site

The most accurate method to determine volume of chemical injected from pneumatic pumps under B7 of the protocol is through direct measurement via metering on a per pump basis. This direct metered value can be used for $Q_{c,j}$ (volume of chemical injected by pump j (litres)) under B7 as per Table 6. Sites with single or multiple pneumatic pumps that meter the quantity of injected chemical on a per pump basis do not need to conduct biannual inspections or reconcile estimated volumes with records of volume of chemical delivered to site.

Where direct metering on a per pump basis is not available the following applies:

- Sites with a single pneumatic pump can quantify the volume of chemical injected per pump through estimation via calculation using the equation outlined under B7, as per Table 6 or through the volume of chemical delivered to site as evidenced by delivery receipts or other applicable records. Sites with multiple pneumatic pumps must use both methods and reconcile the volumes injected between measured and calculated volumes.
- If a project developer cannot reconcile the volume delivered to site with the estimated total volume injected by pneumatic pumps, they may instead apply a discount factor of 0.01 (1%) to B7 for the entire period where those records are not available.
 - A metered volume delivered to a collection of pumps (for example, a dedicated meter for all volume injected by a multi-head pump) may take the place of volume of chemical delivered to site receipts.

The flowchart in attachment 1 provides further details on these requirements.

3.) Biannual inspection requirements for pumps

Section 1.2 of the Protocol requires pump electrification projects to conduct bi-annual inspections (spring/summer and fall/winter) of pneumatic pumps. Table 6 requires these inspections to record the stroke count, stroke length and injection pressure of each pneumatic pump.

If the project developer misses a biannual inspection, they must apply the discount rate outlined for instrument gas to instrument air projects in Table A5 of the Protocol, starting at 0.025 (2.5%) for the first missed inspection. For each subsequent missed inspection, the discount rate must increase in accordance with the Table A5 using half year increments.

The biannual inspection requirements were implemented to ensure pump adjustments in response to season variations were captured in the volume of chemical injected estimates. The seasonal periods to which an observed pump change applies must adhere to the following:

- If evidence for the date a pump adjustment occurred is available, the project developer must define seasonal adjustment periods for quantification based on the dates of pump adjustment. For example, if an observed change to a pump stroke length takes place in June and a second observed change occurs in December, the seasonal quantification periods would be June to November and December to May. Evidence must be provided for pump geometry adjustment dates (i.e. picture, work order, etc.).
- If biannual inspection occurs, but there is no evidence provided for the date an adjustment to the pump occurred, an average of the observed stroke length must be used based on the observed stroke lengths at each inspection. The average stroke length must then be applied to the total number of strokes over the entire interval between observations.
- Alternatively, project developers can use the most conservative pump settings (i.e. the setting that results in the lowest volume injected) observed during either biannual inspection to estimate total annual baseline venting for pumps.

The flowchart in attachment 1 provides further details on these requirements.

4.) Correction to the equation for the calculated volume of chemical injected by a pneumatic pump ($Q_{c,i}$) under B7 in Table 6

The protocol currently states the calculated formula for volume of chemical injected by a pneumatic pump under B7 should use the pump piston diameter, the stroke length and the stroke count. The formula should use the area of the piston plunger, not the diameter. Thus, for calculations, replace pump piston diameter with piston plunger area, the rest remains unchanged.

Effective Date

The correction under item 4 is effective as of the publication date of this memo.

Projects may adopt the requirements under items 1, 2 and 3 above at any date on or prior to June 30, 2025 if they choose, but all projects must follow these requirements as of July 1, 2025.

Should you have any questions, please direct them to EPA.GHG@gov.ab.ca.

John Storey-Bishoff
Executive Director, Climate Regulation and Carbon Markets
Environment and Protected Area

Attachment 1 – Requirements for Sites with Multiple Pneumatic Pumps Flowchart

