Alt-FEMP Executive Summary

Company	Program start	Program end	# of sites
Ember Resources Inc.	09/16/2021	12/31/2024	25

Once an alternative fugitive emissions management program is approved, AER staff draft this executive summary. This is a summary only, published to help interested stakeholders understand what has been approved. These summaries are found on our website, www.aer.ca > Protecting What Matters > Holding Industry Accountable > Industry Performance > Methane Performance > Alternative Fugitive Emission Management Program Approvals. For additional information on these approvals, direct questions to methane.reduction@aer.ca.

Summary

Ember Resources Inc. (Ember) will implement an alternative fugitive emission management program (alt-FEMP) in the Strathmore and Acme areas of Alberta using continuous measurement system. These sensors can detect new leaks on timescales of hours to days. Continuous measurement systems have potential to accurately characterize emissions patterns at each facility and respond immediately to leaks, reducing time-integrated fugitive emissions to near zero.

The proposed pilot alt-FEMP will cover 25 Ember facilities in the Strathmore and Acme areas already regulated under section 8 of *Directive 060*. Sensors will be deployed at each of these sites to measure continuously for CH_4, NO_2, CO, and VOC's. For this pilot, close-range follow-up inspections will be scheduled on any leaks detected that are greater than one gram per second.

To ensure this pilot is a success, the following components will be incorporated:

- use of independent optical gas imaging (OGI) camera inspections to validate system results;
- intermittent use of portable organic vapor analyzers in accordance with the US Environmental Protection Agency's Method 21 by the proponent to verify emissions sources;
- deployment of sufficient devices at each site;
- adoption of conservative deployment distances from potential sources; and
- use of LDAR-Sim modelling as a reduction assessment method.

The supporting modelling simulations show that both triannual OGI and the proposed alt-FEMP result in significant reductions in methane emissions relative to the baseline scenario. Simulations estimate that baseline median fugitive emissions in the absence of LDAR are expected to be 8.70 +/- 0.8 kg per day. LDAR-Sim estimates the regulatory triannual OGI program to result in emissions of 4.66 +/- 0.4 kg per

day, a reduction of ~ 46%. Emissions from the proposed alt-FEMP are estimated to be 3.51 +/- 0.1 kg per day (a 60% reduction from baseline).

If anomalous emissions from venting or incomplete combustion are identified, Ember will consider additional mitigation efforts.