

Alt-FEMP Executive Summary

Company	Program start	Program end	# of sites
Tidewater Midstream and Infrastructure Ltd.	August 15, 2023	December 31, 2024	6

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, contact methane.reduction@aer.ca.

Summary

Tidewater Midstream and Infrastructure Ltd. (Tidewater) is implementing a pilot alternative fugitive emissions management program (alt-FEMP) using a metal oxide-continuous measurement system (MOCMS) across a selection of Tidewater’s asset base to detect fugitive emissions on timescales of hours to days. Leaks may go undetected for several months or up to a year using traditional “snapshot” measurement methods using optical gas imaging (OGI) cameras. Continuous measurement systems, such as MOCMS, have the potential to accurately characterize emissions patterns at each facility and respond to leaks immediately, reducing time-integrated fugitive emissions to near zero.

The alt-FEMP will cover six Tidewater facilities in northwest and central Alberta. These facilities are regulated under section 8 of *Directive 060*, each with a distinct legal subdivision. Tidewater will dispatch MOCMSs to those sites for continuous monitoring CH₄, NO₂, SO₂, H₂S, and VOCs. A mix of sensor configurations will be used; therefore, not every site will have the same sensor combination. Sensors will be assigned based on the site application and requirements. MOCMS will be deployed at distances of 10 to 100 metres from target infrastructures to achieve similar detection limits as OGI cameras.

For this alt-FEMP, close-range follow-up inspections will be scheduled for leaks that exceed one gram per second. The time from leak onset to leak detection is conservatively estimated to be less than one week using MOCMS detections for large leaks. However, the MOCMS manufacturer expects to be able to detect large leaks within one day. In addition to immediate close-range response for large leaks, an interval leak detection and repair (LDAR) program at a scheduled frequency is proposed for follow-up inspections every six months at the two highest-emitting facilities.

Tidewater designed the alt-FEMP to achieve successful results includes the following:

- The use of independent OGI inspections to validate MOCMS results when required.

- The deployment of an appropriate number of MOCMS devices at each site as indicated by detection limits in field-based testing.
- The adoption of conservative deployment distances from potential sources.
- The use of LDAR-Sim modelling as a reduction assessment method.

Tidewater will consider additional mitigation efforts for any anomalous emissions from venting or incomplete combustion identified.