

Torxen 2021 AltFEMP Performance Summary

1. Summary of Survey Details			
a. Type of survey (for continuous provide details of installed monitors)	Targeted OGI		
b. Dates of survey (for continuous, provide information on followup surveys)	Select facilities 3x per year. Sites forecast to leak more methane were sampled at a higher frequency to get the same theoretical overall reduction compared to default D-60 compliance		
c. Summary of Data (for continuous, provide information on followup surveys)	There was no correlation between the modelled and measured leak rates. Actual emissions measured by a qualified third party service provider (Target/Montrose) was only 240 tonnes, thus the realized leak reduction was only 169 tonnes. The modelling forecast that there would be over 6000 tonnes of methane leaks on an annual basis. There was no discernable pattern between modelled and measured emissions. Torxen is going to strict D-60 compliance in 2022 to set a baseline for all facilities and may use that information to submit an Alt-FEMP for 2023.		
Date and type of Survey	March 16, 2021 - April 17, 2021 Comprehensive	Aug 4, 2021 - Sept 9, 2021 Comprehensive	Nov 8, 2021 - Dec 14, 2021 Comprehensive
Number of sites Surveyed	79	96	92
Number of Sites Emitting	54	61	61
Number of Total Leaks Identified	387	180	293
Number of Leaks Repaired	290	171	135
Number of Repairs Delayed	7	12	30
Average time between survey and Repair	52 days <i>includes leaks where repair was delayed</i>		
Number of sites with Recurring Leaks	14	15	n/a
Average time between detection (Truck, Aerial or continuous) and followup survey	N/A - Torxen used standard OGI for initial leak detection		
d. Summary of Followup Surveys	N/A		
Number of sites with follow up surveys where a leak was found	N/A		
Number of sites with follow up surveys where a vent was found	N/A		
Number of sites with follow up surveys where no leaks or vents were found	N/A		
Number of sites that were not followed up due to extenuating circumstances (please explain)	N/A		
e. Characteristics of Top 10 emitting sites	Mostly large sweet gas processing facilities, top emitters were oldest plants.		
f. Analysis of Root Causes and Trend analysis	Torxen did not undertake a root cause analysis of each leak. In general, leaks per site trended lower with each survey campaign.		
g. Number of leaks fixed by operations not detected by AltFEMP survey or continuous monitoring	5		
i. Number of leaks inside buildings and the characteristics	N/A - this was not tracked as Torxen was using standard OGI for leak detection vs remote detection (aerial or truck). Cameras were used inside and outside of building.		
2. Continuous Survey Additional Information:			
a. Total number of followup flags found during the pilot or fullscale program	N/A		
b. Number of flags followed up on during the pilot or fullscale program.	N/A		
3. Emission Reduction Summary			
a. Actual annual emission reductions and comparison to estimated or modelled emission reduction.	Modelled emissions reduction forecast at 4300 tonnes, actual emission reduction 169 tonnes		
b. Analysis of discrepancies between estimated/model results and actual results	There was no correlation between the modelled and measured leak rates. Torxen is not requesting an extension to this ALT-FEMP. Torxen is going to default to the D-60 methodology for 2022. Once all facilities have been measured, Torxen may use that baseline to submit a new Alt-FEMP in 2023.		
4. Technology Limitations (weather, measurement, detection limit, etc.)			
	No new technology used (OGI)		
5. Successes of the Program			
	The online data collection platform was useful.		
6. Program Elements not performing as expected. Were any changes made to the technology or work practices during the pilot or fullscale program?			
	Modelled emissions were not useful for forecasting which facilities to sample more frequently as the modelling overestimated emission by more than an order of magnitude. Trying to assign equipment to separate facilities that shared a surface location was very difficult. Torxen defaulted to grouping emissions by surface location. Some facilities were not operating for a survey. This would not have been a problem in a large campaign but could become significant in a targeted campaign.		
7. Summary of additional control measures or plans required by approval if applicable.			
	N/A		
8. Key Performance Indicators in the application not reported in other sections.			
	N/A		
9. Other performance analysis or discussion. If applicable, include a discussion on leak persistence and leak "start" time evaluation.			
	N/A - Standard OGI D-60 survey protocol used.		