

Adam Saul, Environmental Planner
Department of Ecology
(Comment Submitted Electronically)

RE: Notice of Opportunity to File Informal Comment on Proposed Update to Clean Fuel Standard Program Rules (173-424 WAC)

Dear Mr. Saul,

LoCI Controls, Inc. (“LoCI”) writes to support the Department of Ecology’s Clean Fuel Standard (“CFS”) Program’s draft rule’s inclusion of avoided methane crediting calculated against the regulatory required capture of methane from landfills, with the objective to incentivize incremental biomethane capture from existing facilities leveraging new technologies. LoCI recognizes the Department of Ecology’s groundbreaking work in quantifying fugitive methane emissions and in deploying policy strategies to maximize the capture and upgrading of biogas so that it can beneficially be used as renewable natural gas (“RNG”) to displace fossil natural gas. We appreciate the opportunity to provide this comment and would welcome any questions or follow-up regarding the points discussed herein.

LoCI’s Technology

As a world leader in the development and deployment of advanced gas control systems for landfills, LoCI provides landfill gas (“LFG”) collection system operators with real-time data to optimize gas collection system efficiency, increase methane capture, and reduce landfill emissions. LoCI’s patented cloud-connected real-time data and automated gas collection and control system (“LoCI’s System”) identifies opportunities to improve LFG collection by quickly identifying issues with the collection system such as air leaks, watered out wells, or loss of vacuum; and enables automated tuning adjustment to assist the operator in optimizing gas collection system efficiency thereby significantly reducing methane emissions at a relatively low cost. Driven by the operator’s ability to set precise, automated adjustments and continuously monitor gas collection, LoCI’s System delivers an average 15% increase in landfill gas collection.

Background

Starting in 1996, LFG collection became a requirement for large U.S. landfills. The largest landfills are mandated reporters to the EPA Greenhouse Gas Reporting Program and database, therefore there is a long history of landfill methane collection system efficiency based on meeting regulatory requirements.

In 2021, the American Carbon Registry (“ACR”) affirmed the environmental value of LoCI’s System with the approval of the ACR Methodology for the Quantification Monitoring Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from Landfill Gas Destruction and Beneficial Use Projects, Version 2.0. (the “Methodology”). The Methodology allows for landfills to quantify emissions reduction impacts that are incremental to historical manual wellfield measurement and control systems

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that have been designed only to meet regulatory requirements. The LoCI’s System capability to provide real-time data and automated control to gas collection system operations, as compared to the regulatory requirement of once per month manual measurements and control of gas collection wells, results in significant improvements in gas collection system efficiency, methane recovery, and emission reductions.¹ Additionally, the Methodology was subject to both peer-review and public comment periods and was one of the first methodologies to meet the Core Carbon Principles set forth by the Integrity Council for the Voluntary Carbon Market.²

This Comment illustrates the value of avoided methane crediting in the Washington CFS by quantifying the methane emissions reduction potential of installing automated control technology in Washington, Oregon, and Idaho landfills. The Comment utilizes the verified methane capture capabilities of LoCI’s System for such calculations. The following analysis was developed by LoCI’s technical experts using publicly available EPA 2023 Greenhouse Gas Inventory (“GHGRP”) data and operational data from a large municipal solid waste landfill located in Washington that achieved third-party verified landfill gas LFG emissions reductions.

The Washington CFS Program’s Regional Methane Emissions Reduction Potential

The Washington CFS’ recognition of avoided methane crediting would provide a powerful market signal to drive voluntary adoption of automated control technology to existing Gas Collection and Control System (“GCCS”) infrastructure. Pursuant to the EPA Greenhouse Gas Reporting Program, large landfills must report gas collection operating performance annually. Of the 27 landfills in Washington, Oregon, and Idaho with a GCCS and required to report under the GHGRP, a total 229,000 MT of methane was captured in 2023. If such eligible landfills were to install an automated collection system and increase methane capture by 15%, in line with LoCI’s System’s average performance, the landfills could yield an incremental emissions reduction of 34,300 MT of methane, or over 866,000 MT CO₂e. The qualifying landfills in Washington alone, could achieve over 424,000 MT CO₂e in incremental emissions reductions.

2023 Northwest EPA GHGRP Summary	
WA, OR, and ID Landfills with GCCS	27
WA, OR, and ID Methane Generation from Landfills with GCCS (MT CH ₄)	352,210
WA, OR, and ID HH-6 Methane Emissions (MT CH ₄)	107,053
WA, OR, and ID HH-6 Methane Emissions* (MT CO ₂ e)	2,997,495
WA HH-6 Methane Emissions* (MT CO ₂ e)	1,340,451
WA, OR and ID Emission Reductions from 15% Increased Methane Capture (MT CO ₂ e)	641,535
*10% Oxidation Factor and GWP CH ₄ of 28	

¹ “Methodology for the Quantification Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from Landfill Gas Destruction and Beneficial Use Projects, version 2.0,” https://americancarbonregistry.org/carbon-accounting/standards-methodologies/landfill-gas-destruction-andbeneficial-use-projects/lfg-methodology-v2-f_2021-05-05.pdf

² The Integrity Council for the Voluntary Carbon Market, “Assessment Status, Program and category of carbon credit assessments,” at <https://icvcm.org/assessment-status/>.

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A large landfill located in Washington is already demonstrating the potential of avoided methane emissions. In January of 2022, the landfill voluntarily commissioned LoCI's System. From the period of January 1, 2023 through August 31, 2023, the landfill generated 39,414 MT CO₂e of emissions reductions as a result of the automated collection system. That period of emissions reductions has been verified by a third party and credited by the ACR, further substantiating the integrity of avoided emissions at landfills through the use of an automated collection system.

Recognizing avoided methane crediting in the CFS incentivizes landfills to adopt automated control technology which has the potential to significantly increase emissions reductions. If landfills in Washington, Oregon, and Idaho were to install and operate LoCI's System, there is the potential to reduce methane emissions over the next decade by 34,268 metric tons, or 866,072 metric tons of CO₂e annually.³ If the qualifying Washington landfills simply increase methane capture by 15%, Washington has the potential to reduce its overall statewide landfill emissions profile by over 30% which would substantially contribute to Washington's goal of a 45% reduction in greenhouse gas emissions by 2030.

Avoided Methane Crediting for Incremental Methane Capture

For eligible landfills to achieve the estimated methane reductions as identified above, LoCI supports the CFS' accounting for the incremental avoided methane associated with the use of an automated collection system and quantified by the Methodology, for both LFG RNG and electricity used as transportation fuels. Further, LoCI supports the CFS' book-and-claim accounting for incremental electricity generation as a result of efficiency improvements to renewable electricity generation facilities.

As a landfill's implementation of an automated collection system would be voluntary and exceed regulatory requirements, such inclusion of quantified avoided methane crediting using the Methodology would align with the Department of Ecology's goal of ensuring the integrity of emissions reductions and provides a readily available solution to contribute to the state's greenhouse gas reduction targets. The inclusion of methane reduction crediting incentivizes landfills to adopt automated collection systems and further, recognizes landfills already proactively achieving higher collection efficiencies. The inclusion of incremental avoided methane crediting for RNG and electricity used as transportation fuels coupled with book-and-claim accounting is a straightforward update that will significantly assist Washington in meeting its Climate Commitment Act's emissions reductions goals.

³ Based on reported EPA 2023 Greenhouse Gas Inventory data.

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Conclusion

LoCI is available to provide additional input regarding the CFS and the potential impact of the considerations identified in this Comment. We look forward to working with the Department of Ecology and continuing to support Washington's goals to reduce methane and greenhouse gas emissions.

Respectfully,

Nicole Neff

Nicole Neff
Director of Environmental Attributes