

Comments on Proposed Regulations Ideas and Clarifications that MDE should address during their adoption of EG rules (Subpart Cf: 60.31f – 60.41f)

MDE Comments

Section	Comment
60.41f	Closed Landfill: Please confirm that this definition includes both landfills that were closed prior to the implementation of 400CFR 258 as well as those closed according to 258.
60.30f (c) (1)	So while MDE has the authority to approve a site specific value for k associated with a permittee’s Title V permit, they do not have the authority to approve this value for EG calculations. True? This could make any planned combined submissions complicated.
60.31f (d)	Please confirm that MDE has no plans to regulate or apply additional rules to landfills covered by this section.
60.33f	Please make it clear where MDE plans to make requirements tighter than 60.33f.
60.33f (a)	The language in (1) through (4) does not include an “or” or “and” separator, therefore the language in (a) implies an “and”. If this is the case, then there are very few if any facilities that will meet all 4 criteria. Is it MDE’s plan to only regulate those facilities that meet all four criteria or is it MDE’s plan to regulate a broader range of facilities? And if so, what facilities?
60.33f (c) (3)	Most LGtE systems treat the gas to improve the gas quality. This is covered by (3). The language of 60.33 only seems to be concerned that the gas is treated and used as a fuel. This regulation does not regulate the how the fuel is used or if used for combustion, what destruction standards apply to the combustion device. Is that MDE’s intent? In other words, we are confirming that MDE will not be applying the destruction rate of (c) (2) to this destruction device /generator.
60.33 (e) (1)	An NMOC calculation is done annually for our Title V report and submitted to MDE. Will this be sufficient for the report requested here?
60.33 (e)	Because this section only refers to an MSW landfill, and does not distinguish between open and closed landfills, if taken in isolation of other exemptions, a large closed landfill will be required to submit NMOC calculations and either annual reports or a 5-year projection of emissions. According to 60.38f(c)(3) this must continue every 5 years ad infinitum. Forever is a long time. Is that MDE’s intent?
60.33 (e) (1)	If Air Program is going to require large closed landfills (meeting (e)) to submit an NMOC emission rate report and repeat until MDE receives a closure report, what is MDE’s plan for large closed landfills that were closed before MDE had standards for a closure report. If MDE is going to limit this based on a date, please choose a date consistent with Maryland Landfill rules or the EPA Greenhouse Gas Reporting Rule and incorporate into the standard.
60.34f (b)	We recommend that you add (4) exception to address situations where extraction systems are operated in a non-continuous manner. For instance, at our New Cut Landfill, where the facility closed in 1980, we have been operating the gas system for two cycles per day, because there is not enough gas generated by the GCCS to maintain a flare that maintains desired destruction temperatures. When we installed the timer initially, we were running 7 hours on 5 hours off, two cycles per day. This 5-hour “down” period was selected based on when we experienced

	<p>0.0" of residual vacuum in the system. This was measured at the header. So technically, there could have been some wells that had more active waste and could have drifted into the positive pressure while other wells may have still be under residual vacuum from hours earlier. Furthermore, when you are talking about old waste, slight changes in barometric pressure (like the blowing in of a weather front) can easily take the landfill and especially low production wells from negative to positive pressure. We assume that in light of methane capture goals, MDE would prefer to have old landfills run the collection/destruction systems at part-time for many years instead dismantling the system and having the gas vented when a continuous system cannot be maintained.</p>
60.35f (a)(1)	<p>For NMOC Emission Rates [Equation 1 and 2], the k and Lo are fixed values as written in 60.35f (a)(1). But in 60.36f (a)(1) to calculate the maximum gas generation flow rate, the k and Lo may be chosen from values in AP-42 or site-specific values approved by the Administrator. Please confirm that MDE concurs that different values for these different formulas will be acceptable.</p>
60.35f(b)(2)	<p>MDE regulation that parallels this section should clarify that "any condensate removal" does not refer to gravity based condensate traps in the GCCS [but condensate removal for treatment purposes].</p>
60.36f	<p>Throughout this section there is language referring to items being "approved by the Administrator". MDE's Land Program has typically "reviewed" submissions made by operators. Will this change? Will submissions now be "approved". What about previous submissions? Will they now need to be resubmitted for "Approval"?</p>
60.36f	<p>Howard County designed and MDE reviewed two voluntary GCCS prior to installation in 2000. These systems are now 20 years old. One of these systems is at an open landfill and will included in the EG program. What calculations and documents from the 1997 design and <i>Permit to Construct</i> application will Howard County need to submit to meet this section? For those documents that can be found, will original reports and calculations be suitable, or will they need to be revisited and revised? And what will be required if all of the required documents cannot be found for an existing system?</p>
60.36f(a)(1)	<p>What criteria will be used by MDE to determine if the operator's k and Lo are sufficiently demonstrated to be appropriate?</p>
60.36f(a)(2)	<p>Existing GCCS have been reviewed by MDE Land program. Will this be independently reviewed by the Air program with a possibility of a reversal of the satisfactory finding?</p>
60.36f(c)(3)	<p>Please define "typical meteorological conditions"</p>
60.36f(c)(5)	<p>If we write a plan/procedure for monitoring the cover integrity, does this have to be approved by MDE?</p>
60.37f(b)(1)	<p>Some of the existing equipment for our flare which is 20 years old, may not meet the precision required by EG. What will be the deadline after the rule is implemented for operators replace equipment (and in other cases to develop calculation/reports for submission) to meet the EG standards?</p>
60.38f (a)	<p>How does MDE interpret "initial design capacity report"? For landfill owners/operators (and likely MDE Land program) we interpret that as the design report submitted when we first had the landfill permitted. This does not reflect current plans. MDE Land program has all of that information. Perhaps MDE Air</p>

	wants a different report indicating the map and calculations based on the landfill as it stands when the EG regulations become fully active. This must be clarified.
60.38f (a)(2)	Please identify what is meant by design capacity of the landfill. When permits are issued, the State approves a landfill footprint for the site (and a conceptual maximum volume.) Separately, volume totals for existing and immediately proposed cells are calculated and tracked. Which volume is desired?
60.38f (b)	According to this section, the amended design capacity report is only needed if the number jumps >2.5 M megagrams. Does that mean that if the status does not change, [either stays smaller or stays larger] that no amended design capacity report should be submitted?
60.38f (d)	MDE must review and approve these site-specific design plans. Does MDE have the staff, expertise and funding to review all of these plans in a timely manner?
60.38f (d)	The design plan must be prepared and approved by the professional engineer, but the regulation does not say "Signed and Sealed". Does that mean that an owner/operator who is an PE can make the submission?
60.38f (d)(4)	Our interpretation of this section is predicated on (c)(4) which says that an NMOC emission rate report is not needed if we have a gas collection system. If that is the case, then no report is ever submitted and so (d)(4) is thus not applicable. Is that MDE's interpretation and plan?
60.38f (d) (5)	So regardless what exemption was given in (d)(4), the cover sheet must be sent in. Note that there is no section (c)(6) that describes the review process.
60.38f (d) (5)	So systems that were voluntarily installed, reviewed by MDE and <i>Permit to Construct</i> were issued, are now at risk for disapproval by MDE?
60.38f (e)	What is the schedule for submission of revised design plans? Should the owner/operator just submit the cover sheet similarly to the full original plan, or is this different, and full plan must be submitted.
60.38f (e)	What is the definition of when there is a design revision? And how does this work with action schedules driven by surface monitoring? Say an owner/operator chooses to remediate a surface emission by adding another well. Is this a revision to the plan? Does MDE have 90 days to decide upon notification that it wants to review this decision – remember the owner/operator only has 120 days from the initial surface monitoring failure to when a permanent fix must be installed (drill the well).
60.38f (g)	Does this requirement apply to non-"controlled landfills". I.e. if a collection and control system was installed for reasons other than NMOC, does this section apply?
60.38f (h)	How is MDE going to assist Maryland owner/operators in submitting data to EPA?
60.38f (h)(7)	Do the root cause analysis and other reports have to be submitted electronically to EPA's CDX?
60.38f (i)(2)	MDE will be judging whether the density of wells, collectors and other devices are "sufficient". How will any conflicts between MDE's density preference and the judgement of the Professional Engineer who signs and seals the design be resolved?
60.39f (b)	MDE may wish to revise that records are kept for the life of the system <i>plus 5 years</i> .
60.39f (d)	What is the frequency for updates that MDE considers for maps to "up to date"?

Comments on 2-page memo and additional ideas

<p>Comment 1</p>	<p>MDE plans to implement this regulation in Spring 2022. These regulations have aggressive timeframes for submissions. Owner/operators like Howard County who are exempt from NSPS, do not have the some of the monitoring equipment required, software programs or staffing to assemble this comprehensive submittal; they will need to hire consultants to assemble or document the information. They may even need to re-create or update design calculations. This takes Capital moneys. We have already begun the budget process to request moneys for FY2022 but given tight budget constraints will be given backpressure on budget requests for undefined rules. What is the expected implementation date, so that we can modify budgets or make supplementary requests to have the resources to meet these regulations.</p>
<p>Comment 2</p>	<p>As waste systems are expanded or closed, methane destruction systems must be resized to meet these new flow rates. MDE should set up a database of destruction devices available or soon to be available, so owner/operators can less expensively resize by installing used equipment procured from other owner/operators. This may allow owner/operators to begin or maintain methane destruction for a longer period of time (voluntarily), instead of immediate shutdown or delayed start-up through the use of smaller sized equipment.</p>
<p>Comment 3</p>	<p>Regarding MDE’s suggestion for “implementing thorough maintenance schedules for a GCCS”, Howard County has reservations for who and how these would be written. MDE regulators do not have the operational experience to make practical recommendations, and consulting firms who operate and maintain these facilities, while they may have the experience, are motivated to make them more complex and time consuming to increase revenues, thus adding expenses to all owner/operators.</p>
<p>Comment 4</p>	<p>Regarding requiring surface emissions monitoring and reporting at all MSW landfills, Howard County has reservations that this may include closed landfill where revenue streams have long stopped. This additional expense would be added to Post-Closure costs and are unplanned expenses for facilities that have been easily closed for more than 27+ years (pre-EPA 258).</p>
<p>Comment 5</p>	<p>Regarding “adding LFG utilization facilities to GCCS for energy generation”, MDE Air should conduct a study or discuss with MDE Land and others about why the majority of the LGtE generators in Maryland have been mothballed or have been underutilized, before pursuing this idea further.</p>
<p>Comment 6</p>	<p>Before considering a LDAR program for landfills, MDE should perform a cost/benefit analysis, making sure that <u>all</u> more cost-effective methods of reducing fugitive methane (and not just at landfills) have been implemented first.</p>
<p>Comment 7</p>	<p>Regarding analyzing facilities based on their capture and destruction ratios: Remember that these ratios are a fraction comprised of the measured flow values of gas divided by the theoretical gas flow rate based on EPA Landgem model.</p> <p>This model was created in the early 1990’s based on landfills at that time. For future projections of the methane generated at closed landfills, they used landfills that were closed many years. The model predicts how much gas will be generated for a landfill closed for 20, 30 even 40 years. Those models were developed based on landfills were closed 30 years when measurements were</p>

	<p>taken in the 1990's. Thus the model for gas production years out after closure was based on landfills were filled and closed in the 50's and 60's. What we bury in our landfills today is very different than what was buried in the 1950's and 1960's. So the long term predictions of how much gas will be generated 20, 30 and 40 years after closure, are likely to not reflect the gas produced by more recently closed landfills.</p> <p>Going back to the topic of capture and destruction ratios, the EPA model rate (theoretical value) is in the denominator of the fraction, and inaccuracy of the model will greatly affect the apparent capture rate. For example, if the measured gas is 600 cfm and the model says 1000 cfm, then the calculated capture and destruction is 60%. But if a more realistic modelled generation value is 800 cfm, then the capture and destruction rate raises to 75%. Just by modifying the model.</p> <p>Furthermore, the numerator (amount captured and destroyed) is heavily influenced by downtime of the destruction/treatment device. The more complicated the destruction/treatment system is, the more time the system must be down for maintenance, affecting the total volume captured and destroyed. Especially when it is constantly compared to a model's perfect 24/7/365 theoretical gas generation rate.</p> <p>Thus, we discourage the public discussion of, and/or regulations based on destruction ratios without a full explanation of and adjustments for the components of this ratio.</p>