Regulatory Intent
1. Please briefly describe the draft regulation in plain language.

*Please include the key provisions of the regulation as well as any proposed amendments.*

OAC rule 3745-27-12 was first promulgated in 1988 and governs explosive gas migration at solid waste landfills. Proposed amendments include a re-organization of the paragraphs and sub-paragraphs in the rules. Because Ohio EPA amended more than 50% of the content in the rule, the Legislative Service Commission (LSC) requires the current rule be rescinded and a new rule be promulgated. Additional major revisions to the rule include the following:

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• Narrowing the applicability of the rule to exclude solid waste landfill facilities that have an occupied structure within 1,000 feet of the limits of solid waste placement and were previously licensed between July 1, 1970 and May 31, 1988 unless they have received a notification from Ohio EPA that they are subject to the rule.

• A call-in schedule to require all solid waste landfill facilities subject to the rule to prepare an explosive gas monitoring plan for the facility. Ohio EPA is mainly interested in identifying and prioritizing sites where explosive gas generation and migration poses a risk to nearby occupied structures and has clarified the applicability of the rule. Language from the statute was added to allow the director to issue an order to any responsible party requiring the preparation and submittal of a new or revised explosive gas monitoring plan (EGMP).

• Inclusion of statutory language that identifies individuals responsible for monitoring and remediating explosive gas migration.

• Inclusion of statutory language recognizing that the director may require previously excluded captive landfills to manage and remediate explosive gas migration towards occupied structures.

• Addition of language from the statute that clarifies the level of explosive gas that poses a threat to human health and safety.

• Inclusion of a mechanism to ensure all EGMPs statewide are current and appropriately designed for the effective monitoring and managing explosive gas migration.

• Partitioning of monitoring requirements that were traditionally contained in the EGMP. This allows facilities to have a smaller plan, which cuts down on the time and cost to prepare the EGMP. It also ensures consistency in monitoring and remediating explosive gas.

• Allowance for the use of alternative monitoring devices (AMDs) in lieu of probes.

• Clarification as to the appropriate design, placement, and construction of explosive gas monitoring probes and AMDS to ensure detection of explosive gas migration towards all occupied structures.

• New language requiring explosive gas monitoring prior to occupancy of new structures constructed within 1000 feet of the landfill.

• Addition of language to provide direction for statewide consistency in appropriate calibration of explosive gas meters used to sample explosive gas monitors and proper management of explosive gas alarms in structures.

• Provisions to allow the director to require more frequent monitoring when a responsible party is conducting contingency monitoring.

• Clarification in the process to return to compliance explosive gas monitoring following an indication of explosive gas migration.

• Expansion of the remediation plan and remediation procedures to ensure facilities abate explosive gas migration appropriately and in a time sensitive manner.

• Inclusion of statutory language that allows the director to determine the gas sampling frequency.

2. Please list the Ohio statute authorizing the Agency to adopt this regulation.

This regulation is authorized under Ohio Revised Code (ORC) sections 3734.02, 3734.041, and 3734.12.
3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program? 
If yes, please briefly explain the source and substance of the federal requirement.

Yes. This regulation implements the RCRA Subtitle D Title 40 Part 258 federal requirements for municipal solid waste (MSW) landfills. Subpart §258.23 specifically speaks to explosive gases control. The proposal to amend this existing rule will be reviewed by U.S. EPA to evaluate whether any changes impact Ohio’s current federal determination of adequacy.

4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.

Under RCRA Subtitle D, U.S. EPA first established self-implementing national minimum standards for Municipal Solid Waste Landfills [40 CFR Part 258] in the early 1990s. RCRA Subtitle D does not compel the States to change state programs. The creation of Subtitle D led to a dual regulation system consisting of self-implementing federal national minimum standards and existing State permit programs under State law. However, a State could eliminate this dual regulation if the State demonstrated to U.S. EPA that the State’s permit program met or exceeded the federal national minimum standards. Since 1994, Ohio’s State solid waste landfill permit program has been approved by U.S. EPA. Ohio solid waste landfill owners and operators complying with Ohio requirements do not face dual regulation.

U.S. EPA approval of a State permit program recognizes that State laws predate the self-implementing national minimum standards and that individual States have established more stringent solid waste landfill requirements tailored to the state’s needs and circumstances. 40 CFR Part 239 allows a State permit program to retain state-specific program elements as well as exceed the national minimum standards. Based on ORC Chapter 3734 authority and the Agency’s extensive scientific data used in the creation of Ohio’s MSW landfill rules, the Agency has previously adopted and continued implementation of Ohio regulations including provisions not specifically required by or more stringent than federal rules.

5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?

The purpose of this regulation is to fulfill the statutory requirements of ORC sections 3734.02 and 3734.12 requiring the director to adopt rules governing solid waste facilities in order to ensure that the facilities will not to create a nuisance, cause or contribute to water pollution, create a health hazard, or violate 40 C.F.R. 257.3-2 or 40 C.F.R. 257.3-8, as amended. ORC 3734.12 further requires the rules shall be consistent with and equivalent to the regulations adopted under the Resource Conservation and Recovery Act. ORC 3734.041 contains minimum specifications for an EGMP to address specifically threats posed by explosive gas migrating from solid waste landfill facilities.

6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?

The Agency will measure the success of these regulations through the continued compliance with the effective version of OAC 3745-27-12 and minimal explosive gas risks resulting from the migration of explosive gas at solid waste landfill facilities.
Development of the Regulation

7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.

*If applicable, please include the date and medium by which the stakeholders were initially contacted.*

The Agency contacted stakeholders from the solid waste industry notifying them of the 5-year rule review process and the preliminary determination to make amendments to this rule.

8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?

The Agency received comments from one interested party, SCS Engineers, during the early stakeholder outreach period. SCS recommended rule changes to make sampling and reporting requirements clearer. Ohio EPA accepted SCS’s suggestions and incorporated the changes into the revised rule.

9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?

The decomposition of MSW has been proven to generate explosive gases that pose a threat to occupied structures surrounding the solid waste landfill facility at high concentrations. Throughout the review of this rule, the Agency examined explosive gas monitoring data collected by solid waste landfill facilities and EGMPs currently being implemented.

10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn’t the Agency consider regulatory alternatives?

The Agency believes that the proposed amendments to the rule reasonably accommodate stakeholder suggestions in a manner consistent with the Title 40 Part 239 federal adequacy determination for the Ohio solid waste landfill permit program. No other alternatives to rule requirements were suggested by stakeholders or other alternatives inconsistent with RCRA Subtitle D Title 40 Part 258 federal requirements for municipal solid waste landfills were considered since these may raise issues regarding U.S. EPA’s approval of Ohio’s solid waste landfill permit program.

11. Did the Agency specifically consider a performance-based regulation? Please explain.

*Performance-based regulations define the required outcome, but don’t dictate the process the regulated stakeholders must use to achieve compliance.*

The Agency did not specifically consider performance-based regulations during this review. Explosive gas monitoring is required for all solid waste landfill facilities under federal law and specific standards are necessary to ensure that explosive gas does not pose a health hazard to occupied structures neighboring the solid waste landfill facility.

12. What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?

Ohio EPA reviewed our own regulations and performed a search of other agency regulations to identify any duplication. To our knowledge, the rule does not duplicate another existing Ohio regulation.
13. Please describe the Agency’s plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.

The Agency will focus on the continuation of current efforts to ensure consistent and predictable rule implementation, which includes educating stakeholders on the amendments to the rule. The Agency will offer web-based access to revised guidance documents and training for solid waste facility operators as well as Agency and local health department inspectors. The selection of the rule’s effective date will allow time for implementation of required activities.

Adverse Impact to Business

14. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:
   a. Identify the scope of the impacted business community;
   b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and
   c. Quantify the expected adverse impact from the regulation.

The adverse impact can be quantified in terms of dollars, hours to comply, or other factors; and may be estimated for the entire regulated population or for a “representative business.” Please include the source for your information/estimated impact.

The impacted community includes owners and operators of solid waste landfill facilities holding a license issued under division (A) of ORC section 3734.05 that accepted solid waste after June 1, 1994, and previously licensed solid waste landfill facilities that ceased solid waste acceptance after May 31, 1988 and that have occupied structures located within one thousand feet from the boundary of the solid waste landfill facility. ORC 3734.041 widens the scope to include any solid waste landfill facility at the director’s discretion.

The nature of the adverse impact includes costs necessary to prepare, submit, and implement an EGMP. Major expenditures include the installation and maintenance of explosive gas monitoring probes or alternative monitoring devices, costs to collect and analyze samples, and costs for remediation in the event that the responsible party at the solid waste landfill facility is unable to mitigate or abate explosive gas migrating from the solid waste landfill facility. The cost to prepare a new EGMP is between $27,000-$30,000. Minor revisions to an existing EGMP are about $5,000. Installation of gas monitoring probes and devices ranges from $5,000 per unit to $7,500 for new units and the abandonment of an existing unit. Gas extraction wells range from $10,000 to $15,000 per active well, or about $90 per vertical foot not including the cost for connections to forcemains, vacuum lines, and pressure lines. Passive vents are about $90 per vertical foot, and a two-foot-wide by eight-foot-deep gas extraction cutoff trench is about $76 per linear foot. Costs to conduct explosive gas monitoring range from $2.57 per acre to $91.57 per acre. Operation and maintenance of an explosive gas collection and control system ranges from $9.85 per acre to $533.88 per acre. Remediation costs are slightly less but overall comparable the estimates to conduct explosive gas monitoring.

An Ohio industry choosing to establish and operate a solid waste landfill facility can anticipate an initial cost associated with this rule. Although a cost of compliance exists with the rule, any estimate
must account for a range of significant variables. The cost will naturally vary depending on the landfill size, design, location, and underlying geology. Many solid waste landfill facilities subject to this rule already have explosive gas monitoring systems installed, which will reduce the cost of compliance. Ohio EPA has further reduced the cost of compliance to some facilities through amendments to the applicability of the rule. The proposed revisions would exclude solid waste landfill facilities that have an occupied structure within 1,000 feet of the limits of solid waste placement and were previously licensed between July 1, 1970 and May 31, 1988 from compliance unless they have received a notification from Ohio EPA that they are subject to the rule.

15. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?
The Agency has determined that the regulatory intent justifies the adverse impact to the regulated business community because the decomposition of municipal solid waste produces explosive gases including methane, carbon dioxide, and hydrogen sulfide. Methane is the constituent of most concern, as it is colorless, odorless, and highly combustible. Migrating methane from MSW landfills has forced the evacuation of nearby residents and businesses and has been responsible for onsite and offsite fires, explosions, property damage, and human injury including asphyxiation and, in some cases, death (U.S. EPA, 1988a). Additionally, rules for explosive gas monitoring are mandated by U.S. EPA and ORC sections 3734.02 and 3734.041.

Regulatory Flexibility

16. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.
An owner or operator of a solid waste landfill facility subject to the requirements contained in OAC rule 3745-27-12 has the option to submit an exemption request in accordance with ORC 3734.02(G). This section pertains to exemptions and variations that allow for alternative means of compliance.

17. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?
The director will evaluate the applicability of ORC section 119.14 to solid waste facilities regulated under OAC rule 3745-27-12 when assessing fines and penalties for paperwork violations and first-time offenders.

18. What resources are available to assist small businesses with compliance of the regulation?
Ohio EPA’s Office of Compliance Assistance and Pollution Prevention (OCAPP) is a non-regulatory program that provides information and resources to help small businesses comply with environmental regulations. OCAPP also helps customers identify and implement pollution prevention measures that can save money, increase business performance and benefit the environment. Services of the office include a toll-free hotline, on-site compliance and pollution prevention assessments, workshops/training, a plain-English publications library, and assistance in completing permit application forms. Additional information is available at: http://epa.ohio.gov.