FINAL Report: Organizational Audit of the Air Quality Management Division

Northern Nevada Public Health

Purpose of Audit

Northern Nevada Public Health's (NNPH's) Air Quality Management Division (AQMD or Division) engaged Eastern Research Group, Inc. (ERG) to conduct an organizational audit to evaluate AQMD's strengths, weaknesses, and challenges across key areas. These key areas included:

- Permit actions and compliance with federal, state, and local regulations and requirements.
- Compliance and enforcement actions, metrics, and policies.
- Transparency in operations and responsiveness to community needs, including environmental justice (EJ) opportunities and best practices.
- Overall operational efficiencies and business practices.

The audit aimed to identify areas for improvement and opportunities to enhance AQMD's efficiency, effectiveness, and service delivery. Additionally, the project developed actionable recommendations to help AQMD improve both internally and externally in delivering its services.

Methods and Approach

ERG focused on several key questions when developing the methods and approach for this audit:

- Is AQMD meeting and delivering on the community needs (e.g., public education, engagement, addressing concerns)?
- Is AQMD utilizing best business and operating practices?
- Is AQMD identifying and addressing areas for operational improvement?
- Are there changes to processes and procedures that could improve important outcomes of AQMD's work? Important outcomes include:
    - Protection of public health and the environment
    - Transparency
    - Ability of the regulated community to comply with AQMD regulations

To address these questions, ERG conducted a series of targeted activities. These activities included interviews, a desk review of EJ best practices, and reviews of AQMD's permitting and compliance programs. ERG designed each activity to collect and analyze data relevant to AQMD's operations and performance, as well as data relevant to the overall purpose of the audit. See the *Conclusions* section for further reflections on these key questions.

ERG interviewed a total of 10 AQMD staff, as well as two external customers. These discussions covered the key questions and key areas with an emphasis on permitting, compliance, and enforcement, when appropriate. ERG collected and compiled data from the interviews and then had an ERG subject matter expert review the data to identify trends regarding strengths, challenges, and paths toward improvement for each of the key areas.

ERG concurrently conducted a desk review of EJ best practices to create a framework of EJ principles and guidance for AQMD. This involved analyzing EJ resources published by organizations ranging from the

local to the federal level with a focus on agencies similar and/or relevant to AQMD. ERG reviewed 15 of these resources (see Box 1) for EJ best practices, tools, community contributions, and definitions.

Box 1: Environmental Justice Resources Analyzed

- Ward et al., *Engaging Communities in Addressing Air Quality: A Scoping Review*
- Colorado Air Pollution Control Division, *Climate Equity Framework*
- Georgetown Law, *Georgetown Climate Center Issue Brief: How Community-Based Air Quality Monitoring Can Make Climate Policy More Equitable*
- Governor's Interagency Council on Health Disparities (Washington State), *Environmental Justice Task Force*
- Minnesota Pollution Control Agency, *Environmental Justice Framework*
- North Carolina Department of Environmental Quality, *Public Participation Plan*
- Oregon Department of Environmental Quality, *Environmental Justice—Principles and Implementation*
- U.S. Environmental Protection Agency (EPA),
    - *EJ in Air Permitting—Principles for Addressing Environmental Justice Concerns in Air Permitting*
    - *Air Quality and Environmental Justice*
    - *EPA Research: Environmental Justice and Air Pollution*
    - *White House Environmental Justice Advisory Council**
    - *National Environmental Justice Advisory Council**
    - *Resources for Creating Healthy, Sustainable, and Equitable Communities*
    - *Environmental Justice for Tribes and Indigenous Peoples**
- Virginia Department of Environmental Quality, *Environmental Justice in the Permitting Process*

**As of 2/9/25, webpage is no longer available.*

The permitting program review focused on examining AQMD's existing permits, supporting documents, and templates. ERG assessed different permitting subjects, including the determination of potential to emit, enforceability, compliance with AQMD regulations, public process, and compliance with EPA policies. Table 1 highlights the 14 permits reviewed.

The compliance program review focused on AQMD's inspection scheduling and prioritization, inspection approaches, penalty policies, and appeals process. ERG analyzed data from the last 5+ years of cases and inspections using metrics such as the total number of enforcement cases, the number of inspections conducted, and the number of inspections that resulted in enforcement actions. Additionally, ERG conducted 12 site visits (see Box 2) to gather direct observations and further insights into AQMD's compliance inspection and enforcement process, as well as source information for permit review.

Table 1. Permits Provided by AQMD for Review

Permit Type	Name of Source
Title V	• SFPP, LP
Authority to Construct (ATC)	• Caliber Collision Center • Monin, Inc. • Prologis Center • Renown Regional Medical Center • Ribus, Inc. • 7-Eleven—#41553 • 7-Eleven—#42412
Permit to Operate (PTO)	• A&K Earth Movers, Inc. • Apple, Inc. • Atlas Roofing • Elite Spice, Inc. • GP&C Operations, LLC • Granite Construction Company—Lockwood

Box 2: List of Sites Visited

- Arrow Electronics, Inc.—#640
- Arrow Electronics, Inc.—#665
- Bobby Page's Dry Cleaners
- GP&C Operations, LLC
- Granite Construction Company
- Lithia Body & Paint
- Maverik, Inc.—#427
- Maverik, Inc.—#475
- Maverik, Inc.—#477
- Pyramid Materials, Inc.
- SFPP, LP
- Tesla, Inc.

Key Findings

The following key findings are based on interviewee insights[1] and ERG expert perspectives, where relevant. This section is organized by the following topics:

- General Operations
- Community and Environmental Justice
- Permitting Program
- Compliance Program

General Operations

Below is an overview of key findings from interviews with internal staff and external customers on the Division's general operations and business practices.

Defining Success

When considering the Division's general operations and business practices, interviewees defined success as:

- **Meeting the National Ambient Air Quality Standards (NAAQS).** AQMD achieves all inspection obligations, ensures that permittees comply with regulations, and maintains high compliance levels. The Division also avoids violations of NAAQS on the planning side and meets all federal requirements.
- **Maintaining internal efficiency and effectiveness.** AQMD manages applications effectively, issues permits on time, responds quickly to complaints, and identifies noncompliance incidents in a timely manner. AQMD implements written processes, conducts thorough inspections without missing any issues, and continuously builds better systems to reduce manual work (e.g., standard operating procedures [SOPs], database improvements).

[1] Disclaimer: Some key findings were informed by information drawn from interviews. While ERG strives to present accurate information, ERG cannot always guarantee the accuracy of the information shared as it reflects the perceptions of interviewees.

- Meeting community and external customer needs. AQMD protects public health, engages in community outreach, addresses EJ issues through policy, provides more information on its website for customers, and remains highly approachable.
- Implementing proper regulations and enforceable policies. AQMD implements regulations that do not unnecessarily limit the potential for permittees to achieve business success but also ensures that conditions set in permits and policies are enforceable.
- Providing a healthy work environment for all staff. AQMD promotes a work-life balance among the team, and Division leadership act as effective role models for all staff.

Strengths

Interviewees identified the following current strengths when discussing the Division's general operations and business practices:

- Effective external communication. AQMD staff are regulatory experts and help break down barriers with the regulated community. Inspectors have strong relationships and close communication with external customers and local contractors. Overall, the AQMD team is highly responsive when it comes to outreach and customer service.
- Effective internal team collaboration and culture. AQMD staff and leaders are supportive, collaborative, and efficient people who are open to feedback, committed to continuous improvement, and focused on the NNPH mission of protecting public health. AQMD leadership promotes work-life balance, personal growth, and professional development among the team, with a strong emphasis on training. There are strong cross-program relationships and collaboration (e.g., Permitting and Compliance teams collaborating on enforcement).
- Efficient with limited resources. Despite being a small agency with limited resources, AQMD meets statutory requirements and successfully manages major pollution sources through efficient resource use. The Division manages compliance efforts effectively and follows up with issues in a timely manner. Continued development of SOPs for permitting and administrative tasks helps ensure continued efficiency across the team.

Challenges

Interviewees identified the following existing or potential challenges that could hinder AQMD operations and business practices:

- Staffing turnover and unclear roles. As staff leave AQMD or switch teams within AQMD (potentially to earn a higher salary or to pursue a personal interest, such as a preference for monitoring over compliance), there is a loss of institutional and legacy knowledge. Maintaining capacity becomes a challenge, and there is also a lack of accountability among some staff due to unclear roles and expectations.
- Lack of technological advances. Interviewees stated that workflow challenges can result from manual paperwork processes, such as the process for National Emission Standards for Hazardous Air Pollutants (NESHAP) notifications. Challenges also result from inadequate software, such as the Division's Accela platform, which is not tailored for AQMD. The lack of automated tools forces staff to spend extra time on paperwork rather than being out in the field.
- Lack of community awareness and understanding. Community feedback about AQMD's services can sometimes be negative. This could be due to general public misunderstanding of air permitting and regulations.
- Misaligned regulations and penalties. The current penalty structure calls for only minimal fines (e.g., warnings first, then a $500 fine for a first-time minor violation) and therefore lacks

effectiveness.[2] Regulated facilities may consider penalties as part of the "cost of doing business," given the minimal fines. In addition, AQMD's mandates (which are set by NNPH) are sometimes misaligned with the Clean Air Act (CAA) and other requirements (e.g., what is required by statute versus what AQMD should be doing).

- Operational restrictions. There are operational limitations that result from AQMD being housed within NNPH. NNPH has its own requirements to stay as an accredited public health agency, but there is not much perceived benefit to AQMD. NNPH dependency creates more bureaucracy and limitations when it comes to hiring, budgeting, and maintaining a sole focus on air quality.

Areas for Improvement

Interviewees noted four key areas for improvement regarding the Division's general operations and business practices:

- Strengthen capacity and resources.
  - Strengthen staff expertise in key areas, such as permit writing, small business support, EJ, and outreach.
  - Automate and digitize tools (e.g., specialized air quality software) and transition to electronic applications.
  - Explore and adapt tools used by other air quality agencies.
- Improve internal workflow, SOPs, and training.
  - Develop clearer and concise SOPs and structured workflows for smoother operations during staff absences.
  - Develop formal training plans for onboarding new staff, as well as a more succinct training program for current technical staff. Streamline checklists and check points and ensure that trainers are equipped to answer questions (e.g., on updated regulations).
  - Identify professional development opportunities.
  - Clarify and differentiate roles for air quality specialists and environmental engineers and clarify how the workload may change after regulatory updates.
- Increase transparency and outreach support.
  - Improve transparency for the general public on AQMD procedures, fees, and organizational roles (e.g., post an organizational chart on the website).
  - Expand facility support through office hours, website improvements, and workshops on permits and regulatory guidance.
- Implement consistent regulatory efforts.
  - Ensure consistent permit actions based on set timelines.
  - Increase fine amounts and issue warnings immediately.
  - Implement stricter and clearer regulations (already in progress) and source classifications.
  - Assess the potential for AQMD to operate independently from NNPH (or receive better support from NNPH) to avoid political challenges and conflicts of interest.

Comparison to Other Similar Air Quality Agencies

Table 2 presents a snapshot of other air quality agencies with programs similar to AQMD's, including information about their staffing resources. All of these agencies operate permitting,

[2] Note from AQMD: The penalty structure for minor violations was recently revised, incorporating public feedback as requested by the District Board of Health. While the penalties associated with minor violations are minimal, they are narrowly focused on a small portion of AQMD regulations.

compliance/enforcement, and stationary source programs, but some consolidate these programs into a single permitting and compliance/enforcement department. Some agencies also categorize upper management, such as directors and executives, into an administrative department.

Table 2. Staffing Resources of Other Similar Air Quality Agencies

Agency and Website (hyperlinked)	Population Served	Related Programs	# of Major Sources	# of Permitted Minor Sources	Staffing Resources
Asheville-Buncombe Air Quality Agency (NC)	371,000	• Asbestos and demolition • Open burning • Dust	7	65	7 staff (2 Permitting, 3 Inspections/Enforcement, 1 Monitoring, 1 Admin)
Clark County Division of Air Quality (NV)	2,337,000	• Dust • Asbestos • Open burning	33	1,100	97 staff (4 Admin, 40 Compliance and Enforcement, 15 Monitoring, 18 Permitting, 20 Planning)
Lane Regional Air Protection Agency (OR)	381,000	• Asbestos • Home wood heating • Outdoor burning • Community center	15	287	17 staff (6 Management, 3 Finance/Admin, 2 Compliance and Enforcement, 2 Monitoring, 4 Permitting)
Mecklenburg County Air Quality (NC)	1,164,000	• Asbestos • Dust	7	530	24 staff (2 Admin, 11 Permitting and Enforcement, 5 Mobile Sources, 6 Monitoring)
Northwest Clean Air Agency (WA)	449,000	• Asbestos and demolition • Outdoor and agricultural burning • Wood heating	22	550	23 staff (6 Admin, 7 Permitting, 2 Air Quality Monitoring, 6 Compliance and Enforcement, 1 Public Records, 1 Database Development)
Regional Air Pollution Control Agency (OH)	1,042,000	• Monitoring	26	372	20 staff (3 Admin, 13 Permit/Inspections, 4 Monitoring)
Southwest Clean Air Agency (WA)	737,000	• Asbestos • Woodsmoke reduction	18	655	17 staff (6 Admin, 6 Compliance, 5 Permitting)
Yakima Regional Clean Air Agency (WA)	257,000	• Dust • Asbestos • Wood stove	3	370	10 staff (4 Admin, 4 Compliance, 2 Permitting)

Source: Agency staff insights via phone calls.

Community and Environmental Justice

Interviewees were asked how AQMD could do a better job of meeting community needs, specifically concerning (1) protecting public health and the environment, (2) increasing transparency, and (3) enhancing the ability of the regulated community to comply with AQMD regulations. Interviewees noted that the Division could:

- Increase public awareness and outreach.
  - Continue workshops and webinars and also engage with specific audiences through social media and public presentations.
  - Expand the reach of the AQMD newsletter beyond just subscribers and showcase updates on metrics and air quality trends more regularly.
  - Conduct more outreach to government partners to ensure AQMD participates in the beginning stages of conversations.
  - Raise awareness about asbestos risks and provide more public notices for high-risk sources, beyond Title V and synthetic minor sources.
  - Clarify AQMD's role and the importance of air quality permits.
  - Increase responsiveness through phone/email and continue with timely website updates.
- Offer more accessible technical assistance and other support.
  - Increase office hours and create a public-facing counter or provide public computer access to help with permits.
  - Improve resource accessibility and offer materials in multiple languages beyond English and Spanish. Improve website resources for better transparency and to minimize the need to read lengthy documents.
  - Make permits more accessible, simplify the request process, and improve software like Accela to allow for easier copies.
  - Provide clean air shelters during wildfires or other air quality crises (e.g., building on other states' clean air initiatives where clean air shelters are provided in the community).
- Strengthen regulations.
  - Require air quality modeling for stationary sources within 1,000 feet of residential areas, at-risk populations (e.g., schools, hospitals, assisted living), and sensitive environmental receptors.
  - Strengthen regulations for asbestos, dust, and hazards that do not produce visible emissions.
  - Update regulations to better define responsibilities for the permittee, making it easier for the regulated community to understand what they need to do.
- Collaborate with the Health Equity Committee.
  - Work with the Health Equity Committee to connect and engage with community groups, prioritize populations and areas, and further incorporate public opinion into permitting processes.

Best Practices

Based on interviews and ERG's desk review of 15 EJ resources, ERG identified key best practices for meeting community needs and responding to EJ concerns. These best practices include:

- Identify and clarify EJ concerns.
  - Identify communities with potential EJ concerns and clarify those concerns, especially for sensitive receptors (e.g., schools, residential areas).
  - Consult with Tribes and conduct outreach to Indigenous peoples.

    - Understand, respect, and acknowledge the histories of marginalization and mistrust.
- Incorporate EJ principles in decision-making.
    - Incorporate EJ concerns into permit decisions, potentially setting the precedent of denying permits based on EJ factors.
    - Improve staff education and training on EJ tools like EJScreen[3] and on best practices from other air quality agencies.
    - Build capacity to enhance the consideration of EJ in the air permitting process.
- Engage early in planning processes.
    - Get involved earlier in facility development planning (e.g., during business licensing) by providing businesses with information and brochures.
    - Manage expectations by being up front and honest.
- Use tools and technology for enhanced monitoring.
    - Leverage EPA's screening tools (e.g., EJScreen) to map sensitive receptors, identify EJ communities, determine air sensor placement, fill monitoring gaps, and enforce stricter requirements for facilities.
    - Continue applying for grants to implement low-cost air quality sensors (e.g., PurpleAir sensors) in underserved areas.
    - Provide air quality monitoring tools and resources for citizen science and community air monitoring projects.
    - Consult with the Health Equity Committee, Community Health Assessment, and Community Health Improvement Plan to help guide EJ outreach efforts.
- Expand accessible workshops and educational outreach.
    - Enhance transparency and public involvement throughout the permitting process.
    - Offer more permitting workshops with third-party contractors.
    - Improve education on asbestos in low-income communities.
    - Conduct outreach at public meetings before development projects to monitor impacts and prevent gentrification.

For more details on the desk review of EJ best practices and the 15 EJ resources analyzed, please see *Appendix A. EJ Best Practices Review*.

Permitting Program

Below is an overview of ERG's review of the Division's Permitting Program, as well as key findings from interviews with internal staff and external customers.

Strengths

ERG identified the following current strengths when reviewing the Division's Permitting Program:

- **Consistency throughout permitting process.** AQMD follows consistent formatting across Authority to Construct (ATC) and Permit to Operate (PTO) structures, such as clear organization of conditions based on emission unit. AQMD also consistently uses an objective writing style.
- **Clear and accurate referencing of applicable federal requirements.** Applicable federal requirements are correctly referenced and well incorporated into permit conditions. Technical Support Documents (TSDs) provide sufficient basis of applicability for federal requirements.

[3] As of 2/9/25, the EJScreen webpage is no longer available; however, an unofficial copy of EJScreen is hosted by Public Environmental Data Partners and can be accessed here: https://pedp-ejscreen.azurewebsites.net/.

- **Effective templates.** AQMD has created multiple TSD templates for different sources to streamline the permitting process and account for a variety of emission units. The ATC and PTO templates provide a useful and consistent starting point for permit writers.

Interviewees identified the following current strengths when discussing the Division's Permitting Program:

- **Smooth workflow and effective review process.** AQMD is establishing a smooth process that covers all stages from intake to review to issuance, highlighted by the recent development of SOPs and tools. There are in-depth peer and senior-level reviews that ensure accuracy, as well as opportunities for pre-issuance condition reviews. The recent expansion of permitting department staff has helped alleviate workflow challenges, and AQMD has supportive and effective supervisors.
- **Useful tools (worksheets and templates).** Interviewees mentioned useful tools such as emission unit worksheets; templates for TSDs, ATC permits, and PTO permits for stationary sources; and emission inventory templates.
- **Regulation updates.** The new regulations will simplify and narrow the scope of permit rules to focus on the most important sources, and those new regulations will be incorporated over time into permits as they are updated.
- **Successful outreach and collaboration.** AQMD works closely with applicants (i.e., directly requesting Potential to Emit [PTE] calculations and emission inventories for accuracy) and consistently contacts applicants during renewals and dust-related submissions.

Challenges

ERG identified the following existing or potential challenges that could hinder performance within the Permitting Program:

- **Lack of emissions control.** Multiple sources are subject to emissions control requirements but are missing capture efficiencies. These sources include Atlas Roofing, Elite Spice, GP&C, SFPP, and Ribus. Some permits also a lack operational requirements and emission limits. Examples include the A&K permit, which requires no tests to demonstrate fugitive and stabilization dust requirements; the Atlas Roofing permit, which includes operating parameters for exceedances of expandable polystyrene throughput rates but no way to monitor throughput rates; and the GP&C permit, which requires a monitoring device for the thermal oxidizer but identifies no testing requirements for the device.
- **Permit content issues.** Most permits reviewed did not explicitly list applicable requirements or origin and authority of conditions. The permits also contained language that may lead to difficult enforceability or unclear excursions. Examples include:
    - The Elite Spice permit, which contains language such as, "Emissions must be ducted to approved control equipment." This language does not specify which emission unit, how the emissions will be "ducted," and/or the effectiveness of routing the emissions to the control equipment. This lack of detail may be due to permit writers using language or approaches from past permits or other agency permits.
    - The GP&C permit, which allows for temperature excursions of the thermal oxidizer of 50 degrees, but it is unclear whether this allowance will ensure continuous compliance.
- **Inconsistent supporting documents.** PTE calculations are inconsistent with EPA policy on *AP-42* and/or are not applied to emission limits within the permit. Examples include the Monin permit, which contains no emission unit-specific limits; the Apple permit, which includes a general synthetic minor limit of 95 tons per year, but the PTE is much lower than the limit; and the

Renown permit, which does not include a methodology to calculate emissions. Some permits reviewed were missing TSDs or had incomplete TSDs as well.

Interviewees identified the following existing or potential challenges that could hinder performance within the Permitting Program:

- Gaps in the permitting process. The current fee and renewal structure may be inefficient and inaccurate, as it relies on facilities to report actual emissions with no formal application. As the new regulations take effect, switching to a fee structure based on applicant-calculated potential emissions and adopting a five-year renewal cycle could streamline the process and enhance the efficiency and robustness of permit renewals.
- Workflow issues. There is a lot of back-and-forth between different people, especially during the application and completeness review process, so information or documents may be missing, and work may have been redone multiple times before the permit is passed on to the permit writer. The manual tracking and database create efficiency issues. Current regulation deficiencies are being addressed, but application process and SOP improvements are still needed. Timeline issues impact the Division's ability to create quality permits. Confidentiality procedures cause some confusion and bottlenecks for accessing information.
- Coordination with other agencies. Staff reported progress working with other agencies that must issue permits for sources that may also require air quality permitting. On occasion, building departments do not provide timely notification to applicants that they may require permitting by NNPH, resulting in frustration that the building permit has been issued but the air quality permit has not.
- Limited knowledge and awareness among stakeholders. While AQMD conducts outreach and engagement efforts, there is low public participation in workshops, leading to confusion when regulations are implemented. Applicants need more effective tools, such as PTE spreadsheets and emission factor guidance, to be able to self-report PTE within the application and understand the full permit process. There is also a lack of educational opportunities and community engagement.

Areas for Improvement

ERG identified the following key areas for improvement regarding the Division's Permitting Program:

- Be specific to the source.
  - Eliminate odd, repetitive, and/or conflicting phrasing in permits.
  - Be consistent with citation of county rules (District Board of Health [DBOH] versus AQMD) and language (shall versus must versus will).
  - Limit incorporation by reference.
- Further develop templates.
  - List individual county applicable requirements, past inspections, violations, and corrections for the last 5 or so years within TSD.
  - Develop TSDs for PTOs. While TSDs are most important for pre-construction permits, it is helpful for stakeholders to be able to understand the layout of the source, the origin of applicable requirements, and other information that is typically in a TSD, in particular for sources without recent pre-construction permits.
  - Improve format of checklist for self-check and add space for reviewers to comment.
  - Separate conditions, first listing those that apply to the entire source and then listing unit-specific requirements. Listing by emissions unit and/or process type at times was confusing because language was often repeated multiple times in the permit.
- Update permitting language.

  - Include more stringent and enforceable monitoring, recordkeeping, and reporting requirements that are applicable to the emission units.
  - Improve PTE calculations to include source data and other relevant citations and apply to source emission limits.

Interviewees noted the following key areas for improvement regarding the Division's Permitting Program:

- Streamline tools and training.
  - Shift away from paper permits and spreadsheets to automated systems; improve the Accela software, which currently is not specific to air quality and requires manual tracking; adopt IMPACT for better data management.
  - Continue to standardize and formalize processes with clear steps.
- Improve permit process.
  - Continue improvements to cash handling flow.
  - Require facilities to calculate PTE based on appropriate guidance.
  - Draft more general permit templates (e.g., gas stations, fuel-burning equipment, engines) to reduce the permit review workload, moving towards five-year renewal.
  - Clarify construction application guidelines and definitions (e.g., permit amendments) to prevent unnecessary denials.
  - Move from an application-based fee structure to one based on the determination of applicability; explore a time-and-materials fee system.
  - Assign a designated completeness reviewer to perform tasks that often cause delays, from checking for applicable documents to communicating with applicants.
  - Provide clearer guidance and expectations for permits for small facilities and research and development.

Compliance Program

Below is an overview of ERG's review of the Division's Compliance Program, as well as key findings from interviews with internal staff and external customers.

Strengths

ERG identified the following current strengths when reviewing the Division's Compliance Program:

- Consistent and professional inspections. ERG observed the Division's compliance inspectors at a range of facility types, and ERG also had an opportunity to observe multiple inspectors at the same types of facilities. The inspectors conducted these inspections similarly and followed the Division's SOPs. The inspectors were professional in their interactions with facility personnel.
- Access to technology and training. The Division has a forward-looking infrared (FLIR) camera for optical gas imaging, as well as other tools to support compliance inspections. The Division has also provided inspectors with opportunities for external training through WESTAR and in FLIR camera operation.

Interviewees identified the following current strengths when discussing the Division's Compliance Program:

- Effective enforcement structure. There is a clear separation of duties, which ensures a fair and impartial process. Use of an independent panel avoids conflicts of interest and ensures consistency and credibility. Inspectors and staff maintain detailed records of all communications regarding a violation, ensuring that the enforcement panel has sufficient information for review.

- **Prompt complaint response.** Complaints made directly to the Division are assigned and dispatched promptly by senior staff.
- **Team collaboration.** Inspectors often work together, learning from each other to ensure uniformity in handling violations. This consistency leads to fewer challenges from facilities regarding enforcement actions.
- **Positive relationships with facilities.** Compliance inspectors maintain good relationships with facilities by being easy to work with and focusing on compliance and not enforcement actions.

Challenges

ERG identified the following existing or potential challenges that could hinder performance within the Division's Compliance Program:

- **Unclear enforcement criteria.** The existing SOP 0005, *Violations and Enforcement*, does not identify the criteria for taking enforcement when noncompliance is identified. Additionally, the Enforcement Panel does not provide regular feedback to compliance inspectors in cases where noncompliance was not subject to enforcement, so the inspectors do not learn whether the reason was insufficient evidence and documentation or other criteria.
    - SOP 0005 Step 2.a. does not identify or reference the factors the Senior Air Quality Specialist shall or should consider in determining if the issuance of a notice of violation is warranted.
    - SOP 0005 Step 3.a. does not identify or reference the factors the Enforcement Panel shall or should consider in determining the appropriate enforcement action.
- **Unclear or incomplete permits are difficult to enforce.** For several of the facilities ERG visited with the compliance inspectors, the permits' source descriptions were lacking in detail and may be missing or mischaracterizing emissions sources. For example:
    - At Granite Construction Company—Lockwood, a facility representative indicated that the asphalt batch plant includes a 2 MMBTU/hour heater used to keep asphalt tankage warm. The facility's permit AAIR16-0287 did not list this heater among the asphalt batch plant equipment, and there were no recordkeeping requirements for fuel use.
    - GP&C Operations, LLC, is permitted as a minor source in permit AAIR21-0001. However, a regenerative thermal oxidizer (RTO) source test report from 2021 indicated that the RTO inlet contained an average of 1,443.5 pounds per day of a volatile organic compound (VOC), which is equivalent to 263 tons per year of VOC assuming 365 days of operation per year. This suggests that the facility is a major source based on PTE and likely should be permitted as a synthetic minor source.
- **Penalties are not well defined and generally low.** SOP 0005 Attachments 3 and 4 outline recommended penalty calculations that are based on the penalties in the existing DBOH regulations. However, several of the factors are not well defined, such as economic benefit and mitigating factors, and other factors are not considered, such as facility and company size. In addition, the Division's current maximum penalty is low compared to other air quality agencies and the CAA.
    - Examples of air quality agencies with civil penalty policies that consider facility/company size and provide more rigorous definitions of other factors include Northwest Clean Air Agency and Allegheny County Health Department.
    - The Division's current maximum penalty is $10,000 per violation-day. ERG recognizes this maximum penalty is limited by state law. For comparison, Northwest Clean Air Agency's maximum penalty is $19,000 per violation-day and Allegheny County Health Department's maximum penalty is $25,000 per violation-day.

  - The CAA statutory civil monetary penalty was $25,000 per violation-day in 1990. The EPA annually adjusts the CAA civil monetary penalty for inflation, and it is now $124,426 per violation-day (as of January 8, 2025). The Division's maximum penalty has thus shrunk from 40 percent of the CAA maximum to 8 percent of the CAA maximum over time, greatly reducing its deterrent effect.
- **Compliance assistance resources are not collected together.** The Division provides compliance assistance, such as workshops for its new regulations, and its website includes some compliance assistance resources. However, though the website includes focused pages for programs like source permitting and dust control, there is not a focused webpage for compliance assistance.
  - The Division's contact information was included on the National Small Business Environmental Assistance Program website, but ERG did not find any reference to small business compliance assistance on the Division's own website.
  - Other air quality agencies such as Mecklenburg County Air Quality, Southwest Clean Air Agency, and Yakima Regional Clean Air Agency provide webpages for compliance assistance resources.
  - Some air quality agencies, including Clark County Division of Air Quality and Louisville Air Pollution Control District, also highlight compliance assistance specifically for small businesses on their websites.
- **Compliance data could be more transparent.** The Division's monthly staff reports include compliance data, such as the number of inspections conducted, but accessing those reports requires searching through DBOH meeting agendas. Final penalties are also identified in the DBOH meeting agendas. Posting all monthly Division staff reports and final penalties on one webpage would make the compliance history more comprehensive and transparent to the public.
  - For example, Northwest Clean Air Agency posts a monthly report of permitting and compliance data on its website. The reports are similar to the Division's staff reports for DBOH meetings.

Interviewees identified the following existing or potential challenges that could hinder performance within the Compliance Program:

- **Inefficient allocation or misallocation of fines.** Some interviewees stated that the violation appeals process is ineffective; violations and associated penalties can be appealed to the Air Pollution Control Hearing Board before the matter goes before the District Board of Health for a final decision. Interviewees stated that money from fines is misallocated, going toward schools and not toward addressing environmental issues, and that some sources treat fines as a cost of doing business. The current fine structure prescribes a daily limit, even for serious infractions.
- **Limited knowledge/awareness among stakeholders and community.** There is a lack of understanding of the enforcement and appeals process prior to the issuance of a notice of violation. There is limited communication with facilities on expectations. Many facilities are not familiar with the requirement to submit applications before starting construction. There is confusion around stop-work orders issued due to violations found during the permit application process.
- **Permit requirement by reference make compliance more difficult to assess.** Some interviewees stated that permit references to federal regulations, without including specific requirements, make it more difficult to determine if a facility is in compliance.

Areas for Improvement

ERG identified the following areas for improvement for the Division's Compliance Program:

- Clarify enforcement criteria.
  - Revise SOPs to clearly identify criteria for taking various levels of enforcement action when noncompliance is identified.
  - Ensure SOPs establish a consistent enforcement process independent of the individual personnel involved.
- Improve feedback to inspectors.
  - Establish regular communication between the enforcement panel and inspectors on why enforcement was or was not taken when noncompliance was identified.
  - Provide feedback on whether the documentation of noncompliance was sufficient to support further enforcement.
- Use inspections to verify the basis of air permits.
  - Encourage communication between inspectors and permitting staff to identify unclear source descriptions and potentially unpermitted equipment.
  - Consider whether compliance test data indicate facilities may be major sources based on PTE.
- Implement a more robust civil penalty policy.
  - Develop a civil penalty policy similar to those of other air quality agencies discussed above to better define penalty calculation factors and to include additional factors such as facility size (PTE) and company size (number of employees and net worth).
  - Revise SOP 0005 and DBOH regulations on penalties as needed to implement the policy.
  - Initiate efforts to change state legislation to increase the maximum penalty allowed. Consider engaging with NDEP and Clark County DAQ as they are subject to the same maximum penalty.
- Enhance the visibility of compliance assistance resources.
  - Provide a focused webpage for compliance assistance as for other programs.
  - Consider whether small business-specific compliance assistance resources need to be developed for the website.
- Increase compliance data transparency.
  - Provide a single webpage with monthly compliance data such as the Division staff report.

Interviewees noted key areas for improvement regarding the Division's Compliance Program:

- Additional stakeholder outreach.
  - Offer educational workshops or webinars explaining the overall enforcement and appeals process to stakeholders, including those who have not already received a notice of violation.
- Additional staff training.
  - Identify other training courses beyond WESTAR and provide hands-on training opportunities.
  - Visit other air quality districts to learn different inspection methods.
- Workload balancing and transparency.
  - Dedicate specific personnel to reviewing cases rather than having the Senior Air Quality Specialist serve as both the lead compliance inspector and initial enforcement reviewer. Additional staff could assist with enforcement pre-work to reduce the burden on the compliance team.
  - Review SOPs to clarify the steps for major versus minor violations. Make case review processes more transparent to help inspectors understand how decisions are made

based on the information they provide; provide additional guidance on how to safely observe violations.

- Update/develop specific checklists and templates.
  - Create more specific checklists, supplemental worksheets, and templates tailored to dust, asbestos, non-mineral inspections, and stationary source inspections.
  - Streamline case summaries into key points to enhance clarity and understanding when senior staff compile violation case notes for the enforcement panel.
  - Provide facilities with advance notice (e.g., the day before) to ensure that relevant staff and project personnel are on-site for inspections.
- Purchase additional measurement devices or other equipment.
  - Intrinsically safe FLIR camera.
  - PID (photoionization detector) for VOCs.
  - Anemometer for some inspections.

Conclusions

Based on insights from interviewees and ERG expert review, the following are concluding statements to the key research questions:

Is AQMD meeting and delivering on the community needs (e.g., public education, engagement, addressing concerns)?

- AQMD has made positive strides based on its capacity and resources to incorporate input from community and stakeholder groups and to address community needs through different outreach and education processes. Community needs continue to evolve every day, and AQMD should continue to learn, adapt, and tailor its outreach and education approaches, especially to EJ best practices, to ensure that building community trust is a top priority and that any concerns are addressed to the fullest extent possible.

Is AQMD utilizing best business and operating practices?

- Given its current capacity and resources, AQMD uses effective external communication processes and implements efficient internal team collaboration. Expanded use of automated and digitized processes and freestanding permit templates can help AQMD operate even more efficiently.

Is AQMD identifying and addressing areas for operational improvement?

- The new updated regulations are a positive step forward and will simplify permit rules to focus on the most important sources. During interviews conducted for this audit, AQMD staff shared their perspectives about additional areas for operational improvement, and it will be important for AQMD senior leadership to understand that these perspectives exist (even if leadership feels they are not completely accurate). Division leaders should make efforts to (1) clarify mistaken perceptions, and (2) work towards addressing improvement areas (see *Recommendations* for more details on specific areas).

Are there changes to processes and procedures that could improve important outcomes of AQMD's work? Important outcomes include:

- Protection of public health and the environment
  - AQMD has improved many areas of its permit development. ERG is making recommendations that should also improve public health and the environment by, for example, improving the capture of emissions so that they can be more fully controlled.
- Transparency

  - AQMD already exhibits significant transparency in its operations through its rule adoption process, outreach, and efforts to make data available for the public. Compliance data are available through links in DBOH meeting agendas but could be made more easily accessible to the public. Other opportunities to increase transparency may become available as AQMD moves to adopt the IMPACT permit management system and begins to list permits online.
- Ability of the regulated community to comply with AQMD regulations
  - AQMD has already taken steps to document the permit record by creating TSDs, and plans additional steps for the future. These actions should provide the regulated community with more information about why particular permit conditions are imposed and should help them better understand how to comply with those conditions.
  - AQMD's website currently includes compliance assistance information, but a focused webpage with all compliance assistance resources in one place would be helpful. Some other air quality agencies also provide compliance assistance resources specifically aimed at small businesses.

The next section provides more detailed recommendations based on the key findings and these conclusions.

Recommendations

Below are recommendations related to AQMD's general operations, community and EJ outreach, permitting program, and compliance program. Additional permit and TSD examples, as well as compliance training resources to support some of these recommendations can be found in *Appendix B. Permit and TSD Example* and *Appendix C. Compliance Training Resources*

General Operations

- Clarify staff roles and expectations. Clarify and differentiate roles among staff (e.g., air quality specialists versus environmental engineers), including how roles and responsibilities may change after the regulatory updates. ERG recommends creating a detailed organizational chart and/or delegation order that provides descriptions of responsibilities, functions, and the decision-making process. Ensure there are clear and concise SOPs and structured workflows based on the same template for smoother operations during staff absences. Provide ongoing training and refreshers for all staff on these SOPs and workflows. Externally, increase public awareness on AQMD's roles and procedures. Post an organizational chart on the website so that community members can learn about the overall structure of AQMD (e.g., leadership and program leads) and who to contact in a specific program (example organizational chart with drill-down options here and overarching organizational chart here). In addition, the AQMD website could be further developed to increase transparency around active permits (see Clark County's online list of Active Title V Permits as an example). AQMD could also develop dedicated webpages around specific source issues that arise, followed by a public workshop on specific source issue topics.
- Automate processes and tools. Automate and digitize tools (e.g., implement specialized air quality software like IMPACT instead of Accela) and transition from paper to electronic applications. Set up calls with other relevant air quality agencies to learn about tools they are using that could potentially be adapted to fit AQMD's needs.

Community and EJ

- Enhance community outreach and technical assistance. Increase office hours and promote technical assistance hours to help community members with permits. Have AQMD staff network

with permittees/potential permittees at events such as industry group and association meetings and conferences (e.g., casinos and hotels that are part of the Nevada Resort Association). Improve resource accessibility and offer materials in multiple languages (beyond English and Spanish) and improve and streamline website resources for better transparency and ease of understanding. Raise awareness about specific risks (e.g., asbestos) and provide more public notices for high-risk sources, beyond Title V and synthetic minor sources. Better define responsibilities for the permittee, making it easier for the regulated community to understand what they need to do.

- **Develop and implement tailored EJ best practices.** Based on the general EJ best practices identified in the Key Findings section above, draft EJ best practices that are specific to AQMD and the communities served. (Note: Some best practices may be case-dependent; see the Minnesota Pollution Control Agency's EJ Framework as an example.) Ground-truth and vet the draft EJ best practices with the Health Equity Committee and leaders from other key community groups and refine the best practices based on feedback received. Update the best practices annually and provide annual training to all staff. Share AQMD's EJ best practices regularly with the community through webinars and newsletters and be open to feedback continuously.

Permitting Program

- **Ensure that all sources that create emissions inside of a building or enclosure are either required to capture 100 percent of their emissions by demonstrating that they comply with EPA's Method 204 requirements, or, if that is not possible, demonstrate the capture efficiency of their enclosure, and address the uncaptured emissions appropriately.** Note that, in most cases, emissions that could be captured via a Method 204-compliant enclosure are not fugitive emissions, as defined for applicability purposes. Permitted sources that appear to fall into this category are:
    - Ribus (note that the permit refers to sterilization but does not indicate the type of sterilization compound used)
    - GP&C[4]
    - Elite Spice (EtO sterilizer, high HAP sensitivity)[5]
    - Atlas Roofing
    - SFPP (may not apply to this facility, as VOC appears only to come from the loading rack vapor recovery system) (note that the source description in the TSD was very helpful)
- **Ensure that all emissions limits and operational requirements are coupled with permit requirements that are enforceable as a practical matter.** EPA has indicated that this is a higher priority for major sources and synthetic minors; it is also important for minor sources, particularly HAP sources and those that need limits to avoid violating a NAAQS. EPA's Inspector General has issued a report on two programs where it found that state agencies did not, as a general matter,

[4] Additional review notes: The permit allows for temperature excursions of up to 50 degrees, but there is no documentation as to why that number was chosen. The permit language requires temperature monitoring once a day, but the excursion language presumes more frequent monitoring. The permit requires performance tests for emissions at maximum capacity and for VOC concentration, but there are no emission limits tied to these tests.

[5] This source is subject to MACT for EtO sterilizers. ERG recommends tailoring MACT requirements to be specific to their operation. The 2024 update to the MACT standard does not appear to be addressed. Also, Condition 1 is vague ("must be ducted to approved control equipment") and does not add clarity to the permit. Condition 4 of the scrubber says "as needed," which is not enforceable. The permit generally requires performance testing of the EtO process but does not specify frequency.

follow EPA guidance with respect to enforceability.[6] The table below contains findings for the synthetic minor permits included in ERG's review.

Table 3. Synthetic Minor Permits Reviewed

Source	Review Findings

Apple, Inc.	• Permit is for a variety of internal combustion engines used for emergency power generation.
	• Synthetic minor permit.
	• Some engines include selective catalytic reduction (SCR) to control nitrogen oxides (NO_x) emissions.
	• Apple is required to maintain monthly operations records.
	• Apple is required to annually submit emissions reports to demonstrate that emissions are less than 95 tons per year.
	  ○ The basis for those emissions calculations is not provided in the permit.
	  ○ The permit does not provide specific operations requirements to ensure correct operation of engines with SCR; it only says that operations must be consistent with the manufacturer's requirements. ERG assumes that the use of SCR is part of Apple's synthetic minor source strategy. Specific, relevant, and verifiable operations parameters should be established as permit conditions.
	  ○ The permit expressly does not limit operations during emergencies. EPA's guidance for emergency engine use assumes that such engines will not operate more than 500 hours per year and assumes that a corresponding permit limit will be established to ensure that major source status will not be triggered.
	  ○ The permit requires that all emissions—including startup, shutdown, and malfunction—be included, which is appropriate. However, since all emissions are estimated using manufacturer-supplied factors, this requirement is self-defeating. There is no mechanism to identify or estimate emissions from startup, shutdown, or malfunction.
	  ○ Condition 15 limits emissions in any one month to 7 tons and requires a mitigation plan if this limit is exceeded. It would be helpful to know the origin and authority for this condition.

Atlas Roofing[7]	• Synthetic minor permit covers expanded polystyrene (EPS) and emergency engine operation. • The permit limit consists of annual (rolled monthly) limits for VOCs and HAPs. • Permit enforceability with respect to EPS use/control consists of limits on EPS use, along with boiler emissions factors based on *AP-42*. • There are no requirements to ensure that the boiler is effective in reducing pentane or other VOC/HAP emissions. This is inconsistent with EPA guidance.[8] ○ ERG recommends that the permit require at least periodic testing to ensure that the boiler is operating in a manner that will reduce VOC emissions as assumed. ERG also recommends periodic boiler tuning to ensure that parameters such as temperature and retention time continue to be met between tests. AQMD may also consider adopting the boiler tuning requirements used by Clark County Health District.

- **Consistent with EPA guidance, limit the use of *AP-42* as an emissions estimation tool.** EPA's Enforcement Office has issued an enforcement alert[9] cautioning that because *AP-42* emissions

[6] https://www.epaoig.gov/reports/audit/epa-should-conduct-more-oversight-synthetic-minor-source-permitting-assure-permits

[7] ERG recommends that the permit state the total mass limit only one time, instead of repeating that information for each emissions unit. AQMD should consider whether the total mass HAP limit is necessary and meaningful.

[8] See the EPA Inspector General report from 2021, found at https://www.epa.gov/system/files/documents/2021-07/_epaoig_20210708-21-p-0175.pdf; also see EPA's June 1989 guidance, found at https://www3.epa.gov/ttn/atw/pte/june13_89.pdf.

[9] https://www.epa.gov/sites/default/files/2021-01/documents/ap42-enforcementalert.pdf

factors represent an average emissions rate across a wide range of tested sources, actual emissions from a particular emissions unit may be much higher or much lower than the published *AP-42* emissions factor. For that reason, while *AP-42* is appropriate for emissions inventories covering a larger number of sources, it is not appropriate for an individual emissions unit. If *AP-42* is the only data available during the pre-construction permitting process, testing should be conducted to verify that the actual emissions from the source comply with all applicable requirements.

Almost every permit relies on *AP-42*, or manufacturer representations, but few permits couple those limits with a method for verifying that the equipment emits at or below the assumed level. Permits for engines often rely on the manufacturer's emissions certification required by the New Source Performance Standards (NSPS), which is likely a reasonable assumption for new engines. However, as engine parts deteriorate over time, it is unlikely that engines will continue to perform in a similar manner throughout their lifetime.

- Continue to upgrade newly issued and renewal permits with a TSD. ERG was able to conduct more thorough and useful reviews of permits where AQMD had prepared a TSD. ERG recommends that AQMD continue this practice. See a TSD example in *Appendix B.*
    - Some TSDs cited applicable federal requirements in appropriate detail but did not appear to cite local rules. ERG recommends that all rules be included in the TSD, and that permit conditions cite the origin and authority of each requirement.
    - AQMD has provided extensive guidance to permit applicants regarding the content of applications, including specifications for process flow diagrams. ERG recommends that those process flow diagrams be included in the TSDs, as they will help readers better understand the process at hand and add to their understanding of how permit decisions were made.
- Develop a procedure to ensure that sources will not cause or contribute to violations of the NAAQS. AQMD regulations do not currently require any procedures to ensure that minor sources or minor modifications do not cause or contribute to NAAQS violations.
    - EPA regulations expressly require this analysis: *Each plan must set forth legally enforceable procedures that enable the State or local agency to determine whether the construction or modification of a facility, building, structure or installation, or combination of these will result in…Interference with attainment or maintenance of a national standard in the State in which the proposed source (or modification) is located or in a neighboring State.*[10] While the EPA has not been rigorous about ensuring that this requirement is met, it may become so at any time. It is also possible that a third party could intervene in an EPA State Implementation Plan (SIP) action or petition EPA to issue a SIP call.
- Improve existing guidance documents for applicants and permit writers, improve trainings, and create SOPs for the development of TSDs and permits. ERG noted a wide range of drafting styles, even in permits that appear to be the same age. Further developed templates for TSDs and permits would present a consistent style to the regulated community, the public, and EPA (see a permit example in *Appendix B*.). As part of this template development, ERG recommends that AQMD use consistent phrasing, as current permits use a variety of terms for the same concept. For example, when specifying an obligation to meet a requirement in a permit, some permits use the term *will*, others use *shall*, and others use *must*. ERG suggests standardizing with either *shall*

[10] See 40 CFR 51.160(a) and (b).

or *must*. Similarly, some permits use the term *DBOH*, while others use *AQMD*—sometimes in the same permit.
    - ERG also recommends that Statements of Basis contain a table of contents, to help the reader identify relevant sections.
- Coordinate with other agencies/departments. ERG recommends that NNPH coordinate at a high level with all relevant building departments (and others responsible for permitting) to send the message that the most business-friendly approach they can take is to ensure that potential permittees have all relevant information at the very beginning of the process.

Compliance Program

- Enhance inspector health and safety training. The Division currently requires air quality specialists who conduct compliance inspections to complete a 24-hour state of Nevada mine safety training and annual 8-hour refresher trainings, as well as asbestos-specific training and driver safety training. A variety of flammable and toxic materials, such as gasoline and dry-cleaning chemicals, are used at facilities that Division staff inspect, but the associated hazards may not be adequately addressed in the current training curriculum. ERG recommends that the Division provide additional health and safety training for topics not covered by the current training curriculum, especially regarding hazard communication and chemical hazards. For example training topics and organizations, please see *Appendix C. Compliance Training Resources*.
- Clarify enforcement criteria in procedures and training. ERG recommends revising SOPs, including SOP 0005 and SOP 0017, to clearly define the criteria for pursuing the issuance of a notice of violation and taking various levels of enforcement action when noncompliance is identified.
    - Good SOPs should capture existing institutional knowledge and establish a consistent enforcement process that will not be disrupted by future changes in individual personnel.
    - ERG also recommends that Compliance Program leadership regularly debrief the compliance staff (e.g., through monthly or quarterly meetings) on why specific incidents of noncompliance were determined to warrant (or not to warrant) the issuance of a notice of violation and/or other enforcement action. This type of training will help inspectors improve inspection documentation and case building, transmit institutional knowledge across staff, and help ensure consistent enforcement.
- Implement a more robust civil penalty policy. ERG recommends developing a civil penalty policy similar to the policies of Northwest Clean Air Agency and Allegheny County Health Department. The updated policy should better define penalty calculation factors and include additional factors such as facility size (PTE) and company size (number of employees and net worth). ERG also recommends initiating efforts to change state legislation to increase the maximum penalty allowed.
- Enhance the visibility of compliance assistance resources. ERG recommends adding a focused webpage for compliance assistance that links to existing resources on the Division's website and includes any additional resources developed. ERG also recommends that the Division consider developing compliance assistance resources for small businesses, similar to the resources identified above from Clark County Division of Air Quality or Louisville Air Pollution Control District.
- Increase compliance data transparency. ERG recommends providing monthly compliance data on a single webpage rather than distributed across DBOH agendas.

Appendix A. EJ Best Practices Review

Please see the supplemental Excel file named "AppendixA.AQMD_EJ_ResearchFramework_011625" for an inventory of existing best practices related to environmental justice. ERG developed the inventory through a document review of other relevant agencies and current guidance from EPA and other states.

The research framework includes the following categories:

1. Resource Name
2. Organization Name
3. Scale (federal, state, local)
4. Weblink
5. Publication Date/Last Update
6. EJ Definition
7. Best Practices *(sorted by the following categories of AQMD service areas)*
    a. Permitting
    b. Compliance
    c. Monitoring
    d. Planning
    e. General Public Outreach/Engagement
    f. Other
8. Tools/Information Sources Used (e.g., EJScreen, Climate and Economic Justice Screening Tool)
9. Contributions from Community-Based Organizations or EJ Leaders and Stakeholders

Appendix B. Permit and TSD Example

Title V Air Quality Operating Permit and TSD Example: Glendale Municipal Landfill, *Maricopa County Air Quality Department*

MARICOPA COUNTY AIR QUALITY DEPARTMENT (MCAQD)
301st W. Jefferson St., Suite 410
Phoenix, Arizona 85003
(602) 506-6010
(602) 506-6985 (FAX)

TITLE V AIR QUALITY OPERATING PERMIT

Facility Number: F000079
Permit Number: P001161
Legacy Permit Number V97015

Original Issue Date: April 22, 2003
Renewal Date: TBD
Expiration Date: TBD

Permittee Name: Glendale Municipal Landfill
Mailing Address: 6210 W. Myrtle Ave, Suite 111, Glendale, AZ 85301
Business Name: City of Glendale
Facility Address: 11480 W. Glendale Ave., Glendale, AZ 85307

Title V Basis: The source acknowledged, with submittal of its design plan for a gas capture and control system (GCCS) in 2001, that it had reached and/or exceeded the threshold cited by 40 CFR 62 Subpart OOO §62.16711(e) which required submittal of an application for a Title V permit. Its initial Title V permit was issued in 2003.

Equipment and Processes Covered: One solid waste landfill (LF) with requisite access roadways; one landfill gas collection and control system (GCCS); one flare for backup combustion of LF gas (primary destruction of LF gas is performed by two IC engine-generators owned and operated by Glendale Energy); one leachate collection system; one green waste screening and grinding operations comprising screens, grinders, and engines (currently not in operation); and one parts cleaning sink with attached solvent tank. Additional equipment not requiring a permit include a 50 hp portable compressor, and mobile diesel equipment all rated at less than 50 hp.

This Permit is issued in accordance with Maricopa County Air Pollution Control Regulations, Rule 200 §301, and Arizona Revised Statutes, §49-404c and §49-480. The attached Permit Conditions are incorporated into and form an integral part of this Permit. The Permit is issued to provide regulators, site operators or owners, and members of the public a clear picture of what the Permit holder is required to do to meet applicable requirements. As the Permit holder, you are expected to review this Permit, become familiar with its provisions and conditions and to operate in conformance with them. This Permit is an enforceable document. Failure to conform to the emission limits and any other condition contained in the Permit is a violation of law and will form the basis of enforcement action by the department which may include civil or criminal sanctions.

If the MCAQD Control Officer determines that additional monitoring, sampling, modeling and/or control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and/or welfare, the MCAQD Control Officer will amend the provisions of this Permit. This Permit may be subject to suspension or revocation for cause including nonpayment of fees, noncompliance with Arizona State Statutes, Maricopa County Air Quality Regulations, or the attached Permit Conditions, or if the MCAQD Control Officer determines that significant misrepresentation exists in the application and supporting documentation filed to obtain or modify this Permit.

_____

Philip A. McNeely, R.G.
Maricopa County Air Quality Control Officer

COMMON ABBREVIATIONS

Act..... Federal Clean Air Act
AAAC ..... Acute Ambient Air Concentration
AAC..... Arizona Administrative Code
ADEQ..... Arizona Department of Environmental Quality
AIRS ..... Aerometric Information Retrieval System
ARS ..... Arizona Revised Statutes
AZMACT ..... Arizona Maximum Achievable Control Technology
ASTM ..... American Society of Testing and Materials
BACT..... Best Available Control Technology
Btu..... British thermal unit
CAA..... Clean Air Act
CAAC ..... Chronic Ambient Air Concentration
CAS ..... Chemical Abstract Service
CEMS ..... Continuous emissions monitoring system
CFR ..... Code of Federal Regulations
CO ..... Carbon Monoxide
dscf..... Dry standard cubic feet
ECS ..... Emission Control System
EPA ..... US Environmental Protection Agency
HAP..... Hazardous Air Pollutant
ID..... Identification number
MACT..... Maximum Achievable Control Technology
MCAQD ..... Maricopa County Air Quality Department
NA ..... Not applicable
NAAQS..... National Ambient Air Quality Standards
NESHAP..... National Emission Standards for Hazardous Air Pollutants
NMHC ..... Non-methane hydrocarbon
NO_x..... Nitrogen oxides
NSPS..... New Source Performance Standards
O_2 ..... Oxygen
O&M..... Operation and maintenance
Pb..... Lead
PM..... Particulate matter
$PM_{2.5}$ ..... Particulate matter less than 2.5 microns in size
PM_{10}..... Particulate matter less than 10 microns in size
ppm..... Parts per million
psia ..... pounds per square inch, actual
RACT..... Reasonably Available Control Technology
RVP ..... Reid Vapor Pressure
SIP..... State Implementation Plan
SO_2 ..... Sulfur dioxide
VE..... Visible Emissions
VOC..... Volatile Organic Compound

TABLE OF CONTENTS

In accordance with Maricopa County Air Pollution Control Rules and Regulations (Rules), Rule 210 §302.2, all Conditions of this Permit are federally enforceable unless they are identified as being locally enforceable only. However, any Permit Condition identified as locally enforceable only will become federally enforceable if, during the term of this Permit, the underlying requirement becomes a requirement of the Clean Air Act (CAA) or any of the CAA's applicable requirements.

All federally enforceable terms and conditions of this Permit are enforceable by the Administrator of the United States Environmental Protection Agency (Administrator or Administrator of the USEPA hereafter) and citizens under the CAA.

Any cited regulatory paragraphs or section numbers refer to the version of the regulation that was in effect on the first date of public notice of the applicable Permit Condition unless specified otherwise. In the event the rules and regulations are amended during the term of this Permit, the amended rules and regulations shall apply.

GENERAL CONDITIONS

1. **AIR POLLUTION PROHIBITED:**
The Permittee shall not discharge from any source whatever into the atmosphere regulated air pollutants which exceed in quantity or concentration that specified and allowed in the County or SIP Rules, the Arizona Administrative Code (A.A.C.), or the Arizona Revised Statutes (ARS), or which cause damage to property or unreasonably interfere with the comfortable enjoyment of life or property of a substantial part of a community, or obscure visibility, or which in any way degrade the quality of the ambient air below the standards established by the Maricopa County Board of Supervisors or the Director of the Arizona Department of Environmental Quality (ADEQ).

[SIP Rule 100 §301]

2. **CIRCUMVENTION:**
The Permittee shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of regulated air pollutants to the atmosphere, conceals or dilutes an emission which would otherwise constitute a violation of this Permit or any Rule or any emission limitation or standard. The Permittee shall not circumvent the requirements concerning dilution of regulated air pollutants by using more emission openings than is considered normal practice by the industry or activity in question.

[SIP Rule 100 §104]

3. **CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS:**
Any application form, report, or compliance certification submitted under County or Federal Rules or these Permit Conditions shall contain certification by a responsible official of truth, accuracy, and completeness of the application form or report as of the time of submittal. This certification and any other certification required under County or Federal Rules or these Permit Conditions shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[SIP Rule 100 § 401][SIP Rule 210 § 301.7][40 CFR Part 70.5(d)]

4. **COMPLIANCE REQUIRED:**

   a. The Permittee shall comply with all conditions of this permit and with all applicable requirements of Arizona air quality statutes and the air quality rules. Compliance with permit terms and conditions does not relieve, modify, or otherwise affect the Permittee's duty to comply with all applicable requirements of Arizona air quality statutes and the Maricopa County Air Pollution Control Regulations. Any permit noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. Noncompliance with any federally enforceable requirement in this permit constitutes a violation of the Act.

   [SIP Rule 200 § 310.3, 310.4]

   b. The Permittee shall halt or reduce the permitted activity in order to maintain compliance with applicable requirements of Federal laws, Arizona laws, the County Rules, or other conditions of this permit.

   [SIP Rule 241]

   c. For any major source operating in a nonattainment area for any pollutant(s) for which the source is

classified as a major source, the source shall comply with reasonably available control technology (RACT) as defined in Rule 100.

[SIP Rule 241]

d. COMPLIANCE PLAN: Based on the certified information contained in the application for this permit, the facility is in compliance with all applicable requirements in effect as of the first date of public notice of the proposed conditions for this permit unless a Compliance Plan is included in the Specific Conditions section of this permit. The Permittee shall continue to comply with all applicable requirements and shall meet any applicable requirements that may become effective during the term of this permit on a timely basis.

[SIP Rule 241]

5. CONFIDENTIALITY CLAIMS:

Any records, reports or information obtained from the Permittee under the Rules or this Permit shall be available to the public, unless the Permittee files a claim of confidentiality in accordance with A.R.S. §49-487(c) that:

a. Precisely identifies the information in the permit(s), records, or reports that is considered confidential, and

b. Provides sufficient supporting information to allow the Control Officer to evaluate whether such information satisfies the requirements related to trade secrets or, if applicable, how the information, if disclosed, could cause substantial harm to the person's competitive position. The claim of confidentiality is subject to the determination by the Control Officer as to whether the claim satisfies these requirements.

A claim of confidentiality shall not excuse the Permittee from providing any and all information required or requested by the Control Officer and shall not be a defense for failure to provide such information.

If the Permittee submits information with an application under a claim of confidentiality pursuant to A.R.S. §49-487 and Rule 200, the Permittee shall submit a copy of such information directly to the Administrator of the EPA.

[SIP Rule 100 § 402] [SIP Rule 200 § 411] [SIP Rule 210 §301.5]

6. CONTINGENT REQUIREMENTS:

NOTE: This permit condition covers activities and processes addressed by the CAA which may or may not be present at the facility.

a. ASBESTOS: The Permittee shall comply with the applicable requirements of 40 CFR Part 61.145 through Part 61.147 and Part 61.150 of the National Emission Standard for Asbestos and Rule 370 for all demolition and renovation projects.

[40 CFR Part 61, Subpart M][Rule 370 § 301.9]

b. RISK MANAGEMENT PLAN (RMP): Should this stationary source, as defined in 40 CFR Part 68.3, be subject to the accidental release prevention regulations in 40 CFR Part 68, then the Permittee shall submit an RMP by the date specified in 40 CFR Part 68.10 and shall certify compliance with the requirements of 40 CFR Part 68 as part of the annual compliance certification as required by 40 CFR Part 70. However, neither the RMP nor modifications to the RMP shall be considered to be a part of this permit.

[40 CFR Part 68]

c. STRATOSPHERIC OZONE PROTECTION: If applicable, the Permittee shall:

i. Follow the requirements of 40 CFR Part 82.100 through 82.124 with respect to the labeling of products using ozone depleting substances.

ii. Comply with all of the following requirements with respect to recycling and emissions reductions for Class I and Class II Refrigerants and their substitutes:

1) All Persons opening and disposing of appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR Part 82.156.

2) Equipment used during maintenance, service, repair, or disposal of appliances must meet the standards for recycling and recovery equipment in accordance with 40 CFR Part 82.158.

3) Equipment testing organizations must comply with 40 CFR Part 82.160.

4) Persons performing maintenance, service, repair, or disposal of appliances must be certified

pursuant to 40 CFR Part 82.161.

5) Certification requirements of 40 CFR Part 82.162 and 82.164, as applicable.

6) Reporting and Recordkeeping requirements in 40 CFR Part 82.166.

iii. Follow the requirements of 40 CFR Part 82, Subpart G, including all Appendices, with respect to the safe alternatives policy on the acceptability of substitutes for ozone-depleting compounds.

[40 CFR Part 82, Subparts E, F, and G]

7. DUTY TO SUPPLEMENT OR CORRECT APPLICATION:

If the Permittee fails to submit any relevant facts or has submitted incorrect information in a permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, the Permittee shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit.

[SIP Rule 210 § 301.6]

8. EMERGENCY EPISODES:

If an air pollution alert, warning, or emergency has been declared, the Permittee shall comply with any applicable requirements of Rule 600 §302.

[Rule 600 § 302][SIP Rule 600 §302]

9. EMERGENCY PROVISIONS:

An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[Rule 130 § 201][Locally Enforceable Only]

10. EXCESS EMISSIONS:

There are reporting requirements associated with excess emissions. These requirements are contained in Permit Condition 16.f in a subparagraph called Excess Emissions Reporting. Excess emissions are also defined in Rule 100 §200.

[SIP Rule 100 § 502][Rule 140 § 500]

11. FEES:

The Permittee shall pay fees to the Control Officer pursuant to A.R.S. § 49-480(D) and Rule 280. No permit or permit revision is valid until the applicable permit fee has been received and until the permit is issued by the Control Officer.

[SIP Rule 200 § 409][SIP Rule 210 § 401][Rule 280 § 302][A.R.S. 49-480(D)]

12. MODELING:

The Permittee shall perform any required modeling in a manner consistent with 40 CFR Part 51, Appendix W, "Guideline on Air Quality Models". For minor New Source Review, the Permittee shall perform air quality impact modeling in a manner consistent with the MCAQD Permitting Handbook. Where the person can demonstrate that an air quality impact model specified in the guideline is inappropriate, the model may be modified or another model substituted if found to be acceptable to the Control Officer.

[40 CFR Part 51, Appendix W][SIP Rule 200 § 407][SIP Rule 241 §§ 303, 308]

13. MONITORING AND TESTING:

a. MONITORING REQUIRED: The Permittee shall monitor, sample, or perform other studies to quantify emissions of regulated air pollutants or levels of air pollution that may reasonably be attributable to the facility if required to do so by the Control Officer, either by Permit or by order in accordance with Rule 200 §310.

[SIP Rule 200 § 310]

b. TESTING REQUIRED: Except as otherwise specified in these Permit Conditions or by the Control Officer, the Permittee shall conduct required testing used to determine compliance with standards or permit conditions established pursuant to the County or SIP Rules or these Permit Conditions in accordance with Rule 270 and the applicable testing procedures contained in the Arizona Testing Manual for Air Pollutant Emissions or other approved EPA test methods.

[Rules 200 § 408; 210 §302.1.(c); and Rule 270 §§ 300, 400]

c. TESTING FACILITIES: The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate per the applicable EPA methods which shall include:

1) An air pollution control system constructed such that volumetric flows and pollutant emission rates can be accurately determined by applicable EPA methods and procedures; and

2) A stack or duct that is free of cyclonic flow as demonstrated by applicable EPA methods and procedures.

ii. Safe sampling platform(s).

iii. Safe access to sampling platforms(s).

iv. Utilities for sampling and testing equipment.

[Rule 270 §405]

14. PERMITS:

a. BASIC:
This Permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any Permit Condition.

[SIP Rule 241]

b. PERMITS AND PERMIT CHANGES, AMENDMENTS AND REVISIONS:

i. The Permittee shall comply with the Administrative Requirements of Section 400 of Rule 210 for all changes, amendments and revisions at the facility for any source subject to regulation under Rule 200, shall comply with all required time frames, and shall obtain any required preapproval from the Control Officer before making changes. All applications shall be filed in the manner and form prescribed by the Control Officer. The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or to deny a permit or permit revision including information listed in Rule 200 Section 309 and Rule 210 §301.

[SIP Rule 200 §§ 301, 309][SIP Rule 210 §§ 301, 400]

ii. The Permittee shall supply a complete copy of each application for a permit, a minor permit revision, or a significant permit revision directly to the Administrator of the EPA. The Control Officer may require the application information to be submitted in a computer-readable format compatible with the Administrator's national database management system.

[SIP Rule 210 §§ 303.1(a), 303.2]

iii. While processing an application, the Control Officer may require the applicant to provide additional information and may set a reasonable deadline for a response. If, while processing an application that has been determined or deemed to be complete, the Control Officer determines that additional information is necessary to evaluate or to take final action on that application, the Control Officer may request such information in writing and may set a reasonable deadline for a response.

[SIP Rule 210 § 301.4(f)]

iv. No permit revision shall be required pursuant to any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

[SIP Rule 241] [SIP Rule 210 § 403]

c. POSTING:

i. The Permittee shall keep a complete permit clearly visible and accessible on the site where the equipment is installed.

[SIP Rule 200 §312]

ii. Any approved Dust Control Plan or Dust Control Permit required by Rule 310 shall be posted in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle, or shall otherwise be kept available on site at all times.

[SIP Rule 310 § 409]

d. PROHIBITION ON PERMIT MODIFICATION:
The Permittee shall not willfully deface, alter, forge, counterfeit, or falsify this permit.

[SIP Rule 200 § 311]

e. RENEWAL:

i. The Permittee shall submit an application for the renewal of this Permit through the AQD Online Portal in a timely and complete manner. The Permittee shall file all permit applications in the manner and form prescribed by the Control Officer. For purposes of permit renewal, a timely application is one that is submitted at least six months, but not more than 18 months, prior to the date of permit expiration. A complete application shall contain all of the information required by the Rules including Rule 200 Section 309 and Rule 210 Sections 301 & 302.3.

[SIP Rule 200 § 309][SIP Rule 210 §§ 301.1, 301.2]

ii. If the Permittee submits a timely and complete application for a permit renewal, but the Control Officer has failed to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the renewal permit has been issued or denied. This protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit, by the deadline specified in writing by the Control Officer, any additional information identified as being needed to process the application.

[SIP Rule 200 § 403.2][SIP Rule 210 §§ 301.4(f), 301.9]

f. REVISION / REOPENING / REVOCATION:

i. If the Permittee becomes subject to a standard promulgated by the Administrator under Section 112(d) of the CAA, the Permittee shall, within 12 months of the date on which the standard was promulgated, submit an application for a permit revision through the AQD Online Portal demonstrating how the source will comply with the standard. If the AQD Online Portal is not accessible, the Permittee may use alternative means of submittal (such as certified mail, facsimile, email, or hand delivery).

[SIP Rule 210 §301.2(c)]

ii. This permit shall be reopened and revised to incorporate additional applicable requirements adopted by the Administrator pursuant to the CAA that become applicable to the facility if this permit has a remaining permit term of three or more years and the facility is a major source. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this Permit is due to expire unless the original permit or any of its terms have been extended pursuant to Rule 200 Section 403.2.

[SIP Rule 200 § 402.1(a)(1)]

Any permit revision required pursuant to this Permit Condition, 14.f.ii, shall reopen the entire permit, shall comply with provisions in Rule 200 for permit renewal, and shall reset the f5-year permit term.

[SIP Rule 200 § 402.1(a)(1)]

iii. This permit shall be reopened and revised under any of the following circumstances:

1) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Title V permit.

2) The Control officer or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other

terms or conditions of the permit.

3) The Control Officer or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue a permit under this Permit Condition, 14.f.iii, shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the Permit for which cause to reopen exists.

[SIP Rule 200 § 402.1]

iv. This permit shall be reopened by the Control Officer and any permit shield revised when it is determined that standards or conditions in the permit are based on incorrect information provided by the applicant.

[SIP Rule 210 § 407.3]

g. REQUIREMENTS FOR A PERMIT:

i. Except as noted in Sections 403 and 405 of Rule 210, no source may operate after the time that it is required to submit a timely and complete application, except in compliance with a permit issued under Rule 210. Permit expiration terminates the Permittee's right to operate. However, if a source submits a timely and complete application, as defined in Rule 210 Section 301.4, for permit issuance or renewal, the source's failure to have a permit is not a violation of the Rules until the Control Officer takes final action on the application. The Source's ability to operate without a permit as set forth in this paragraph shall be in effect from the date the application is determined to be complete until the final permit is issued. This protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit, by the deadline specified in writing by the Control Officer, any additional information identified as being needed to process the application.

[SIP Rule 210 § 301.9]

ii. A subcontractor who is engaged in dust-generating operations at a site that is subject to a Dust Control Permit shall register with the Control Officer and follow those registration requirements in Rule 200.

[SIP Rule 200 §§ 306, 307]

iii. Burn Permit: The Permittee shall obtain a Permit To Burn from the Control Officer before conducting any open outdoor fire except for the activities listed in Rule 314 Section 303.

[SIP Rule 314][SIP Rule 200 §308]

h. RIGHTS AND PRIVILEGES:
This Permit does not convey any property rights nor exclusive privilege of any sort.

[SIP Rule 241]

i. SEVERABILITY:
The provisions of this Permit are severable, and, if any provision of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

[SIP Rule 210 § 302.1(g)]

j. SCOPE:
The issuance of any permit or permit revision shall not relieve the Permittee from compliance with any Federal laws, Arizona laws, or the County or SIP Rules, nor does any other law, regulation or permit relieve the Permittee from obtaining a permit or permit revision required under the Rules.

[Rule 200 § 310.3]

Nothing in this permit shall alter or affect the following:

i. The provisions of Section 303 of the Act, including the authority of the Administrator pursuant to that section.

ii. The liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.

iii. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act.

iv. The ability of the Administrator of the EPA or of the Control Officer to obtain information from the Permittee pursuant to Section 114 of the Act, or any provision of State law.

v. The authority of the Control Officer to require compliance with new applicable requirements adopted after the permit is issued.

[SIP Rule 210 § 407.2]

k. TERM OF PERMIT:
This Permit shall remain in effect for no more than five years from the date of issuance.
[SIP Rule 210 § 402]

l. TRANSFER:
Except as provided in A.R.S. § 49-429 and Rule 200, this permit may be transferred to another person if the Permittee gives notice to the Control Officer in writing at least 30 days before the proposed transfer and complies with the permit transfer requirements of Rule 200 and the administrative permit amendment procedures pursuant to Rule 210.
[SIP Rule 200 § 404][SIP Rule 210 § 404]

m. PERMIT SHIELDS:

i. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirement as of the date of the permit issuance.

ii. Nothing in this permit shall alter or affect the following:

1) The provisions of Section 303 of the Act-Emergency Orders, including the authority of the Administrator under that section.

2) The liability of a Permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance.

3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act.

4) The ability of the Administrator or of the Control Officer to obtain information from a source under Section 114 of the Act, or any provision of State law.

5) The authority of the Control Officer to require compliance with new applicable requirements adopted after the permit is issued.

iii. In addition to the provisions of Rule 200-Permit Requirements, a permit shall be reopened by the Control Officer and the permit shield revised, when it is determined that standards or conditions in the permit are based on incorrect information provided by the applicant.

15. RECORDKEEPING:

a. RECORDS REQUIRED:
The Permittee shall maintain records of all emissions testing and monitoring, records detailing all malfunctions which may cause any applicable emission limitation to be exceeded, records detailing the implementation of approved control plans and compliance schedules, records required as a condition of any permit, records of materials used or produced and any other records relating to the emission of air contaminants which may be requested by the Control Officer.

[SIP Rule 100 § 501]

b. RETENTION OF RECORDS:
Unless a longer time frame is specified by the Rules or these Permit Conditions, the Permittee shall retain information and records required by either the Control Officer or these Permit Conditions as well as copies of summarizing reports recorded by the Permittee and submitted to the Control Officer for 5 years after the date on which the pertinent report is submitted.

[SIP Rule 100 § 504]

c. MONITORING RECORDS:
The Permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support

information includes all calibration and maintenance records and all original strip-chart recordings or physical records for continuous monitoring instrumentation, and copies of all reports required by the permit. Records of any monitoring required by this Permit shall include the following:

i. The date, place as defined in the permit, and time of sampling or measurements;

ii. The date(s) analyses were performed;

iii. The company or entity that performed the analyses;

iv. The analytical techniques or methods used;

v. The results of such analyses; and

vi. The operating conditions as existing at the time of sampling or measurement.

[SIP Rule 241] [SIP Rule 210 § 305.1(b)]

d. RIGHT OF INSPECTION OF RECORDS:
When the Control Officer has reasonable cause to believe that the Permittee has violated or is in violation of any provision of Rule 100 or any Rule adopted under Rule 100, or any requirement of this permit, the Control Officer may request, in writing, that the Permittee produce all existing books, records, and other documents evidencing tests, inspections, or studies which may reasonably relate to compliance or noncompliance with Rules adopted under Rule 100. No person shall fail nor refuse to produce all existing documents required in such written request by the Control Officer.

[SIP Rule 100 § 106]

16. REPORTING:
NOTE: See Permit Condition 3 in conjunction with reporting requirements.

a. ANNUAL EMISSION INVENTORY REPORT:
Upon request of the Control Officer and as directed by the Control Officer, the Permittee shall complete and shall submit to the Control Officer an annual emissions inventory report. The report is due by April 30 or 90 days after the Control Officer makes the inventory forms available, whichever occurs later. The annual emissions inventory report shall be in the format provided by the Control Officer and shall be submitted through the AQD Online Portal. If IMPACT is not accessible, the Permittee may submit the application through alternative means (such as certified mail, facsimile, email, or hand delivery). The Control Officer may require submittal of supplemental emissions inventory information forms for air contaminants under A.R.S. § 49-476.01 and § 49-480.03.

[SIP Rule 100 § 505]

b. DATA REPORTING:
When requested by the Control Officer, the Permittee shall furnish information to locate and classify air contaminant sources according to type, level, duration, frequency and other characteristics of emissions and such other information as may be necessary. This information shall be sufficient to evaluate the effect on air quality and compliance with the County or SIP Rules. The Permittee may be required to submit annually, or at such intervals specified by the Control Officer, reports detailing any changes in the nature of the source since the previous report and the total annual quantities of materials used or air contaminants emitted.

[SIP Rule 100 § 502]

c. DEVIATION REPORTING:
The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions. Unless specified otherwise elsewhere in these Permit Conditions, an upset for the purposes of this Permit Condition shall be defined as the operation of any process, equipment or air pollution control device outside of either its normal design criteria or operating conditions specified in this Permit and which results in an exceedance of any applicable emission limitation or standard.

i. For emissions in excess of permit requirements, the Permittee shall notify the Control Officer by email, telephone, or facsimile within 24 hours of knowledge of the deviation. A detailed written deviation report shall be submitted within 72 hours of the notification via the AQD Online Portable (IMPACT). If IMPACT is not accessible alternative means of submittal (such as certified mail, facsimile, email, or hand delivery) may be used.

ii. All other deviations that do not result in an exceedance of any applicable emission limitation or standard shall be documented in the same manner, promptly logged in the facility records within two working days and included in the next semiannual monitoring report.

iii. The report and documentation in the log shall contain a description of the probable cause of such deviations and any corrective actions or preventive measures taken. In addition, the Permittee shall report within a reasonable time any long-term corrective actions or preventive actions taken as the result of any deviations from permit requirements if applicable. All instances of deviations from the requirements of this Permit shall be clearly identified in the semiannual monitoring reports.

[SIP Rule 241][Rule 140 § 500]

d. EMERGENCY REPORTING:
The Permittee shall, as soon as possible, telephone the Control Officer giving notice of the emergency and submit notice of the emergency to the Control Officer through the AQD Online Portal within two working days of the time when emission limitations were exceeded due to the emergency. If the AQD Online Portal is not accessible, the Permittee may use alternative means of submittal (such as certified mail, facsimile, email, or hand delivery. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[Rule 130 § 402.4][Locally Enforceable Only]

e. EMISSION STATEMENTS REQUIRED AS STATED IN THE ACT:
Upon request of the Control Officer and as directed by the Control Officer, the Permittee shall provide the Control Officer with an annual emission statement, in such form as the Control Officer prescribes, showing measured actual emissions or estimated actual emissions. At a minimum the emission statement shall contain all information required by the Consolidated Emissions Reporting Rule in 40 CFR Part 51, Subpart A, Appendix A, Table 2A. The statement shall contain emissions for the time period specified by the Control Officer. The statement shall also contain a certification by a responsible official of the company that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement.

[SIP Rule 100 § 503]

f. EXCESS EMISSIONS REPORTING:
(NOTE: This reporting subsection is associated with Permit Condition 10 entitled "Excess Emissions".)

i. The Permittee shall report to the Control Officer any emissions in excess of the limits established either by the County or SIP Rules or these Permit Conditions. The report shall be in two parts as specified below:

1) Notification by email, telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions. This notification shall include all available information listed in Permit Condition 16.f.ii.

2) A detailed written notification of an excess emissions report shall be submitted through the AQD Online Portal within 72 hours of the telephone notification in Permit Condition 16.f.i.1). If the AQD Online Portal is not accessible, the Permittee may use alternative means of submittal (such as certified mail, facsimile, email, or hand delivery).

ii. The excess emissions report shall contain the following information:

1) The identity of each stack or other emission point where the excess emissions occurred.

2) The magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.

3) The time and duration or expected duration of the excess emissions.

4) The identity of the equipment from which the excess emissions emanated.

5) The nature and cause of such emissions.

6) The steps taken if the excess emissions were the result of a malfunction to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction.

7) The steps that were or are being taken to limit the excess emissions.

8) If this Permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

iii. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the Permittee provides the required notification after excess emissions are first detected and includes in the notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification that meets the criteria of this Permit Condition.

[Rule 140 § 500][Locally Enforceable Only]

g. OTHER REPORTING:
The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing this permit, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by this Permit. For information claimed to be confidential, the Permittee shall furnish a copy of such records directly to the Administrator along with a claim of confidentiality pursuant to Permit Condition 5.
[SIP Rule 210 § 302.1(h)(5)]

17. RIGHT TO ENTRY AND INSPECTION OF PREMISES:

a. The Control Officer during reasonable hours, for the purpose of enforcing and administering County or SIP Rules or the Clean Air Act, or any provision of the Arizona Revised Statutes relating to the emission or control prescribed pursuant thereto, may enter every building, premises, or other place, except the interior of structures used as private residences. Every person is guilty of a petty offense under A.R.S. § 49-488 who in any way denies, obstructs or hampers such entrance or inspection that is lawfully authorized by warrant.

b. The Permittee shall allow the Control Officer or his authorized representative, upon presentation of proper credentials and other documents as may be required by law, to:

i. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept pursuant to the conditions of the permit;

ii. Have access to and copy, at reasonable times, any records that are required to be kept pursuant to the conditions of the permit;

iii. Inspect, at reasonable times, any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required pursuant to this permit;

iv. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

v. Record any inspection by use of written, electronic, magnetic, and photographic media.
[SIP Rule 100 § 105][SIP Rule 210 § 305.1(f)]

SPECIFIC CONDITIONS:

18. ALLOWABLE EMISSIONS LIMITATIONS:

a. Emissions from the flare, during its operation, shall comply with each of the following standards:

i. Nitrogen oxides (NO_x) shall not exceed 0.06 pounds per million British thermal units of landfill gas (lbs/MMBtu), measured as NO_2;

ii. Carbon monoxide (CO) shall not exceed 0.15 lbs/MMBtu;

[SIP Rule 210 § 301.4.b]

iii. Non-methane organic compounds (NMOC) shall be reduced through the flare by at least 98% by weight, or shall not exceed 20 ppmvd as hexane at 3% O_2 at the exhaust.

iv. Particulate Matter (PM) shall be reduced by the knockout drums by at least 95% by weight for particulates of 10 microns or above.

[SIP Rule 241] [40 CFR § 62.16714(c)(2)]

b. Opacity Limitations:

i. The Permittee shall not discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20 percent opacity for a period aggregating more than three minutes in any 60-minute period except as provided in Rule 300 §302.
[SIP Rule 300 § 301]

ii. If any non-compliant visible emissions (excluding water vapor) are detected or reported, the Permittee shall determine the cause and/or the source of emissions. The Permittee shall then take immediate corrective action(s) and if necessary, shut down the applicable equipment. If visible emissions (excluding water vapor) exceed the above opacity standards subsequent to implementing corrective action(s), the Permittee shall shut down the applicable equipment and institute repairs or changes necessary to ensure compliance prior to resuming operations.
[SIP Rule 241]

iii. The Permittee shall demonstrate compliance with the opacity requirements via observations of visible emissions conducted in accordance with EPA Reference Method 9 as modified by EPA Reference Method 203B.

[SIP Rule 300 § 501]

iv. The Permittee shall not allow visible fugitive dust emissions to exceed 20% opacity.
[SIP Rule 310 § 301]

v. Dust-generating operations conducted by the Permittee shall not cause or allow visible fugitive dust emissions to exceed 20% opacity or cause, suffer, or allow visible emissions of particulate matter, including fugitive dust, beyond the property line within which the emissions are generated. Visible emissions shall be determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period as determined by using EPA Reference Method 22. The opacity limit shall not apply to emergency maintenance of flood control channels and water retention basins, provided that control measures are implemented or to dust-generating operations conducted within 25 feet of the property line.

[Rule 310 § 303]

vi. Exceedances of the fugitive dust opacity limit that occur due to a wind event shall constitute a violation of the opacity limit. However, it shall be an affirmative defense in an enforcement action if the Permittee demonstrates all conditions of Rule 310 §303.2a.

c. Sulfur Limitations:

i. Only the following fuel types shall be used in the stationary engine:

1) Fuel oil that contains no more than 0.0015% sulfur by weight, alone or in combination with other fuels.

[SIP Rule 324 § 301.1][40 CFR 60.4207(b), 1090.305(b)]

19. OPERATIONAL LIMITATIONS AND STANDARDS:

a. Operational Requirements for the Landfill Gas Collection and Control System:

*NOTE: The landfill is subject to 40 CFR 62 Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014 and 40 CFR 63 Subpart AAAA -- National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills.

i. The Permittee shall install, operate, and maintain a landfill gas collection system that meets the following requirements:

1) Designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment; and

2) Each well shall be installed to collect gas from each area, cell, or group of cells in the landfill no later than 60 days after the date on which the initial solid waste has been in place for a period of:

A) 5 years or more if active; or

B) 2 years or more if closed or at final grade; and

3) Designed to minimize off-site migration of subsurface gas; and

4) The active landfill gas collection system shall collect gas at a sufficient extraction rate. No passive collection system shall be installed to demonstrate compliance with 40 CFR Part 62 Subpart OOO.

[40 CFR §§ 62.16714(e)(2), 62.16716(a), 62.16720(b)]

ii. The Permittee shall operate the collection system with negative pressure at each wellhead except under the following conditions:

1) To avoid a fire or increased well temperature.

2) Use of a geomembrane or synthetic cover. The Permittee shall develop acceptable pressure limits in the design plan.

3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Control Officer and Administrator as specified in §62.16724(d).

[40 CFR § 62.16716(b)]

iii. Each interior wellhead in the collection system shall be operated with a landfill gas temperature less than 62.8°C. The Permittee may establish a higher operating temperature at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. The demonstration shall satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable). Any change shall be approved by the Control Officer.

[40 CFR § 63.1958(c)]

iv. The Permittee shall operate the collection system such that the methane concentration is less than 500 parts per million above the background level at the surface to the landfill. To determine if this level is exceeded, the Permittee shall conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in §62.16720(d). The Permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations.

If an exceedance is discovered at any location during monitoring, then the location of each monitored exceedance must be marked, and the location and concentration recorded. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy

of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance. Any location that initially showed an exceedance but has a methane concentration less than 500 parts-per-million methane above background at the 10-day re-monitoring, must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts-per-million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 10-day or 1-month re-monitoring of the location shows a second exceedance, additional corrective action must be taken, and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location or for any location where monitored methane concentration equals or exceeds 500 parts-per-million above background three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. Any alternative remedy and corresponding timeline for installation may be submitted to the Control Officer and Administrator for approval.

[40 CFR §§ 62.16716(d), 62.16720(c)(4)]

v. If positive pressure exists at a wellhead, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions under Permit Condition 19.a.ii. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of the first measurement of positive pressure, the Permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured.

1) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the Permittee shall also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8°C or the positive pressure measurement.

2) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the Permittee shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as outlined in Permit Condition 20.c.v.

3) Any attempted corrective measure shall not cause exceedances of other operational or performance standards.

[40 CFR §§ 62.16720(a)(3), 63.1958(c)(1)]

vi. If a well exceeds temperature parameters described in Permit Condition19.a.iii, action shall be initiated to correct the exceedance within 5 calendar days.

1) If a landfill gas temperature less than 62.8°C cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius, the Permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8°C was first measured.

2) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the Permittee shall also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8°C or positive pressure.

3) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the Permittee shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as outlined in Permit Condition 20.c.v.

[40 CFR §§ 62.16720(a), 63.1958(c)(1)]

vii. The Permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead in an active collection system.

[40 CFR § 62.16722(a)]

xii. All the collected gas shall be routed to a control system that is complies with either of the following:

1) A control system designed and operated to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen.

2) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed.

The Permittee shall operate the control system at all times when the collected gas is routed to the system. All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of Permit Conditions 19.a.xii.1 or 2. For purposes of this subpart, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of Permit Conditions 19.a.xii.1 or 2. In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating.

[40 CFR §§ 62.16714(c), 62.16716(e), and 62.16716(f)]

xiii. The collection and control system may be capped or removed provided that all the following conditions are met:

3) The landfill shall be a closed landfill as defined in 40 CFR §62.16730. A closure report shall be submitted to the Administrator and Control Officer as provided in 40 CFR §62.16724(f);

4) The collection and control system shall have been in operation a minimum of 15 years; or the Permittee demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow.

5) Following the procedures specified in 40 CFR §62.16718(b), the calculated NMOC gas produced by the landfill shall be less than 34 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

[40 CFR§ 62.16714(f)]

b. Operational Requirements for the Flare:

i. All landfill gas from the gas collection system shall pass through filter/condensate knockout drums that shall have a control efficiency of 95% by weight for particulates of 10 microns or above as certified by the filter manufacturer.

ii. The flare shall be operated at a minimum combustion temperature of 1400°F unless a lower combustion temperature is demonstrated through testing to correlate to a minimum NMOC reduction of 98% by weight or an exhaust concentration of NMOC of less than 20 ppmvd as hexane at 3% O_2.

[SIP Rule 241 § 305]

iii. The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications a temperature monitoring device equipped with a continuous recorder that has a minimum accuracy of +/- 1% of the temperature measured in degrees Celsius or +/- 0.5 degrees Celsius, whichever is greater.

iv. The Permittee shall either install, calibrate, maintain, and operate according to the manufacturer's specifications a gas flow rate measuring device that records flow to the control device at least every 15 minutes or secure the bypass line valve in the closed position with a car-seal or a lock-

and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

[40 CFR § 62.16722(b)]

c. Operational Requirements for Fugitive Dust Sources:

i. Unpaved Access/Haul Roads: Permittee shall not allow visible fugitive dust emissions to exceed 20% opacity and shall comply with one of the following stabilization requirements:

1) Shall not allow silt loading equal to or greater than 0.33 oz/ft^2, or

2) Shall not allow the silt content to exceed 6%.

3) The Permittee shall, as an alternative to meeting the stabilization requirements for an unpaved haul/access road in this Subsections c.i.1 or c.i.2, limit vehicle trips to no more than 20 per day per road and limit vehicle speeds to no more than 15 miles per hour. If complying with this section of this Permit, the Permittee must include, in a Dust Control Plan, the maximum number of vehicle trips on the unpaved haul/access roads each day (including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks) and a description of how vehicle speeds will be restricted to no more than 15 miles per hour.

[SIP Rule 310 § 302][Rule 310 §§ 304.1, 304.2]

ii. Unpaved Parking Lots: The Permittee of any unpaved haul/access road (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall not allow visible fugitive dust emissions to exceed 20% opacity and shall not allow silt loading equal to or greater than 0.33 oz/ft^2. However, if silt loading is equal to or greater than 0.33 oz/ft^2, then the Permittee shall not allow the silt content to exceed 8%.

[SIP Rule 310 § 302.3][Rule 310 § 304.3]

iii. Disturbed Surface Area: The Permittee of any disturbed surface area on which no activity is occurring (including at a work site that is under construction or a work site that is temporarily or permanently inactive) shall meet at least one of the standards described below, as applicable. Should such a disturbed surface area contain more than one type of stabilization characteristic, such as soil, vegetation, or other characteristic, which is visibly distinguishable, then the Permittee shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, in accordance with the appropriate test methods described in Section 501.2(c) of Rule 310 and in Appendix C (Fugitive Dust Test Methods) of MCAQD rules. The Permittee of such disturbed surface area on which no activity is occurring shall be considered in violation of Rule 310 if the area is not maintained in a manner that meets at least one of the standards listed below, as applicable. An area is considered to be a disturbed surface area until the activity that caused the disturbance has been completed and the disturbed surface area meets the standards described in this subsection.

1) Maintain a soil crust;
2) Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;
3) Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;
4) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;
5) Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;
6) Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or
7) Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator.

[SIP Rule 310 § 304.3]

iv. When engaged in a dust-generating operation, the Permittee shall install, maintain, and use control

measures, as applicable, and shall implement control measures before, after, and while conducting dust-generating operations, including during weekends, after work hours, and on holidays. At least one primary control measure and one contingency control measure must be identified in the Dust Control Plan for all dust-generating sources. Control measures are described in Rule 310 §305.

[SIP Rule 310 §§ 304.3, 305, 306] [Rule 310 § 305]

v. The Permittee of a dust-generating operation shall prevent and control trackout, carry-out, spillage, and/or erosion pursuant to Rule 310.

[SIP Rule 310 § 308] [Rule 310 § 306.1]

vii. If water is the chosen control measure in an approved Dust Control Plan, the Permittee shall operate a water application system on-site (e.g., water truck, water hose) while conducting any earthmoving operations on disturbed surface areas 1 acre or larger, unless a soil crust is maintained or the soil is sufficiently damp to prevent loose grains of soil from becoming dislodged.

[SIP Rule 310 § 308.7] [Rule 310 § 307]

viii. Successful completion of a Basic Dust Control Training Class conducted or approved by the Control Officer shall be performed according to the following schedule:

1) If the site has more than one acre of disturbed surface area: at least once every three years for the site superintendent or other designated on-site representative.

2) At least once every three years for water truck and water-pull drivers.

3) Completion of the Comprehensive Dust Control Training Class shall satisfy the requirement of this Condition.

[Rule 310 §309.1]

x. The Permittee shall have on-site at all times during primary dust-generating operations related to the purposes for which the Dust Control permit was obtained at least one Dust Control Coordinator.

4) At least once every three years the Dust Control Coordinator shall successfully complete a Comprehensive Dust Control Training Class conducted by or approved by the Control Officer.

5) All persons having successfully completed training during the 2006 and 2007 calendar years shall be deemed to have satisfied the requirement to successfully complete the Comprehensive Dust Control Training Class in that year if the training was conducted or approved by the Control Officer.

6) The Dust Control Coordinator shall be responsible for managing dust prevention and dust control on the site and shall have full authority to ensure that dust control measures are implemented on-site, including conducting inspections, deployment of dust suppression resources, and modification or shut-down of activities as needed to control dust.

[Rule 310 §§ 309.2, 310]

d. Operational Requirements for the Emergency Engine

i. If the Permittee modifies or reconstructs a stationary compression ignition (CI) internal combustion engine after July 11, 2005, that engine shall comply with all applicable requirements of 40 CFR 60, Subpart IIII.

[40 CFR § 60.4200(a)(3)]

ii. The following engines shall be certified by the manufacturer to meet the specified EPA emission standard and shall comply with all requirements of this permit condition:

Engine description	h.p. rating	Model yr.	Fuel type	No. of units	EPA Emission Stds
Iverco/FPT: Emergency	93	2015	Diesel	1	Tier 3

[40 CFR § 60.4205(b)]

iii. 2007 model year and later engines: Engines shall be certified by the manufacturer to meet the

standards specified in Subsection d.ii of this permit condition.

[40 CFR § 60.4211]

iv. Additional Fuel Limitation:

The Permittee shall only use diesel fuel that has a minimum cetane index of 40 or a maximum aromatic content of 35% by volume.

[40 CFR § 60.4207(b), 1090.305(c)]

v. Additional Opacity Standard:

For 2007 model year and later engines, the Permittee shall not allow exhaust opacity to exceed 15% during the lugging mode. Opacity levels are to be measured and calculated as set forth in 40 CFR part 86, subpart I.

[40 CFR §§ 60.4205, 60.4202, 1039.105, 1039.501(c)]

vi. The Permittee shall operate and maintain each engine according to the manufacturer's written instructions over the entire life of the engine.

[SIP Rule 324 § 302][40 CFR §§ 60.4211(a)(1), 60.4206]

vii. The Permittee shall only change those engine settings that are permitted by the manufacturer.

[40 CFR § 60.4211(a)(2)]

viii. The Permittee shall meet the applicable requirements of 40 CFR 1068, including but not limited to the following:

i. Defeat Device: The Permittee shall not equip any engine with a defeat device.
ii. Tampering: The Permittee shall not remove or render inoperative any device or element of design installed on or in an engine in compliance with the regulations, except as allowed under 40 CFR 1068.101(b)(1).

[40 CFR § 60.4211(a)(3), 1068.101]

ix. The Permittee shall limit the operation of the emergency engine to no more than 100 hours each per calendar year for the purposes of maintenance checks and readiness testing.

[SIP Rule 324 § 104.5][40 CFR § 60.4211(f)(2)]

x. The Permittee shall limit the total hours of operation of the emergency engine to no more than 500 hours each per any 12 consecutive months including the hours listed in Subsection [i] above.

[SIP Rule 241]

xi. The emergency engine shall not be used for peak shaving. The emergency engine shall only be used for the following purposes:

1) For power when normal power service fails from the serving utility or if onsite electrical transmission or onsite power generation equipment fails;

2) Reliability-related activities such as engine readiness, calibration, or maintenance or to prevent the occurrence of an unsafe condition during electrical system maintenance as long as the total number of hours of the operation does not exceed 100 hours per calendar year per engine as evidenced by an installed non- resetting hour meter.

[SIP Rule 324 § 104][40 CFR § 60.4211(f)]

xii. The Permittee shall install and operate a non-resetting totalizing hour meter for each stationary engine. If the non-resetting totalizing hour meter is found to be malfunctioning, the Permittee shall:

1) Record hours of operation daily until the function of the hour meter is restored; and

2) Restore the function of the hour meter within two weeks. If it is not possible to restore the function of the hour meter within two weeks, the Permittee shall notify the Control Officer in writing and provide a schedule for restoration of the function of the hour meter.

[SIP Rule 324 § 306][40 CFR § 60.4209]

e. Facility-Wide Operational Requirements:

i. Odors: The Permittee shall not emit gaseous or odorous air contaminants from equipment, operations or premises under their control in such quantities or concentrations as to cause air pollution.

[Rule 320 § 300]

ii. Material Containment: Materials including, but not limited to, solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizer and manure shall be processed, stored, used and transported in such a manner and by such means that they will not unreasonably evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or equipment shall be mandatory.

[Rule 320 § 302]

iii. Stack Requirements: Where a stack, vent or other outlet is at such a level that air contaminants are discharged to adjoining property, the Control Officer may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet to a degree that will adequately dilute, reduce or eliminate the discharge of air contaminants to adjoining property.

[Rule 320 § 303]

f. Operational Requirements for Solvent Cleaning:

i. The Permittee shall meet the following solvent handling requirements:

1) All cleaning-solvent, including solvent-soaked materials, shall be kept in closed leak-free containers that are opened only when adding or removing materials. Rags used for wipe cleaning shall be stored in closed containers when not in use. Each container shall be clearly labeled with its contents.

[Rule 331 § 301.1][SIP Rule 331 § 301]

2) If a cleaning-solvent escapes from a container:

A) Wipe up or otherwise remove immediately if in accessible areas.

B) For areas where access is not feasible during normal production, remove as soon as reasonably possible.

[Rule 331 § 301]

3) Unless records show that VOC-containing cleaning material was sent offsite for legal disposal, it will be assumed that it evaporated on site.

[Rule 331 § 301]

g. Protection of Stratospheric Ozone:

The Permittee shall properly dispose of all Ozone depleting substances as set forth in 40 CFR Part 82 Subpart F. The Permittee shall not allow the disposal of CFC-containing appliances.

[40 CFR § 82.155]

20. MONITORING AND RECORDKEEPING REQUIREMENTS:

a. Monitoring and Recordkeeping for the Flare:

i. The Permittee shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

1) A temperature monitoring device for the flare equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater.

2) A device that records flow to the flare. The Permittee shall:

A) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the flare at least every 15 minutes; and

B) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed

at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

[40 CFR § 63.1961(b)][SIP Rule 241 § 305]

ii. The Permittee shall monthly calculate the emissions from the flare. The Permittee shall use the emission rates obtained during the most recent performance test for each flare. In lieu of those emission rates, the Permittee may use other emission factors approved by the Control Officer.

[SIP Rule 241§ 305]

iii. Performance test records and data required Permit Condition 22.a shall be kept on site at all times in a consistent and complete manner and be made available without delay to the Control Officer upon request.

[Rule 270 §501]

b. Monitoring and Recordkeeping for Hydrogen Sulfide:

If the Department or the Permittee logs more than three off-site odor complaints pursuant to subsection f of this Permit Condition during any four consecutive weeks, the Permittee shall conduct property line monitoring for H_2S within 48 hours of receiving the third complaint or within 48 hours of being notified of the third complaint by the Department.

The Permittee shall notify the Department, Attn: Emission Testing Supervisor, by telephone or in writing at least 24 hours in advance of conducting the monitoring.

The monitoring shall be performed using a portable hydrogen sulfide gas analyzer approved by the Department with the capability to detect H_2S at concentrations in the parts per billion by volume (ppbv) range. The analyzer shall be calibrated and operated in accordance with the manufacturer's operating instruction book.

Monitoring shall be conducted at a minimum of 12 locations of equal spacing along the property line of the landfill (approximately every ½ mile) and shall be collected from between three and six feet above the ground surface. The monitoring period for each location shall be a period of ten minutes and the period shall begin as soon as possible after the tester arrives at the sampling location.

i. If odors are detectable when the tester arrives at a monitoring location, three readings shall be taken at roughly five-minute intervals.

ii. If no odors are detectable when the tester arrives at a monitoring location, the tester shall not immediately begin taking readings,

1) If odors become noticeable during the 10-minute monitoring period, the tester shall take three readings that are evenly spaced over the remainder of the ten-minute monitoring period.

2) If no odors are detectable during the first nine minutes of the sampling period, then the three required readings shall be taken during the final minute of the monitoring period.

If the property line monitoring shows an average H_2S concentration of 0.03 ppmv or higher at any of the monitoring locations the Permittee shall implement a plan to control the H_2S emissions within seven calendar days. Upon implementation of the odor control plan, the Permittee shall monitor property line concentrations weekly until three weeks of data indicate the H_2S emissions have been controlled to 0.03 ppmv or less. The Permittee shall submit to the Division, Attn: Compliance Department Manager, a report of complaints and of actions taken to implement the odor control plan within 14 calendar days of receiving the complaints.

The Control Officer reserves the right to require additional monitoring or testing for odoriferous compounds that might reasonably be expected to be emitted from the landfill.

[Rule 320 § 304][SIP Rule 241 § 305]

c. Monitoring and Recordkeeping for the Landfill Gas Collection System:

i. After the installation of a collection and control system the Permittee shall calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in 40 CFR §62.16714(f), using the following equation:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC}$$

where,
M_{NMOC} = mass emission rate of NMOC, megagrams per year.
Q_{LFG} = flow rate of landfill gas, cubic meters per minute.
C_{NMOC} = NMOC concentration, parts per million by volume as hexane.

1) The flow rate of landfill gas, QLFG, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 10 of Method 2E of appendix A of 40 CFR part 60.

2) The average NMOC concentration, CNMOC, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25 or Method 25C of appendix A-7 of 40 CFR part 60. The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill Permittee shall divide the NMOC concentration from Method 25 or Method 25 C of appendix A-7 of 40 CFR part 60 by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

3) The Permittee may use another method to determine landfill gas flow and NMOC concentration if the method has been approved by the Administrator and the Control Officer.

A) Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the Permittee shall submit the results according to §62.16724(j)(2).

[40 CFR § 62.16718(b)]

ii. Except as provided in 40 CFR §62.16724(d)(2), the following methods shall be used to determine whether the gas collection system is in compliance with Permit Condition 19.a:

1) For the purposes of calculating the maximum expected gas generation flow rate from the landfill, either equation found in Permit Condition 20.c.ii.a and b shall be used. The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in 40 CFR §62.16718(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

A) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR(e^{-kc} - e^{-kt})$$

where,
Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, year-1
t = age of the landfill at equipment installation plus the time the Permittee intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years
c = time since closure, years (for an active landfill c = 0 and e^{-kc} = 1)

B) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^{n} 2\,k\,L_o M_i \left(e^{-kt_i}\right)$$

where,
Q_M = maximum expected gas generation flow rate, cubic meters per year
k = methane generation rate constant, year-1
L_o = methane generation potential, cubic meters per megagram solid waste

Mi = mass of solid waste in the ith section, megagrams
t_i = age of the ith section, years.

C) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in Permit Conditions 20.c.ii.a and b. If the landfill is still accepting waste, the actual measured flow data shall not equal the maximum expected gas generation rate, so calculations using the equations in Permit Conditions 20.c.ii.a and b or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

2) For the purposes of determining sufficient density of gas collectors for compliance with Permit Condition 19.a.i, the Permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Permit Condition 19.a.i the Permittee shall measure gauge pressure in each gas collection wellhead monthly. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under § 62.16716(b). Any attempted corrective measure must not cause exceedances of other operational or performance standards.

4) The Permittee shall monitor each well monthly for temperature for the purpose of identifying whether excess air infiltration exists.

[40 CFR §§ 63.1960(a) (1), (2), (3) and (4)]

iii. For any root cause analysis for which corrective actions are required in Permit Conditions 19.a.v or 19.a.vi.1, the Permittee shall keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.

[40 CFR §§ 62.16726(e)(3), 63.1983(e)(3)]

iv. For any root cause analysis for which corrective actions are required in Permit Conditions 19.a.v.1 or 19.a.vi.2, the Permittee shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. The Permittee shall also submit the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates as part of the next annual report.

[40 CFR §§62.16724(h)(7), 62.16726(e)(4), 63.1983(e)(4), 63.1981(h)(7)]

v. For any root cause analysis for which corrective actions are required in Permit Conditions 19.a.vi.2 or 19.a.vii.3, the Permittee shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency. The Permittee shall submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius or above. The Administrator must approve the plan for corrective action and the corresponding timeline. Permittee shall also submit the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed

commencement and completion dates as part of the next annual report.
[40 CFR §§62.16724(h)(7) and (k), 62.16726(e)(5), 63.1981(h)(7) and (j), 63.1983(e)(5)]

vi. The Permittee shall, along with installing the sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead required in Permit Condition 19.a.viii:

1) Measure the gauge pressure in the gas collection header on a monthly basis; and

2) Monitor temperature of the landfill gas on a monthly basis as provided in § 62.16720(a)(4). The temperature measuring device must be calibrated annually using the procedure in 40 CFR part 60, appendix A-1, EPA Method 2, section 10.3.

[40 CFR §62.16722(a)]

vii. The Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

[40 CFR § 62.16720(c)(5)]

viii. If monitoring demonstrates that the wellhead operating requirements for temperature, pressure, or surface methane concentration standards are not met, corrective action shall be taken as given in this Permit Condition. If corrective actions are taken as specified, the monitored exceedance is not a violation of the operational requirements of this Permit.

[40 CFR § 62.16716(g)]

ix. The following procedures shall be used for compliance with the surface methane operational standard:

1) After installation and startup of the gas collection system, the Permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in Permit Condition 0.

2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

3) Surface emission monitoring shall be performed in accordance with section 8.3.1 of Method 21 of appendix A-7 of this 40 CFR part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in A) through E) below shall be taken. As long as the specified actions are taken the exceedance is not a violation of the operational requirements of Permit Condition 19.a.v.

A) The location of each monitored exceedance shall be marked and the location and concentration recorded. For location, the latitude and longitude coordinates shall be determined using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

B) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

C) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in E) below shall be taken, and no further monitoring of that location is required until the action specified in E) has been taken.

D) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring required by B) or C) above shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in section C) or section E) of this Permit Condition shall be taken.

E) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator and Control Officer for approval.

5) The Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

6) The Permittee may propose an Unmanned Aerial Vehicle (UAV) monitor as an alternative to using a ground portable monitor. The Permittee shall use EPA Other Test Method 51 - UAS Application of Method 21 for Surface Emission Monitoring of Landfills to ensure compliance with the surface methane operational standards.

7) If a UAV is selected as an alternative to using a ground portable monitor, a detailed proposal outlining the monitoring procedure shall be submitted through the AQD Online Portal. If IMPACT is not accessible, the Permittee may submit the proposal through alternative means (such as certified mail, facsimile, email, or hand delivery).

[40 CFR § 62.16720(c)] [Rule 321 §301] [SIP Rule 241]hThe Permittee shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

8) The portable analyzer shall meet the instrumentation specifications provided in section 6 of Method 21 of Appendix A-7 of 40 CFR part 60, except that "methane" shall replace all references to VOC.

9) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

10) To meet the performance evaluation requirements in section 8.1 of Method 21 of Appendix A-7 40 CFR Part 60, the instrument evaluation procedures of section 8.1 of Method 21 of Appendix A-7 of 40 CFR Part 60 shall be used.

11) The calibration procedures provided in sections 8 and 10 of Method 21 of Appendix A-7 of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey.

[40 CFR § 62.16720(d)]

x. The provisions of Permit Condition 10 apply at all times, except during periods of start-up, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the Permittee shall comply with the work practice specified in §62.16716(e) in lieu of the compliance provisions in §62.16720.

[40 CFR § 62.16720(e)]

xi. The Permittee shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report for which triggered 40 CFR §62.16714(e), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

[40 CFR § 62.16726(a)]

xii. The Permittee shall keep the following up-to-date, readily accessible records:

1) The maximum expected gas generation flow rate for each initial performance test or compliance demonstration calculated pursuant to Permit Condition 20.c.ii. shall be maintained for the life of each control device. Another method may be used to determine the maximum gas generation flow rate if approved by the Control Officer and the Administrator.

2) Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years.

3) Records of the control device vendor specifications shall be maintained until removal. Records of the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR §62.16728(a)(1) shall be maintained for the life of the system.

4) Records of the average combustion temperature of the flare during the performance tests measured least every 15 minutes and averaged over the same time period of the performance test.

5) Records of the percent reduction of NMOC achieved by the control device during each performance test.

[40 CFR §§ 62.16726(b)(1) and (2), 63.1983(b)(2)(i)]

xiii. Permittee shall keep for at least 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR §62.16722 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

[40 CFR § 62.16726(c)]

1) The following constitute exceedances that shall be recorded and reported under Permit Condition 16.f for the flare: all 3-hour periods of operation during which the average combustion temperature was more than 28°C below the average combustion temperature during the most recent performance test at which compliance with the 98% NMOC destruction efficiency was determined.

[40 CFR § 62.16726(c)]

2) The Permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §62.16722.

[40 CFR § 62.16726(c)(2)]

xiv. The Permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. In addition,

1) The Permittee shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors, and

2) The Permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §62.16728(a)(3)(i)as well as any nonproductive areas excluded from collection as provided in §62.16728(a)(3)(ii).

[40 CFR § 62.16726(d)]

xv. Permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in § 62.16716, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

[40 CFR § 62.16726(e)]

d. Monitoring and Recordkeeping for Visible Emissions:

i. The Permittee shall weekly conduct a facility walk-through and observe visible emissions from the following equipment.

- Green waste screening and grinding equipment with engines

- Flare

The Permittee shall log the visual observations, including the date and time when that reading was taken, whether or not visible emissions were present, name of the person who took the reading and any other related information.

[Rules 300, 241 § 305]

ii. If visible emissions are observed from any source capable of emitting any air contaminant, other than uncombined water, to the ambient air, and the facility has not had a compliance status notification or notice of violation of an opacity standard in the 12 months preceding the visual observation, the Permittee shall obtain an opacity reading conducted in accordance with EPA Reference Method 9 by a certified visible emissions (VE) reader. While the emitting equipment is in operation this reading shall be taken within 3 days of the visual observance and taken daily for two weeks during each day of facility operation. A Method 9 reading shall be taken weekly thereafter during each week that the unit is in operation until there are no visible emissions. If no operation occurs in the three days following the visible observation of emissions, then the certified Method 9 reading shall be taken the next day that operation does occur. If the problem is corrected before three days have passed, and no emissions are visible, the Permittee shall not be required to conduct the certified reading. If the Permittee has had a compliance status notification or notice of violation of an opacity standard in the previous 12 calendar months, a Method 9 reading by a certified visible emission reader must be taken within one day of the visual observance and daily until no visible emissions are observed. The Permittee shall log all visual observations including the following:

1) The date and time that a visible observation or Method 9 reading was taken;
2) The name of the person who took the reading;
3) Whether or not visible emissions were present;
4) The opacity of visual emissions determined by a Method 9 reading, if applicable;
5) A description of any corrective actions taken, including date, if applicable; and
6) Any other related information.

[SIP Rule 241 §305]

iii. Opacity shall be determined by observations of visible emissions conducted in accordance with 40 CFR Part 60 Appendix A, Method 9.

[40 CFR 60.11(b)][SIP Rule 300 § 501]

Opacity of visible emissions from intermittent sources as defined by Rule 300 §201 shall be determined by observations conducted in accordance with 40 CFR Part 60 Appendix A, Method 9, except that at least 12 rather than 24 consecutive readings shall be required at 15-second intervals for the averaging time.

[SIP Rule 300 § 501]

e. Monitoring and Recordkeeping for Dust Generating Activities:

i. If dust-generating operations that require a Dust Control Plan are conducted, the Permittee shall keep a written record of self-inspection on each day dust-generating operations are conducted. Self-inspection records shall include daily inspections for crusted or damp soil, trackout conditions and clean-up measures, daily water usage, and dust suppressant application. Such written record shall also include the information listed in Rule 310 §502.1.

ii. When the Permittee conducts dust-generating operations that do not require a Dust Control Plan, the Permittee shall compile and retain records (including records on any street sweeping, water applications, and maintenance of trackout control devices, gravel pads, fences, wind barriers, and tarps) that provide evidence of control measure application, by indicating the type of treatment or control measure, extent of coverage, and date applied. The Permittee shall conduct quarterly silt content and loading tests in accordance with Appendix C Section 2.1.2 (Silt Content Test Method) of the MCAQD rules. If the silt content is below 4% following 3 quarterly tests, the permittee may conduct testing yearly.

iii. Upon verbal or written request by the Control Officer, the log or the records and supporting documentation shall be provided as soon as possible but no later than 48 hours, excluding weekends. If the Control Officer is at the site where requested records are kept, records shall be provided without delay.

[SIP Rule 310 § 502][Rule 310 §§ 502, 503]

iv. Copies of approved Dust Control Plans, control measures implementation records, and all supporting documentation shall be retained at least five years from the date such records are established.

[SIP Rule 310 § 503]

v. Names of employee(s) who successfully completed dust control training class(es) required by Permit Condition 0, date of the class(es) that such employee(s) successfully completed, and name of the agency/representative who conducted such class(es).

[Rule 310 § 502.1(h)]

f. Odor Log:

The Permittee shall maintain a log of complaints of odors detected off-site. The log shall contain a description of the complaint, date and time that the complaint was received, and if given, name and/or phone number of the complainant. The logbook shall describe what actions were performed to investigate the complaint, the results of the investigation, and any corrective actions that were taken.

[SIP Rule 241 § 305]

g. Monitoring and Recordkeeping for Solvent Cleaning:

The Permittee shall comply with the following requirements:

i. Maintain a current list of cleaning solvents; state the VOC content of each in pounds VOC per gallon of material or grams per liter of material.

[Rule 331 § 501.1a][SIP Rule 331 § 501]

ii. The Permittee shall maintain monthly records of the amount of cleaning-solvent used shall be updated by the end of month for the previous month. Show the type and amount of each make-up and all other cleaning-solvent to which Rule 331 is applicable.

[Rule 331 § 501.2a][SIP 331 § 501]

h. Monitoring and Recordkeeping for Emergency Engine

The Permittee shall maintain the following records for a period of at least five years from the date of the records and make them available to the Control Officer upon request:

i. A list of all stationary engines that includes all of the following information for each stationary engine: combustion type (compression-ignition, or lean-burn spark-ignition, or rich-burn spark-ignition); manufacturer; model designation, rated bhp, serial number, and the location of each engine at the facility. If the equipment list associated with the current permit includes all of the required information for each stationary engine, this requirement may be fulfilled by keeping a complete copy of the current permit, including the equipment list, in a readily accessible location at the facility where the engines are located.

[SIP Rule 324 § 502.1]

ii. Monthly rolling 12-month total of hours of operation, including:

1) Monthly and annual hours of operation for commissioning and reliability related activities such as engine readiness, calibration, or maintenance, or to prevent the occurrence of an unsafe condition during electrical system maintenance; and

2) The number of operating hours for emergency use and an explanation for the emergency use.

[SIP Rule 324 § 502.2]

iii. Fuel type and sulfur content of fuel.

[SIP Rule 324 § 502.4]

iv. One of the following documents listing the accurate sulfur content of the fuel based on enforceable

test methods as approved by the Administrator to determine the sulfur content:

1) Fuel receipts
2) Contract specifications
3) Pipeline meter tickets
4) Fuel supplier information
5) Purchase records; or
6) Test results of the fuel for sulfur content.

[SIP Rule 324 § 501.5]

v. Maintenance records of all stationary engines, including:

1) The date when maintenance was performed;
2) The maintenance procedures that were performed and corresponding hours on the hour meter; and
3) One of the following documents, as applicable, which shall be available at all times at the facility where the stationary engine is located:
   A) The manufacturer's written instructions for operation and maintenance;
   B) A written maintenance schedule provided by the manufacturer's authorized service provider.

[SIP Rule 324 §§ 502.3, 502.5]

vi. The Permittee shall comply with all recordkeeping and reporting requirements of Rule 130 (Emergency Provisions) and Rule 140 (Excess Emissions) if the allowable hours of operation are exceeded.

[Rule 130][Rule 140][Locally Enforceable Only]

21. REPORTING REQUIREMENTS (NON-ASBESTOS):

**NOTE: Additional reporting requirements are found in the general conditions of this permit and in Condition 23 for asbestos.*

a. Dust Control Plan:
The Permittee of a dust-generating operation shall submit to the Control Officer a Dust Control Plan with any permit applications that involve dust-generating operations with a disturbed surface area that equals or exceeds 0.10 acre (4,356 square feet) including both of the following situations:

i. When submitting an application for a Dust Control permit involving dust-generating operations that would equal or exceed 0.10 acre (4,356 square feet), and

ii. Before commencing any routine dust-generating operation.

[SIP Rule 310 § 303][Rule 310 § 402.1]

b. Semiannual Monitoring Reports and Compliance Certifications:
The Permittee shall file semiannual monitoring reports and compliance certifications with the Administrator and the Control Officer, Attn: Compliance Manager. Reporting periods shall be in six-month intervals after the end of the initial reporting period. The semiannual monitoring reports and compliance certifications shall be filed within thirty days after the end of the reporting period. Each report and certification shall cover all instances of deviations from these permit conditions during the reporting period, the cause of the deviations if any were present, and any applicable corrective actions taken. The semiannual reports and certifications shall also contain the following information at a minimum:

i. Visible emission observations:

1) Dates on which visible emissions observations were taken;
2) Name of the observer;
3) Whether or not visible emissions were present;
4) The opacity of visual emissions determined by a Method 9 reading, if applicable;

5) A description of any corrective actions taken, including date taken, if applicable; and

6) Any other related information.

[SIP Rule 241 § 305][40 CFR § 63.1980]

ii. The Permittee shall include a copy of the portion of the odor log that covers the applicable 6 month reporting period in each of the semiannual monitoring reports. If no complaints were received during the reporting period, a statement to that effect may be substituted for the copy of the odor log.

[SIP Rule 241 § 305]

iii. For solvent cleaning, including wipe cleaning, Permittee shall include the following;

1) A summary of the listed cleaning solvents currently used at the facility and state the VOC content of each in pound per gallon of material or grams per liter of material;

2) The quantity of each cleaning solvent used during the reporting period;

3) Certify that monthly and annual recordkeeping was performed as directed in the monitoring/recordkeeping requirement above;

4) Any new or updated safety data sheets (SDS) that may have been obtained during the period; and

5) A summary of any testing that was performed during the period.

[SIP Rule 241 § 305]

iv. The Permittee shall also include a copy of the most current hydrogen sulfide monitoring report that specifies:

1) The date the hydrogen sulfide monitoring test was done;

2) Name of the tester;

3) Name of monitoring device;

4) Whether or not hydrogen sulfide emissions were present, and if present state the concentration;

5) A description of any corrective actions taken, including date taken, if applicable; and

6) Any other related information.

7) If no H2S monitoring was conducted during the 6-month reporting period, a statement to that effect may be substituted for the copy of the monitoring report.

[SIP Rule 200 § 309]

v. The Permittee shall include a report containing dates when the maximum potential waste acceptance rate was exceeded and a reason for accepting the additional amount of waste.

[SIP Rule 241 § 305]

vi. Value and length of time for exceedance of applicable parameters monitored under 40 CFR §62.16722(a)(1), (b), (c), (d), and (g). Reportable exceedances are defined under Permit Condition 16.f20.c.xiii.1).

vii. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §62.16722.

viii. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.

ix. All periods when the collection system was not operating..

x. The location of each exceedance of the 500 part per million surface methane concentration as provided in § 62.16716(d), the concentration, and the concentrations recorded at each location for which an exceedance was recorded in the previous month. For location, the Permittee shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates shall be in decimal degrees with at least five decimal places.

xi. The date of installation and the location of each well or collection system expansion added.
[40 CFR § 62.16724(h)]

c. Landfill Gas Collection System Reports:

i. The Permittee shall submit a closure report to the Administrator and Control Officer within 30 days of waste acceptance cessation. The Administrator and Control Officer may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator and Control Officer, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR §60.7(a)(4).
[40 CFR § 62.16724(f)and 40 CFR § 62.16714(e)(1)(ii)(B)]
[Rule 321 § 301]

ii. The Permittee shall submit an equipment removal report to the Administrator and Control Officer 30 days prior to removal or cessation of operation of the control equipment. The equipment removal report shall contain all the following items:

1) A copy of the closure report submitted in accordance with paragraph (f) of 40 CFR §62.16724; and

2) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and

3) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports.

4) The Administrator and Control Officer may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR §§ 62.16714(f) have been met.

[40 CFR § 62.16724(g)]

22. TESTING REQUIREMENTS:

**NOTE: All test protocols, notifications and reports required by this permit condition should be addressed to the attention* of the Compliance Test Supervisor.

a. Testing Requirements for Flare:

i. The Permittee shall perform testing at the flare exhaust every 58 to 62 months following the most recent test (approximately 5 year intervals). Each performance test shall determine compliance with the standards for NMOC, NO_x and CO given in Permit Conditions 18. Test conduct shall conform to the methods specified in this Permit Condition.
[40 CFR § 62.16714(c)(2)] [Rule 270 §401]

ii. Testing shall be performed for the exhaust systems in accordance with the following test methods or other test procedures approved by the Administrator.

1) NO_x and CO Testing: EPA Reference Methods 7E and 10 shall be used respective to determine emissions of NO_x and CO, unless alternative methods are approved.

2) NMOC Testing: For the required emission test, Methods 25, 25C, (Method 25C may be used at the inlet only) of Appendix A-7 of 40 CFR Part 60 shall be used to determine compliance with the 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another

method to demonstrate compliance has been approved by the Administrator and Control Officer as provided by 40 CFR §62.16724(d)(2) . Method 3,3A, or 3C of appendix A-2 of 40 CFR part 60 shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. Method 18 of appendix A-6 of 40 CFR part 60 may be used in conjunction with Method 25A on a limited basis (compound specific, *e.g.*, methane) or Method 3C may be used to determine methane. The methane as carbon shall be subtracted from the Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The Permittee shall divide the NMOC concentration as carbon by 6 to convert from the CNMOC as carbon to CNMOC as hexane. Equation 4 must be used to calculate efficiency:

$$\text{Control Efficiency} = \left\{ \frac{(NMOC_{in} - NMOC_{out})}{NMOC_{in}} \right\}$$

where,
$NMOC_{in}$ = mass of NMOC entering control device
$NMOC_{out}$ = mass of NMOC exiting control device

[40 CFR §62.16714(c)(2)] [SIP Rule 270 §301.1]
[Rules 321 §301]

iii. Performance tests shall be conducted under such conditions as the Control Officer specifies to the owner or operator based on representative performance of the equipment. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made. Upon request, the owner or operator shall make available to the Control Officer such records as may be necessary to demonstrate the performance tests were conducted under representative operating conditions.

[Rule 270 § 301.4]

b. General Testing Requirements:

i. The owner or operator of a permitted source shall provide, or cause to be provided, performance testing locations as follows:

1) Sampling ports per the applicable EPA methods which shall include:

A) An air pollution control system constructed such that volumetric flows and pollutant emission rates can be accurately determined by applicable EPA methods and procedures; and

B) A stack or duct that is free of cyclonic flow as demonstrated by applicable EPA methods and procedures.

2) Safe sampling platform(s)

3) Safe access to sampling platform(s)

4) Utilities for testing and sampling equipment.

[Rule 270 § 301.5]

ii. The Permittee must submit a test protocol for each piece of equipment to be tested, unless otherwise approved by the Control Officer, at least 30 calendar days prior to the desired test date to allow the Control Officer to review and approve the site-specific test plan (in accordance with the quality assurance program) and to have an observer present during the test. The results of the quality assurance program will be considered by the Control Officer when determining the validity of the performance test. A fee for each stack to be tested shall be submitted with the protocol if

required by Rule 280.

1) All proposed changes and/or alternatives to any EPA Method must be included in the test protocol in order to be considered for approval by the Control Officer.

2) If the Permittee intends to demonstrate compliance by using an alternative to any EPA method specified in this rule, the owner or operator is authorized to conduct the performance test using an alternative test method only after the Control Officer approves the use of the alternative method when the Control Officer approves the test protocol.

3) Until authorized to use a change or alternative to an EPA method, the owner or operator of a permitted source remains subject to the requirements of this Permit Condition

[Rule 270 § 403] [Rule 280 § 301.5]

iii. The Permittee shall notify MCAQD in writing at least two weeks prior to the actual date and time of each performance test unless otherwise specified in the applicable standard or permit so MCAQD may have an observer attend. A separate notice of testing is not required if the actual date and time is submitted with the test protocol.

1) In the event the Permittee is unable to conduct the performance test on the date specified in the notification requirement specified in this rule due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Control Officer as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled.

2) This notification of delay in conducting the performance test shall not relieve the Permittee of legal responsibility for compliance with any other applicable provisions of this rule or with any other applicable Federal, State, or local requirement, nor will it prevent the Control Officer from implementing or enforcing this part or taking any other action.

[Rule 270 § 404.2]

iv. The Permittee shall complete and submit test reports for performance tests as follows, unless otherwise approved by the Control Officer or as specified in the permit:

1) Test reports shall be submitted to MCAQD within 45 days after:

A) The last day of testing of a single piece of equipment; or

B) The conclusion of testing multiple pieces of equipment with no more than 14 calendar days between tests.

2) Submit a separate test report for each piece of equipment tested.

3) All test reports shall be submitted in electronic format and shall provide all required information (in accordance with the test protocol review) to determine whether or not the equipment has successfully demonstrated compliance.

[Rule 270 § 405]

v. Testing Requirements for Fugitive Dust:

1) Dust Generating Operations: Opacity observations of a source engaging in dust generating operations shall be conducted in accordance with Appendix C, Section 3 (Visual Determination Of Opacity Of Emissions From Sources For Time-Averaged Regulations) of Rule 310, except opacity observations for intermittent sources shall require 12 rather than 24 consecutive readings at 15-second intervals for the averaging time.

[SIP Rule 310 § 501.1(a), Appendix C Section 3][Rule 310]

2) Unpaved Haul/Access Road: Opacity observations of any unpaved haul/access road (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall be conducted in accordance with Appendix C, Section 2.1 (Test methods for Stabilization-for unpaved Roads and Unpaved Parking Lots of the Rules.

[SIP Rule 310 § 501.1(c), Appendix C Section 2.1][Rule 310]

3) Unpaved Haul/Access Road: Stabilization observations for unpaved haul/access roads (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall be conducted in accordance with Appendix C, Section 2.1 (Test methods for Stabilization-for unpaved Roads and Unpaved Parking Lots of the Rules. When more than 1 test method is permitted for a determination, an exceedance of the limits, established in this rule, determined by any of the applicable test methods constitutes a violation of the Rules.

[SIP Rule 310 § 501.2(b), Appendix C Section 2.1][Rule 310]

23. ASBESTOS EMISSIONS:

a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing material has been deposited, or the requirements of paragraphs b or c of this condition must be met.

[40 CFR § 61.154(a)]

b. At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

i. Be covered with at least 6 inches of compacted nonasbestos-containing material, or

[40 CFR § 61.154(c)(1)]

ii. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Control Officer. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

[40 CFR § 61.154(c)(2)]

c. Use an alternative emissions control method that has received prior written approval by the Control Officer according to the procedures described in 40 CFR §61.149(c)(2).

[40 CFR § 61.154 (d)]

24. ASBESTOS REPORTING AND RECORDKEEPING REQUIREMENTS:

The Glendale Municipal Landfill (GML) shall comply with Title 40 CFR 61 Subpart M, §61.154 for the receipt of Asbestos-Containing Waste Material (ACWM) as defined in §61.141 from sources covered under §61.150. The GML shall maintain operational flexibility to adjust disposal locations of ACWM shipments while maintaining plot plans showing the existing and planned gas collector system components and waste locations as required by this Permit Condition.

a. For all asbestos-containing waste material received, the Permittee of the active waste disposal site shall:

i. Maintain waste shipment records, using a form similar to that shown in 40 CFR §61.154, figure 4, and include the following information:

1) The name, address, and telephone number of the waste generator.

2) The name, address, and telephone number of the transporter(s).

3) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

4) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the Control Officer by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy to the waste shipment record along with the report.

5) The date of the receipt.

[40 CFR § 61.154(e)(1)]

ii. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

[40 CFR § 61.154(e)(2)]

iii. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the Control Officer. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

[40 CFR § 61.154(e)(3)]

iv. Retain a copy of all records and reports required by this paragraph for at least 2 years.

[40 CFR § 61.154(e)(4)]

b. For ACWM deposited within the landfill, the Permittee will maintain records and have accessible for inspection until closure the following documentation on a map or diagram of the disposal area:

i. The location,

ii. The depth and area, and

iii. The quantity in cubic meters (or cubic yards).

[Rule 370 § 301.9][40 CFR § 61.154(f)]

c. The Permittee shall retain for the life of the gas collection system an up-to-date, readily accessible plot plan showing the existing and planned gas collector system that includes the following for asbestos-containing waste that is excluded from gas collection:

1) The nature of the waste,

2) The date of deposition,

3) The amount, and

4) The location.

[40 CFR 63.1983(d)(2)][Rule 370 § 302.73]

d. Requirements upon closure include the following:

i. Cover the ACWM with at least 2 feet of compacted non-asbestos-containing material, and maintain it to prevent exposure of the ACWM.

[40 CFR § 61.151(a)(3)]

ii. Comply with any other applicable provisions of §61.151.

[40 CFR § 61.154(g)]

iii. Submit to the Control Officer, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

[40 CFR §61.154(h)]

e. Furnish upon request, and make available during normal business hours for inspection by the Control Officer, all records required under this section.

[40 CFR § 61.154(i)]

f. The Permittee shall notify the Control Officer in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Control Officer at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

i. Scheduled starting and completion dates.

ii. Reason for disturbing the waste.

iii. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Control Officer may require changes in the emission control procedures to be used.

iv. Location of any temporary storage site and the final disposal site.

[40 CFR § 61.151(d)(1-4)][40 CFR § 61.154(j)(1)]

g. Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

i. The land has been used for the disposal of asbestos-containing waste material;

ii. The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in §61.154(f) have been filed with the Control Officer; and

iii. The site is subject to 40 CFR Part 61, Subpart M.

[40 CFR § 61.151(e)(1-3)]

APPENDIX A: LIST OF EQUIPMENT

Emission Unit ID	Facility Description
FLR001	LFG Flare: Perennial Energy Inc. flare rated 1,500 SCFM and 40 MMBTU/Hr, combustion emissions, flare heat input
FUG002	Unpaved road travel, light duty vehicles at 10 mph
FUG003	Unpaved road travel, heavy duty vehicles at 10 mph
FUG004	Active waste storage pile fugitive dust emissions.
FUG005	Landfill PM10 emissions from aggregate handling of waste as fill material [AP-42 13.2.4 - with moisture content of 12% and avg wind speed of 6.2mph, k=0.35<10microns]
FUG006	Landfill scraper fugitive dust emissions.
FUG013	Uncontrolled (fugitive) landfill gas emissions estimated using 75% collection efficiency.
FUG018	Waste Handling
SVC001	Use of parts cleaner, brake cleaner, battery terminal cleaner, and coil cleaner, mineral spirits, and MAC 4800 brake cleaner

INSIGNIFICANT EQUIPMENT:

	Facility Description
	Leachate Collection System (North Cell only): a system of piping to remove leachate from the landfill mass
	50 hp portable compressor
	Mobile Equipment: diesel-powered generator, liquid pumps, and lights (<50hp)
	Scalehouse emergency generator, 93 hp diesel powered, operates 52 hours per year
	36.3-ton air cooled electric chiller to maintain gas inlet temperature of engines (closed system, no emissions)

Maricopa County Air Quality Department
301 W. Jefferson St., Suite 410, Phoenix, AZ 85003
Phone: 602-506-6010 Fax: 602-372-0587
Email: AQPermits@maricopa.gov
Maricopa.gov/AQ

Technical Support Document (TSD)

City of Glendale – Glendale Municipal Landfill
Facility ID: F000079
Permit # (Renewal): P0011611
Revision Date: xx/xx/xxxx

Maricopa County Air Quality Department
301 W. Jefferson St., Suite 410, Phoenix, AZ 85003
Phone: 602-506-6010 Fax: 602-372-0587
Email: AQPermits@maricopa.gov
Maricopa.gov/AQ

Table of Contents

Technical Support Document (TSD)

1 Introduction

The City of Glendale, in Arizona, owns and operates Glendale Municipal Landfill (GML). Since the GML has a design capacity of greater than 2,500,000 cubic meters and has accepted waste since November 8, 1987, it is subject to the Title V permitting program through 40 CFR Part 62 Subpart OOO and 40 CFR Part 63 Subpart AAAA. The original Title V permit was issued on April 22, 2003 with a previously Non-Title V legacy permit number of V97015. Operations at GML are authorized pursuant to the Maricopa County Air Quality Department (MCAQD)). This TSD serves as a technical basis for the Title V permit and includes an analysis of the application, a description of the relevant authorized equipment at the facility, a description the permit conditions that are included in the Title V permit, and any MCAQD decisions made regarding changes to the Title V permit.

2 Facility Description

GML consists of 320 acres of land designated for the landfill, of which approximately 140 acres are designated for the south cell and 120 acres are designated for the north cell; they are both currently being filled with municipal refuse. There are also 60 acres identified for setbacks, support facilities and easements. GML opened in 1973 and has an estimated 44 years of remaining capacity, with closure projected for the year 2068. No hazardous or radioactive waste is accepted at the landfill. A Title V permit revision dated February 18, 2011, allows for the disposal of asbestos, but GML has chosen to not accept this material. GML is open six days a week and operates 310 days a year. Operational hours are 6:30 a.m. to 5:00 p.m. Monday through Friday and Saturday from 5:30 a.m. to 4:00 p.m. At the time of the last renewal, GML noted that a Type III Change (Master Facility Plan Approval Number 07020900.13) for a vertical expansion and increase in waste volume was approved by the Arizona Department of Environmental Quality in 2016. At this time, GML has not progressed into the approved expanded area.

GML uses an area fill method with operations comprised of waste acceptance, deposition by spreading waste in thin layers sandwiched with soil, compacting this mixture to the smallest practical volume, and covering each day with soil or approved alternate daily cover. Excavated soils are also used for the construction of interior roads, daily cover, intermediate cover, and final cover. The landfill is lined to prevent the waste from contaminating groundwater. The liner in the South Cell consists of compacted low permeability soil. The liner in the North Cell consists of a 60-mile, high-density polyethylene geomembrane over a geosynthetic clay liner. Cover soil or tarps are used to minimize the release of odors and to reduce the chance of any particulates becoming airborne. The landfilled waste material decomposes through organic processes. This decomposition is aerobic until the oxygen is nearly depleted within the waste at which time anaerobic decomposition begins. The landfill gas (LFG) generated in the decomposition process is primarily composed of methane and carbon dioxide. Small amounts of other constituents, which are mostly non-methane organic compounds (NMOCs), are also present in the gas. The gas collection and control system (GCCS) removes the landfill gas under a vacuum from the waste mass and utilizes an enclosed flare to control all the LFG flow[1].

Landfill gas condensate is collected as leachate. The leachate collection system consists of liners, sumps, collection piping, riser piping, and submergible pumps for discharge of leachate collected in the sumps. Leachate may be reclaimed for use on-site or transported offsite. Insignificant gaseous emissions result from leachate collection and management at this facility. GML has the capability and equipment (a grinder and a screener), powered with two diesel engines, to manage vegetation and similar materials considered "green waste." This equipment and these processes have been idle since 2002, but Glendale has expressed

[1] The enclosed flare controls all LFG flow since the Landfill Gas to Energy Facility, the previous primary emission control device, ceased operations.

Technical Support Document (TSD)

interest in retaining the option to operate it if needed. An emergency engine was found during a routine inspection on 10/07/2024. The engine has since been documented and all applicable requirements have been added to this permit renewal.

GML is located within nonattainment areas for PM_{10} and ozone. GML has an approved dust control plan in place which describes various measures to control PM_{10} emissions. Ozone is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight. The primary sources of NO_x at GML are the flare and mobile equipment associated with the green waste operations.

3 Permitting History

Application Received	Permit Issued	Revision Number	Purpose for Application
5/1/2002	4/22/2003	V97015 0.0.0.0	Initial Title V permit
12/23/2008	6/15/2009	1.0.0.0	Permit renewal
12/01/2008	6/16/2009	1.1.0.0	Major modification to install two landfill gas powered generator engines (records indicate this modification was combined with permit renewal)
04/01/2010	2/18/2011	1.1.1.0	Minor modification – installation of a parts cleaning sink and attached solvent tank
12/23/2013	7/17/2014	2.0.0.0	Permit renewal
01/30/2019	8/16/2019	3.0.0.0	Permit renewal and modification to remove the two landfill gas powered generator engines as they are no longer in operation.
4/10/2024	TBD	P0006155	Revised Permit renewal application received. This application superseded a previously submitted permit renew application received on 2/29/2024 (P0011611).

4 Compliance History

The source has received 1 finding of non-compliance with an Opportunity to Correct (OTC) within the last permitting cycle of 5 years.

Enforcement ID	Type	Citation	Discovery	Comments	Status
ENF026487	OTC	Permit Condition 21	12/1/2023	January 22, 2024: Semiannual report from the period of May 1, 2023 through October 31, 2023, was submitted to the MCAQD online portal on December 4, 2023, which was 4 days after the due date.	Resolved

Technical Support Document (TSD)

5 Applicable County Regulations:

Rule 100: General Provisions and Definitions
Rule 110: Violations
Rule 120: Conditional Orders
Rule 130: Emergency Provisions
Rule 140: Excess Emissions
Rule 210: Title V Permit Provisions
Rule 220: Non-Title V Permit Provisions
Rule 270: Performance Tests
Rule 280: Fees
Rule 300: Visible Emissions
Rule 310: Fugitive Dust Generating Operations
Rule 310.01: Fugitive Dust from Non-Traditional Sources
Rule 320: Odors and Gaseous Air Contaminants
Rule 330: Volatile Organic Compounds
Rule 331: Solvent Cleaning
Rule 360: New Source Performance Standards
Rule 370: Federal Hazardous Air Pollutant Program
Rule 400: Procedure Before the Hearing Board

6 Applicable Federal Regulations:

6.1 New Source Performance Standards (NSPS)

Federal NSPS, codified in 40 CFR Part 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. MCAQD Rule 360 incorporates the federal NSPS by reference. NSPS are developed for specific industrial source categories. With some exceptions, the applicability of a particular NSPS to the facility can be readily ascertained based on the industrial source category covered by the NSPS. An evaluation of potentially applicable NSPS indicates that the facility is subject to the federal NSPS program. Applicable NSPS are discussed below. All other NSPS are categorically not applicable to the facility.

40 CFR Part 60 Subpart Cf - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills: Pursuant to the applicability section at §60.31f(a), GML is subject to this regulation as the landfill Memorandum of Agreement (MOA) Delegation of Authority of the Federal Plan is in effect.

40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: Pursuant to the applicability section at §60.4200(a), GML is subject to this regulation as the Iverco/FPT engine is a stationary emergency CI ICE that was modified or reconstructed after 7/11/05.

6.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) For Source Categories

40 CFR Part 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills: Pursuant to the applicability section at §63.1935(a), GML is subject to this regulation as it a MSW landfill that has accepted waste since November 8, 1987.

6.3 Additional Regulations

40 CFR Part 62, Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014: MCAQD has a landfill Memorandum of Agreement (MOA) Delegation of Authority of the Federal Plan for Existing Municipal Solid Waste Landfills between MCAQD and EPA signed by the Maricopa County Board of Supervisors on June 10, 2023, and the EPA on July 5, 2023. The MOA defines policies,

Technical Support Document (TSD)

responsibilities, and procedures pursuant to 40 CFR 62, Subpart OOO, by which the Federal Plan will be administered by MCAQD. The MOA will remain in effect until the EPA publishes an approval of a State Plan (Maricopa County Municipal Solid Waste Landfill Emission Guidelines 111(d) Plan), which was submitted to the EPA on October 17, 2022, or the EPA withdraws delegation of the Federal Plan.

40 CFR Part 61 Subpart M – National Emission Standard for Asbestos: Pursuant to the applicability section of this regulation at §61.140, GML is subject to requirements specified at §§61.150, 61.151, and 61.154.

40 CFR Part 82 Subpart F – Protection of Stratospheric Ozone Recycling and Emissions Reduction: Pursuant to the purpose and scope of this regulation at § 82.150, GML is subject to requirement specified at § 82.155.

7 Non-Applicable Regulations

The standard(s) below have been specifically listed to avoid future confusion. The rationale for determining that these regulations are not applicable is as follows:

40 CFR Part 64 (Compliance Assurance Monitoring): The requirements in 40 CFR Part 64 applies to each pollutant-specific emissions unit at a major source if the unit satisfies all of the following:

(A) The unit is subject to an emission standard for the pollutant other than an exempted emission limit or standard under 40 CFR §64.2(b).

(B) The unit uses a control device to achieve compliance.

(C) The unit has a pre-control potential emission greater than or equal to 100% of the major source threshold.

None of the emissions units at GML meet all of the above criteria.

40 CFR Part 60, Subpart XXX - Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014: This will apply to GML once the planned Type III Change (MFPA 07020900.13) for a vertical expansion and increase in waste volume commences.

Federal Regulation: 40 CFR Part 60 Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills: Subpart WWW is no longer applicable to GML as it has been replaced with the MOA and federal plan.

8 Purpose for Application

GML has submitted a Title V permit renewal application. Some amendments to the current permit have been requested by GML, including:

(A) Update applicable regulation from 40 CFR Part 60, Subpart WWW to 40 CFR Part 60, Subpart OOO.

(B) Addition of alternate operating scenario temperature requirement for the Landfill Gas Collection and Control System under the 40 CFR Part 63, Subpart AAAA requirements.

An amendment to the current permit has been requested by MCAQD, including:

(C) Addition of Emergency Engine – One (1) Iverco/FPT engine; 93 HP each; 60kW; diesel fuel and applicable requirements, as discovered in the 10/07/24 inspection.

Technical Support Document (TSD)

8.1 PSD Review

The facility is not a major source for criteria pollutants under the Prevention of Significant Deterioration (PSD) program. Because there are no physical or operational changes to the emission sources being proposed in this permit application and there are no increases in allowable annual emissions, this renewal is not subject to PSD Review.

8.2 Minor NSR Analysis

MCAQD Rule 241 requires that pollutant increases that exceed prescribed thresholds undergo minor New Source Review. Because there are no physical or operational changes to the emission sources being proposed in this permit application and there are no increases in allowable annual emissions, this renewal is not subject to minor New Source Review.

8.3 Public Participation

The MCAQD will issue a public notice that provides notice of and requests public comment on the draft permit and this technical support document. The public comment period will begin on XX/XX/XXXX. All comments must be received by XX/XX/XXXX. Concurrently to the public comment period, pursuant to Rule 210 the draft permit and TSD will be submitted to the EPA which will have a period of 45 days from the date of submittal to provide comments.

9 Emissions:

Facility-Wide Potential-to-Emit (PTE):

	Emissions [tpy][1] from all sources								
	Total Suspended Particulates (TSP)	PM_{10}	$PM_{2.5}$	NO_x	CO	VOCs	SO_x	NMOCs	HAPs
LFG Flare (primary control device)	3.35	3.35	3.35	4.43	9.26	3.58xE-05	2.02	9.18E-05	0.006
Green Waste Emission Sources[2]	2.09	2.06	0.64	8.74	2.23	0.366	0.23	-	0.005
Landfill Surface Fugitive Emissions Sources[3]	295.11	310.90	815.87	-	4.17	0.21	-	0.55	3.82
Site-Wide Total	300.55	88.22	12.78	12.68	15.66	0.58	2.29	0.55	3.83

[1] A spreadsheet is embedded in the appendix of this document that details the emission calculations. A brief overview of the methodology and emission summary tables are given below.

[2] Green waste mobile emissions sources include the Trommel Screen, Horizontal Feed Grinder, Trommel Screen Engine, Feed Grinder Engine, and Parts/Brake Cleaner. PTE is based on 800 hours per year operation.

Technical Support Document (TSD)

[3] Landfill surface fugitive emissions sources include Unpaved Roadway Emissions, Landfill Gas Fugitive Emissions, Waste Handling Operations, and Soil Cover Activities. PTE is based on estimated vehicle types, days of operation, and unpaved road distance of 2.2 miles and 12-hour operations, 312 days per year, and on vehicle numbers from 2023.

9.1 Landfill Gas Enclosed Flare

GML includes a LFG collection system to remove the landfill gas under a vacuum from the waste mass. The site combustion equipment includes the operation of a Perennial Energy Inc. LFG flare with the following specifications:

- Rating of 1,500 standard cubic feet per minute (scfm) and 40 million British thermal units per hours (MMBtu/hr)
- A minimum allowable operating temperature of 1400℉
- A maximum allowable inlet LFG stream of 1,500 scfm
- A stack height of 32 feet 8 inches
- A exterior stack diameter of 114 inches

The enclosed flare is used to control all LFG flow.

The following chart summarizes the potential emission calculations and emission factor references for the Landfill Gas Enclosed Flare:

Pollutant(s)	Emissions Calculation Sources	Emissions Factor Sources
NO_x, CO	• Source Test Data • CH_4 combusted in flare per minute	• Flare Source Test conducted 12/04/2019 • 50% CH_4 in LFG
PM, PM_{10}, $PM_{2.5}$	• Emission factors • Annual Methane combusted in flare in scf/yr	• AP42, Chapter 2, Nov. 1998, Table 2.4-5
SO_2	• Source test value of total reduced sulfur compounds concentration • Assumption of 100% conversion of sulfur to SO_2	• Flare Source Test conducted 12/04/2019
NMOCs, VOCs	• Site-Specific value for NMOCs (as hexane • Flare source test destruction efficiency of 99.94% • Emission factors	• Flare Source Test conducted 12/04/2019 • AP-42, Chapter 2, Nov. 1998, Table 2.4-2, footnote "c"
HAPs	• Emission Factor • Source Test Data • Flare source test destruction efficiency of 99.94%	• Flare Source Test conducted 12/04/2019 • LandGEM output for calendar year 2023
Methane	• CH_4 combusted in flare per minute • Flare source test destruction efficiency of 99.94%	• 50% CH_4 in LFG • Flare Source Test conducted 12/04/2019
N_2O	• Emission factor	• 40 CFR Part 98 Table C-2
GHG (as CO_2e, excluding CO_2)	• PTE of Methane and N_2O • Global Warming Potential (GWP) of Methane and N_2O[1]	-

[1] GWP is used to convert PTE of Methane and N_2O to total PTE of GHG as CO_2e.

Technical Support Document (TSD)

The following table summarizes emissions for the regulated pollutants emitted from the Landfill Gas Enclosed Flare:

Pollutant	Emission Factor	Emission Factor Unit	Hourly Emissions [lb/hr]	Annual Emissions [tpy]
NO_x	0.040	lbs/MMBtu Heat Input	0.900	3.942
CO	0.094	lbs/MMBtu Heat Input	2.114	9.259
PM = PM_{10} = $PM_{2.5}$	17 lb/10^6	cf CH_4	0.765	3.351
SO_2	31	ppmv	0.471	2.061
NMOCs	1.71	ppmv	0.000	9.18E-05
VOCs	39%	of NMOCs ppmv	0.000	3.58E-05
HAPs	39	ppmv	0.001	0.006
Methane	98.39%	% control	30.812	135
N_2O	0.00139	lb/MMBtu	0.063	0.274
GHG (as CO_2e)	Methane GWP, 21 N_2O GWP, 310	kg CO_2e	666	2,919

9.2 Green Waste Operations (Not Currently Active)

The green waste operations consists of the following emissions units.

- Trommel Screen
- Horizontal Feed Grinder
- Trommel Screen Engine
- Feed Grinder Engine
- Parts/Brake Cleaner

GML has the capability and equipment (consisting of a grinder and a screener powered with two diesel engines) to manage vegetation and similar materials considered "green waste." This equipment and these processes have been idle since 2002, but GML has expressed its interest in retaining the option to operate it if needed. Operation of this equipment results in PM potential emissions, and the associated engines result in potential emissions including criteria air pollutants (NO_x, SO_x, PM, VOCs, CO) and insignificant quantities

of HAPs. Both engines powering these units may be classified as "non-road" engines because they are transportable (on wheels) and are therefore not subject to the federal RICE regulations. However, both engines become "stationary" engines if in the same location for 12 or more consecutive months in accordance with the applicability sections of these rules which cover "stationary" engines. (see 40 CFR §§ 89.2 and 1068.30).

GML has proposed a limit of 800 operating hours per year for the operation of the Green Waste Equipment. The Trommel Screen and Horizontal Feed Grinder have a manufacturer rating of 6 tons per hour for the maximum hourly throughput.

The following table summarize emissions for the regulated pollutants emitted from the Trommel Screen and Horizontal Feed Grinder. Emission factors are sourced from AP42, Chapter 13, Section 13.2.4 and Appendix B.1, Section 9.9.1 for the Trommel Screen and Horizontal Feed Grinder respectively. The maximum hourly throughput for the horizontal feed grinder and trommel screen is from the manufacturer equipment bulletin submitted on January 28th, 2002.

Emission Unit Description	Emission Factor [lbs/ton]		Hourly Emissions [lb/hr]		Annual Emissions [tpy]	
	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Trommel Screen	0.06	0.01	0.366	0.055	0.146	0.022
Horizontal Feed Grinder	0.69	0.16	4.14	0.96	1.7	0.4

9.3 Landfill Surface Fugitive Emissions Sources

The landfill surface fugitive emissions consist of the following emissions units.

- Unpaved Roadway Emissions
- Waste Handling Operations
- Soil Cover Activities
- Landfill Gas Fugitive Emissions

A 7,000-gallon Caterpillar 730 water tanker is presently used as the primary dust control equipment, as required by the current Earthmoving Permit and approved Dust Control Plan. A 2,500-gallon truck is used as backup in the event the primary 7,000-gallon truck is down for maintenance.

The following tables summarize emissions for the regulated pollutants emitted from the Unpaved Roadway Fugitive Emissions. The emission factors are sourced from AP42, Table 13.2.2-2, and the PTE equation is sourced from AP42, Equation (1a), page 13.2.2-4.

Emission Unit Description	Emission Factors [lb/VMT]			Annual Emissions [tpy]		
	TSP	PM_{10}	$PM_{2.5}$	TSP	PM_{10}	$PM_{2.5}$
Controlled Emissions – Heavy Duty Vehicles	10.08	2.85	0.28	522.80	198.47	19.85
Controlled Emissions – Light Duty Vehicles	5.04	1.42	0.14	586.14	222.52	22.25
Controlled Emissions – Unpaved Roadway Total	-	-	-	815.87	309.73	30.97

Technical Support Document (TSD)

The following table summarizes emissions for the regulated pollutants emitted from the Waste Handling Operations Fugitive Emissions. The emission factors are sourced from AP42, Section 13.2.4.3 and Table 13.2.4-1, and Equation (1), page 13.2.4-2. PTE is calculated assuming 381,448 tons of waste material is moved per year and control efficiency of 70% through application of water truck for dust suppression. Control efficiency is estimated based on the dust control measures outlined in the Dust Control Plan and guidelines from other state air quality agencies[2].

Emission Unit Description	Emission Factors [lbs/Ton of Waste Handled]			Annual Emissions [tpy]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Controlled Emissions – Waste Handling Fugitive Emissions	2.55E-04	1.21E-04	1.83E-05	0.014586	0.006899	0.001045

The following table summarizes emissions for the regulated pollutants emitted from the Soil Cover Activities Fugitive Emissions. The emission factors are sourced from AP42, Tables 13.2.4-1 and 11.9-1.

Emission Unit Description	Hourly Emissions [lbs/hr]			Annual Emissions [tpy]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Soil Cover Activities Fugitive Emissions	3.148	0.625	0.331	5.893	1.169	5.893

Approximately 75% of NMOCs, VOCs, HAPs, and CO generated by the Landfill Gas Fugitive Emissions are captured by the collection system and sent to the control devices. It should be noted that although 75% capture efficiency is used to calculate emissions for this facility, the Greenhouse Gas Reporting Program data on GML shows a capture efficiency range of 69-75%.

In addition to landfill activity fugitive emissions, GML emits fugitive landfill gases, i.e. those not captured by the GCCS. These emissions contain NMOCs, VOCs, and HAPs, generated by the microbial degradation of buried refuse.

The following table summarizes emissions for the regulated pollutants emitted from the Landfill Gas Fugitive Emissions. The emissions are calculated through LandGEM landfill gas emissions model.

Emission Unit Description	Annual Emissions [tpy]			
	NMOCs	VOCs[1]	HAPs	CO
LandGEM 2053 LFG Emission Calculation	2.20	0.858	15.3	16.7
LFG Fugitive Emissions assuming 75% collection efficiency	0.55	0.214	3.822	4.169

[1] VOCs are 39% of NMOCs.

[2] https://documents.deq.utah.gov/air-quality/permitting/operating-permits/DAQ-2015-020242.pdf & https://www.sdapcd.org/content/dam/sdapcd/documents/permits/emissions-calculation/haul-road-emissions/APCD-Haul-Road-Emissions.pdf.

Technical Support Document (TSD)

10 Insignificant and Trivial Activities

No changes have been made to the list of trivial and insignificant activities in the renewal or significant modification. The following is a list of the insignificant activities and equipment at GML facility:

- Leachate Collection System (North Cell only): a system of piping to remove leachate from the landfill mass
- 50 hp portable compressor
- Mobile Equipment: diesel-powered generator, liquid pumps, and lights (<50hp)
- Scalehouse emergency generator, 93 hp diesel-powered, operates 52 hours per year
- 36.3-ton air cooled electric chiller to maintain gas inlet temperature of engines (closed system, no emissions

11 Monitoring Recordkeeping and Reporting (MRR)

GML must follow the recordkeeping requirements outlined in the following rules:

- Rule 100 §106: Right of Inspection of Records
- Rule 100 §504: Retention of Records
- Rule 140 §500: Excess Emissions Monitoring and Records
- Rule 210 § 302.1(c)(1): Permit Contents
- Rule 300: Visible Emissions
- Rule 310 §§502, 503: Fugitive Dust from Dust-Generating Operations Recordkeeping and Retention
- Rule 320 §304: Limitation – Hydrogen Sulfide
- Rule 331 §§ 501: Solvent Cleaning Recordkeeping and Reporting
- Rule 370 §§ 301,302: Emission Standards for Federally Listed Hazardous Air Pollutants

GML must follow the reporting requirements outlined in the following rules:

- Rule 100§§501,502,505: Reporting Requirements, Data Reporting, and Annual Emissions Inventory Report
- Rule 210 §§302.1(e),302.1(h)(5): Permit Contents
- Rule 370 §301,302: Emission Standards for Federally Listed Hazardous Air Pollutants
- SIP Rule 30

Quarterly surface methane monitoring is conducted following the procedures in Permit Condition 20.c.iii. However, some sources are conducting unmanned aerial system (UAS)-based monitoring that results in less risk and better monitoring data. The current surface monitoring being conducted by an operator involves potential injury, lost time, and increased costs caused by the safety and health concerns. Utilizing a UAS would eliminate this risk as well as the high degree of variability in the current method from human error such as imprecise walking paths. EPA has published a letter of approval[3] for this new test method that includes supporting data comparing the two methods. GML may use either the current surface methane monitoring method outlined in Permit Condition 20.c.iii or the UAS method outlined in Permit Condition 20.c.iii.6.

12 Control Equipment

The following control equipment is permitted for GML:

[3] https://www.epa.gov/system/files/documents/2022-12/Barron%20Sniffer%20Alt%20with%20OTM%2051%20attached_signed.pdf

Technical Support Document (TSD)

AQD ID	Company Control Equipment Description	Control Equipment Type	Associated AQD Emissions Unit IDs	O&M/QAQC Plan Required?
FLA001	LFG Flare: Perennial Energy Inc. flare rated 1,500 SCFM and 40 MMBTU/Hr	Flare	FLR001	Y
FDS001	Water Pull	Fugitive Dust Suppression	FUG002, FUG003	Y
GCCS001	Landfill gas collection and control system	Collection System	FUG013	N

13 Performance and Quality Assurance Testing

LFG Flare – Initial and subsequent performance testing shall be performed as required by Permit Condition 23(a).

The following chart includes the open performance test schedule with next due dates within the next permitting cycle:

Schedule ID	Status	Description	Frequency	Completed Date	Next Due Date
PTSCH000287	Open	LFG Flare Testing Parameters: NO_x, CO, NMOCs, VOCs destruction efficiency, opacity	58 to 62 Months	12/04/2019	12/04/2024

14 Recommendation and Conclusion

MCAQD has concluded that the requested Permit Renewal is consistent with Federal, State, and County regulations and rules and will not cause or contribute to a violation of any federal ambient air quality standard, will not cause any Arizona Ambient Air Quality Guidelines to be exceeded, and will not cause additional adverse air quality impacts. Based on the information supplied by GML, and on the analyses conducted by MCAQD, MCAQD will renew the permit as it satisfies the requirements of the Maricopa County Air Quality Rules and Regulations and the Federal PSD program.

15 Revisions to Existing Permit/Change Log

Permit Condition	Description of Changes
Cover Page	Updated 40 CFR 60 Subpart WWW §60.752(b) reference to 40 CFR 60 Subpart OOO §62.16711(e).
General Conditions	Updated conditions and citations to reflect the most recent General Conditions template from this renewal.
Specific Conditions	Added most recent approved SIP citations.
18.a	Updated rule citations and text to reflect 40 CFR 60 Subpart OOO requirements.
18.b	Added (ii) and (iii) regarding opacity limitations.

Technical Support Document (TSD)

Permit Condition	Description of Changes
18.c	Updated language and citation for stationary engine fuel type requirements.
19	Removed 40 CFR 60 Subpart WWW language and citations and updated to 40 CFR 60 Subpart OOO and 40 CFR 63 Subpart AAAA.
19.d	Added operational requirements condition for emergency engine found on inspection dated 10/07/2024.
20	Removed 40 CFR 60 Subpart WWW language and citations and updated to 40 CFR 60 Subpart OOO and 40 CFR 63 Subpart AAAA.
20.c.ix	Added optional UAV monitoring language for the Landfill Gas Collection System.
20.h	Added monitoring and recordkeeping condition for emergency engine found on inspection dated 10/07/2024.
21	Removed 40 CFR 60 Subpart WWW language and citations and updated to 40 CFR 60 Subpart OOO and 40 CFR 63 Subpart AAAA.
22	Removed 40 CFR 60 Subpart WWW language and citations and updated to 40 CFR 60 Subpart OOO and 40 CFR 63 Subpart AAAA. Updated Rule 270 Testing Requirements citations and language to most recent rule revision.
24	Removed 40 CFR 60 Subpart WWW citations and updated to 40 CFR 63 Subpart AAAA.

Note regarding rule citation change from 210 to 241 or 240: Citations referencing Rule 210 were updated to either SIP Rule 240 or SIP Rule 241 depending on applicability. The EPA has requested that MCAQD cite NSR rules (241/240) instead of Rule 210 for operating limits, monitoring, and recordkeeping requirements that do not originate from a federal or county rule.

Note regarding Rule Citations: "SIP" (State Implementation Plan) has been added to citations when the rule requirement is part of an EPA approved SIP rule. These conditions are Federally enforceable. "Rule" refers to the most current version of an MCAQD rule. These requirements are locally enforceable.

Appendix C. Compliance Training Resources

Health and Safety Training Resources. Several types of training organizations could provide training to Division staff on health and safety topics. These include state organizations, community colleges, and commercial training vendors. In general, organizations that provide 40-hour, 24-hour, and/or 8-hour refresher HAZWOPER training could likely present a modified curriculum to suit the Division's needs. The Division may be able to work with its existing state contacts that provide mine safety training to supplement the training curriculum. The following are some other examples of training options:

- The Safety Consultation and Training Section (SCATS) of the state of Nevada provides a variety of health and safety classes: https://www.4safenv.state.nv.us/training/class-descriptions/
- Truckee Meadows Community College's Safety Center offers public safety courses and customized training: https://www.tmcc.edu/educational-programs-inspiring-community/safety-center
- EPA uses the FedTalent learning management system to deliver online health and safety training to its own inspectors. The Division could discuss with its EPA Region 9 liaisons whether Division staff could be enrolled in FedTalent.
- Regarding the topics to include in the health and safety training curriculum, ERG's own CAA inspectors follow EPA's Order 1440.2 and Safety, Health, and Environmental Management (SHEM) Guideline 51 requirements. The initial training topics include:
    - Basic Toxicology
    - Confined Space/Permit-Required Confined Space Awareness
    - Chemical Hazards and Reactions
    - Decontamination Awareness
    - Driver Safety
    - Hazard Communication (29 CFR 1910.1200)
    - Hazardous Energy Sources and Mechanical Hazards Awareness
    - Hazardous Materials Transportation Awareness
    - Heat and Cold Stress Awareness
    - Ladders
    - Medical Emergencies in Field Activities Awareness
    - Medical Surveillance Awareness
    - Natural Hazards Awareness
    - Occupational Noise Exposure
    - Personal Protective Equipment (29 CFR 1910.132, 29 CFR 1926 Subpart E)
    - Planning and Preparation for Field Activities
    - Portable Fire Extinguishers
    - Respiratory Protection Awareness