

Battle of the STINK

Additional handling of organics and other odorous wastes
can make meeting regulatory requirements more challenging.

BY PAT SULLIVAN

IT IS A GIVEN THAT SOLID WASTE

management facilities can emit odorous substances. Organics, sulfur-containing materials and other substances in the waste stream are what typically drive odors at landfills, composting operations and related facilities. Odor impacts to neighboring properties and, in some cases, impacts to whole neighborhoods and larger regional areas are possible for any type of solid waste facility.

Diversion and management of organics can lead to additional odor issues because this generally requires additional handling and processing of highly putrescible waste, which has a higher potential to create odors.

Odor issues at solid waste facilities have led to lawsuits, regulatory actions, permitting difficulties and early facility closures, making proper management a critical issue for landfills and other facilities.

Part 1 of this assessment of odor management covers regulatory requirements and real-world examples of facilities battling odor issues.

REGULATORY REQUIREMENTS

All state solid waste agencies have general odor/nuisance requirements in their regulations. Every air jurisdiction also has similar odor/nuisance prohibitions in its rules. These requirements generally are nonnumeric and subjective and tend to be driven by odor complaints by citizens and/or agency inspections.

Enforcement action is highly variable and is most frequently driven by agency policy (and sometimes political pressures), not by regulation. There is no agreed approach for testing, monitoring, modeling and assessing odors, and there are no standard threshold limits for compliance. It is critical for facilities to understand how the solid waste and air agencies in their jurisdictions regulate odors.

EXAMPLES

As an example of the vague and generic nature of typical regulatory requirements, state solid waste regulations in California, as administered by the California Department of Resources Recycling and Recovery (CalRecycle), contain odor/nuisance requirements within the California Code of Regulations (CCR) Title 27, Section 20760, such

as California Integrated Waste Management Board (CIWMB) – Nuisance Control: “Nuisance’ for Cal-Recycle-promulgated sections includes anything which is injurious to human health or is indecent or offensive to the senses, interferes with the comfortable enjoyment of life or property and affects at the same time an entire community, neighborhood, household or any considerable number of persons, although the extent of annoyance or damage inflicted upon an individual may be unequal, and which occurs as a result of the storage, removal, transport, processing or disposal of solid waste.”

Essentially, each disposal site shall be operated and maintained so as not to create a public nuisance. This is usually accomplished through the incorporation of an odor management plan into the facility operating record. Compliance is achieved through the lack of citizen complaints and agency inspections, based on the policy and procedures of the specific agency. Because of the vague definition of “nuisance,” agencies use a wide variety of interpretations to decide when odors from a particular facility rise to the level of a nuisance.

Odor requirements contained within air regulations are similarly vague. For example, Rule 402 from the Sacramento Metropolitan Air Quality Management District (SMAQMD) contains the following language: “Purpose: To protect the public’s health and welfare from the emission of air contaminants which constitute a nuisance. Standards-Nuisance: A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have natural tendency to cause injury or damage to business or property.”

ENFORCEMENT

Regulatory agencies conduct inspections to follow up on citizen complaints and include a wide variety of criteria to determine whether the alleged odor constitutes a violation and which facility is responsible for the odor. Examples of how some agencies assess responsibility for odors and decide on enforcement include:

- the number of complaints over time;

PART ONE

PART II OF THE ODOR MANAGEMENT SERIES, which will appear in the November/December issue of *Waste Today*, will cover odor assessment, monitoring and mitigation strategies.

- verification of alleged odors by an inspector with a qualitative nuisance determination at the discretion of the inspector;
- verification using a rating system for the magnitude and offensiveness of odor; and
- correlation of odor back to a specific facility, with or without inspection of that facility.

Regulatory action is the most common enforcement mechanism. Areas of concern or notices to comply (i.e., fix-it ticket) can occur with the initial detection of odor problems. Continued odor events can result in notices of violation (NOVs), with possible subsequent fines, enforcement orders or, in extreme cases, facility closure. Politics also can play a role in

enforcement, with actions demanded by politicians for facilities causing numerous citizen complaints. Odor issues at landfills have even become campaign issues in some communities.

Lawsuits are more prevalent as a method of enforcement, with various plaintiff law firms targeting solid waste facilities with a large number of complaints and/or NOVs. It is interesting to note that most defendant landfills/facilities that were subjects of lawsuits were “in compliance” (i.e., not under regulatory enforcement) at the time of lawsuit. Lawsuits can involve past odor issues even if the facility has resolved the problem.

WORKING WITH REGULATORS

It is critical for facilities to have a positive working relationship with their regulatory

agencies. This is especially important with odor because odor enforcement is generally at the discretion of the agency. First, facility owners and operators need to understand how their specific agencies regulate odor. This includes the regulations and guidance the agency uses, when an odor becomes a nuisance, under what conditions enforcement action would be taken, how odor is quantified and how the agency traces odors in the community back to a facility.

Second, facilities must develop and implement odor management and complaint response plans and document conformance with these plans, which can be shown to agency inspectors as evidence of a comprehensive odor program. Having organized and detailed records can be very helpful in demonstrating to agency



Impact Crusher

for Processing
of Substrates
for Biogas Plants



Interested in shredding waste into fuel?

Looking for a solution for alternative fuel from waste?
Talk to us, the shredding experts. Every year, LINDNER
shredders process over 25 million tons of waste.



www.l-rf.us

Call us or email: (919)783-7719, info@l-rf.us

personnel that the facility is doing everything it can to manage odors.

Third, if the facility has odor issues, taking immediate action to remedy the odor and keeping the agency informed of the progress is a good approach. In some cases, it may be useful to involve agency experts in the development and implementation of odor control measures so they are supportive of the approach.

Finally, when odor problems involve citizen complaints, working positively with the agency to address citizen concerns can be well-received by the agency because it has a responsibility to the community involved.

Despite best efforts, facilities can find themselves averse to the agency because of an odor enforcement case. In these cases, the facility has the right to

defend itself and make sure the agency is following its own rules and guidance during enforcement.

Even though the situation is typically adversarial, ultimately the facility will need to negotiate a final settlement of the enforcement action, so having a positive working relationship will pay dividends during negotiations.

CASE STUDIES

Defending a facility against regulatory action and/or lawsuit can be expensive, even if the facility prevails. Recovery of legal or consulting fees is unusual. A general strategy for solid waste facilities to defend themselves against regulatory or legal action includes some or all of the following elements:

- confirm impact is from the facility;

- determine which facility sources are causing the odor;
- assess the magnitude of the odor released;
- evaluate off-site migration of odorous substances;
- determine the level of impact at receptor locations; and
- investigate and select remedial measures for controlling odor.

Facility No. 1 is an active solid waste facility with an on-site landfill, composting operation and material recovery facility (MRF). Cases similar to this one also have been filed in California, Oklahoma, Pennsylvania and Massachusetts. In this case, a plaintiff attorney used publicly available records to identify facilities with odor complaints/NOVs.



DISCOVER GK'S
WTE SOLUTIONS

RUGGED DURABILITY

The Waste-To-Energy Solutions You've Been Looking For.

USA | GERMANY | UNITED KINGDOM | CHINA | INDIA | THAILAND

FOLLOW US ON



5050 RICKERT ROAD • CRYSTAL LAKE, IL 60014
800.338.2240 • WWW.GENERALKINEMATICS.COM

INFO@GENERALKINEMATICS.COM

Once identified, fliers were sent to neighborhoods surrounding the facility seeking participation in lawsuit; these fliers were provocative and made claims that citizens could gain significant monetary awards.

Litigation was brought against the facility owner for odor/nuisance impacts on nearby properties; the litigants sought status to bring the case as a class action lawsuit.

Ultimately, the defendant was able to demonstrate that the methodology used by the plaintiff to document odor impacts had serious flaws. Through on-site flux testing, the defendant was able to refute the findings of the plaintiff and demonstrate much lower odor emissions and impacts. The defendant's analyses also identified other potential sources of odor and nuisance ignored by the plaintiff.

The legal ruling in the case was in favor of the defendant, resulting in the proposed class not being certified for the class action lawsuit. As a note, not all similar cases have ended with a positive result for the defendant.

Despite this success, the facility owner has borne significant costs for the litigation defense in excess of \$750,000. The litigation also has had a detrimental effect on a proposed expansion of the facility, and community opposition to the facility has been greater since the litigation. The citizens are now more organized, and odor complaints have increased fivefold. Recently, the facility owner lost a waste hauling contract in the city where the facility is located and where most of the complaining citizens reside.

Facility No. 2 is an active solid waste facility with a landfill, composting operation and MRF with a history of odor complaints that have increased as new residential developments encroached on the facility. The facility owner was concerned about an escalation of the problem, so it performed an odor assessment and implemented an expanded odor management program, including:

- emissions estimation and air dispersion modeling;
- sampling and analysis of ambient air;
- interviewing residents who had previously complained;
- reviewing facility operations and updating facility odor management plans;
- installing an on-site weather station to get real-time wind speed/direction data;
- curtailing certain operations during worst-case wind conditions;
- correlating odor complaints, wind conditions and on-site operations;
- improving the on-site landfill gas (LFG) system, implementation of composting best management practices (BMPs) and improved handling of odorous waste and sludge loads;
- expanding the odor complaint response program; and
- presenting final study reports in public meetings as well as continued engagement with the public.

The final outcome of Facility No. 2's enhanced odor management and mitigation program included:

- a reduced number of complaints;


- better response to complaints;
- clearer understanding of the sources of odor and how to best control those sources;
- understanding of the linkage between odor impacts and wind/meteorological conditions;
- engagement of operations personnel in the odor management process, resulting in a better understanding of how specific site activities affect odors;
- impetus for facility infrastructure and operational improvement; and
- improved relationship with the public and the regulatory agencies.

As a result of its efforts, Facility No. 2 has seen no litigation or enforcement action related to odors, despite very close neighboring residences. Odor complaints have been reduced by more than 50 percent and, when complaints do occur, they come directly to the facility rather than through regulatory agencies.

CONCLUSION

These two case studies provide examples of two different approaches to odor management. One was very reactive, which led to a lawsuit, regulatory enforcement and other consequences. Despite success in the class-action lawsuit, the facility has faced ongoing problems from odors.

The other approach was proactive, resulting in a much more positive outcome. Although the odor issues never go away completely, the second facility has avoided lawsuits and regulatory enforcement and continues to have a positive working relationship with the community. **wt**

 Odor issues at solid waste facilities have led to lawsuits, regulatory actions, permitting difficulties and early facility closures, making proper management a critical issue for landfills and other facilities.”

Patrick Sullivan is a senior vice president and managing director for Long Beach, California-based SCS Engineers' consulting and engineering operations in the southwestern U.S. He is the principal-in-charge for air quality, greenhouse gas and renewable energy projects for solid waste facilities. Sullivan has degree from Harvard University and more than 25 years' experience in solid waste consulting.