

Develop an Air-Tight Defense

Chemical processors face significant challenges in controlling fugitive emissions. The emissions escape from valves, compressors, pumps, piping components, etc. It is a difficult task, but necessary to avoid penalties and other liability.

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By Lynn Bergeson, regulatory editor

Plants are challenged now more than ever to control fugitive emissions. The emissions escape from valves, compressors, pumps, piping components, etc. Controlling them is often not easy, but failure to do so can lead to penalties and other liability. This column focuses on the challenges chemical processors face, but in many respects the pressure to control fugitive emissions are just as acute in other manufacturing sectors.

Federal/state regulation

Chemical plants are subject to fugitive emissions regulation under New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards. States also may impose more-stringent regulations in addition to the federal Clean Air Act. The federal regulations require Leak Detection and Repair (LDAR) programs that don't impose numeric limits, but rather are work practice standards. Chemical facilities are included on the New Source Review (NSR) list of 28 named source categories that must include fugitive emissions when calculating net emissions increases of new or modified sources for NSR analyses. They also must determine potential fugitive volatile organic compound (VOC) emissions when assessing emissions consequences of new construction or process modifications.

Generally, LDAR programs consist of program component identification, routine monitoring, leak repair, and reporting. Each component raises its own challenges. Implementing and sustaining a viable LDAR program isn't easy. Federal and state regulators believe that LDAR programs are critical to the success of the air program because failure to identify and fix leaking equipment can lead to release of VOC fugitive emissions and other chemicals. VOCs contribute to ground level ozone, which in turn contributes to smog linked to adverse human health effects.

Other federal requirements are relevant to fugitive emissions. For example, the Emergency Planning and Community Right-to-Know Act Toxic Reporting Inventory (TRI) requires fugitive emissions to be reported accurately. LDAR programs ensure that TRI reporting fairly tracks actual fugitive emissions. Similarly, such programs are crucial for accurate reporting of chemical-specific emissions releases on toxic chemical release inventory reporting Form Rs.

Failure to comply with these air regulations could expose a facility to enforcement action. The federal government, a state air agency, or a citizen using the citizen suit enforcement provisions of the Clean Air Act are all potential sources of such action.

Tort liability

Fugitive dust emissions pose issues beyond regulatory compliance. They could lead to liability based on nuisance and/or trespass claims by neighbors. For chemical facilities, loading and unloading operations [to put most relevant one first], vehicle traffic, paved or

unpaved roads, sweeping, or wind erosion can be sources of dust. These emissions can be every bit as important as fugitive emissions from process sources, but are often overlooked. To address these emissions, facilities should have a best management plan (BMP) that includes: identification of fugitive dust emissions sources; assessment of the relative size/composition of dust particles (which impacts the distance they can travel); evaluation of control options for each type of dust particle; a plan that includes who should and how to implement measures; an inspection and maintenance program and necessary procedures; and adequate monitoring and recordkeeping to assess compliance.

Under common law nuisance and/or other tort theories, including trespass, people downwind of dust particles could claim adverse health effects or nuisance from exposure to the dust. While it may be somewhat difficult to prove, depending upon the dust particles, size, composition, and other variables, it is not a stretch to envision plaintiffs prevailing if they exhibit adverse health effects such as asthma, emphysema, or other respiratory conditions.

Chemical processors must control fugitive process emissions and fugitive dust emissions. The consequences of failing to do so are not pretty. Fines and penalties could be forthcoming from state or federal regulators. Civil liability based on tort claims are not uncommon. The tools are available to control emissions and some common sense BMPs would go a long way to diminish potential third party claims arising from dust emissions.

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