



**BNA, INC.**

# TOXICS LAW REPORTER



Reproduced with permission from Toxics Law Reporter, 26 TXLR 140, 02/03/2011. Copyright © 2011 by The Bureau of National Affairs, Inc. (800-372-1033) <http://www.bna.com>

## VAPOR INTRUSION

### TOXIC TORTS

An analysis of recent federal district court decisions on whether vapor intrusion may present an “imminent and substantial endangerment” under RCRA finds no hard and fast legal rules, say attorneys Douglas A. Henderson and Jeffrey J. Hayward in this BNA Insight. After evaluating the cases, and the courts’ treatment of expert testimony, the authors warn that the lack of clearly defined vapor intrusion liability rules, combined with inadequate federal and state standards for ambient indoor air quality, could transform vapor intrusion litigation to a toxic tort “pot of gold where, by raising a threat of exposure, the mere allegation creates the injury.”

With murky liability rules, vapor intrusion claims could derail many of the brownfields success stories from the last decade, jeopardize LEED certification, create disclosure obligations and liabilities, and prompt re-openers for hundreds of “no further action” sites, the authors contend.

## Vapor Intrusion Litigation Under RCRA: Where Environmental Law Meets Toxic Torts

BY DOUGLAS A. HENDERSON  
AND JEFFREY J. HAYWARD

**W**hile applied to a wide range of environmental conditions, from common trash to coal ash, RCRA’s recent application to “vapor intrusion” may signal even wider applicability for its citizen suit

provision. Within the past year, at least seven six federal district courts have considered whether vapor intrusion may present an “imminent and substantial endangerment” under RCRA.

In this article, we analyze those decisions, considering whether the existence of soil and groundwater contamination constitutes vapor intrusion “endanger-

ment,” or, rather, whether a completed exposure pathway is necessary before the risk of vapor intrusion can equate to an “imminent and substantial endangerment.”

Based on these recent cases, we find no hard and fast legal rules, and conclude the answer requires, like most legal issues, a fact-by-fact determination on whether the existence of—and also the *risk* of—vapor intrusion violates RCRA.

## Rapidly Changing Regulatory Landscape

In 2002, EPA ramped up concerns over vapor intrusion when it released its draft guidance for evaluating the risk of vapor intrusion.<sup>1</sup> In that guidance, EPA acknowledged vapor intrusion, or the subsurface migration of volatile chemicals into indoor air spaces, could constitute a possible mechanism for human exposure at environmentally challenged sites.<sup>2</sup> To evaluate this issue, EPA’s approach focused on the calculation of “vapor intrusion risk,” a formal estimate of the risk (or hazard quotient, depending on the substance) that vapor intrusion would cause cancer in individuals working or living in structures above impacted soil and groundwater. Now eight years later, EPA’s guidance still has not been finalized, although EPA recently suggested its vapor intrusion framework would be finalized by the end of 2012.<sup>3</sup> Ironically, while EPA has not adopted a final vapor intrusion standard, other agencies, such as the U.S. Postal Service, have adopted a vapor intrusion standard.<sup>4</sup>

Shortly before and several years after EPA’s guidance was released in 2002, numerous states developed their own vapor intrusion regulations and guidelines for the assessment of vapor intrusion at impacted sites.<sup>5</sup> As of early 2011, approximately 30 states have some form of vapor intrusion regulation or guidance.<sup>6</sup> While some states promulgated actual regulations, most states is-

sued informal and formal guidance documents to address the vapor intrusion issue. A few states distinguish vapor intrusion from underground storage tanks and vapor intrusion from non-petroleum hazardous substances,<sup>7</sup> others distinguish between residential and commercial vapor intrusion,<sup>8</sup> and at least one requires the disclosure of vapor intrusion potential conditions to tenants.<sup>9</sup> Virtually all of the regulatory approaches, state and federal, possess two common features: (1) the recognition that vapor intrusion should be considered in evaluating the risks presented by soil and groundwater contamination, and (2) the implementation of a “risk based” approach, as opposed to set numeric standards, to evaluate the significance of the vapor intrusion condition.

Against the rapidly changing regulatory landscape, in 2008 the American Society for Testing and Materials (“ASTM”) issued its *Standard Practice for the Assessment of Vapor Intrusion into Structures Involved in Real Property Transactions*,<sup>10</sup> which, while not a standard aimed at satisfying any specific legal requirement, announced a new, highly-technical, multi-“tiered” standard to evaluate the risk of vapor intrusion in certain commercial real estate transactions. Following calls for a more straightforward, easier-to-apply approach, in June 2010, ASTM published a replacement vapor intrusion “guide.”<sup>11</sup> Unlike the 2008 vapor intrusion standard, which focused on “intrusion” into structures and the estimation of risk and hazard quotients, the 2010 ASTM standard focuses on vapor “encroachment,” the question of whether vapors could enter properties, and the revised ASTM standard presented a more general “screening” approach.<sup>12</sup>

<sup>7</sup> The State of Colorado, for example, provides separate guidance for petroleum vapor risk assessments and for assessment of TCE risks. For petroleum, see State of Colorado, Department of Labor and Employment, Division of Oil and Public Safety, Petroleum Hydrocarbon Vapor Intrusion Guidance Document (available at <http://oil.cdle.state.co.us/OIL/Technical/Guidance%20Documents/Colo%20VI%20Doc%2012-11-07.pdf>). For non-petroleum substances, see Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, Policy on Interim Risk Evaluation and Management Approach for PCE, August 17, 2006 (available at <http://www.cdphe.state.co.us/hm/pcepolicy.pdf>).

<sup>8</sup> See State of North Carolina. (available at <http://portal.ncdenr.org/web/wm/sf/ihs/ihsguide>). See generally EnviroGroup Ltd. for a comprehensive table of state vapor intrusion efforts. (available at <http://www.envirogroup.com/links.php#TOPIC3>).

<sup>9</sup> See State of New York. N.Y. Evtl. Conserv. Law § 27-2405, which requires a landlord to disclose certain indoor air “test results” if they exceed certain OSHA or state standards.

<sup>10</sup> ASTM E-2600 Standard. For a detailed evaluation of the ASTM E2600-08 standard, see Edward L. Strohbehm, Jr., *ASTM Vapor Intrusion Assessment Standard: Inappropriate Presumptions*, 40 *BNA Environmental Reporter* 1330 (June 4, 2009); see also Rebecca L. Almon, Luke J. Esch, and Lukas B. Staks, The “Rise” of Vapor Intrusion: Benefits and Risks of the 2008 ASTM Standards, 37 *The Colorado Lawyer* 93 (July 2008).

<sup>11</sup> E 2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions (<http://www.astm.org/Standards/E2600.htm>).

<sup>12</sup> For insightful analysis of the new standard, see Anthony Buonicore’s blog, Tony’s Vapor Intrusion Blog, at <http://commonground.edrnet.com/resources/a4e932c5a4/summary>.

<sup>1</sup> OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). 76 Fed. Reg. 230 (Nov. 29, 2002) (available at <http://www.epa.gov/osw/hazard/correctiveaction/eis/vapor.htm>).

<sup>2</sup> Still earlier, EPA had considered vapor intrusion in other technical guidance documents. EPA 1992, *Assessing Potential Indoor Air Impacts for Superfund Sites*, EPA-451/R92-002; EPA, 1993, *Options for Developing and Evaluating Mitigation Strategies for Indoor Air Impacts at CERCLA Sites*, EPA -451/R-93-012. See generally Laurence S. Kirsh and Carrie F. Jenks, *Regulating Vapor Intrusion: What Standards Apply?* *BNA Occupational Safety & Health* (Mar. 3, 2007).

<sup>3</sup> EPA OSWER, *Review of the Draft 2002 Subsurface Vapor Intrusion Guidance*, 2010. ([http://www.epa.gov/oswer/vaporintrusion/documents/review\\_of\\_2002\\_draft\\_vi\\_guidance\\_final.pdf](http://www.epa.gov/oswer/vaporintrusion/documents/review_of_2002_draft_vi_guidance_final.pdf))

<sup>4</sup> United States Postal Service; United States Postal Service (USPS) *Vapor Intrusion Guidance*, September 2009, Version 1.0 (2009) (adopting the ASTM E2006-08 vapor intrusion standard)

<sup>5</sup> A recent report prepared for the Massachusetts Department of Environmental Protection surveys the various state approaches to vapor intrusion. Parsons, FINAL: *Vapor Intrusion/Indoor Air Guidance Survey*, July 2010 (available at <http://indoorairproject.files.wordpress.com/2010/07/final-massdep-vi-report-072710.pdf>) (“Parsons Report”); for detail on one state, see Matthew Valentine, *Regulating Soil Vapor Intrusion in New York State*, 16 *Alb. L. J. Sci. & Tech.* 457 (2006).

<sup>6</sup> See Parsons Report, Table 2 and Appendix A.

But even with all of these developments, the asbestos-like nightmare of vapor intrusion litigation which many thought certain to occur has never really surfaced. That may have changed, however, judging by recent reported decisions over the past year alone. Several recent cases address whether vapor intrusion constitutes an “imminent and substantial endangerment” under RCRA. Some courts focus on whether soil and groundwater conditions exceed state and federal standards creating the potential for vapor intrusion, and others address whether an actual exposure pathway is a precondition to endangerment. So while no bright-line rule emerges from the case law to date, it is clear that vapor intrusion is not just another passing toxic tort fad, but an issue with likely long-term litigation future.

### RCRA Citizen Suit Provision for Imminent and Substantial Endangerment

To date, the majority of vapor intrusion cases have been filed under the citizen suit provision of the Resource Conservation and Recovery Act (“RCRA”), a comprehensive statute governing the treatment, storage and disposal of solid and hazardous waste.<sup>13</sup> Under its “citizen suit” provisions, RCRA permits private citizens to enforce its provisions in some circumstances, such as where a responsible party is violating RCRA’s regulatory or statutory requirements or has created conditions that “may present an imminent and substantial endangerment to health or the environment.”<sup>14</sup> Under RCRA, successful private party plaintiffs may obtain an injunction directing the responsible party to address the RCRA violations, and, depending on the facts involved, may recover their attorneys’ fees.

RCRA “imminent and substantial endangerment” claims frequently involve allegations of soil and groundwater contamination.<sup>15</sup> In a typical RCRA case—if such a thing exists—a plaintiff alleges that the owner of a nearby business released industrial solvents onto the ground, leading to groundwater contamination, which has either created human health or environmental concerns, or led to a devaluation of the plaintiff’s property.<sup>16</sup> Reflecting the wide range of facts involved, the outcomes likewise range across the board.

In the vapor intrusion context, the key legal question is whether demonstrated vapor intrusion—or the risk of vapor intrusion—constitutes an “imminent and substantial endangerment.” Recent cases, involving underground storage tank releases and spills of petroleum and industrial and dry-cleaning solvents, confirm that—under certain facts—vapor intrusion may serve as a valid basis for a RCRA endangerment claim. But even with the expansive RCRA language that permits a party

relief where it can show conditions which *may* present an imminent and substantial danger to health, reviewing courts seem inclined to require plaintiffs show, at a minimum, evidence of a completed exposure pathway for human exposure.

### One Extreme: Human Exposure Not in Doubt

For some courts, the question of whether vapor intrusion constitutes an “imminent and substantial endangerment” is a straightforward exercise in legal analysis, in some instances made easy by egregious facts. In *U.S. v. Apex Oil Co.*, the U.S. District Court for the Southern District of Illinois found that extensive petroleum contamination of the soil and groundwater arising from a refinery operation in Hartford, Illinois created an imminent and substantial endangerment to health and the environment under RCRA. In *Apex Oil*, the U.S. Government brought an enforcement action pursuant to 42 U.S.C. § 6973 seeking injunctive relief that would require Apex Oil to address contamination at the Hartford Site and in surrounding areas.

In a lengthy opinion, Judge Herndon described the extent of the contamination at the Hartford Site and in surrounding residential areas. Among other things, the court cited groundwater readings for benzene and other hazardous substances that were in the thousands of parts per million – several orders of magnitude above “pertinent regulatory thresholds such as the Maximum Contaminant Levels (“MCLs”).”<sup>17</sup> The court described conditions at residences arising from the migration of vapor-phase hydrocarbons into indoor air spaces, including numerous complaints of petroleum odors, the confirmed movement of concentrated hydrocarbon vapors through cracks in basement walls and floors, indoor air readings of petroleum vapors approaching explosive limits, and a history of residential fires caused by the buildup of petroleum vapors. The court also cited findings from governmental agencies including the Agency for Toxic Substances and Disease Registry (“ATSDR”) determining that conditions posed a public health hazard.

In evaluating whether the government met its burden for relief, the court emphasized that “the government’s burden of proving endangerment is low – certainty and exactitude are not required.”<sup>18</sup> Working from this standard, the court found an endangerment to health and the environment arising from the contamination of groundwater and the potential for migration to the nearby Mississippi River. But the court also found an imminent and substantial endangerment to health arising from vapors originating from contaminated soils that may put exposed residents at risk of adverse health effects and fires or explosions.<sup>19</sup> The court cited measured indoor air levels of several petroleum compounds, including benzene, at levels far exceeding the ATSDR’s inhalation “Minimal Risk Levels” (“MRLs”)—“the value[s] for human exposure that [are] believed not to result in a harmful effect on a person,” and that had been used by the federal and state agencies at Harford for “assessing potential health risks posed by

<sup>13</sup> 42 U.S.C. § 6901 *et seq.*

<sup>14</sup> See e.g., *Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Foundation*, 81 F. Supp. 2d 359 (D. R. I. 2000); (soil and groundwater exceedance of applicable standard); *PMC Inc. v. Sherwin-Williams Co.*, 151 F.3d 610 (7th Cir. 1998) (impacts of buried waste on groundwater)

<sup>15</sup> *Id.* at \*41-\*42.

<sup>16</sup> Other cases address certain peripheral issues under RCRA. See *Stoll v. Kraft Foods Global Inc.*, 2010 U.S. Dist. LEXIS 92926 (S.D. Ind., Sept. 6, 2010) (premature to consider whether vapor intrusion constitutes endangerment if final remedy not selected).

<sup>17</sup> *Id.* at \*171.

<sup>18</sup> *Id.* at \*203-\*204.

<sup>19</sup> *Id.* at \*204.

vapor intrusion.”<sup>20</sup> For this court, the conclusion that vapor intrusion constituted an “imminent and substantial endangerment” was a legal no-brainer under RCRA.

Even where the exposure pathway is not as clear, other courts still find, as a matter of law, that the risk of vapor intrusion constitutes a violation of RCRA. For example, *Voggenthaler v. Maryland Square LLC*<sup>21</sup> involved a RCRA citizen suit brought by plaintiff residential homeowners against a nearby shopping center allegedly causing perchloroethylene (“PCE”) contamination of soil and groundwater on their properties. A previous environmental investigation confirmed groundwater impact and soil gas levels giving rise to a “potential for vapor intrusion into the homes in the area.”<sup>22</sup> Risk assessments indicated “no immediate health threat to residents,” but the potential existed for “indoor air concentrations of PCE in some of the homes [that] could be above EPA’s health-protective levels for long-term exposure (30 years or more).”<sup>23</sup> The State of Nevada notified residents of the long-term health effects of PCE exposure, ordering exhaust fans for some of the homes “to address the immediate problem.”<sup>24</sup>

The homeowners moved for summary judgment seeking injunctive relief to require the defendants to “take such action as may be necessary to address and abate the contamination at the site.”<sup>25</sup> The homeowners offered an expert affidavit describing a groundwater plume of PCE containing levels above federal MCLs extending into residential neighborhoods. Plaintiffs’ expert testified that “the PCE in soil gas is present at levels that pose a threat to human health [and] has and continues to migrate into indoor air of residents located above the groundwater plume.”<sup>26</sup> Defendants countered with expert testimony that PCE levels were low, and any impacted groundwater was not potable and was “vertically isolated” from any drinking water source, which precluded potential human exposure.<sup>27</sup>

Hearing the evidence, the court engaged in a systematic evaluation of the plaintiffs’ RCRA endangerment claims, finding each of the elements satisfied. As to the endangerment element, the court found plaintiffs established the existence of an imminent and substantial risk of harm to the environment *and* human health. Regarding the former, the court cited groundwater PCE concentrations above maximum contaminant levels set by the U.S. EPA, and the confirmed migration of the groundwater plume into residential areas.<sup>28</sup> Regarding endangerment to human health, the court utilized an “expansive” reading of RCRA’s mandate to eliminate “any risk posed by toxic wastes,” and determined (without additional analysis) that the PCE contamination “poses, or may pose, an imminent and substantial endangerment to health.”<sup>29</sup> After granting the plain-

tiffs’ motion for summary judgment, the court ordered a subsequent hearing to discuss the precise terms of injunctive relief.

## A More Nuanced View: The Importance of Expert Testimony

For other courts, the mere possibility of vapor intrusion is not enough to establish a violation of RCRA, even though the risk of soil vapors on a contaminated property may constitute evidence of an endangerment claim. In *The Newark Group v. Dopaco Inc.* (“*Newark I*”),<sup>30</sup> a property owner, The Newark Group, brought a RCRA endangerment claim against a former commercial tenant on the property, Dopaco Inc., for the alleged contamination of the soil and groundwater with toluene and methyl isobutyl ketone (MIBK). Dopaco had allegedly released waste inks containing toluene and MIBK into the soil through surface spills and releases from leaking underground storage tanks.

Newark filed a motion for summary judgment on its RCRA endangerment claim, citing risks to human health from contamination of potential sources of municipal or domestic water supplies at levels far above state and federal cleanup standards and risks to the environment from contamination “in excess of levels toxic to fish and invertebrates, and to microorganisms that might otherwise break down the contamination, causing it to attenuate over time.”<sup>31</sup> Newark cited toluene levels “thousands of times higher than actions standards” established by state and federal regulators, the adverse effects of toluene on human health, and the status of the regional groundwater as a “potential source . . . of municipal or domestic water supply.”<sup>32</sup> Newark contended contamination of the soil and groundwater “in excess of the standards set by the government regulatory agencies,” alone by itself, was enough to show imminent and substantial endangerment to health or the environment under RCRA.<sup>33</sup>

Dopaco countered with expert testimony from an environmental engineer that Newark’s claims were deficient because they failed to “evaluate . . . whether there is a population at risk [or] potential exposure pathways.”<sup>34</sup> Dopaco contended that Newark failed to identify water supply wells, buildings, surface water bodies or other receptors which could be impacted by the identified contamination.<sup>35</sup> Dopaco also noted the contamination remained confined to a single portion of the property despite identifiable groundwater migration.

After considering the evidence, the court found that Newark failed to meet its burden on summary judgment, finding, “Newark was required to show more than just that toluene contamination exists on the Property.”<sup>36</sup> RCRA’s imminence requirement necessitated that Newark show the affected water was used for drinking or was “drawn from the site by individuals unrelated to this litigation.”<sup>37</sup> In short, Newark “fail[ed] to appreciate ‘that there is a limit to how far the word *may*

<sup>20</sup> *Id.* at \*82-83. The acute inhalation exposure MRL for benzene is 9 ppb; for intermediate inhalation exposure, 6 ppb; and for chronic inhalation exposure, 3 ppb. *Id.* As the court noted, MRLs only evaluate non-cancer risk endpoints. Measured indoor air benzene levels were as high as 330 ppb. *Id.* at \*138.

<sup>21</sup> 2010 U.S. Dist. LEXIS 74217 (D. Nev. July 22, 2010).

<sup>22</sup> *Id.* at \*18.

<sup>23</sup> *Id.* at \*13.

<sup>24</sup> *Id.* at \*18.

<sup>25</sup> *Id.* at \*20.

<sup>26</sup> *Id.* at \*39.

<sup>27</sup> *Id.* at \*39-\*40.

<sup>28</sup> *Id.* at \*42.

<sup>29</sup> *Id.* at \*42-\*44.

<sup>30</sup> 2010 U.S. Dist. LEXIS 40150 (E.D. Cal. Apr. 1, 2010).

<sup>31</sup> *Id.* at \*16.

<sup>32</sup> *Id.* at \*15-16.

<sup>33</sup> *Id.* at \*12-13.

<sup>34</sup> *Id.* at \*16-\*17.

<sup>35</sup> *Id.* at \*17.

<sup>36</sup> *Id.* at \*19.

<sup>37</sup> *Id.*

can carry a plaintiff.’”<sup>38</sup> Mere recitation of groundwater contamination at levels above government standards was not enough to establish vapor intrusion as an “imminent and substantial endangerment.”<sup>39</sup>

Soon after the court released its opinion in *Newark I*, defendant Dopaco filed its own motion for summary judgment on Newark’s RCRA endangerment claim.<sup>40</sup> This time, however, Newark presented a new theory of endangerment. Soon after its motion for summary judgment was denied, Newark received an order from the City of Stockton directing it to submit a plan for demolition of a structure on the property. Testing of the soil beneath and surrounding the structure showed vapors of toluene and methane, a byproduct of toluene degradation. Newark’s expert testified that the toluene and methane vapor levels were so high that they would “create an exceedingly dangerous explosive condition” and an asphyxiation risk for workers during the building demolition.<sup>41</sup>

At this juncture, the court found that Newark’s evidence of potential vapor exposure created a genuine issue of material fact as to whether the toluene contamination on the property may present an imminent and substantial endangerment to health or the environment. The court rejected Dopaco’s contention that Newark’s evidence failed to identify an exposure pathway, citing the testimony regarding potential worker exposure and the City’s order that the building be demolished within 22 months. The court stopped short, however, of deeming Newark’s evidence sufficient to support its own motion for partial summary judgment.

*Newark II* is not the only recent RCRA endangerment case to address the vapor intrusion risk in the context of agency-required remediation. In *Sullins v. ExxonMobil Corp.*,<sup>42</sup> the owners of a former gasoline service station site sued the former owner, ExxonMobil Corporation, to compel remediation of the property. Numerous petroleum substances had been documented in the soil and groundwater at levels above governmental standards. The plaintiffs’ consultant, in a human health risk assessment submitted to local regulators, identified inhalation of vapors from soil or groundwater, ingestion of groundwater and dermal contact with groundwater as the relevant exposure pathways.<sup>43</sup> For the consultant, if the property was developed for commercial or residential, the baseline risks for indoor air inhalation and groundwater contamination would “exceed acceptable limits” unless certain groundwater contaminants were reduced. On the other hand, the consultant concluded, absent commercial or residential development, institutional controls such as deed restrictions would be sufficient to account for any potential health hazard from future development.<sup>44</sup> A second consultant hired by the plaintiffs to oversee a corrective action plan for the site noted that groundwater contaminants exceeded standards set by the San Francisco Bay Regional Water Quality Control Board, but downplayed the risks to hu-

man health as “negligible” due to the absence of wells within the boundaries of the contaminant plume.<sup>45</sup>

In *Sullins*, plaintiffs sued ExxonMobil under RCRA after county government officials rejected the plaintiffs’ proposal for monitoring the site and ordered groundwater remediation. ExxonMobil moved for summary judgment, asserting plaintiffs essentially conceded the absence of an imminent and substantial endangerment in their own consultants’ reports. The court acknowledged the consultants’ conclusions that “the contamination on the property does not constitute a present harm,” including an absence of harm from soil vapor if the property was left undeveloped.<sup>46</sup> But the court emphasized the property was located within the City of Livermore’s redevelopment zone and local government officials wanted the option to use the groundwater on the property.<sup>47</sup> In the court’s view, this fulfilled the requirement of “necessity for the action taken; if the contamination on the property is not remediated and the property is redeveloped, the contamination will cause harm to health and the environment.”<sup>48</sup> Like the court in *Newark II*, the *Sullins* court seemed to emphasize the certainty of future exposures given a government edict regarding development of the impacted property.<sup>49</sup> For this court, the prospect of future exposure was sufficient to deny ExxonMobil’s motion for summary judgment, leaving the actual determination of the vapor intrusion issue to another day.

### The Toxicological View: ‘Completed’ Exposure Pathways Necessary

For still other courts, the legal issue in determining whether vapor intrusion violates RCRA centers on determining whether a completed exposure pathway exists to an extent the vapors could in fact cause an “imminent and substantial endangerment.” In *Grace Christian Fellowship v. KJG Investments Inc.*, the U.S. District Court for the Eastern District of Wisconsin reinforced the importance of identifying a pathway for human exposure to soil vapors.<sup>50</sup> Before the court was a motion for preliminary injunction on a RCRA endangerment claim filed by a church whose property had been impacted by petroleum releases at an adjacent gasoline station. The church property, in the preferential migration pathway for groundwater from the gasoline station, had been impacted by gasoline spills on several previous occasions. In April 2006, a petroleum spill occurred at the gasoline station and migrated to the church property.<sup>51</sup> Gasoline odors arose in the basement of the church building and several students and

<sup>45</sup> *Id.* at \*9.

<sup>46</sup> *Id.* at \*18.

<sup>47</sup> *Id.* at \*20. See also *id.* at \*21 (“If the redevelopment of the property takes place, as the City of Livermore and ACEH indicate it must, someone or something will be exposed to a risk of harm by a release of a hazardous substance if remedial action is not taken beforehand.”)

<sup>48</sup> *Id.* at \*22.

<sup>49</sup> The *Sullins* court placed greater emphasis on the risks from use of the groundwater, suggesting a focus on the groundwater ingestion pathway of exposure. However, the risks presented by the plaintiffs and discussed by the court included the risk of indoor vapor intrusion that would arise with any development of the property.

<sup>50</sup> 2009 U.S. Dist. LEXIS 76954 (E.D. Wis. 2009).

<sup>51</sup> *Id.* at \*6.

<sup>38</sup> *Id.* at \*18 (emphasis in original) (quoting *Crandall v. City and County of Denver*, 594 F.3d 1231 (10th Cir. 2010)).

<sup>39</sup> *Id.* at \*19-\*20.

<sup>40</sup> *The Newark Group v. Dopaco Inc.* 2010 U.S. Dist. LEXIS 95061 (E.D. Cal. Sept. 13, 2010) (“*Newark II*”).

<sup>41</sup> *Id.* at \*13-\*14.

<sup>42</sup> 2010 U.S. Dist. LEXIS 58921 (N.D. Cal. June 14, 2010).

<sup>43</sup> *Id.* at \*4.

<sup>44</sup> *Id.*

teachers complained of headaches, dizziness and nausea.<sup>52</sup> The following day, the City of Milwaukee declared the building uninhabitable and ordered the electricity turned off to avoid an explosion.<sup>53</sup>

Within days, the church hired an environmental contractor to perform an emergency remediation.<sup>54</sup> Approximately one week later, the City declared the building safe and the plaintiff resumed use of the building.<sup>55</sup> Subsequent testing of the air inside the building revealed unquantifiable levels of benzene; other contaminants were present at low levels or were not detected. In December 2006, the City of Milwaukee Health Department performed air sampling and “did not find an indoor air problem of health concern.”<sup>56</sup> Benzene and petroleum compounds were detected in the soil and groundwater beneath the building at levels higher than state and federal regulatory standards, however, creating what the plaintiff’s expert described as a “potential threat to occupants of the building.”<sup>57</sup>

The plaintiff sought a preliminary injunction requiring the defendant to “take specific investigatory and remedial steps to protect the children, teachers, staff, church members and employees” from contaminated soil, free product and gasoline vapors impacting the building basement.<sup>58</sup> The defendant asserted the conditions did not present an “imminent or irreparable harm” supporting injunctive relief, that conditions at the site were the same or better than when the plaintiff purchased the building in 2001, and that plaintiffs were currently occupying the building and utilizing the basement space.<sup>59</sup> Both parties offered testimony from environmental experts. Plaintiff’s expert testimony highlighted evidence of the ongoing presence of hydrocarbon vapors underneath the building and testimony from building occupants regarding periodic gasoline odors in the building.<sup>60</sup> The defendant’s expert testimony asserted that the remediation conducted immediately following the April 2006 spill was adequate, and that any vapors beneath the building had originated from historical contamination and were “stuck there.”<sup>61</sup>

Ultimately, the court found the absence of an imminent and substantial endangerment. The court acknowledged evidence of hydrocarbons and hydrocarbon vapors beneath the building and the historical evidence of indoor air exposure, but concluded the plaintiff failed to supply evidence of a “complete exposure pathway” of gasoline vapors into the church building.<sup>62</sup> The court did not comment on the endangerment

to the environment (as distinguished from harm to the residents of the church building) and did not focus meaningfully on the presence of groundwater contaminants at concentrations higher than state cleanup levels on the church property.

In *SPPI-Somersville Inc. v. TRC Companies Inc.*, plaintiff property owners brought a RCRA endangerment claim against an adjacent landfill that was the alleged source of groundwater contamination on their property.<sup>63</sup> Although the landfill previously was the subject of several remediation orders and was the subject of ongoing negotiation between state regulatory officials and responsible parties, an area of contamination remained along the banks of a nearby creek. The plaintiffs contended that groundwater and surface contamination of their property was preventing and delaying the property’s development.<sup>64</sup> They requested an injunction compelling the defendants to implement measures necessary “to abate the endangerment to health and the environment” to the satisfaction of state regulatory agencies.<sup>65</sup>

Citing the ongoing remediation efforts being carried out pursuant to consent order, the defendants contended that plaintiffs’ RCRA claims requested the court to engage in an idle act.<sup>66</sup> Plaintiffs countered that the previous remediation orders did not address the harm present from vapor intrusion caused by the defendants’ groundwater plume.<sup>67</sup> As the court framed it, the issue presented by the plaintiffs was whether the previous remediation orders adequately “consider[ed] the indoor health risks from groundwater contamination if the property was developed.”<sup>68</sup> The plaintiffs took the position the court could order the defendants to undertake steps to quantify and address vapor intrusion dangers that were not considered or addressed in the remediation orders for the site.<sup>69</sup>

The *Somersville* court granted the defendants’ motion for summary judgment, citing two “fundamental problems” with the plaintiffs’ request for relief. First, the court highlighted that the plaintiffs had requested injunctive relief requiring the defendants to comply with remedial measures to the satisfaction of state regulatory agencies. The court was clear: “Whether this is viewed as a lack of standing because the harm will not be redressed by this Court, or as a failure to demon-

“exposure pathway exists, as no potentially actionable soil contamination can be found at the ground surface and as the groundwater with identified contamination is not used for drinking water purposes.” *Id.* The court’s utter disrespect for the plaintiffs’ experts is reflected throughout its analysis of RCRA and the potential for vapor intrusion.

<sup>63</sup> 2009 U.S. Dist. LEXIS 74464 (N.D. Cal. Aug. 21, 2009). The U.S. District Court for the Northern District of California issued a companion opinion on the same date, *West Coast Home Builders v. Aventis Cropscience USA Inc.*, 2009 U.S. Dist. LEXIS 74460 (N.D. Cal. Aug. 21, 2009). The plaintiffs in *West Coast Home Builders* were residential developers that wanted to develop a property impacted by the defendants’ groundwater contamination. The court’s analysis of plaintiffs’ RCRA endangerment claim in *West Coast Home Builders* is identical to that appearing in the *Somersville* opinion and resulted in the entry of summary judgment against plaintiffs.

<sup>64</sup> *Id.* at \*11.

<sup>65</sup> *Id.* at \*49.

<sup>66</sup> *Id.* at \*50-\*51.

<sup>67</sup> *Id.* at \*51.

<sup>68</sup> *Id.* at \*51-\*52 (emphasis in original).

<sup>69</sup> *Id.* at \*52.

<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.* at \*7.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at \*7-\*8.

<sup>57</sup> *Id.* at \*8.

<sup>58</sup> *Id.* at \*8-\*9.

<sup>59</sup> *Id.* at \*9-\*10.

<sup>60</sup> *Id.* at \*26-\*27.

<sup>61</sup> *Id.* at \*31.

<sup>62</sup> Another case employs a similar reasoning in the context of gasoline vapors is *Sanchez v. Esso Standard Oil de Puerto Rico Inc.*, 2010 U.S. Dist. LEXIS 1039-49 (D.P.R., Sept. 29, 2010). In this case, plaintiffs alleged leaking USTs created various impacts, including vapor intrusion. Blasting plaintiffs’ experts, the court ultimately found “without a current or likely future pathway of exposure to humans, contamination cannot be said to be causing an imminent and substantial endangerment to their health.” *Id.* at \*28. The court noted further: no

strate entitlement to relief under RCRA, the problem is the same: there is no basis for the relief plaintiffs seek because the contamination is already being addressed through existing court orders and regulatory actions.<sup>70</sup> Second, the plaintiffs' argument that the administrative remedy was unavailing because it failed to account for vapor intrusion was inadequate because the harm would only arise after actual development of the property. As stated by the court, "the dangers identified by plaintiffs all depend on future development, and there is no 'imminent and substantial endangerment' that can be remedied by this Court."<sup>71</sup> Put simply, the plaintiffs' RCRA endangerment theory was premature because it relied on a planned, and not existing, development.<sup>72</sup>

*Somersville* is notable for at least two reasons. First, it illustrates the hurdle for a plaintiff bringing a RCRA endangerment action in a situation involving an ongoing remediation effort. Like the court in *Grace Christian*, the *Somersville* court placed great emphasis on the remedies being afforded plaintiffs by the ongoing remediation efforts. While the *Somersville* court stopped short of deciding the issue on primary jurisdiction grounds, it suggested strongly that the plaintiffs' requested relief was unavailable, as it was already being provided by court order and regulatory actions.<sup>73</sup> At one point, without perhaps actually reviewing the state environmental laws, the court observed regulatory officials would address any vapor intrusion issues that would arise if plaintiffs were able to confirm the existence of risk to human health.<sup>74</sup>

Second, *Somersville* reinforces a recent judicial trend towards the requirement of a current, demonstrable risk, rather than an endangerment preconditioned on the occurrence of future events. Rightly or wrongly, the *Somersville* court was unimpressed with the plaintiffs' suggestion of harm predicated on the planned future development of the property, even going so far as to state that because the risks presented by plaintiffs "all depend on future development" they could not rise to the level of imminent and substantial endangerment required by RCRA, 42 U.S.C. § 6972(a)(1)(B).<sup>75</sup> Interestingly, the *Somersville* court's analysis of the RCRA claim contains virtually no discussion of RCRA's use of the term "may."<sup>76</sup> This stands in stark contrast to numerous court decisions that involve a finding of RCRA imminent and substantial endangerment where the risks were predicted to arise in the future.<sup>77</sup> Even the court in *Newark II* found sufficient evidence of RCRA imminent and substantial endangerment where the harm presented by the plaintiffs was based on vapor exposure arising from a demolition event to occur months in the future.<sup>78</sup> Perhaps the distinction between *Newark*

*II* and *Somersville* is the existence of an order requiring the events that would give rise to future vapor exposure in the former, while the latter merely involved a party's decision to develop the property.

The holding in *Somersville* presents developers and lenders with more fundamental challenges. In *Somersville*, plaintiffs provided expert testimony that development of the property in its contaminated condition would "give rise to human health risks from vapor intrusion."<sup>79</sup> Yet the court suggested that relief would only be available to the plaintiffs "[if] and when [they] develop . . . their property," when they could approach state regulators about the issue." That conclusion, however, ignores many of the realities facing developers who often are required to conduct extensive due diligence prior to securing funding or equity investments necessary to actually purchase, develop, or construct improvements on the property. The *Somersville* holding also ignores the nuts-and-bolts of conducting vapor intrusion risk assessments. For example, if a lender or potential investor follows the ASTM E2600 vapor intrusion standard applicable to commercial real property transactions, especially the E2600-08 standard which provided a mathematical model to identify "potential vapor intrusion conditions," issues related to vapor intrusion often will surface early on in the due diligence phase. Once identified, it will be impossible to push the vapor intrusion risks down the development line, especially where lenders will require the issue be properly managed prior to funding. Stated differently, *Somersville* suggests the vapor intrusion issue can be put off until actual construction, which is an unlikely assumption given today's extensive environmental due diligence requirements and the availability of commonly adopted standards, such as ASTM E2600, pushing purchasers to consider vapor intrusion prior to purchase.

## Implications

From the half dozen or so recent vapor intrusion cases under RCRA, no clear legal test exists for deciding when vapor intrusion constitutes an "endangerment" under RCRA, and, like many issues involving exposure to hazardous substances, the vapor intrusion exposure challenge requires close consideration of very technical issues. Under the cases decided to date, actual human exposure to soil vapors and the risk of exposure to soil vapors may support a finding of imminent and substantial endangerment to health under RCRA, if certain preconditions are met. *Apex Oil* is the most stark illustration of endangerment to health arising from vapor intrusion, including high levels of hazardous substances in indoor air and residential fires and explosions. *Newark* and *Sullins*, which involved the confirmed presence of groundwater contamination but at levels far lower than those encountered in *Apex Oil*, suggest soil vapor exposure may support a RCRA endangerment claim so long as the completed exposure pathway is more than just a hypothetical possibility. Similarly, *Grace Christian* takes a similar view that soil vapors may constitute evidence of an imminent and substantial endangerment to human health if there is present and ongoing completed pathway and more than a "potential" threat. And *Voggenthaler* reveals that in-

<sup>70</sup> *Id.* at \*54.

<sup>71</sup> *Id.* at \*56.

<sup>72</sup> *Id.* at \*56. ("If and when plaintiffs develop their property, plaintiffs can approach the DTSC about this issue.")

<sup>73</sup> *See id.* at \*53.\*54.

<sup>74</sup> *See id.* at \*56 ("Plaintiffs do not contend that there is any current danger posed by soil vapor (and even if it did, DTSC would address it).")

<sup>75</sup> *Id.* at \*56.

<sup>76</sup> *See* 42 U.S.C. § 6942(a)(1)(B).

<sup>77</sup> *See, e.g., U.S. v. Apex Oil*, 2008 U.S. Dist. LEXIS at \*208 (finding imminent and substantial endangerment to health and environment where contaminated groundwater "may migrate westward" beneath nearby residential areas).

<sup>78</sup> 2010 U.S. Dist. LEXIS 95061 at \*19.\*20.

<sup>79</sup> *Id.* at \*55.\*56.

door residential exposure to soil vapors arising from soil and groundwater contamination may support summary judgment on a RCRA endangerment claim—even where the risk is not immediate but would arise from long-term exposure. Finally, *Somersville* shows plaintiffs are likely to face a skeptical audience on vapor intrusion claims, particularly where an agency is overseeing remediation where vapor intrusion is being considered.

Unfortunately, the lack of clearly defined vapor intrusion liability rules—combined with the lack of federal and state standards for ambient indoor air quality—could transform vapor intrusion litigation to one of

those toxic tort pots of gold where, by raising a threat of exposure, the mere allegation creates the injury. With murky liability rules, vapor intrusion claims could derail many of the brownfields success stories from the last decade, jeopardize LEED certification, create disclosure obligations and liabilities, and prompt re-openers for hundreds of “no further action” sites. But to avoid the creation of unnecessary torts, courts considering vapor intrusion—like all courts—should focus on actual or estimated risk and not based their decisions on unsubstantiated fear and speculation.

Douglas A. Henderson is a partner at Troutman Sanders LLP specializing in environmental litigation, toxic torts, and property rights litigation. Henderson litigates cases involving chemical exposure, soil and groundwater contamination, reservoir permitting, vapor intrusion, waste disposal, and other related matters. He can be reached at [douglas.henderson@troutmansanders.com](mailto:douglas.henderson@troutmansanders.com).

Jeffrey J. Hayward is a litigation associate at Troutman Sanders with experience in environmental litigation and products liability. Hayward can be reached at [jeffrey.hayward@troutmansanders.com](mailto:jeffrey.hayward@troutmansanders.com).