

February 8, 2010

Elisabeth A. Shumaker
Clerk of Court

PUBLISH

UNITED STATES COURT OF APPEALS

TENTH CIRCUIT

TERRI CRANDALL; JOANN
HUBBARD,

Plaintiffs - Appellants,

v.

No. 08-1197

CITY AND COUNTY OF DENVER,
Colorado, d/b/a The Denver
International Airport, a Colorado
political subdivision,

Defendant - Appellee.

**APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
(D.C. NO. 1:05-CV-00242-MSK-MEH)**

Frederick Ganz (John D. Fognani, Perry L. Glantz, and Fritz W. Ganz with him on the briefs), Fognani & Faught, PLLC, Denver, Colorado, for Plaintiffs - Appellants.

Andrew J. Carafelli (Chris Mattison and Peter Moyson with him on the brief), Hall & Evans, L.L.C., Denver, Colorado, for Defendant - Appellee.

Before **HARTZ, HOLLOWAY, and TYMKOVICH**, Circuit Judges.

HARTZ, Circuit Judge.

Plaintiffs Terri Crandall and JoAnn Hubbard sued for injunctive relief against the City and County of Denver under the citizen-suit provision of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. § 6972(a)(1)(B). Their concern is that aircraft deicing fluid (ADF), which can produce hydrogen-sulfide gas when it decomposes, endangers human health at Concourse B of the Denver International Airport. The gates on Concourse B are used almost exclusively by United Airlines. Crandall is a United employee, and Hubbard is a former employee who now frequently uses Concourse B as a passenger. Plaintiffs seek (1) to prohibit full-plane deicing at Concourse B gates and (2) to require other precautionary steps relating to ADF.

Following a five-day bench trial, the United States District Court for the District of Colorado denied Plaintiffs relief. It found that Denver no longer permits full-plane deicing at the gates and held that Plaintiffs had not shown that the current use of ADF “may present an imminent and substantial endangerment to health,” which is a prerequisite for RCRA relief. 42 U.S.C. § 6972(a)(1)(B).¹ The court also held that RCRA does not govern all the ADF by Concourse B at the Denver Airport, but only the ADF “that flows in storm water into [C]oncourse B and degrades in Concourse B.” *Crandall v. City and County of Denver, Colorado*, No. 05-00242 at *27 (D. Colo. 2008) (*in Aplt. App.*, Vol. 1 beginning

¹This RCRA provision also governs waste that may present an imminent and substantial endangerment to the environment, but Plaintiffs have not pursued a claim of environmental endangerment.

at 40) (Bench Ruling). The ADF that degrades outside the concourse, it said, was governed exclusively by permits issued under the Clean Water Act (CWA).

On appeal Plaintiffs argue that the district court misconstrued RCRA's requirements with respect to injunctive relief. They also contend that the court erred in holding that the CWA, rather than RCRA, governs some of the ADF at the Denver Airport. We affirm the district court's denial of injunctive relief. Plaintiffs failed to demonstrate that ADF at the airport (whether it degrades inside or outside Concourse B) may present an imminent and substantial endangerment to health. Because relief under RCRA would therefore not be available even if RCRA governs the ADF that degrades outside the concourse, we need not address whether such ADF is governed exclusively by the CWA.

I. BACKGROUND

A. RCRA

RCRA is a comprehensive statute designed to reduce or eliminate the generation of hazardous waste and "to minimize the present and future threat to human health and the environment" created by hazardous waste. 42 U.S.C. § 6902(b); *see id.* § 6902(a). To achieve this goal, the statute "empowers EPA to regulate hazardous wastes from cradle to grave, in accordance with [RCRA's] rigorous safeguards and waste management procedures." *City of Chicago v. Env'tl. Def. Fund*, 511 U.S. 328, 331 (1994). It also grants private citizens standing to enforce some of the statute's provisions. *See* 42 U.S.C. § 6972;

Meghrig v. KFC Western, Inc., 516 U.S. 479, 484 (1996). The RCRA citizen-suit provision invoked by Plaintiffs states:

[A]ny person may commence a civil action on his own behalf—

. . . .

[1](B) against any person, . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment[.]

42 U.S.C. § 6972(a) (emphasis added); see *Burlington N. & Santa Fe Ry. Co. v. Grant*, 505 F.3d 1013, 1020 (10th Cir. 2007) (summarizing citizen-suit provision).

B. ADF and the Denver Airport

Plaintiffs do not challenge the district court's rendition of the historical facts. We begin by discussing some pertinent science and then summarize the history of ADF use at the Denver Airport and the problems that have and have not arisen.

1. The Risks of ADF

ADF is mostly propylene glycol. When propylene glycol degrades in an anaerobic environment where sulfur is present, hydrogen-sulfide gas can be produced. Hydrogen sulfide has a characteristically offensive odor, which often accompanies sewage or rotten eggs. It can be smelled at very low concentrations

in the air. Some people can detect it at one part per billion, and almost all recognize it at 300 parts per billion. Much higher levels, however, are required before it has recognized health effects. “Eye irritation has been noted at between 5 and 30 parts per million—not billion”; “[m]arked eye and lung irritation occurs at 200 parts per million”; and “[b]reathing impairment and unconsciousness results at 1,000 parts per million.” Bench Ruling at 12.

2. Conditions Through Early 2006

After ADF is used to deice an airplane, hydrogen-sulfide gas can enter Concourse B by two means. The ADF may degrade outside the concourse and the resultant gas then infiltrates the concourse. Or the ADF may mix with storm water and flow down through cracks in the tarmac. Because the concourse basement extends under the tarmac, this mixture can leak into the basement where the ADF degrades, producing hydrogen sulfide.

Until practices at the Denver Airport changed in 2005, some planes could be fully deiced with ADF while at their gates. Beginning in 1997, employees of United Airlines and others who worked at Concourse B filed a number of complaints about the rotten-egg smell and about health effects that are symptoms of exposure to hydrogen sulfide. Some complaints linked the smell to degrading ADF. Maintenance logs and reports also indicated the presence of hydrogen sulfide in the basement, and one or two reports attributed the gas to ADF. A 1998

water-quality study made numerous recommendations to control the runoff of ADF into the Denver Airport's storm-water system.

Perhaps the most significant episode occurred in 2001, when many people complained of a foul odor and burning eyes in the Red Carpet Club in Concourse B. Air testing detected concentrations of hydrogen sulfide above one part per million. The Tri-County Health Department found that the gas flowed from the basement level up to the Red Carpet Club through the elevator shafts. A report by URS Corporation, a consultant retained by Denver, concluded that the hydrogen sulfide came from degrading ADF. As a result, the elevator shafts next to the club were sealed and measures were taken to prevent ADF from leaking into the basement of Concourse B. Denver began a program (which was still in effect at the time of trial) to seal cracks in the tarmac around the concourse, thus preventing ADF from entering the ground.

Despite these measures, in September 2005 maintenance logs reported toxic levels of hydrogen sulfide in a mechanical room in the basement of Concourse B and stated that employees were advised not to enter the room without proper safety equipment. Beginning about that time (the record does not provide a precise date), Denver limited the amount of deicing that could be conducted at the gates. Planes were directed to deicing pads away from the gates and the concourse basement. Gate deicing was restricted to a few portions of the plane in certain circumstances. (The district court found the evidence insufficient to

determine Denver's motives for moving deicing from the gates—whether it was a response to this lawsuit or more a matter of efficiency and economics.) In addition, in 2006 Denver installed ventilation fans in two of the twelve basement sump rooms and, as of trial, it anticipated installing fans in the remaining sump rooms.

3. Conditions After Early 2006

Even after full-plane deicing at the gates ceased at the Denver Airport, there were some reports of the odor of hydrogen sulfide in the basement of Concourse B. But the complaints were much fewer and not supported by objective evidence. The Center for Toxicology and Environmental Health, an independent engineering firm, conducted five air-quality tests between November 2005 and March 2008 at many sites in the concourse, but no hydrogen sulfide was detected. The district court concluded that currently “the evidence does not establish levels of either propylene glycol or hydrogen sulfide that are dangerous to human health” in the basement of Concourse B. *Id.* at 34.

A United Airlines official testified in April 2008 that United had no intent to request full-plane gate deicing after this litigation ends. He said that there had been discussions two years earlier about testing the use of glycol-recovery vehicles at the gates, apparently to determine whether they could reduce the flow of ADF into the environment after full-plane deicing. But United then decided not to spend the money necessary to acquire the vehicles. An airport official

testified that Denver had no plans to allow United to return to full-plane deicing at the gates. He explained that the airport had added deicing pads and that gate deicing could create traffic congestion as inbound aircraft waited for gates where deicing was taking place. He also said that gate deicing would require new infrastructure to collect overspray and runoff.

C. District-Court Proceedings

Plaintiffs filed their RCRA suit on February 7, 2005. They sought orders requiring Denver to take various steps to protect people from hydrogen sulfide produced by degradation of ADF, including a prohibition on full-plane deicing at Concourse B gates.

After a five-day bench trial in April 2008, the district court entered judgment for Denver, ruling that Plaintiffs had failed to demonstrate that ADF may present an imminent and substantial endangerment at Concourse B. The court found that the evidence at trial was insufficient to establish that under current conditions at Concourse B the amounts of ADF were significant or that hydrogen sulfide was present at levels dangerous to human health. The court also determined that the evidence was too speculative to show a significant risk that Denver would resume full-plane deicing at the gates. Although there was some evidence that Plaintiffs' lawsuit contributed to ending full-plane gate deicing, the court noted that the decision was likely influenced by the following "economic factors":

the construction of new deicing pads away from Concourse B, greater capability in using the pads to deice, the impact of pad deicing on the speed and number of planes to be serviced, and a requirement of precedent testing, presumably environmental testing, as to the effect of deicing fluid, which United has been unwilling to perform.

Id. at 42.

In addition, the district court said that Plaintiffs had not shown that resuming full-plane deicing at the gates would pose a health risk. Denver was continuing a program to seal the tarmac around Concourse B, had installed fans in two of the twelve mechanical rooms in the basement in 2007, and had said that it planned to install fans in the remaining mechanical rooms in the concourse. The court noted that it was “without evidence to balance the effect of future full-gate deicing against the effect of future fans.” *Id.*²

II. DISCUSSION

“A party requesting a permanent injunction bears the burden of showing: (1) actual success on the merits; (2) irreparable harm unless the injunction is issued; (3) the threatened injury outweighs the harm that the injunction may cause

²The parties’ briefs in this court dispute whether the district court erred in deciding that the CWA, and not RCRA, governs deicing chemicals that degrade outside Concourse B into hydrogen sulfide that enters Concourse B (leaving RCRA to govern only deicing chemicals that enter the basement of Concourse B as liquids). But we need not resolve this dispute. The district court made no findings regarding how much hydrogen sulfide was covered by RCRA and how much was left to the CWA, but found that even considering all sources of hydrogen sulfide, Plaintiffs had failed to demonstrate that the gas may present an imminent and substantial endangerment to health or the environment. Thus, the court’s fact findings and judgment were independent of its view of the CWA.

the opposing party; and (4) the injunction, if issued, will not adversely affect the public interest.” *Fisher v. Okla. Health Care Auth.*, 335 F.3d 1175, 1180 (10th Cir. 2003). “[W]e review the district court’s grant or denial of a permanent injunction for abuse of discretion,” *SEC v. Pros Int’l, Inc.*, 994 F.2d 767, 769 (10th Cir. 1993), reviewing underlying questions of law de novo, *see Att’y Gen. of Okla. v. Tyson Foods, Inc.*, 565 F.3d 769, 776 (10th Cir. 2009). The dispositive issue in this case is whether Plaintiffs have established the merits of their claim, the first requirement for a permanent injunction. *See Prairie Band Potawatomi Nation v. Wagon*, 476 F.3d 818, 822 (10th Cir. 2007).

To prevail under RCRA’s citizen-suit provision, a plaintiff must prove that a solid waste “may present an imminent and substantial endangerment to health or the environment.” 42 U.S.C. § 6972(a)(1)(B). Plaintiffs contend that they proved their health-endangerment claims but that the district court “erred in its interpretation of the meaning of ‘imminent and substantial.’” *Aplt. Br.* at 17. Although they do not dispute that “the cessation of full aircraft gate deicing[] resulted in at least a partial abatement of the conditions giving rise to the risk of harm associated with the degradation of [ADF]”, *Reply Br.* at 9, they argue that the possibility of resumption of such deicing presents an imminent and substantial endangerment. They maintain that Denver halted full-plane deicing at the gates because of this lawsuit, and they suggest that the practice likely will resume after the lawsuit if no injunction is issued. According to Plaintiffs, the district court

also erred in assuming that Denver would install fans in the ten mechanical rooms. In Plaintiffs' view, the court should have ensured rather than assumed that Denver would not return to full-plane deicing at the gates and that it would install the remaining fans.³

We are not persuaded. Our review of governing precedent persuades us that the facts here do not show that the ADF at the Denver Airport “may present an imminent and substantial endangerment to health.” 42 U.S.C. § 6972(a)(1)(B). The leading case on the subject is the Supreme Court decision in *Meghrig*. The issue in *Meghrig* was whether § 6972(a)(1)(B) provides a remedy to recover for past cleanup costs. *See* 516 U.S. at 482. After KFC Western, Inc. paid to clean up petroleum contamination on property previously owned by Alan and Margaret Meghrig, it sought restitution from the Meghriks. *See id.* The Court held that RCRA's citizen-suit provision does not provide a remedy for past contamination that no longer poses a danger. *See id.* at 485–86. It reasoned that “[a]n endangerment can only be imminent if it threatens to occur immediately.” *Id.* at 485 (internal quotation marks omitted). The language *may present*, it explained, “implies that there must be a threat which is present *now*, although the impact of

³Plaintiffs further argue that the balance of harms weighs in their favor, reasoning that Denver “will endure little harm or hardship in complying with an injunction” prohibiting a return to full-plane deicing at the gates because the injunction would maintain the status quo. Aplt. Br. at 23. But because Plaintiffs have not succeeded on the merits, we need not address this factor in assessing the propriety of injunctive relief.

the threat may not be felt until later.” *Id.* at 486 (internal quotation marks omitted).

We followed *Meghrig* in *Burlington Northern*. Burlington Northern alleged that the defendant’s earth-moving construction on his property had caused tar-like material (TLM) to migrate onto Burlington Northern’s property. *See* 505 F.3d at 1018. Burlington Northern removed the TLM from its property and constructed a berm on the property line to prevent future migration. *See id.* The district court granted summary judgment against Burlington Northern, ruling that it “had failed to present a genuine issue of material fact on the ‘imminent and substantial endangerment’ element of its RCRA claim.” *Id.* (quoting § 6972(a)(1)(B)). The court concluded that

imminency had not been established because (1) [Burlington Northern] failed to point to any person who had been injured by TLM or to any study establishing the material threatened to ‘immediately’ cause harm to a person or the environment, (2) neither the [Oklahoma Department of Environmental Quality] or the Environmental Protection Agency . . . had ever ordered the TLM removed, and (3) [Burlington Northern] monitored the alleged migration of the TLM onto its property for years without acting.

Id. at 1021.

We disagreed with the district court’s analysis, stating that it was “irrelevant when the TLM was deposited on the property and equally irrelevant how long [Burlington Northern] monitored the TLM before acting.” *Id.* We also stated that the focus should have been on the risk that harm would occur in the

future, not on whether harm had occurred or was imminent. *See id.* We explained the meanings of the statutory terms: “[A] finding of ‘imminency,’” we said, “does not require a showing that actual harm will occur immediately as long as the risk of threatened harm is present.” *Id.* at 1020. And we stated that “the term ‘endangerment’ . . . mean[s] a threatened or potential harm,” *id.*, and that an endangerment is *substantial* when “there is reasonable cause for concern that someone or something may be exposed to risk of harm by release, or threatened release, of hazardous substances in the event remedial action is not taken,” *id.* at 1021. Thus, the statutory requirement could be satisfied even if the actual harm might not be likely to occur for a long time, so long as the defendant’s current or past actions create a present risk that the harm will eventually come to pass. *See id.* at 1020–21. We emphasized “that the operative word in § 6972(a)(1)(B) is ‘may’”; a plaintiff need show only that the waste *may* present a threat of serious potential harm. *Id.* at 1020. Noting the evidence in the record that TLM contained carcinogens at levels exceeding EPA recommendations and that it threatened storm-water runoff and other waters, we reversed and remanded for further proceedings. *See id.* at 1022.

Most recently, in *Tyson Foods* we considered the same statutory language in reviewing whether the Oklahoma Attorney General was entitled to a preliminary injunction against Tyson’s use of “‘poultry litter’” (which includes poultry bedding materials and feces) as fertilizer in the Illinois River Watershed

(IRW). *See* 565 F.3d at 773–74. The state contended that bacteria in the poultry litter was contaminating the watershed. *Id.* at 774. Tyson responded that the bacteria in the IRW came from other sources and that the processing of poultry litter kills the bacteria before the litter is spread on land. *Id.* We agreed with the state that “under RCRA a plaintiff need not ‘show proof of actual harm to health or the environment’ to establish endangerment, but rather injunctive relief is appropriate where there simply *may* be a risk of harm.” *Id.* at 777 (quoting *Burlington Northern*, 505 F.3d at 1020). Nevertheless, we concluded that “Oklahoma’s inability to link land-applied poultry litter to the bacteria in the IRW preclude[d] a finding that such litter may present an imminent and substantial endangerment” *Id.* at 778. Consequently, the state had failed to show that the litter “may be a risk of harm in the IRW waterways.” *Id.* at 777.

The above cases did not have occasion to explore every context in which a solid waste “may present an imminent and substantial endangerment to health or the environment.” But they do provide guidance. In particular, they illustrate that there is a limit to how far the tentativeness of the word *may* can carry a plaintiff. *Meghrig* tells us that an endangerment cannot be merely possible, but must “threaten[] to occur immediately.” 516 U.S. at 485 (internal quotation marks omitted). And although *Burlington Northern* recognizes that the harm may not occur for a long time, *see* 505 F.3d at 1020–21, *Tyson Foods* emphasizes that

there is no endangerment unless the present or imminent situation can be shown to present a risk of (later) harm, *see* 565 F.3d at 777.

One essential point that Plaintiffs appear to overlook is that although the harm may be well in the future, the *endangerment* must be imminent. *See Meghrig*, 516 U.S. at 486 (“[T]here must be a threat which is present *now*, although the impact of the threat may not be felt until later.” (internal quotation marks omitted)). Two examples may clarify the difference between harm and endangerment in the context of future harm. First, it may take a long time for a toxic substance from the solid waste to reach the object to be harmed. For instance, buried solid waste may present an endangerment if toxic chemicals from the waste will eventually seep into the water table and be consumed by humans. No *harm* will result for years, but the *endangerment* already exists because that harm can result if “remedial action is not taken” in the interim. *Burlington Northern*, 505 F.3d at 1021; *see Cox v. City of Dallas, Tex.*, 256 F.3d 281, 301 (5th Cir. 2001) (“As the old waste decomposes, the cover soil can settle, ground and surface water can become contaminated with leachate, and dangerous gases can form and migrate underground. This meets the ‘may present an imminent and substantial endangerment’ standard.” (footnote omitted) (quoting § 6972(a)(1)(B)); *Dague v. City of Burlington*, 935 F.2d 1343, 1356 (2d Cir. 1991) (similar), *rev’d in part on attorney-fee issue*, 505 U.S. 557 (1992). Second, there may be a long period between the time that a toxic substance from the solid

waste reaches the object to be harmed and the time that the harm manifests itself, as when the toxic substance eventually causes cancer. *See Maine People's Alliance & Natural Res. Def. Council v. Mallinckrodt, Inc.*, 471 F.3d 277, 279 n.1 (1st Cir. 2006) (“[I]f there is a reasonable prospect that a carcinogen released into the environment today may cause cancer twenty years hence, the threat is near-term even though the perceived harm will only occur in the distant future.”). The essential point is that the solid waste presents an endangerment if harm may result absent further remedial measures.

It is here that the Plaintiffs' case fails. The risk presented by ADF is that human health can be injured if (1) sufficient quantities of ADF (2) degrade into sufficient quantities of hydrogen-sulfide gas, (3) which enter an area where humans are present. This risk, this endangerment, must be imminent for there to be a claim under RCRA. *See* § 6972(a)(1)(B). At the time of trial, however, there was no detectable hydrogen-sulfide gas in Concourse B, and no prospect of there being such gas; the gas could be a problem only if full-plane deicing were to be renewed at the concourse gates and the measures instituted by Denver were then to prove ineffective in protecting people from the gas. Thus, not only was there no imminent harm, but there was also no imminent endangerment. Nothing going on at the airport at the time of trial, or expected in the immediate future, would, even without remedial measures, present a prospect of harm to human health. If nothing changed, there was simply no possibility of sufficient hydrogen

sulfide in Concourse B to injure human health. It is not enough under RCRA that in the future someone may do something with solid waste that, absent protective measures, can injure human health. *See Meghrig*, 516 U.S. at 485–86.

Plaintiffs’ appellate briefs argue that the district court applied the wrong legal standard, requiring the imminence of actual harm, not merely imminent endangerment. They note that the court stated that its “‘working definition of “imminence” is that there must be a current risk that harm will result in the near future.’” Aplt. Br. at 16. (quoting Bench Ruling at 41). We agree with Plaintiffs that the district court misspoke on this occasion during the hour and a half that it delivered its oral decision from the bench. But the error is immaterial in light of the court’s factual findings. The court did not rely on the absence of imminent *harm*. Rather, the basis of its ruling was that there was no evidence that under current conditions at the Denver Airport there would be measurable (much less harmful) levels of hydrogen sulfide in Concourse B. *See* Bench Ruling at 34 (finding that the evidence of current conditions did not establish the presence of dangerous levels of hydrogen sulfide or ADF); *id.* at 42–43 (noting that even assuming that significantly more ADF degraded in the basement of Concourse B, “there is insufficient evidence to demonstrate how much hydrogen sulfide would be produced” and whether it would “rise to the level of creating a health hazard.”).

Plaintiffs also argue that Denver ceased full-plane deicing at the gates only as a result of the present lawsuit and that it is free to renew the practice if they are denied relief. But the district court found that such a change would not be imminent. It said that the prospect of resumption was only speculative and that the evidence did not establish that Denver would resume full-plane deicing upon termination of this litigation. Moreover, the court found that the evidence did not show that even such a resumption would present a substantial health risk.

Finally, Plaintiffs rely on mootness doctrine to support their claim of imminence. They point out that Denver's cessation of full-plane deicing at the gate does not make this case moot, because such deicing may resume. *See Friends of the Earth, Inc. v. Laidlaw Envt'l Servs. (TOC), Inc.*, 528 U.S. 167, 189 (2000) ("It is well settled that a defendant's voluntary cessation of a challenged practice does not deprive a federal court of its power to determine the legality of the practice. If it did, the courts would be compelled to leave the defendant free to return to his old ways. . . . The heavy burden of persuading the court that the challenged conduct cannot reasonably be expected to start up again lies with the party asserting mootness." (brackets, ellipsis, citations, and internal quotation marks omitted)). But mootness doctrine is irrelevant to the RCRA requirements at issue in this case. The district court did not dismiss the suit on jurisdictional grounds (mootness), but because of Plaintiffs' failure to prove their claim. A RCRA suit cannot be brought because someone may sometime begin disposing of

solid waste in a manner that presents an endangerment. The endangering practice—here, the resumption of gate deicing—must be *imminent*. See 42 U.S.C. § 6972(a)(1)(B). Plaintiffs’ suit was properly dismissed because the evidence showed that resumption of full-plane gate deicing at Concourse B was not imminent, but merely speculative. If the district court had been persuaded by the evidence that Denver would likely resume full-plane deicing at the gates upon conclusion of this litigation and that such a practice may present an imminent and substantial endangerment to health, we presume that it could properly issue an injunction under RCRA. That, however, is not the case we have before us.

III. CONCLUSION

We AFFIRM the judgment of the district court.