University of Arkansas
System Division of Agriculture
NatAgLaw@uark.edu • (479) 575-7646

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by

Katherine Saral

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Open Field Burning of Grass Residue:

An Injury without a Remedy?

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In Safe Air For Everyone v. Meyer, *a three-judge panel of the Ninth Circuit upheld an Idaho district court's dismissal of a citizen suit under the Resource Conservation and Recovery Act (RCRA) that had challenged grass growers' practice of conducting open field burns of crop residue. This note argues both that the court was wrong to conclude that RCRA did not cover the plaintiffs' claim and that its dismissal of the case on summary judgment was not warranted because disputes of material fact between the parties still existed. The note explains why the Clean Air Act did not provide a basis for plaintiffs to halt grass growers' open field burning and why they had to resort to RCRA in order to make out a federal claim. The note contends further that RCRA allows citizens to bring suit for air pollution caused by crop residue burning and, therefore, that the court should have at least permitted the case to proceed beyond summary judgment and be decided on the merits after a complete hearing. Finally, the note suggests that conduct that creates pollution that crosses state boundaries ought to be treated as a federal issue and, thus, that a federal remedy ought to be available. If open field burning may not be enjoined under any federal statutes, then the persistence of un-redressed harms caused by the resulting pollution signals a gap in the set of federal laws designed to protect human health and the environment.*

* J.D. candidate, University of California at Berkeley School of Law (Boalt Hall), 2006; B.A., Yale University, 1997. I would like to thank Holly Doremus, Tony Brown, Casey Roberts, and Kate Daniels for their insightful comments and keen-eyed corrections. This note is vastly better than it might have been had they not contributed their efforts.

INTRODUCTION

This note focuses on the plaintiffs' efforts in *Safe Air For Everyone v. Meyer*[1] to halt open field burning of Kentucky bluegrass residue in two Idaho counties, Kootenai and Benewah.[2] The conflict at the heart of the

1. 373 F.3d 1035 (9th Cir. 2004).

2. Kentucky bluegrass cultivation occurs in two areas within these counties – the Rathdrum Prairie and the Coeur d'Alene Reservation. The former is subject to state law and the latter to Native American tribal law. The fact that the reservation has sovereignty over activities within its borders would likely affect the efficacy of some political or legal solutions. However, RCRA applies both to state and tribal areas.

case could be described either as an instance of suburbanites "coming to the nuisance" or as an exemplary tale about the shortcomings of federal environmental statutes in addressing regional agricultural pollution.

The Ninth Circuit summarily rejected plaintiffs' claims under the Resource Conservation and Recovery Act (RCRA), basing its decision on an underdeveloped evidentiary record presented to the district court in opposition to defendants' initial motion to dismiss. The Ninth Circuit panel justified summary disposal on the grounds that an air pollution problem is more aptly challenged under clean air statutes.[3] However, neither Idaho state laws nor the Clean Air Act (CAA) afford plaintiffs a remedy. Forestalled in efforts to bring a common law nuisance suit and unable to point to a cognizable violation under CAA, plaintiffs used RCRA as a "last gasp" attempt to obtain legal redress.

As a policy matter, the decision is equally dismaying because it shows how federal environmental statutes, which might be expected to address health-endangering emissions that cross state lines, are ill-suited to meet plaintiffs' legitimate grievances. Alternatives to the challenged practice were clearly available: Idaho's neighbors, Washington and Oregon, have demonstrated the feasibility of phasing out open field burning of grass residue without bankrupting growers.[4] Even so, while Idaho's grass farms persist in conducting open field burns, residents in eastern Washington continue to inhale smoke drifting across the border. With growers' actions ramifying beyond state boundaries, disputes over grass burning are outside state or local control and hence deserve a federal resolution.

The court was understandably reluctant to acknowledge a RCRA claim in *SAFE v. Meyer* because plaintiffs' complaint differed from the usual allegations in RCRA cases, which involve improper disposal of hazardous waste. However, in their briefings, plaintiffs presented a persuasive case that RCRA did indeed cover the grass growers' emissions. Because RCRA offered the last legal recourse likely to be effective for plaintiffs, the Ninth Circuit panel should at least have ordered a more intensive factual review before summarily dismissing the case on the merits. Instead, the panel's ruling reinforced an expansive judicial interpretation of RCRA's exemptions for recycled materials that divorces the law from its purpose.

Likely, if the panel had investigated the facts fully, it would have decided otherwise. However, if the court had decided on the merits that, in spite of plaintiffs' demonstrated injury, RCRA still bound it to rule in favor of the defendants, the outcome would have highlighted a deficiency in federal environmental regulation. Assuming the case were analyzed

3. *SAFE*, 373 F.3d at 1047 n.16.
4. *See infra* Part VII.

fully on the merits, it would have been a distressing sign if no major federal environmental statute recognized the harm in an emissions-producing activity that generated the types of respiratory problems and deaths that plaintiffs alleged. For these reasons, this note argues that the Ninth Circuit panel's denial of relief to the plaintiffs under RCRA was incorrect.

Part I will review the factual background of the dispute. Part II describes the findings of the district court and the Ninth Circuit's subsequent ruling that affirmed the lower court. Part III offers a critique of the Ninth Circuit's opinion, explaining why, though the test the court applied was appropriate, the court's application of the test to the facts was flawed. Part IV suggests the implications of the panel's decision on future RCRA actions regarding EPA's ability to regulate certain activities involving hazardous waste. Part V describes plaintiffs' lack of alternative legal recourses, such as filing a common law nuisance action or raising a claim under the Clear Air Act. Part VI describes Idaho's current attempts to reduce incursions of smoke on surrounding populations and contemplates whether these efforts adequately address the problem. Part VII relates some of the experiences of Washington and Oregon following the decisions by their state legislatures to phase out burning and argues that the example of Idaho's neighbors implies that halting open field burning is feasible. The note concludes that, in light of these circumstances, the Ninth Circuit ought to have construed RCRA broadly in order to respond to a health hazard that the Idaho state legislature and the EPA have been reluctant to enjoin.

I. BACKGROUND

Kentucky bluegrass is one of several varieties of cool-season grasses sold in the United States and abroad as cover for lawns, golf courses, and athletic fields.[5] The Pacific Northwest is the production site for approximately 90% of the forage and turfgrass seed, including Kentucky bluegrass and other cultivars, sold in the United States.[6] The cultivation process involves sowing a grass plot and annual seed harvests until exhaustion of the initial planting necessitates reseeding. Each fall, after the grass seed is harvested, a residue composed of straw, stubble, and thatch (a collection of roots, stems, rhizomes, and other woody parts that decompose slowly) remains on the field.[7] If left on the field, this grass

5. Telephone Interview with John Hart, soil scientist at Oregon State University (Oct. 15, 2004).

6. GRASS SEED CROPPING SYSTEMS FOR A SUSTAINABLE AGRICULTURE (GSCSSA), INTRODUCTION, *at* http://gscssa.wsu.edu/introduction.htm (last visited May 28, 2005).

7. M. Ali Harivandi, *Thatch – The Turf Manager's Hidden Enemy*, 34 CALIFORNIA TURFGRASS CULTURE 1, 1 (1984).

residue fosters the development of fungi, insects, and diseases.[8] Additionally, residue blocks the crowns of the grass stems from receiving the sunlight they need to grow next season's seed crop.[9] Hence, it is essential to remove the residue.

The cheapest and easiest way to remove this grass is to burn it. Until the late 1970s and early 1980s, objections to the practice of burning arose rarely, if at all. However, as suburbs expanded in the latter part of the twentieth century, encroaching on rural land, the smoke from agricultural field burns began to penetrate nearby residential communities. Symptoms including stinging eyes, sore throats, and difficulty in breathing prompted protests.[10] In Washington and Oregon, the state governments moved to phase out residue burning as a health hazard.[11] The states encouraged and eventually required grass farmers to find alternate methods to burning for removing the residue from their fields. The Idaho legislature did not follow Washington and Oregon's lead. As a result, opponents of open field burning have attempted other legal tactics to stop the practice in Idaho. Residents bordering the Rathdrum Prairie have been especially vehement about ending field burning. The Rathdrum Prairie is the site of approximately 4,000 acres of Kentucky bluegrass fields and occupies a valley hemmed in by small cities.[12] To the north lies the city of Rathdrum, to the south the cities of Post Falls and Coeur d'Alene, to the east the city of Hayden, and to the west the city of Spokane, WA.[13] As the smoke billows out from the burning bluegrass fields, it has few avenues for escape that do not cross over populated areas.

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8. *See* M.D. Butler et al., *Kentucky Bluegrass Seed Production in Central Oregon*, EM-8807, at 5 (2002), http://www.ag.uidaho.edu/bluegrass/FromJohn/Kentucky%20bluegrass/Production/KBG.pdf.

9. *See, e.g.*, Declaration of Art Krenzel, CV 02-0241N-EJL ¶ 3; Kathryn Stelljes, *Less Fire, More Science for Grass Growers*, AGRIC. RESEARCH MAG., Aug. 1997, at 15, *available at* http://www.ars.usda.gov/is/AR/archive/aug97/grass.pdf; Rebecca Harms, et al., *Kentucky Bluegrass Seed Production Management in Western Nebraska and Eastern Wyoming* (Aug. 1998), http://iarnpubs.unl.edu/horticulture/nf377.htm.

10. Community protests persuaded a few bluegrass growers to discontinue production in areas where residue burning affected nearby residents. *See* Karen Dorn Steele, *Growers Consider Reservation*, SPOKANE SPOKESMAN-REV., Mar. 31, 1998, at A1 (quoting Don Jacklin's announcement that his company, Jacklin Seed, planned to phase out 5,800 acres of grass seed because "the community has said, we don't want agricultural field burning").

11. Matt Sabo, *Field Burning Yields Few Smoke Complaints*, THE OREGONIAN, July 26, 2001, at B9 (describing how a highway accident prompted the Oregon Legislature to place restrictions on field burning); Karen Dorn Steele, *Washington Grass Burning All but Doused*, SPOKANE SPOKESMAN-REV., Aug. 29, 2001, at A1 (mentioning the 1996 regulations that initiated the ban on grass residue burning).

12. ID. DEP'T OF ENVTL. QUALITY, 2003 CROP RESIDUE DISPOSAL SMOKE MANAGEMENT PROGRAM TECHNICAL REPORT 11 (June 23, 2004) [hereinafter CRD SMP REPORT], *available at* http://www.deq.state.id.us/air/data_reports/reports/north_idaho/ag_smoke_mgmt_2003_technical_review.pdf.

13. *Id.*

II. *SAFE V. MEYER*: THE CASE ITSELF

A. The District Court Opinion

On May 31, 2002, Safe Air For Everyone (SAFE) filed an action in federal district court against nearly eighty Idaho farmers of Kentucky bluegrass, alleging that their open burning of grass residue violated RCRA.[14] SAFE sought a preliminary injunction under RCRA's citizen-suit provision, which allows an individual to sue

> any past or present generator ... transporter ... 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.[15]

The district court held that the burning of grass residue was not a "disposal" of "solid waste" and, consequently, that RCRA did not apply.[16] The court's reasoning rested on its agreement with the farmers' testimony that burning delivered several benefits: the ash left over after burning allegedly fortified the soil through nutrient recycling; grass plants absorbed light better following burning; burned fields were plagued by fewer diseases and weeds in the subsequent season; and burning extended the productive lifespan of a field, generating more annual crop harvests before reseeding a new stand would become necessary.[17] The court held that, because the burning of the residue "serves legitimate purposes beyond mere removal... [and] is extremely valuable to the farmers... [it] is not an abandonment or discarding of the material but, instead, an important part of the growth process."[18] Since the growers' burning did not constitute disposal of the residue, the court found that plaintiffs' complaint did not state a claim under RCRA. Concluding that it lacked subject matter jurisdiction to hear the case, the court dismissed SAFE's complaint.[19]

B. The Ninth Circuit Panel Opinion

On appeal, a three-judge panel of the Ninth Circuit agreed with the district court's holding but found its procedural justification for dismissing the action as incorrect.[20] The court explained that claims not

14. Safe Air For Everyone v. Meyer, CV-02-241-N-EJL (D. Id. July 19, 2002).
15. 42 U.S.C. § 6972(a)(1)(B) (2000).
16. Safe Air For Everyone v. Meyer, CV-02-241-N-EJL, Order at 12.
17. *Id.* at 7.
18. *Id.*
19. *Id.* at 12.
20. Safe Air For Everyone v. Meyer, 373 F.3d 1035, 1038-9 (9th Cir. 2004).

legitimately based on a federal question can only be dismissed for lack of subject matter jurisdiction when they are "wholly insubstantial and frivolous."[21] Since SAFE's claims under RCRA were not obviously frivolous, the court had to assess the merits of the allegations. Thus the court converted, *sua sponte*, the defendants' motion to dismiss into a grant for summary judgment on the merits.[22] The court concluded that SAFE did not raise a genuine issue of material fact as to whether the grass residue was "solid waste" under RCRA. RCRA defines solid waste as "any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and *other discarded material*, including solid, liquid, semisolid, or contained *gaseous* material resulting from industrial, commercial, mining, and *agricultural* operations."[23] Echoing the district court, the panel found that, based on the evidence, the growers burn grass residue for reasons other than disposal, and hence the residue cannot be considered "discarded materials." Not being discarded, the residue was not "solid waste."

However, unlike the district court, the panel did not rest its holding solely on the plain meaning of the term "discarded material."[24] Drawing on earlier cases from the D.C. and Second Circuits that had examined what constitutes "solid waste" in the context of industrially-generated hazardous wastes subject to Environmental Protection Agency (EPA) regulation, the panel constructed a three-part test to evaluate whether a material is solid waste[25]: 1) Is the material "destined for beneficial reuse or recycling in a continuous process by the generating industry itself?"[26]; 2) Is the material actively reused, or does it simply have the potential for reuse?[27]; and 3) Is the material reused by its original owner rather than by a salvager?[28] If the answers to all three questions of the above test are affirmative, the material ought not to be considered a solid waste. The test is based upon EPA's intent to encourage recycling by exempting from regulation some recyclable hazardous secondary materials used in

21. *Id.* at 1039-40.

22. *Id.* at 1040.

23. 42 U.S.C. § 6903(27) (2000) (emphasis added).

24. *SAFE*, 373 F.3d at 1042-1043; Safe Air For Everyone v. Meyer, CV-02-241-N-EJL, Order at 6-7 (D. Id. July 19, 2002).

25. *SAFE*, 373 F.3d at 1043.

26. American Mining Cong. v. EPA (*AMC I*), 824 F.2d 1177, 1186 (D.C. Cir. 1987). In *AMC I*, a mining industry group successfully challenged EPA's claim of regulatory authority over "spent" materials from industrial processes that were recycled.

27. *See* American Mining Cong. v. EPA (*AMC II*), 907 F.2d 1179, 1186 (D.C. Cir. 1990). In *AMC II*, a mining industry group unsuccessfully asserted that materials that *could* be recycled at some future time were exempt from EPA regulation.

28. *See* United States v. ILCO, 996 F.2d 1126, 1131 (11th Cir. 1993). In *ILCO*, a lead smelting company unsuccessfully argued that car batteries the company had purchased from a salvager for the purpose of reclaiming the lead therein were not regulable wastes because the company intended to recycle the batteries.

industrial production.[29] EPA does not consider these recycled materials "solid waste" because the manner in which they are produced and reused is "more akin to normal industrial production than waste management."[30] Using this test as a guide, the panel concluded that the grass residue was a recycled material and therefore not a "solid waste" whose disposal could be enjoined under RCRA's citizen-suit provision.[31]

III. ANALYSIS: INAPPROPRIATE TEST, INADEQUATE APPLICATION

A. Was the Ninth Circuit's Test Correct?

First, one might question whether it was appropriate for the panel to apply to non-hazardous solid wastes generated by agricultural activities a test derived from cases that analyze hazardous wastes generated by industrial operations. Further, these industrial hazardous waste cases are distinguishable from *SAFE v. Meyer* in that the former were brought as actions to enjoin EPA regulatory authority, while the latter was filed as a citizen suit.[32] The cases the majority looked to for its test had addressed when EPA has authority, under RCRA's mandate that the agency develop a regulatory scheme for the treatment, storage and disposal of hazardous wastes,[33] to regulate in-process secondary materials. These cases thus relied on the meaning of solid waste as defined by EPA regulations.[34] In EPA's most recent promulgation, "solid waste" consists of those materials that are "abandoned by being disposed of, burned or incinerated; or accumulated, stored, treated... before or in lieu of" those activities.[35]

By contrast to these industrial cases, *SAFE v. Meyer* addressed citizens' rights to bring suit for disposal of non-hazardous solid waste that poses a substantial and imminent danger to human health.[36] Such cases do not trigger EPA's regulatory authority and therefore do not rest on the regulatory definition of "solid waste."[37] In citizen suits for non-

29. *See* H.R. REP. NO. 94-1491, at 4.

30. Proposed Revisions to Definition of Solid Waste, 68 Fed. Reg. 61,558, 61,561 (Oct. 28, 2003).

31. *SAFE*, 373 F.3d at 1047.

32. *AMC I*, 824 F.2d 1177; *AMC II*, 907 F.2d 1179; *ILCO*, 996 F.2d 1126 (11th Cir. 1993); *SAFE*, 373 F.3d at 1038.

33. *See* 42 U.S.C. §§ 6921-6939 (2000).

34. Determining whether a substance is "solid waste" is preliminary to classifying it as hazardous waste, since hazardous waste is a subset of solid waste. Thus, if a material does not meet the regulatory definition of solid waste, it cannot be hazardous waste. *See id.* at § 6903(5).

35. 40 C.F.R. § 261.2(b) (2005).

36. *See* 42 U.S.C. § 6972(a)(1)(B).

37. *See* Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305, 1315 (2nd Cir. 1993) (explaining how the regulatory and statutory definitions of "solid waste" apply in different types of citizen suits). Solid wastes (i.e. non-hazardous waste) and hazardous wastes are

hazardous wastes, the court must instead look to the meaning of solid waste as defined by RCRA's statutory text, not the regulations interpreting RCRA.[38] For these reasons, Judge Paez, the dissenter on the Ninth Circuit panel, disagreed that the industrial cases were persuasive authority.[39]

To assess whether the recycled materials exception to "solid wastes" defining the scope of agency regulation of hazardous wastes generated in industrial processes should be applied to citizen suits in the agricultural setting, it is necessary to explain briefly the holdings of the recent cases interpreting the exception. *American Mining Congress I* (*AMC I*) challenged EPA's attempt to regulate all materials recycled in an industrial process that were not "directly reused" as an ingredient or effective substitute for a commercial product.[40] If a material is "reclaimed" (i.e., regenerated or otherwise processed to recover a usable product), it is not "directly reused."[41] The D.C. Circuit rejected EPA's attempt to limit the exemption from regulation only to those recycling activities that occurred in "closed-loop" manufacturing processes. Instead it ruled that any materials "destined for beneficial reuse or recycling" in an industry's "ongoing production processes" were exempt from regulation because such materials had "not yet become part of the waste disposal problem." [42]

The D.C. Circuit refined this definition in *American Mining Congress II* (*AMC II*) to emphasize that materials must be "retained for *immediate* reuse" to qualify as exempt.[43] The potential for reuse is not enough to place materials outside EPA's regulatory purview.[44] *AMC II* did not overrule *AMC I* because it did not require that a manufacturer "directly" reuse a material, only that the manufacturer "immediately" reuse the material rather than store it.[45] In other words, the manufacturer must reuse a byproduct in a subsequent production phase without delay,

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regulated differently, with states having great discretion over management of solid waste and the federal government having oversight of the handling of hazardous waste. *See generally* RCRA, subch. IV, 42 U.S.C. §§ 6941–49 (solid waste provisions) and RCRA, subch. III, 42 U.S.C. §§ 6921-39 (hazardous waste provisions) (2000).

38. *See Conn. Coastal Fishermen*, 989 F.2d at 1315.

39. *SAFE*, 373 F.3d at 1050-51 (Paez, J., dissenting).

40. *AMC I*, 874 F.2d at 1177, 1180 n.2.

41. *Id.*

42. *Id.* at 1186.

43. *AMC II*, 907 F.2d at 1186 (D.C. Cir. 1990) (quoting *AMC I*, 824 F.2d 1177 (D.C. Cir. 1987).

44. *Id.*; United States v. ILCO, 996 F.2d 1126, 1132 (11th Cir. 1993) (stating that "previously discarded solid waste, although it may at some point be recycled, nonetheless remains solid waste"); American Petroleum Inst. v. EPA, 906 F.2d 729, 741 (D.C. Cir. 1990) (holding that metals discarded by steel mills remained solid waste when purchased by a metal recovery facility).

45. *See AMC II*, 907 F.2d at 1186.

but he may alter, denature, or otherwise act upon the byproduct before feeding it into that next stage. Together, the cases appear to restrict exemption from regulation to recycled materials that "pass in a continuous stream or flow from one production process to another,"[46] but do not prohibit intermediate reclaiming or processing, so long as such processing is part of the ongoing production process.

In *United States v. ILCO,* the Second Circuit referred to *AMC II*'s requirement of immediate reuse to hold invalid a lead smelting company's attempt to have the spent car and truck batteries it acquired from other sources exempted from regulation as recycled materials.[47] Because the original owners cast off these batteries as junk rather than reusing them immediately in a production process, there was a time lag between the discarding of the batteries and their repossession and reclamation by the smelters. The fact that the lead smelters were recovering and reusing lead from previously used materials was not sufficient to enable the spent batteries to be classified as exempt recycled materials.[48]

AMC I, *AMC II*, and *ILCO* laid out in greater detail the inquiry involved in making the threshold determination of whether a material is "solid waste" for the purposes of deciding whether EPA can regulate that material as "hazardous waste." Judge Paez' dissent in *SAFE* suggested that, because the industrial cases start from a different point (the regulatory, not statutory, definition of "solid waste") and have a different ultimate aim from the citizen suits (whether the material is "hazardous waste" subject to EPA regulation, as opposed to whether the disposal of the material should be enjoined as a danger to health and the environment), the judicial refinements on what constitutes solid waste developed in these cases ought not to apply in *SAFE v. Meyer.*[49]

The majority argued, somewhat compellingly, that the interpretation of what constitutes "solid waste" should be no different in the context of a citizen suit over non-hazardous substances than it is in the context of EPA's regulation of hazardous substances, because in both cases the "solid waste" determination is a threshold finding based on the statutory definition.[50] Moreover, in defining "solid waste" as "any garbage, refuse... and other discarded materials," RCRA does not specially

46. *AMC 1*, 824 F.2d at 1190.

47. *ILCO*, 996 F.2d at 1132.

48. *Id.* at 1131 (noting that *"[s]omebody* has discarded the battery in which these components are found. This fact does not change just because a reclaimer has purchased or finds value in the components.") In *SAFE v. Meyer*, the Ninth Circuit panel read *ILCO*'s holding as imposing an additional condition for obtaining a recycling exemption from EPA regulation, namely that a recycled material must be reused by its original owner, not by a salvager or reclaimer. 373 F.3d at 1043.

49. *See SAFE*, 373 F.3d at 1050–51 (Paez, J., dissenting).

50. *Id.* at 1046, n.14.

define "discarded."[51] In the absence of special statutory definitions, courts usually interpret words according to their "ordinary meaning." The regulatory definition of "discarded"—"abandoned"[52] (used in the regulatory context of hazardous waste)—dovetails the dictionary definition of "discarded" (used in the citizen suit context of non-hazardous solid waste).[53] Because the two definitions are largely equivalent, the court thought it logical that the inquiry into whether a material is "solid waste" should be the same for citizen suits targeting disposal of non-hazardous solid waste as for regulatory enforcement actions against improper handling of hazardous waste.[54]

However, the effect of declaring a substance "solid waste" within the meaning of RCRA is quite different in the two contexts. In the precedent cases, exemption from "solid waste" affords industrial waste generators relief from EPA regulation; exemption from "solid waste" for the burned residue at issue in *SAFE v. Meyer* immunizes emitters from citizen actions to stop release of dangerous substances into the open air. *AMC II*'s exemption from "solid waste" of materials immediately, albeit indirectly, reused may have been appropriate in determining whether agency oversight of factory-contained substances was required. Exemption makes some sense for industry recycling because close

51. 42 U.S.C. § 6903(27) (2000).

52. 40 C.F.R. § 261.2(a)(2) (2005). The full definition of "discarded material"

> is any material which is (i) Abandoned . . . or (ii) Recycled . . . or iii) Considered inherently waste-like . . . or (iv) A military munition identified as a solid waste in 40 C.F.R. § 266.202 . . . Materials are solid waste if they are abandoned by being:(1) Disposed of; or (2) Burned or incinerated; or (3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated. Materials are solid wastes if they are recycled—or accumulated, stored, or treated before recycling . . . [and are] used in a manner constituting disposal; . . . applied to or placed on the land in a manner constituting disposal; or used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

40 C.F.R. §§ 261.2(a)(2)-(c)(1).

53. The Oxford English Dictionary defines "discard" as "to cast off, cast aside, reject, abandon, give up." The American Heritage Dictionary defines "discard" as "to throw away, reject."

54. It is true that the regulations cover a narrower collection of "solid wastes" than the statute does, see Brief for Pl. at 24–25, but that is because EPA is only authorized to issue regulations for hazardous solid wastes. *See* 42 U.S.C. § 6921 (2000). Since not all solid wastes are hazardous, not all solid wastes are covered under the regulatory definition. One might argue that Congress intended to require a narrower threshold construction of "solid waste" in the context of hazardous wastes, thereby restricting the scope of EPA's ability to regulate hazardous byproducts more than citizens' ability to bring suit against disposal of non-hazardous materials that are alleged to cause "imminent and substantial harm." However, beyond the statute's particular preoccupation with encouraging recovery and reuse of hazardous substances, see 42 U.S.C. § 6902(a)(6), there is little to indicate legislative intent to make the threshold inquiry for whether a material is solid waste different depending on whether the substance at issue is hazardous or non-hazardous.

regulation might chill the recycling efforts that RCRA sought to encourage. However, the same exemption seems far less appropriate applied to an agricultural process in which immediate, but indirect, reuse of byproducts causes a health hazard. In this setting, classifying the byproduct as "non-waste" blocks citizen attempts at self-protection and otherwise does not advance RCRA's conservation goals. Given the different contexts, policy rationales, and consequences of exempting certain materials from the "solid waste" category, the court was wrong to make *AMC II*'s holding a critical step in its analysis.

B. Flaws in the Ninth Circuit's Application of the Test

1. The Court Did Not Faithfully Apply Its Own Test

Even accepting the court's reliance on contextually different precedents to analyze *SAFE v. Meyer*, the panel did not, in evaluating the facts of the case, adhere to the very test it constructed.The court's application of the three-part test it outlined earlier in the opinion is flawed in three ways.

First, the panel focused almost exclusively on the first factor—whether the material is "destined for beneficial reuse or recycling in a continuous process by the generating industry itself."[55] Within this factor, the panel emphasized whether the material was "destined for beneficial reuse" to the exclusion of whether the material was "recycled in a continuous process."[56] Thus, the court overlooked the fact that the grass residue is not, following harvest, returned to the soil as the next step in a sequential production process. Moreover, the majority's assumption that open field burning is an acceptable form of recycling contradicts the fact that burning was not the type of continuous process of recycling contemplated either by RCRA itself[57] or by EPA's interpretive regulations.[58] Rather, burning disrupts the recycling of materials. Farmers do not mulch the grass residue into the ground directly after harvesting the seed, but first set the field alight, only afterwards returning the residue to the soil.[59] In the court's opinion, because the growers benefited from burning the residue, the burning process was necessarily a vital component of the production of grass seed. In making this finding, the court effectively equated receiving benefits with recycling. This "primary

55. *SAFE*, 373 F.3d at 1043.

56. *Id.* at 1045.

57. *See* H.R. REP. NO. 94-1491, pt. 1 (1976), *reprinted in* 1976 U.S.C.C.A.N. at 6241.

58. *See* 40 C.F.R. § 261.2(c)(1)–(4) (identifying when recycled materials will be considered solid waste: when "used in a manner constituting disposal", "burn[ed] for energy recovery", "reclaimed", and "accumulated speculatively").

59. *See* Reply Brief for Pl. at 13.

benefit" analysis gave overly generous deference to the defendants' characterization of their activities as a continuous process and expanded the recycled materials exception to "solid waste" to a dangerous extent. By accepting defendants' argument that burning is an essential phase of the agricultural process, the court potentially widened the RCRA exemption for recycled materials to permit 'recycling' treatment, no matter how toxic or injurious the byproducts, as long as the treatment has some putative benefits to the main production and the residue is not deposited in a landfill.

Second, the court's analysis of whether the residue was beneficially reused relied solely on the defendants' testimony as to their intent in burning and the benefits they reaped from the activity. The court did not investigate what actually *happens* to the grass residue as a consequence of burning. Nor did it interpret "beneficial" to incorporate an objective assessment of whether the material was reused in a helpful, rather than harmful, manner. The court analyzed whether the growers' method of reusing the grass was beneficial solely from the growers' perspective, neglecting to consider whether burning was beneficial to the surrounding community or to future farmers of the burned land. A consideration of these interests would likely have yielded a negative finding on the question of "beneficial reuse." Burning produces fine particulate matter that causes a variety of health problems.[60] It also scorches the soil and kills the food source for biotic resources, making composting impossible.[61] RCRA sought to encourage recycling not for the benefit of the waste generator, but for the benefit of society as a whole.[62] If fewer

60. Short and long-term exposures to particulate matter (PM) have been identified as risk factors for respiratory and cardiopulmonary diseases. *See* Ernie Hood, *Particulate Matter—A Particular Concern*, 110 ENVTL. HEALTH PERSPECTIVES A456 (2002). PM-2.5 is particularly damaging because, when inhaled, the tiny particles evade the normal filtering processes of the lungs and penetrate the alveoli. For an account of the epidemiology of health effects from exposure to PM, *see* EPA, FOURTH EXTERNAL REVIEW DRAFT FOR PARTICULATE MATTER 8-1 to 8-276 (June 2003), *available at* http://cfpub2.epa.gov/ncea/cfm/recordisplay.cfm?deid=58003. In extreme cases, the tiny particles can set off an acute inflammatory response that causes an exposed individual to suffocate. Telephone Interview with Patti Gora, Executive Director of SAFE (Oct. 8, 2004); *see also* Declaration of Michael McCarthy, CV-02-0241N-EJL (2003) (noting an increase in Spokane-area patients' respiratory problems coinciding with the annual field burning season).

61. Telephone Interview with John Hart, Professor, Oregon State University (Oct. 14, 2004). Past burning is what makes composting particularly difficult for bluegrass farmers today, since it would take years of not burning for the species capable of decomposing the straw to develop and thrive in the soil. Telephone Interview with Patti Gora, Executive Director of SAFE (Oct. 8, 2004); *see also* Dr. Jim Bauder, Extension Soil and Water Quality Specialist, Montana State University, *Burning Stubble: A Frequent Question* (1998), *at* http://scarab.msu.montana.edu/agnotes/docs/129.htm (documenting burning's long-term detrimental effects on soil quality and the consequent decrease in crop yields).

62. *See* H.R. REP. NO. 94-1491, at 2 (explaining that RCRA "is a multifaceted approach toward solving the problems associated with the 3–4 billion tons of discarded materials

materials were discarded, landfills would not be filled up as quickly, leaving more uncontaminated open space for other purposes. Likewise, recycled materials would supplant raw materials and obviate somewhat the need for relentless exploitation of natural resources. Because both of these goals further community benefits, the court should have read "beneficial reuse" in the context of RCRA more broadly than "re-used to the growers' benefit."

Finally, the court erred in separating the determination of whether a material is solid waste from the inquiry into how the materials are handled. Nothing in either the statutory or regulatory definition of "solid waste" suggests that the analysis of "discarded" must occur independently of and prior to a consideration of how the materials are processed.[63] On the contrary, a commonsense reading of the term "discard" incorporates an assessment of the manner in which a material is "discarded." A person who smokes does not recycle the smoke that escapes from the burning cigarette simply because, by breathing in a greater portion of the smoke, he receives the benefit of a nicotine fix. In similar RCRA actions, a few federal courts have specifically rejected the notion that the waste recycling determination should be separated from a consideration of how that waste was handled.[64]

Production of some benefit does not redeem all disposals, magically transforming them to reuses.[65] A more probing examination of the facts would have revealed that the recycling aspect of open field burning was only an incidental benefit to the growing and burning process. The growers primarily benefited from burning as a method to get rid of the grass residue cheaply and thoroughly. I would argue that RCRA regards true recycling differently from waste disposal that happens to have incidental benefits. In the first paradigm, the benefits are achieved through *recycling*, RCRA's avowed purpose; in the second, the benefits are achieved through *disposal*, with reuse (here, more accurately, accommodation of residue into the soil) an ancillary benefit.

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generated each year, and the problems resulting from the anticipated 8% annual increase in the volume of such waste.").

63. *See* 42 U.S.C. § 6903(27); SAFE v. Meyer, 373 F.3d 1035, 1050 n.6 (9th Cir. 2004) (Paez, J., dissenting) ("whether the post-harvest crop-residue is 'solid waste' is inextricable from the question of how those materials are handled."); 40 C.F.R. § 262.2(a) (2005).

64. *See, e.g.*, Water Keeper Alliance, Inc. v. Smithfield Foods, Inc., 2001 U.S. Dist. LEXIS 21314 at *12 (E.D.N.C. 2001) (holding that "whether defendants 'return' animal waste to the soil as organic fertilizer is a functional inquiry focusing on defendants' use of the animal waste products rather than the agricultural waste definition.").

65. *See* Brief for Pl. at 40 (analogizing defendants' argument to "someone . . . placing [garbage] on the street for waste pickup and then saying she was not discarding the garbage, because getting rid of it had important benefits, like leaving more room in the garage, having fewer mice or insects, and having the house smell better.").

2. Court Wrongly Decided the Case on Summary Judgment

However, the court was unable to draw this distinction because it was insufficiently briefed on the facts. Plaintiffs did not have the opportunity to deliver a complete account of the evidence because the court did not grant plaintiffs a full hearing. Instead, the panel relied on the scanty factual record from the district court's preliminary injunction hearing. As befits a preliminary injunction, the earlier hearing had been cursory. Two days were allotted for witness presentations, and the time dedicated to cross-examination was half that of the time for direct examination.[66] SAFE focused primarily on explaining the health harms.[67] Had plaintiffs been afforded more time to present their evidence, they could have more thoroughly refuted the growers' claims about recycling. Although the Ninth Circuit has the authority to convert a motion to dismiss to a motion for summary judgment, it was arguably unfair to decide the action on the basis of evidence from a preliminary injunction hearing. Indeed, at this stage "it is generally inappropriate for a federal court... to give a final judgment on the merits" since a party is not compelled to "prove his case in full" in the preliminary-injunction phase.[68]

Even as a motion for summary judgment, the court's decision to dismiss SAFE's complaint was improper because there were disputed issues of fact as to whether the growers actually receive through recycling the benefits they derive from burning the grass residue. By the court's own analysis, if the growers did not receive these benefits primarily from the act of returning the residue in altered form to the soil, the residue could not be included among certain recycled materials exempted from the category of "solid waste."[69] Rather, if the benefits were achieved primarily by virtue of disposal, the residue would have to be considered "discarded" and hence "solid waste."

Significantly, the primary reason for burning was disputed. Defendants claimed that they employed burning as a means to "fertilize, protect, stimulate, and prepare the fields for the following year's harvest."[70] Plaintiffs, on the other hand, characterized the burning differently. They asserted that defendants' alleged benefits from burning itself were minimal and incidental. Rather, the growers derived most of their benefits simply from getting rid of the stubble, not from achieving

66. Telephone Interview with Patti Gora, Executive Director of SAFE (Oct. 8, 2004).
67. *See* Pet. for Reh'g En Banc at 3, No. 02-35751 (July 21, 2004).
68. *See id.* at 6 (citing Univ. of Tex. v. Camenisch, 451 U.S. 390, 395 (1981)).
69. *See SAFE*, 373 F.3d at 1043–44.
70. Brief for Def. at 2.

any inherently transformative effects in the soil by burning.[71] Testimony from at least one expert for the plaintiffs directly refuted defendants' claim, showing instead that what drives the burning is the necessity of clearing the stubble from the fields in order to expose the crown of the grass to sunlight and eliminate pests, weeds, and insects that would not only interfere with the next season's harvest but also shorten the productive lifespan of a single planting.[72] Burning may have incidental benefits, but it is first and foremost a method of ridding the field of stubble.[73] In glossing over this dispute about how the effects of burning ought to be characterized, the court appears not to have viewed all facts and weighed all inferences in favor of the plaintiff, the non-moving party.

The court stated that the defendants achieve two benefits from the alleged reuse of the grass residue: "returning nutrients to bluegrass fields and facilitating the open burning process."[74] First, it puts the cart before the horse to declare "facilitating the open burning process" a benefit, when the issue of whether burning can constitute a beneficial reuse is the very issue before the court.

The court justified its characterization of "facilitating the open burning process" as an overall benefit because it created four subsidiary benefits—extension of the productive life of bluegrass fields, nutrient restoration a repetition of the first benefit cited above, elimination of insects and disease and consequent reduction of the need for pesticides, and blackening of the soil, which maximizes sunlight absorption.[75] The parties disputed whether these benefits existed.[76]

The defendants' sunlight absorption claim was suspect. Plaintiffs contended that three of these touted benefits—sunlight absorption, pest elimination, and greater yields—are achieved through disposal alone, not through the chemical process of burning, while the fourth—nutrient

71. *See* Brief for Pl. at 39; *see also* Rebecca Harms, *Kentucky Bluegrass Seed Production Management in Western Nebraska and Eastern Wyoming* (July 1998), *available at* http://ianrpubs.unl.edu/horticulture/nf377.htm (advising growers that "[i]t is essential that the grass residue is removed from the field as soon after harvest as is possible . . . [t]he standard method to remove residue is burning.").

72. Decl. of Art Krenzel ¶¶ 5–6; *see also* MARVIN D. BUTLER, ET AL., KENTUCKY BLUEGRASS SEED PRODUCTION IN CENTRAL OREGON, EM-8807, at 5 (2002), *available at* http://www.ag.uidaho.edu/bluegrass/FromJohn/Kentucky%20bluegrass/Production/KBG.pdf ("Kentucky bluegrass requires a cleaner crown than many other [grass] species . . . to maintain an economic level of seed production.").

73. Significantly, Idaho's provisions governing open field burning are contained in the Smoke Management and Crop Residue *Disposal* Act. IDAHO CODE §§ 22-4801–4804 (2005) (emphasis added). Specifically, the Act states that the "open burning of crop residue grown in agricultural fields" is allowed "for the purpose of *disposing* of crop residue." § 22-4803 (emphasis added).

74. *SAFE*, 373 F.3d at 1043.

75. *Id.* at 1043–44.

76. Brief for Pl. at 36–39.

replenishment—is achieved better *without* burning.[77] In order for the grass crop to rejuvenate after harvest, the crowns of the grass blades must be exposed to sunlight. The residue obscures the crowns and prevents them from receiving necessary sunlight.[78] However, mechanical residue removal, like burning, allows the crowns to be exposed to light, albeit not as thoroughly. Until defendants' assertion at the preliminary injunction hearing of a hitherto unidentified albedo effect from burning, the need for blackened soil to enhance photo-induction had never been mentioned in the scientific literature on bluegrass cultivation.[79] The court ought to have been suspicious of this "newly discovered" effect of burning.

Defendants' claim that burning enables superior nutrient recycling is also suspect. The physical and chemical reality is that most of the grass residue that defendants claimed to recycle does not settle on the ground as ash, but rises from the fields in smoke plumes, either dispersing into the atmosphere or lodging in people's lungs. A rough estimate of any type of grass residue would show that approximately 45% of the straw is carbon, 52% is some combination of oxygen and hydrogen, and the remaining 3% is a combination of thirteen mineral nutrients, four of which—nitrogen, sulfur, potassium, and phosphorous—are the most crucial for the healthy growth of a grass crop and abundant seed yield.[80] Burning causes most of the carbon and oxygen to be released into the air as greenhouse gases, while much of the hydrogen combines with oxygen to create water vapor. As for the nutrients, as noted above, burning sends most of the nitrogen and sulfur up in smoke; only phosphorous and potassium are returned in any substantial portion to the ground as ash.[81] In fact, almost all the physical components of the residue do not reenter the growing process but dissipate into the air, thereby becoming part of the "solid waste problem."[82] By contrast, if the residue were mulched,

77. *Id.* at 39–40.

78. *Id.* at 39.

79. Telephone Interview with Patti Gora, Executive Director of SAFE (Oct. 8, 2004); *see also* IDAHO STATE DEP'T OF AGRIC., DETERMINATION REGARDING ECONOMICALLY VIABLE ALTERNATIVES TO THERMAL DISPOSAL OF CROP RESIDUE 7 (2004) (noting that thermal production is "necessary to achieve adequate thinning of the bluegrass stand and to provide adequate light to the grass crowns and tillers" and is "less expensive than other methods of control[ling] diseases, insects, pests, or weed infestations."), *available at* http://www.idahoag.us/Categories/Environment/Smoke/Documents/Directors_finding_8_6_04.pdf.

80. Telephone Interview with John Hart, Professor, Oregon State University (Oct. 14, 2004).

81. John Heard, et al., *The Nutrient Loss with Straw Removal or Burning in Manitoba*, PROC. OF THE 2ND ANN. MANITOBA AGRONOMISTS CONF. 236, 237 (2001), *available at* http://www.umanitoba.ca/afs/agronomists_conf/2001/pdf/heard2.pdf (reporting findings that the burning of crop residue resulted in the following loss of nutrients: >90% of Carbon and Nitrogen, 75% of Sulfur, 24% of Phosphorous, and 35% of Potassium).

82. H.R. REP. NO. 94-1491, at 2 (noting that "not only solid wastes, but also liquid and . . . gaseous wastes, semi-solid wastes and sludges are the subject of this legislation").

potassium would be recycled to the soil as well as nitrogen, albeit in a form that would make only about 10% accessible to the new plants.[83]

The other two benefits of burning, disease reduction and extended productive field life, cannot properly be characterized as products of recycling at all. They are achieved because burning is the most effective decontaminant of the soil.[84] The reason that grass residue cannot simply be left on the fields after harvest is that it would create a thicket of thatch in which insects, fungi, weeds, and diseases would develop and interfere with the growing of the next year's crop.[85] Fire kills these pests more cost-effectively than any other method of residue removal.[86] Fire extends a field's productive life. A field that has been burned usually can produce grass seed for up to ten years before requiring replanting, while a field that has been subjected to other forms of residue removal usually must be replanted after three, four, or sometimes as few as two years.[87]

If, by some botanical oddity, bluegrass harvesting no longer left stubble and straw on the field, it is unlikely that growers would seek to procure an equivalent type of grass residue in order to burn and apply the resulting ash to the soil.[88] This hypothetical example suggests that the residue is not an integral part of the growing process but an unwanted byproduct that must be discarded. Given RCRA's stated purpose "to promote the protection of health and the environment and to conserve valuable material and energy resources,"[89] it seems that an activity that neither replaces a raw material in a production process nor, by its occurrence, protects human health or the environment, should not be considered "recycling." The scientific evidence would show both that reuse of the residue is minimal and that the lion's share of the benefits of residue burning are a consequence of disposal, a goal that happens to be most effectively accomplished by burning.

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83. *Id.* For the economic value of essential nutrients in tall fescue and perennial ryegrass, two turfgrasses similar to Kentucky bluegrass, see John Hart, *Nutrients in Grass Seed and Straw*, 15-5 CROP AND SOIL NEWS/NOTES 4–5 (2001), *available at* http://cropandsoil.oregonstate.edu/newsnotes/0105/soils.html. The average nutrient value per acre of nitrogen for these grasses is approximately $30–35. *Id.*

84. *See* Brief for Pl. at 40.

85. *See Butler*, *supra* note 8.

86. *See* DETERMINATION REGARDING ECONOMICALLY VIABLE ALTERNATIVES TO THERMAL DISPOSAL OF CROP RESIDUE, *supra* note 79.

87. *See* Donn Thill, *Integrated Management System for Sustained Seed Yield of Kentucky Bluegrass Without Burning*, STEEP PROGRESS REP. (2001), *available at* http://pnwsteep.wsu.edu/annualreports/2001/sp3thill.htm.

88. Indeed, in Oregon, where the state strictly limits open field burning, farmers rarely take advantage of other permitted burning methods, which, while more costly and time-consuming, would conceivably produce the same ash and provide the same affirmative benefits that allegedly exceed the sole purpose of clearing the fields of waste. *See* discussion *infra* Part VII(B).

89. 42 U.S.C. § 6902 (2000).

RCRA surely did not contemplate that recycling should be achieved at the expense of air quality. Rather, RCRA was seen as a supplement to earlier federal statutes enacted to protect air and water. Indeed, the House Committee introduced its report on the bill by declaring that "[t]he existing methods of land disposal often result in air pollution, subsurface leachate and surface run-off, which affect air and water quality. This legislation will eliminate this problem and permit the environmental laws to function in a coordinated and effective way."[90] The committee report indicates that RCRA's proponents enacted the statute not simply to encourage reclamation and reuse for the sake of conserving resources, but also to close a loophole in existing environmental laws and thereby lead to a healthier environment. A finding that materials are not discarded when they are only partially recycled and harm human health conflicts with RCRA's purpose. EPA also intended to allow only those materials that were totally recycled to be exempted from placement in the category of "solid waste". In carving out an exception to its regulation for recycled materials, the agency has reserved the right to regulate all extraneous derivatives of recycling processes.[91]

IV. IMPLICATIONS FOR EPA'S POWER TO REGULATE HAZARDOUS WASTE UNDER RCRA

The panel's opinion is problematic in its apparent determination that field burning is a vital part of the growing process simply because it only provides benefits tangentially, if at all, related to recycling. Thus, under the meaning of the industrial cases concerning hazardous waste from which the panel derives its test, burning is an acceptable form of processing for reuse. Despite being essentially a destructive activity, burning does not represent an interruption in the ongoing production process. Similarly, despite the fact that burning causes only a portion of the residue to "pass in a continuous stream" to another phase of the generating process, the burning is not considered to have contributed to the "waste disposal problem."

By suggesting that the manner and effects of processing a material are irrelevant to whether that material is "discarded" so long as the material is at least partially returned to the original generating process, the court invites a relaxation of the standards under which in-process secondary materials lose their exemption from EPA regulation.[92] Since a

90. H.R. REP. NO. 94-1491, at 4.

91. *See* EPA proposed rule, Revisions to the Definition of Solid Waste, 68 Fed. Reg. 61,558, 61,563 (Oct. 28, 2003) ("EPA notes that it continues to regard any material intended for recycling that escapes into the environment as 'discarded' and, therefore, within its statutory jurisdiction.").

92. *See* SAFE v. Meyer, 373 F.3d 1035, 1050 (9th Cir. 2004) (Paez, J., dissenting) ("According to the majority's logic, any disposal process, no matter how environmentally

material must be deemed solid waste before it can be listed as hazardous waste, the panel's shrinking of the universe of "solid wastes" poses a danger to EPA's powers to regulate hazardous waste. A manufacturing byproduct could be physically and chemically altered, or fragmented so that only a portion is reusable, and remain outside EPA's jurisdiction, simply by being minimally recycled. The court's intent-based definition of "discarded" thus undermines the efficacy of EPA regulations that require that "residue... resulting from a thermal process shall be disposed of in an environmentally acceptable manner," that "unwanted residue materials remaining after the recovery operation shall be disposed of in a manner which protects the environment,"[93] and that "secondary materials that are reclaimed and returned to the original process... in which they were generated" are excluded from solid waste unless "used in a manner constituting disposal."[94]

V. IMPLICATIONS FOR PLAINTIFFS

A. Nuisance Claims Barred

Perhaps the more disturbing consequence of the panel's opinion is that it leaves the injured plaintiffs with no avenues for relief under federal or state law. The plaintiffs cannot obtain an injunction by filing a tort action in federal or state court alleging nuisance or trespass. According to the District of Idaho in *SAFE v. Meyer*, a federal common law nuisance claim, even if not directly pre-empted by the Clean Air Act, would be ineffective because Congress has not empowered the courts to develop case law to remedy air pollution.[95] The district court was also not persuaded that the case presented a federal question based on the interstate dispute regarding field burning between Washington and Idaho, both of whose citizens are affected by the smoke.[96]

Plaintiffs are also stymied in bringing a nuisance or trespass claim at the state level. Like many states, Idaho has passed a "Right to Farm Act" that limits nuisance claims against existing agricultural operations to

unsound, would be exempted from the reach of RCRA as long as the waste residue was eventually returned to the soil.").

93. 40 C.F.R. § 240.208-1 (2005).

94. 40 C.F.R. § 261.4(a)(1)(ii)–(iv) (2005).

95. *See* SAFE v. Meyer, CV-02-241-N-EJL at 13-14 (quoting Milwaukee v. Illinois, 451 U.S. 301, 317 (1981) (noting that "federal common law may be fashioned only where . . . 'Congress has given the courts the power to develop substantive law.'"); THOMAS J. SCHOENBAUM, RONALD H. ROSENBERG, & HOLLY D. DOREMUS, ENVIRONMENTAL POLICY LAW 61 (4th ed. 2002) (noting that "in the modern ear, the Supreme Court has effectively nullified the federal common law of nuisance.").

96. SAFE v. Meyer, CV-02-241-N-EJL at 14.

those where the farmers' actions are obviously improper or negligent.[97] This statute was in effect in 2002, when the district court denied plaintiffs' requested preliminary injunction. In 2003 in response to *Moon v. North Idaho Farmers Association*, a class action suit against grass growers in Idaho state court that asserted common law nuisance claims,[98] Idaho's legislature clarified and strengthened these protections. It enacted House Bill 391, which immunizes growers who burn crop residue from both nuisance and trespass suits as long as the growers follow the provisions of Idaho's smoke management plan.[99] Plaintiffs in *Moon* responded to HB 391 by challenging the constitutionality of the statute.[100] They alleged that disenfranchising citizens of the right to protect their property against nuisance effected a taking without due compensation. Additionally, they alleged that because the statute only applied to Idaho's ten northern counties, it was a "local or special law" forbidden under the Idaho Constitution.[101] The district court agreed with plaintiffs, but the Idaho Supreme Court overturned the lower court, upholding the immunity provision's constitutionality.[102]

Interestingly, Idaho's immunity provision only prevents suits in Idaho courts. Residents of neighboring Washington State who are affected by smoke drifting from open field burning in western Idaho have sued Idaho grass growers in Spokane County Superior Court.[103] The court stayed the litigation pending the Idaho Supreme Court's ruling on the constitutionality of the grower immunity statute.[104] However, now that the Idaho court has approved the statute, the Spokane court must use conflict of laws principles to ascertain whether Washington residents are entitled to the injunctive relief they seek.[105] Traditionally, interstate nuisance claims have been resolved by applying the law of the state in which the source of the nuisance resides. Because Idaho law does not recognize a nuisance action for grass burning, suing in Washington does not seem any more likely to succeed.

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97. IDAHO CODE §§ 22-450–4503 (2004).

98. 96 P.3d 637 (Id. 2004), *cert. denied*, 125 S. Ct. 1299, 161 L. Ed. 2d 106 (2005). The suit represented individuals with cystic fibrosis, heart disease, and asthma against the state of Idaho, the North Idaho Farmers' Association, several seed companies, and approximately sixty grass growers.

99. H.B. 391, 57th Leg., Reg. Sess. (Id. 2003); IDAHO CODE § 22-4803A(6).

100. *Moon*, 96 P.3d at 640–41.

101. *Id.*; *see also* ID. CONST. art. III, § 19.

102. *Moon*, 96 P.3d at 641, 649.

103. *See* Allen-Bold v. Bergen Bothman, C-03-2-05036-3, Mem. Op. (Wash. Super. Ct. 2003).

104. *Id.* at 6.

105. *Id.* at 5.

B. *The Clean Air Act Does Not Offer a Remedy*

1. *Field Burning Does Not Create NAAQS Violations that Put Airsheds in Non-Attainment*

The CAA seems a more suitable statute under which to enjoin the release of airborne particulate matter that harms the plaintiffs than RCRA because, although RCRA's definition of "solid waste" encompasses liquid and gaseous wastes, the statute addresses wastes discarded on the land.[106] Indeed, the Ninth Circuit implied that the plaintiffs should seek redress under the CAA.[107] However, an emissions-producing activity only violates the CAA if it runs afoul of a State Implementation Plan (SIP).[108]

SIPs are the documents that each state is required to prepare in order to ensure compliance with federally established National Ambient Air Quality Standards (NAAQS) that EPA sets for its six identified "criteria pollutants".[109] An SIP usually includes the operating permits and emissions limits for major sources, such as factories and power plants, and guidelines for how area sources, such as agricultural operations, must control their emissions. Through SIPs, states have some flexibility in determining how they will achieve the emissions targets mandated by the NAAQS. However, states do not have absolute discretion, since EPA reviews each SIP for completeness, and an SIP's provisions are not effective until the agency issues its approval.[110] Idaho's SIP incorporates its Smoke Management Plan (SMP), which allows open field burning as long as growers register their fields and receive the Department of Agriculture's imprimatur on the day they conduct a burn.[111] Since EPA has approved this SIP, open burning of grass residue that is carried out consistent with Idaho's SMP is protected from CAA sanctions.

If open field burning of grass residue were to push an area into non-attainment with the NAAQS for Particulate Matter (PM), the state would likely be forced to curtail the practice by revising its SIP. However, the areas where grass residue burning is conducted are in attainment with

106. *See* H.R. REP. NO. 94-1491 at 3.

107. SAFE v. Meyer, 373 F.3d 1035, 1047 n.16 (9th Cir. 2004).

108. Each state prepares a master SIP to cover the entire state and site-specific SIPs to cover the state's component airsheds. These 'baby' SIPs impose more or less stringent emission criteria depending on whether the area addressed is in attainment with the National Ambient Air Quality Standards (NAAQS) or not.

109. *See* 42 U.S.C. § 7410 (2000) (requiring states to develop implementation plans, including enforceable emissions limitations, to bring the state into compliance with the NAAQS). *See generally* 40 C.F.R. pt. 50 for the description of the NAAQS.

110. 40 C.F.R. § 51.105 (2005).

111. *See* 69 Fed. Reg. 31,778, 31,779 (June 7, 2004).

the NAAQS for PM-2.5,[112] the same pollutant responsible for the complaints of adverse health effects resulting from burning.[113] Even if there is a sudden surge in PM-2.5 levels after a farmer burns his field, the event will not likely cause pollutant levels to exceed the NAAQS. Whether a NAAQS is exceeded depends on an air quality monitor's measuring pollutant levels above the maximum allowable limit during the relevant averaging time period. If a source exceeds a pollutant maximum only momentarily during the averaging time period but remains low enough during the remainder of the period to cancel out the momentary pollutant surge, then no exceedence of the NAAQS occurs.

EPA sets concentration limits, averaging times, and forms (the definition for how statistics should be used to identify NAAQS exceedences) for each pollutant covered under CAA.[114] For PM-2.5, two averaging time periods are analyzed—twenty-four hours and one year.[115] The twenty-four-hour limit for PM-2.5 is 65 $\mu g/m^3$ and the annual limit is 15 $\mu g/m^3$.[116] Statistical analysis for determining PM-2.5 attainment for the twenty-four-hour standard involves taking the three year average of the 98th percentile of daily particle concentrations recorded at each monitor.[117] When this figure exceeds 65 $\mu g/m^3$, EPA recognizes a violation.

Open field burning causes PM levels to spike briefly but dramatically, usually for time-spans between one and four hours, but levels have not remained elevated for a sustained enough period for monitors to record a violation of the twenty-four-hour limit.[118] However, the short-term levels are high enough, according to many area physicians, to cause serious respiratory distress— particularly to asthmatics, children,

112. Telephone Interview with Dan Redline, Idaho Dep't of Envtl. Quality (Oct. 24, 2004).

113. *Id.* In its 1997 revisions to the NAAQS for PM, EPA segregated PM 2.5 from PM-10 (the number refers to the diameter of the particles in micrometers), adding the former to the list as a discrete pollutant. The choice to make this distinction stemmed from growing awareness that PM-10 (coarse particles) and PM-2.5 (fine particles) are often emitted from different sources and cause different adverse health and environmental effects. *See* EPA FOURTH EXTERNAL REVIEW DRAFT FOR PARTICULATE MATTER, at 1-4–1-5 (2003).

114. *See* EPA, NAAQS Fact Sheet, *at* http://epa.gov/air/criteria.html (last updated June 29, 2005).

115. *Id.*

116. 40 C.F.R. § 50.7(a)(1) (2005).

117. 40 C.F.R. pt. 50, App. N § 2.2(a) (2005).

118. Under dry conditions, which enhance the residue's ignitability, a 100 acre field can burn in two to three hours. JOHN HOLMAN, CROP PROFILE FOR GRASS SEED IN IDAHO 2, *at* http://www.ag.uidaho.edu/bluegrass/p_production.asp (last visited July 2, 2005).

the elderly, and those with pulmonary impairments,[119] and in rare instances, death.[120]

Given these striking health effects, it is plausible that NAAQS are inadequately designed to reflect the air quality damage from field burning. A dearth of monitors in the areas where exposures to smoke from field burning occur no doubt contributes to the problem. There is evidence that improved monitoring might capture PM exceedences that the current system misses. EPA has recognized that the air quality monitors that measure PM are "not necessarily located in the path of a smoke plume" generated by grass residue burning.[121] Alternatively (or concomitantly), the problem might also be the lack of continuous monitoring for NAAQS compliance.[122] EPA only requires that PM-2.5 be measured for a single twenty-four-hour period, midnight to midnight, every third day.[123] Thus, just as the siting of monitors suggests spatial gaps in the monitoring program that might cause PM from open field burning to be missed, the frequency requirements leave potential temporal loopholes.[124]

In response to the numerical and locational problems, EPA has funded the installation of more Federal Reference Monitors (FRMs) in areas of Northern Idaho affected by grass residue burning.[125] Addressing the apparent need for continuous monitoring, the agency has outlined guidelines for correlating the PM-2.5 data received via continuous monitors to the data produced by the FRMs.[126] Currently, Idaho's Department of Environmental Quality (DEQ) uses continuous

119. On Aug. 21, 2001, PM-2.5 was recorded on the Rathdrum Prairie as 160 $\mu g/m^3$ over the course of an hour, which averaged out to 44 $\mu g/m^3$ for the twenty-four-hour period. *See* Karen Dorn Steele, *Washington Grass Burning all but Doused*, SPOKANE SPOKESMAN-REV., Aug. 29, 2001 at A1.

120. *See* Decl. of Paul Vogel ¶¶ 5–8 (recounting how his wife was overcome by a fatal asthma attack when exposed to smoke generated by a 2,000 acre burn conducted earlier that day). *See also* David Whitman, *Fields of Fire*, U.S. NEWS & WORLD REP., Sept. 3, 2001, at 10 (discussing the death of Marsha Mason in Idaho on Sept. 14, 2000, the cause of which the coroner found to be "intense air pollution" from field burning).

121. EPA REGION 10, AGRICULTURAL BURNING STAKEHOLDER FORUMS: PUTTING THE PIECES TOGETHER 6, EPA 910/F-01-007 (Nov. 2001) [hereinafter STAKEHOLDER FORUMS].

122. *Id.*

123. 40 C.F.R. § 58.13(e) (2005); 40 C.F.R. pt. 50, App. N(1.0)(c) (2005).

124. *See* Letter from Administrator of the Science Advisory Board to Christine Whitman, Administrator, EPA, Review of the Agency's Draft Continuous Monitoring Implementation Plan, EPA-SAB-CASAC-LTR-02-001 (Mar. 1, 2002) [hereinafter Continuous Monitoring Implementation Plan letter] (opining that by operating on an "every third-day basis, [the Federal Reference Monitors] are not providing sufficiently detailed data on airborne particle concentrations.").

125. STAKEHOLDER FORUMS, *supra* note 121, at App. 2 (cataloging approximately $265,000 to establish new monitoring sites in Idaho for PM-2.5).

126. Continuous Monitoring Implementation Plan letter, *supra* note 124 (noting that "continuous hourly data would be extremely valuable in evaluating health effects of airborne particles.").

monitoring to measure PM-2.5 levels in order to carry out its emergency rule, which authorizes cessation of all open burning when the one-hour average concentration exceeds 80 $\mu g/m^3$.[127] The Idaho State Department of Agriculture (ISDA) has a similar rule geared specifically towards crop residue burning, which demands that all burns be halted when a continuous monitor detects PM levels above 64 $\mu g/m^3$.[128] Though the level is lower, it only prevents ignition of new burns; existing burns are allowed to burn out.[129] Thus, PM levels can continue to mount even following an order to stop burning.

Regardless, any surges in PM high enough to trigger either DEQ's or ISDA's Emergency Rules cannot be used to identify an exceedence of the NAAQS because the heightened levels are measured by monitors that EPA has not approved for this purpose.[130] Because the FRMs – the only sampling method the EPA has approved—record PM levels on an intermittent schedule, the probability of collecting a sample on a burn day is relatively low.[131] Indeed, it was on the basis of this FRM monitoring that Idaho determined that none of its counties have been in non-attainment with the EPA's newly promulgated PM-2.5 standards.[132] This conclusion is ironic considering that the data Idaho has collected from its real-time monitors present a (literally) darker picture of air quality than the one gleaned from the intermittent filter-sampling FRMs.[133] During the 2003 burning season, Idaho's continuous monitors measured three days when the *one-hour* concentrations on the Rathdrum Prairie exceeded the *twenty-four-hour* maximum set by EPA.[134] However, because these measurements were not taken from FRMs, they were not factored into the calculations used to detect exceedences of the

127. ID. ADMIN. CODE § 58.01.01(550)–(565) (2004).

128. ID. ADMIN. CODE § 02.06.16.500.02 (2004).

129. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2004).

130. CRD SMP Report, *supra* note 12, at 4 (noting that the continuous "collection method does not qualify as a reference technique per USEPA standards. The continuous data can be compared to the NAAQS but cannot be used to officially determine compliance with the NAAQS.").

131. CRD SMP Report, *supra* note 12, at 4.

132. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2004).

133. Idaho has installed ten real-time monitors for PM-2.5. Five of these monitors are Tapered Element Oscillating Microbalances (TEOMs) that operate by conducting air into a tapered tube whose narrow end contains a filter cartridge subjected to an applied electrical field. As particles accumulate, the narrow tube-end oscillates, its frequency changing according to the particle mass deposited. Four of these monitors are nephelometers, which quantify particles by measuring the degree of light scattering that occurs in the air. Finally, one of these monitors is a Beta Attenuation Monitor (BAM), which collects particles on filter tape and measures the loss of electrons as they pass through the particle-laden tape. EPA has approved the TEOM and the BAM as federal equivalent methods for PM-10, but not for PM-2.5. *Id.*

134. On these occasions, the PM-2.5 levels rose to 69, 71, and 70 $\mu g/m^3$. CRD SMP Report, *supra* note 12, at 11, tbl. 5.

PM NAAQS.[135] Thus, for the purposes of designating non-attainment areas, these high concentrations were essentially ignored.

Even had the measurements been taken from FRMs, the diminution effect of averaging the one-hour peak over twenty-four hours of data would likely have resulted in diurnal levels falling below the 64 $\mu g/m^3$ threshold that would violate the NAAQS. Another fault with the NAAQS, therefore, appears to be that the PM-2.5 averaging standard for short-term exposures is inadequate to reflect dangerous spikes in PM created by field burning. To correct this oversight, the twenty-four-hour standard ought to be supplanted or supplemented with a one-hour standard.

2. *It is Unrealistic to Expect a Revision of the NAAQS*

In order to ensure that the PM-2.5 generated by intermittent burns is fully recorded for purposes of determining whether an airshed is in compliance with the NAAQS, EPA would likely have to make the following changes in its regulations. First, the agency would have to approve the use of continuous monitoring as an equivalent monitoring method.[136] Second, it would have to make sure that monitors were amply located in areas where field burning occurs. Third, it would have to set a one-hour standard for PM-2.5.[137] Presumably, this one-hour standard would be a higher concentration than that defined for twenty-four-hour and annual standards, but would be one that accords with CAA's mandate to protect human health. Fourth, EPA would need to find under this strengthened monitoring scheme and stricter standard that the NAAQS for PM-2.5 were violated such that the areas where field burning occurs would fall into non-attainment. Only then would EPA be able to order Idaho to revise its SIP to bring the non-attainment areas into compliance— changes which ostensibly would include more stringent restrictions on field burning. If growers then flouted these more stringent restrictions, they would be found in violation of the SIP, and plaintiffs would have a remedy under the Clean Air Act.

However, while relatively easy to list the series of EPA actions necessary to address open field burning under the CAA's NAAQS system, making these changes to the monitoring network and standard definitions would be far from straightforward and speedy. EPA's approval of alternative monitoring technologies as Federal Equivalent

135. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2004).

136. Currently, the compliance-monitoring network for NAAQS is composed of Federal Reference Method (FRM) samplers, which record emissions every third or sixth day. For the specifications for FRMs for PM-2.5, *see* 40 C.F.R. pt. 50, App. L (2005).

137. EPA recently revised the averaging time for ozone, replacing the one-hour standard with an eight-hour standard. 62 Fed. Reg. 38,855 (July 18, 1997).

Method monitors (FEMs) is not automatic.[138] The cost of the real-time monitors that would act as FEMs ranges from $8,000 to $20,000 apiece.[139] Moreover, compared to designating FEMs, the process for developing and approving a new standard is even more involved and contentious.

A rough idea of the kind of effort that would be demanded can be inferred from examining the time and deliberation devoted to passing NAAQS for PM-2.5 after it was segregated from PM-10 as a discrete "criteria pollutant." In order to revise a NAAQS, EPA first canvasses and assesses all available scientific data relating to the health and environmental effects of the pollutant under review and compiles a "criteria document" summarizing these findings.[140] The agency's technical staff then prepare a "staff paper" that details the important scientific factors that need to be addressed, identifies uncertainties in the data, evaluates policy implications, and proposes a range of alternative standards.[141] The criteria document and staff paper are presented to the public, other affected federal agencies, and the Clean Air Scientific Advisory Committee (CASAC), a body of independent experts, for their criticisms and suggestions.[142] Each concern raised by industry, environmental advocacy groups, members of the general public, CASAC, or other federal agencies is given thorough attention. After considering all the submitted comments, the EPA Administrator announces a final decision. Even after a final decision is made, litigation can stall enactment.[143] For the designation of PM-2.5 standards, this process began in the early 1990s, and the final standards (promulgated in July 1997)[144] are only now beginning to be implemented.[145] Because of the time

138. See OFFICE OF AIR QUALITY PLANNING & STANDARDS, EPA GUIDANCE FOR USING CONTINUOUS MONITORS IN A PM-2.5 MONITORING NETWORK, EPA-454/R-98-012 (1998), *available at* http://www.epa.gov/ttn/amtic/files/ambient/pm25/r-98-012.pdf, for insight into the technical complexities involved in ensuring that a monitor meets federal standards.

139. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2005).

140. *See* EPA, EPA'S NATIONAL AMBIENT AIR QUALITY STANDARDS: THE STANDARD REVIEW/REEVALUATION PROCESS (July 17, 1997), *at* www.epa.gov/ttn/oaprg/naaqsfin/naaqs.html.

141. *Id.*; *E.g.*, Notice of First Draft Staff Paper for Particulate Matter, 68 Fed. Reg. 51,774 (Aug. 28, 2003).

142. *See* EPA'S NATIONAL AMBIENT AIR QUALITY STANDARDS: THE STANDARD REVIEW/REEVALUATION PROCESS, *available at* www.epa.gov/ttn/oarpg/naaqsfin/naaqs.html.

143. American Trucking Association sued EPA over the revised standards for particulate matter and ozone, alleging that the agency's action was unconstitutional because it resulted from Congress' improper delegation of legislative authority. On appeal from the D.C. Circuit, the Supreme Court reversed in favor of EPA. *See* Whitman v. American Trucking Ass'ns, Inc., 531 U.S. 457 (2001).

144. National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38,652 (July 1, 1997).

145. EPA issued final designations of attainment and non-attainment areas in December 2004. States have until April, 2008 to develop SIPs for non-attainment areas. EPA, Timeline for Implementing the PM-2.5 Standards, *at* http://www.epa.gov/pmdesignations/documents/120/timeline.htm (last updated Dec. 22, 2004).

involved, a revision of the NAAQS would be utterly unsatisfactory for those currently being injured by grass residue burning.

3. *Other Ways of Using the CAA to Enjoin the Practice are Equally Unlikely to be Successful*

Although the release of PM from field burning might not violate the NAAQS as EPA has currently designed and measured them, the CAA, in theory, might still offer a means for plaintiffs to abate the practice. A state's revision of an SIP is only effective once EPA has approved the revision.[146] SAFE sent a sixty day notice of intent to sue the growers under section 304 of CAA on the grounds that the addition of open field burning of crop residue to the Idaho Administrative Procedure Act could not be considered an allowable form of burning[147] or a valid part of Idaho's SIP until approved by EPA.[148] This portion of the SIP is currently under EPA review, and EPA has declared its desire to approve the new provision because it simply clarifies existing statutory language in the Idaho code.[149] EPA's approval would, of course, moot plaintiffs' challenge.

Another potential, albeit partial, solution would be to determine which farms generate enough PM-2.5 annually to qualify as "major sources" under the CAA[150] and thus need a permit in order to carry out their polluting activities.[151] If burning on these farms required permits, they would then be subject to regulation.[152] Notwithstanding the fact that this permitting requirement would not cover smaller farmers, an immediate impediment is that agricultural operations have not hitherto been considered "facilities" under CAA.[153] Even if a court did hold that

146. 40 C.F.R. § 51.105 (2005).

147. ID. ADMIN. CODE § 58.01.01.617 (2004).

148. Letter from SAFE to John Ashcroft, et al. (June 30, 2003), *available at* http://www.safeairforeveryone.com/index.php?id=news&sub=14.

149. *See* 69 Fed. Reg. 31,778, 31,779 (June 7, 2004).

150. Major sources are "facilities" that release at least 25 tons of combined toxics or, for the criteria pollutant, PM-2.5, 100 tons. 40 C.F.R. § 70.2 (2004).

151. Under the 1990 amendments to the Clean Air Act, major sources require operating permits. *See* 42 U.S.C. § 7661 (2000).

152. For an explanation of the regulations imposed on permitted sources, *see generally* 40 C.F.R. pt. 71 (2005).

153. Although the Clean Air Act does not explicitly exempt agricultural operations, it has been the policy of most states to say that the statute does not cover farms. Telephone Interview with Dan Redline, Idaho Dep't of Envtl. Quality (Oct. 24, 2004). However, this protection might be short-lived. The Idaho Conservation League issued a 60-day notice of intent to sue a dairy that contains 8,800 cows. *See Enviro Group to Sue Idaho Dairy for Alleged EPA Violations*, GREENWIRE, Oct. 29, 2004. On a national level, the livestock, dairy, and poultry industries are currently in the process of negotiating a "safe harbor" agreement with EPA to release them from CAA liability in exchange for funding and participating in emissions studies. *See* EPA, Working Draft of Consent Agreement and Final Order, CAA-HQ-2004-xx (Mar. 23, 2004), *available at* http://nutrient.psu.edu/EPAconsent.pdf.

agricultural operations were "facilities," it is quite possible that the definitional boundaries of a "facility" could be drawn in the growers' favor to cover only a single field or contiguous fields, thereby exempting a good deal of residue burning. Additionally, it is not clear whether any of the farms do in fact emit enough PM-2.5 annually to be classified as "major sources."

A third solution under CAA would be for EPA to invoke the use of its emergency power authority under section 303 to shut down a source of pollution that a state refuses to enjoin.[154] While EPA has threatened in the past to invoke this right against Idaho,[155] the power can only be exercised when a source presents an imminent and substantial endangerment to public health, welfare, or the environment. This is essentially the same criterion as RCRA's citizen suit provision but without the requirement that the process enjoined involve "solid waste." If the burning does pose substantial endangerment, section 303 of the CAA would be a good way to circumvent the Ninth Circuit panel's determination that grass residue is not solid waste. Section 303 has previously been used in the industrial context[156] (and even there only rarely), but nothing in the statutory language prevents its use in the agricultural arena. The immediate consequence of EPA's invoking section 303 authority would be a sixty day moratorium on open field burning to allow the growers to implement an alternative pollution-controlling practice.[157] However, in the past two years, the leadership at EPA has shifted course from its earlier demonstrated commitment to intervene. Currently, officials at Region 10 have been appeased by Idaho's avowal that it will improve its Smoke Management Plan and do not seem eager to exercise their emergency authority to halt open field burning.

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154. 42 U.S.C. § 7603 (2000). The statute provides, in relevant part, that "the Administrator, upon receipt of evidence that a pollution source or combination of sources . . . is presenting an imminent and substantial endangerment to public health or welfare, or the environment, may bring suit . . . in the appropriate United States district court to immediately restrain any person causing or contributing to the alleged pollution."

155. *See* ID. DEP'T OF AGRIC., ET AL., STATE OF IDAHO 2002 AGRICULTURAL SMOKE MANAGEMENT PROGRAM STATEWIDE SUMMARY 20 [hereinafter 2002 SMP SUMM.], *available at* http://www.deq.state.id.us/air/data_reports/reports/north_idaho/ag_smoke_mgmt_2002_annual_report.pdf.

156. *See, e.g., In Re* Shallow Water Refinery, No. VII-97-CAA-120 (June 12, 1997) (halting demolition of a mothballed Kansas oil refinery, because, in demolishing the structure, defendants were improperly releasing asbestos).

157. *See* 42 U.S.C. § 7603.

VI. NO FEDERAL REMEDY, NO PROBLEM?

A. Idaho's Smoke Management Plan is Not Effective Enough

Thus far, this note has assumed that, as a matter of justice, plaintiffs should have been awarded a remedy. However, the counter-argument to this assertion is that a federal court had no right to intervene in an internal state matter without a clear violation of federal law. Plaintiffs should rely on Idaho to respond to the problem. Indeed, Idaho has a Smoke Management Plan, developed in 1999 and administered by the Idaho State Department of Agriculture (ISDA) in cooperation with the Department of Environmental Quality (DEQ) that is intended to prevent smoke generated by grass residue burning from invading and hurting nearby residents.[158]

However, there is evidence that Idaho's efforts to reduce burning do not suffice to protect public health in the affected areas and that political reasons prevent Idaho from implementing a ban. Idaho's smoke management plan depends on the premise that it is possible to maintain open field burning as a residue disposal tool for grass growers, while reducing the population's smoke exposure to levels that do not imperil human health.[159]

The plan contemplates careful timings of burns to coincide with meteorological conditions that will sweep the smoke high into the atmosphere and away from population centers.[160] The ideal conditions for an effective burn consist of low surface wind speeds, neither gusty nor stagnant (approximately five miles per hour), extending about 1000 feet into the atmosphere, along with swifter winds above that elevation (approximately fifteen to twenty miles per hour).[161] During ideal conditions, surface winds carry the burn across the field, ensuring relatively complete combustion.[162] The winds at a greater height lift the

158. *See* 69 Fed. Reg. 31,778, 31,779 (June 7, 2004) (describing the transition of the program from DEQ's purview to ISDA's control).

159. *See* 2002 SMP SUMM., *supra* note 155, at 3.

160. ID. DEP'T OF AGRIC., et. al., TECHNICAL GUIDANCE FOR THE IDAHO CROP RESIDUE DISPOSAL SMOKE MANAGEMENT PROGRAM (June 25, 2004) 6, 15 [hereinafter TECHNICAL GUIDANCE FOR CRD SMP].An argument might be made that this strategy of solving a potential pollution problem by dispersing it into the general atmosphere is itself illegal under the Clean Air Act. The 1977 amendments to CAA required EPA to certify smokestack heights for industrial plants that were in accord with "good engineering practice." *See* 42 U.S.C. § 7423. This directive was necessary because many facilities were avoiding their pollution control obligations by constructing stacks so high that the emissions were carried into neighboring airsheds. By analogy, Idaho's program allowing burns only when the wind will whisk the smoke out of the immediate vicinity would seem to be an unacceptable way to maintain NAAQS compliance.

161. TECHNICAL GUIDANCE FOR CRD SMP, *supra* note 160, at 15.

162. Still air is more likely to cause a burn to smolder, producing more smoke without spreading the burn.

smoke to mingle it with cleaner air and then transport the mixture away from the field and its neighbors. Also crucial to an effective burn is dry weather because moisture can create a sluggish burn, the prolonged duration and incomplete combustion of which tend to produce greater amounts of pollution. Additionally, rain cools the air, prompting smoke to fall to the ground.[163]

Idaho's SMP *is* valuable in that it prevents wanton open field burning. Growers in the ten northern counties where grass residue burning is common must register their fields with ISDA and pay $2 an acre.[164] Burning can only occur when weather conditions allow adequate smoke dispersion and when air quality standards are not in danger of being exceeded.[165] On the day a grower plans to burn, he must notify the DEQ of his intention to burn and receive authorization.[166]

ISDA has divided Idaho into three sectors, each subject to additional provisions under a tiered smoke management plan based on the varying degrees of social acceptance of burning in different regions.[167] Kootenai and Benewah Counties, the area at issue in *SAFE v. Meyer*, comprise Tier III. The Tier III program limits field burning to fourteen days per year and proscribes burning on Fridays, weekends, and holidays. ISDA designates burn and no-burn days, using predictive modeling software that identifies the directions and rates of plume movement burn in order to determine whether a burn is wise.[168] Burn decisions, along with information about the times of burn, are posted daily for each county on the ISDA website, as well as recorded as a message on a toll-free hotline.[169] Local field coordinators are required to be present at each burn and have the authority, based on local weather observations and real-time measurements of wind direction and speed, to augment or reduce a burn. These coordinators also are empowered to approve a burn even if ISDA has already issued a no-burn determination.[170] The

163. 2002 SMP SUMM., *supra* note 155, at 34–35.

164. IDAHO CODE § 22-4804 (2005).

165. *Id.* § 22-4803(2)(a).

166. TECHNICAL GUIDANCE FOR CRD SMP, *supra* note 160, at 13.

167. 2002 SMP SUMM., *supra* note 155, at 19.

168. The program, called ClearSky, is the most up-to-date smoke dispersion forecasting tool available, but even it can only accurately and completely predict the behavior of smoke generated by a burn about thirty percent of the time. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2004).

169. ISDA provides a website identifying where and when burns will occur. Citizens can also lodge complaints or suggestions about field burning via the site. Many Idaho residents have criticized the daily burn information for its vagueness. Burn approvals are posted for each county, but a county encompasses a vast area. SAFE has asked that state regulators notify people of exactly where burns will occur, so that people will know whether they are in the impacted area and be able to avoid exposure. SAFE, THE 2003 BURN SEASON WHITE PAPER 4, http://www.safeairforeveryone.com/docs/wp_2003.pdf (last visited July 7, 2005).

170. 2002 SMP SUMM., *supra* note 155, at 74–75.

penalties for burning without authorization are significant, the legislature having increased them substantially in 2003.[171] Commission of a first-time violation now results in revocation of the right to burn for one year.[172] Subsequent violations within three years of the first result in a $10,000 fine for each offense.[173]

These restrictions on burning seem impressive, but they are insufficient. No cap on the total acreage that can be burnt in the season, combined with a high degree of discretion granted to ISDA and the agency's relatively permissive attitude toward field burning, mean that despite the SMP regulations surrounding communities are exposed to particulate matter, with effects that range from irritating to lethal.[174] Moreover, wind currents and particle dispersions can change capriciously. Little can be done to arrest a burn once it has been set alight. Burns occasionally start out well, with smoke rising high into the sky and drifting away from populated areas, but if winds suddenly reverse, the smoke can crash to the ground and barrel into neighborhoods or across highways.[175] Theoretically, the modeling program used to predict the direction and behavior of smoke generated by burns is capable of estimating PM-2.5 concentrations within the smoke. However, because of data deficiencies in the emissions characteristics[176] of grass field burning—the variables that produce varying levels of particles—the PM-2.5 concentrations likely to affect the surrounding community are not readily calculable.[177]

B. Are Harmful Amounts of PM-2.5 Released During Grass Residue Burning?

Unlike other criteria pollutants, particulate matter does not have a single molecular identity. Its content varies depending on the constituents of the source material that is burned as well as the other molecules present in the atmosphere that are likely to blend with the particulate

171. *See* Karen Dorn Steele, *Illegal Burners Face New Penalties*, SPOKANE SPOKESMAN-REVIEW, May 20, 2003, at A1.

172. IDAHO CODE § 22-4803A(1)(b) (2005).

173. *Id.* § 22-4803A(2)(a).

174. Samples of complaints in response to smoke recorded by Idaho's Dep't of Envtl. Quality phone hotline during the 2001 season are quoted on SAFE's website at http://www.safeairforeveryone.com/index.php?id=people&sub=7. *See also* David Whitman, *Fields of Fire*, U.S. NEWS & WORLD REP., Sept. 3, 2001, at 10.

175. *See* Kevin Taylor, *Field Burning Begins Well, Ends Poorly*, SPOKANE SPOKESMAN-REV., Aug. 5, 2004, at B1 (describing a burn on the Rathdrum Prairie that went awry).

176. Emissions characteristics might be roughly described as the factors used to determine the pollutants released when a defined quantity of residue is burned at a certain rate of fuel consumption (often dependent on the winds) creating a defined rate of smoke release that disperses to a defined height above ground-level. Telephone Interview with Dan Redline, Dep't of Envtl. Quality (Oct. 24, 2004).

177. *See* CRD SMP REPORT, *supra* note 12, at 24.

matter. On average, PM-2.5 is composed of the following mixture: 24% sulfate, 13% nitrates, 13% ammonium, 10% black carbon, 27% organic carbon, 7% soil, and 6% other matter.[178] However, the particular composition of any given mass of PM-2.5 can vary significantly depending on the type of burn that generated the emissions. It is particularly difficult to characterize the content, distribution, and amount of PM-2.5 attributable to small area-wide sources, such as agricultural plots, as opposed to large point sources, such as manufacturing plants.[179]

The total amount of PM-2.5 generated by an average burn remains unquantified. A study comparing PM emissions generated by burning eighteen selected Kentucky bluegrass fields, of which half were baled before burning and half burned with the full residue load left on the field, produced widely divergent results.[180] Suspected reasons for the variability ranged beyond the primary focus of the study—different quantities of residue—to considerations of the moisture gradient between upper and lower layers of residue, the type of Kentucky bluegrass cultivar grown, and the density of stands based on how many years had elapsed since the field's establishment and its last burning.[181] In accordance with these findings, records from ISDA do not show a consistently tight correlation between numbers of acres burned and PM levels.[182] The disparities could be a result of inadequate monitoring. On the other hand, they could signal that no two burns are exactly alike, a finding that, if true, not only complicates the implementation of a failsafe SMP but also suggests the difficulty of detecting the parties responsible for exceedences of a one-hour PM standard.[183] Indeed, the variability among field burns and the

178. McMurry, Peter H., et al., *Particulate Matter Science for Policy Makers: A NARSTO Assessment*, Slide 40 (May 2003), *available at* http://aaqtf.tamu.edu/Archives/2003/May 2003_docs/ NARSTO%20report%205-21-03.pdf.

179. EPA FOURTH EXTERNAL REVIEW DRAFT FOR PARTICULATE MATTER, *supra* note 60 at 3-92, 3-97–3-98 (Jun. 2003).

180. W.J. JOHNSTON & C.T. GOLOB, QUANTIFYING POST-HARVEST EMISSIONS FROM BLUEGRASS SEED PRODUCTION FIELD BURNING 18, tbl. 3.2 (2004), *available at* http://www.safeairforeveryone.com/BLUEGRASS%20FINAL%20REPORT%204-5-04.pdf (listing the emission factors for PM 2.5 and the combustion efficiency of the various fields and treatment methods in the study).

181. *See id.* at 28–34 (breaking down the results according treatment basis – i.e. the location and residue load of each field).

182. *See, e.g.*, CRD SMP REPORT, *supra* note 12, at 28 tbl.7 (showing that for Boundary County, maximum one-hour PM-2.5 concentrations on a day in which 1400 acres were burned was 4 $\mu g/m^3$, while on a day when no burning occurred, the maximum was 21 $\mu g/m^3$); CANDIS S. CLAIBORN, WASHINGTON STATE UNIVERSITY'S INDEPENDENT EVALUATION OF AIR QUALITY IMPACTS FROM AGRICULTURAL BURNING IN EASTERN WASHINGTON 11 (2002), *available at* http://www.ecy.wa.gov/programs/air/pdfs/wsuevaluationair.pdf ("There is no clear correlation between air quality complaints in Pullman and apparent air quality impacts due to agricultural burning in eastern Washington and northern Idaho.").

183. To investigate the human health impacts of PM, EPA has funded five national Centers for Particulate Air Pollution and Health, one of which is located at the University of

uncertainty identifying emissions generated by a typical burn reinforce this article's earlier conjecture that, were EPA to attempt to revise the NAAQS to address field burning, the agency would have difficulty fixing a health-based numerical figure for a one-hour standard upon which both growers and citizen advocates could agree.[184]

Nevertheless, the complaints of aggravating, at times debilitating, health effects from smoke burning cannot be dismissed.[185] Moreover, despite the difficulty of determining exactly how much PM-2.5 is generated by any given field burn, the reality of exposure to quite intense PM-2.5 concentrations is equally apparent.[186] Critics of the Idaho government's handling of the conflict would argue that it is insufficient, when public health is at stake, to apply incomplete and often contradictory data to hone the SMP for accommodation of open field burning, particularly when alternatives to the practice are available.

VII. WASHINGTON & OREGON PROVIDE MODELS FOR REFORM IN IDAHO

Scientific and epidemiological studies may not clearly resolve the question of the precise danger of smoke, but the actions of other states to end field burning support plaintiffs' claims. Residents in neighboring Washington and Oregon have not had to prevail upon the Clean Air Act to stop grass residue field burning because their state legislatures have recognized the practice as a health hazard. Despite the fact that open field burning did not impede the states' achievement of the NAAQS for PM, both Washington and Oregon have acted independently to reduce the activity with the intention of eliminating it altogether. Although it would be a stretch to argue that the decision of the other Pacific

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Washington, to conduct ongoing research. Information about the Northwest Research Center is available at http://depts.washington.edu/pmcenter (last edited Mar. 15, 2005).

184. The Center's most recent study on the immediate health effects of crop residue burning showed no statistically significant correlation between PM emissions and worsening of respiratory symptoms. *See* Nicholas Geranios, *Study Finds Little Health Damage from Burning*, ASSOCIATED PRESS (June 8, 2004). Conducted among thirty-three asthmatics exposed to smoke from wheat stubble burning in eastern Washington, the study might have catalyzed funding for more research had it demonstrated greater adverse impacts of smoke inhalation on sensitive populations. Although the study is not a perfect analogue for grass residue burning, in part because Washington wheat farmers likely burned a lot less during the research period than grass growers in Idaho normally do and in part because grass residue emits more PM when burned than wheat stubble, the study aids those who contend that agricultural burning does not pose a human health problem. *Id.*

185. Decl. of John Strimas ¶¶ 2–5 (testifying to his experience with patients in northern Idaho who suffer "direct and substantial adverse effects" from grass residue burning and averring that "[no] significant disagreement among doctors in the Idaho panhandle" exists regarding the health consequences of burning).

186. One study found mean PM levels at the edge of a field during the course of a burn as high as 6957 $\mu g/m^3$. L.J. Sally Liu, et al., *Assessment of Farmers' Exposure to Smoke From Agricultural Burning*, Presentation for Agric. Burning Task Force Meeting, Spokane, WA (June 10, 2004) (on file with author).

Northwest states to stop open field burning should have affected the Ninth Circuit's legal analysis in *SAFE v. Meyer*, it should at least make us question whether the outcome of that case was just.

A. Washington's Efforts

A comparison of preamble statements in the sections of Idaho and Washington's State Codes that address crop residue burning illustrates different attitudes in the two legislatures. Idaho's code states that "current knowledge and technology support the practice of burning crop residue to control disease, weeds, pests, and to enhance crop rotations. It is the intent of the legislature to promote agricultural activities while at the same time protecting public health."[187] By contrast, Washington's code states that "strong efforts should be made to minimize adverse effects on air quality from the open burning of field and turf grasses grown for seed. To such end... [we] intend[] to promote the development of economical and practical alternate agricultural practices to such burning, and to provide for interim regulation of such burning until practical alternatives are found."[188]

The Washington legislature adopted the policy enunciated in this statement in 1991. In 1996, the number of acres farmers currently had in production was to be "frozen." In the following season, growers were banned from burning two-thirds of these acres.[189] The legislature directed Washington's Department of Ecology (DOE) to evaluate alternative residue disposal methods to open field burning and, following public hearings, to certify alternatives at its discretion.[190] Once the DOE certified alternatives for particular areas, open field burning of grasses grown for seed would not be permitted. In 1998 the DOE certified "mechanical residue management," essentially a collection of methods using machines to crew-cut or mow the residue and balers to remove it from the fields, as an alternative.[191] Open field burning was thus prohibited, though DOE retained power to grant waivers to persons for portions of fields that slope too steeply to accommodate the balers. Small agri-businesses, those with less than $300,000 in gross revenue, were given a one-year extension on burning. To ease the financial burden on growers forced to buy new machines, Washington also enacted tax exemptions for "machinery, equipment, or structures that reduce field burning."[192]

187. IDAHO CODE § 22-4801 (2005).
188. WASH. REV. CODE § 70.94.656 (2005).
189. WASH. ADMIN. CODE § 173-430-040 (2005).
190. WASH. REV. CODE § 70.94.656(3).
191. Wash. St. Reg. 98-08-079 (Mar. 31, 1998) (proposed rule).
192. WASH. REV. CODE § 82.08.840. Note that this exemption is set to expire January 1, 2006.

Until recently, Idaho had a similar certification rule in its code, stipulating that once Idaho's Department of Environmental Quality (DEQ) approved alternative methods of residue removal, open field burning would be prohibited. Unlike Washington, which ordered abrupt cessations of burning in 1996 (two-thirds of acreage under production) and 1998 (the remaining one-third of acreage following alternative certification), Idaho provided a three-year window from the date an economical and reasonable alternative was identified before open burning would have to halt.[193] In 2003, however, the legislature adopted an amendment to the Smoke Management and Crop Residue Disposal Act that replaced this provision with a rule that open burning could only occur after the Director of ISDA had determined that "no economically viable alternative to burning" exists. After a House bill restricting "economically viable" alternatives to those that are equally as profitable and effective as burning failed to pass the State Senate,[194] ISDA's director unilaterally interpreted the term to mean an alternative that "achieves agricultural objectives comparable to thermal disposal... and allows growers to experience a financial rate of return over the short- and long-term consistent with the rate of return that would occur if thermal residue disposal were utilized."[195] ISDA found no economically viable alternative.[196]

The effects of the burning ban in Washington have been disputed. Proponents of the burn ban point to the fact that Spokane County, the primary location of dryland grass farming, showed production levels of 19,000 acres for 2002, slightly more than the 18,500 produced in 1992 when the burning was permitted.[197] Opponents of the burn ban cite anecdotes of hardship and crisis, such as one from a farmer whose costs increased 29%, while yields fell 15%, creating a net loss for the harvest overall.[198] The truth lies somewhere between rosy and grim. Some

193. *See* IDAHO ADMIN. CODE § 58.01.01.604 (2004).

194. *See* H.R. 741, 57th Leg., 2nd Reg. Sess. (Id. 2004); *See also* Betsy Russell, *Single Vote Smothers Field-Burn Proposal*, SPOKANE SPOKESMAN-REV., Mar. 12, 2004, at A1.

195. *See* ISDA, DETERMINATION REGARDING ECONOMICALLY VIABLE ALTERNATIVES, *supra* note 79 at 1 (2004).

196. *Id.* at 7. SAFE, the Idaho Conservation League, and the American Lung Association have challenged the ISDA Director's determination as arbitrary and capricious because they contend he relied on obsolete data on available alternatives and violated due process in not considering materials submitted by the public. *See* Plaintiffs' Brief in Support of Motion for Stay, American Lung Ass'n v. ISDA, No. CV-2003-01459 (D. Idaho, filed Aug. 11, 2003).

197. Neil Oldridge, *Grass-Burning Arguments Fall Flat*, THE IDAHO STATESMAN, Sept. 17, 2003, Commentary at 9.

198. Steve Johnson, *Field Burning Perceptions Just Don't Match the Realities*, THE IDAHO STATESMAN, Aug. 19, 2003, Opinion at 6; *see also* Kevin Taylor & Betsy Z. Russell, *Court Affirms Law Shielding Field Burners*, SPOKANE SPOKESMAN-REV., Aug. 3, 2004 at A1 (quoting a farmer, Paul Stearns, who shifted his growing operation from Spokane County, WA to Kootenai County, ID, after the Washington ban on burning caused his yields to drop by a third).

growers have survived, while others have either moved to Idaho or exited the grass-growing business altogether. In 1996, the year before the phase-out of burning began, average total yield of Kentucky bluegrass statewide reached an all-time high of 650 pounds of seed per acre.[199] Over the following three years, average yields fell, dropping below 500 pounds per acre in 1999, the first year after the burning ban. By 2003 average yields had returned to 1996 levels. The losses recouped have not been evenly distributed. Growers in irrigated areas such as the Columbia River Basin have fared better than growers in the dryland Spokane Valley. In Spokane County, average yields have for the past three years hovered around 450 pounds per acre, and appear unlikely to return soon to the 1996 levels of 610 pounds per acre.[200]

Under Washington's Clean Air Act, the DOE was required to conduct a cost-benefit analysis prior to certification to determine the overall value of proscribing burning.[201] DOE's analysis conservatively estimated the benefits and liberally estimated the costs of a ban on burning.[202] The benefits were quantified by looking solely at the health impacts from mortality and illness and were not augmented by considerations of the increased value of comfort, enjoyment, and use of properties formerly inundated with smoke. The costs were quantified by examining not only direct income that growers lost from reduced seed yields and shifted production into less profitable crops, but also the income lost to the grass seed processing sector and the peripheral economy as whole. Furthermore, the analysis included in its projected costs accounts for the potential environmental detriments of no longer utilizing land for turfgrass (e.g., increased erosion), as well as farm worker safety costs (stemming from greater use of dangerous mechanical residue removal equipment), emotional suffering experienced by growers during transition, and the administrative expense of enforcing a no-burn ban.[203] Even after tipping the scales in favor of burning, the study concluded that the estimated benefits of certifying mechanical residue management as a replacement for open field burning would range between $3.9 and $9.9 million, while the estimated costs would fall somewhere between $4.0 and $6.0 million.[204] Finding that its benefits likely outweighed the costs, the DOE certified mechanical residue

199. *See* Statistics compiled by Wash. Agric. Statistics Serv., 1989–2003 (on file with author).

200. *Id.*

201. WASH. REV. CODE § 34.05.328(1)(c) (2005).

202. WASH. STATE DEP'T OF ECOLOGY, ESTIMATES OF THE COSTS AND BENEFITS OF THE RULE TO CERTIFY ALTERNATIVES TO GRASS FIELD BURNING, Summary & pp. 7, 20 (1998), *available at* http://www.ecy.wa.gov/biblio/98208.html.

203. *Id.* at 1.

204. *Id.* at Summary.

management as an alternative to burning, effectively outlawing burning in the process.

Washington's decision that mechanical residue removal was preferable to burning, in terms of overall societal costs, seems to contradict ISDA's determination that there is no economically viable alternative to burning. However, two noteworthy details of the Washington certification analysis caution against making similar assumptions about the relative costs and benefits of grass burning in Idaho. First, the Washington study ultimately compared the costs of moving from a regime in which growers could only rotationally burn one-third of their acreage (as was the case under the 1996 rule) to a regime that allowed them to burn none, except in a few unusual circumstances.[205] The costs of moving from a regime like Idaho's that permitted growers to burn all their acreage each season to a regime that totally prohibited burning was much higher, approximately $10.2 million.[206] Second, the report's calculation of negative health effects was based on scanty and highly uncertain data about the amount of PM disseminated by smoke from grass burning.[207] The most certain of Washington's measures measured daily PM-10 exposures.[208] However, PM-2.5 is a better indicator than PM-10 for fine particles released by field burning. The study admits that it did not possess data to estimate the population's PM-2.5 exposure.[209] Thus, the Washington analysis is open to the criticism that it did not adequately prove that the PM provoking the health costs was a consequence of burning.

EPA has requested that Idaho conduct its own cost-benefit analysis on open field burning of grass residue.[210] With numerous real-time monitors now in place in Idaho, a more precise analysis than the one that Washington's DOE conducted seems possible. However, neither ISDA nor DEQ appears to have the funds or the incentive to carry out such a study.[211]

205. *Id.* at 1.
206. *Id.* at 7.
207. *Id.* at 24–26.
208. *See id.* at 24.
209. *Id.*
210. *See* Letter from L. John Iani, Administrator, EPA Region 10, to Patrick Takasugi, Director, ISDA 2 (May 13, 2004) (suggesting that Idaho emulate Washington and Oregon in reducing field burning, at the least by considering the costs and benefits of the practice "not only to the agricultural community, but also to the general public.").
211. *See We're Choking On This Decision*, SPOKANE SPOKESMAN-REV., Aug. 6, 2004, at B4 (noting that the state has refused to conduct the cost-benefit analysis that EPA recommended).

B. Oregon's Efforts

In Oregon, grass seed has historically grown (and, hence, most of the field burning has occurred) in the Willamette Valley. During the 1960s, more than 300,000 acres were regularly burned each summer.[212] In 1988, however, smoke from an authorized burn conducted in the Valley poured out onto Interstate 5, causing a twenty-three car pileup and seven deaths and prompting calls for restrictions on burning.[213] Oregon's laws regarding grass residue burning stake out a middle ground between Washington's relatively more stringent restrictions and Idaho's relatively more permissive regulations. As in Idaho, Oregon's Department of Agriculture administers a Smoke Management Plan that involves registration of grass fields, the issuance of fee-based permits for open burning, and selective scheduling of burns to coincide only with meteorological conditions that will boost the smoke high into the atmosphere and carry it away.[214] Oregon also allows an unlimited number of acres to be burned via a method known as stack burning, which involves the consolidation of mown residue into piles prior to burning.[215] Stack burning does not require registration but does require growers to pay fees to obtain permits.

Although field burning of various sorts is still permitted in Oregon, its scope has been vastly curtailed and higher fees have been imposed. Progressively reduced from 120,000 in 1994, the statewide acreage cap on open field burns now stands at 40,000.[216] This figure does not include 75,000 acres on which propane flaming, a more controlled form of burning involving the mechanical application of a torch,is permitted.[217] Nor does it include an additional 25,000 acres set aside for open field burning on steep terrain and in areas where certain grass species that demand burns are cultivated.[218] Stack burning also lies outside the 40,000 acres allocated for open field burning. The exemption for stack burning should not be perceived as a loophole, since, judging from the small number of acres burned via this method (616 in 2002 and 1211 in 2003), the implication is that growers view it as more trouble than it is worth.[219] The fact that growers choose not to burn when they cannot do so simply

212. STAKEHOLDER FORUMS, *supra* note 121, at 9.

213. Matt Sabo, *Field Burning Yields Few Smoke Complaints*, THE OREGONIAN, July 26, 2001, at B9.

214. OR. REV. STAT. § 468.A550(1)(c) (2003); 469A.585.

215. *See* OR. DEP'T OF AGRIC. NATURAL RES. DIV., SUMMARY OF THE 2003 BURNING SEASON 5 (2004), *available at* http://egov.oregon.gov/ODA/NRD/docs/pdf/smoke_fb_sum_2003.pdf.

216. OR. ADMIN. R. 340-266-0060(1)(a) (2004).

217. *Id.* at 340-266-0060(1)(d).

218. *Id.* at 340-266-0060(1)(b).

219. *See* SUMMARY OF THE 2003 BURNING SEASON, *supra* note 215, at 5.

and cheaply bolsters SAFE's contention that burning grass residue has little inherent value beyond its role as a method of waste disposal. Field burning is also more expensive in Oregon than in Idaho. Since 2001, the cost of a permit for open field burning has been $8 per acre; for stack burning, $10 per acre; and for propane flaming, $2 per acre.[220]

The restrictions on open field burning have not destroyed Oregon's grass seed industry. In fact, after initial declines, both the number of acres devoted to grass seed production and aggregate crop value increased from pre-burn ban levels.[221] The biggest change is in the type of grass grown. Few of these acres are used to cultivate Kentucky bluegrass, which, though conceivably sustainable as long as stubble is cropped to 1.5 inches[222] and straw thoroughly removed, has either shifted to Idaho or been taken out of production.[223] Now the grass grown in Oregon is largely of the tall fescue and perennial ryegrass varieties, both of which can tolerate lower residue removal rates (as low as 60%) than bluegrass.[224]

C. *Washington and Oregon's Experiences Belie the Belief that Burn Restrictions Would Devastate Agriculture*

The fact that grass growers in Washington and Oregon have successfully coped with restrictions on open field burning supports the notion that Idaho need not choose between responding to a public health danger and bankrupting farmers. Certainly, Idaho's climate indicates that the state would likely face unique difficulties in transitioning growers to different methods of grass residue management.[225] However,

220. OR. ADMIN. R. 340-266-0050(2)(f); ID. CODE § 22-4804(1) (2005).

221. Cf. Extension estimates for Oregon forage and turf grass seed crop acreage, 2004 (recording nearly 504,000 acres under production), *available at* http://cropandsoil.oregonstate.edu/seed-ext/Agronomy/04ftacr.html *with* Extension estimates for Oregon forage and turf grass seed crop acreage, 1996 (recording 417,000 acres under production), *available at* http://cropandsoil.oregonstate.edu/seed-ext/Agronomy/96ftaest.htm. *See also* Bill Young, *Grass and Seed Legume Estimates for 2005*, CROP AND SOIL NEWS NOTES, Oregon State University (Mar. 2004), *available at* http://cropandsoil.oregonstate.edu/newsnotes/0503/seed-prod.html (noting that "the combined value of all grass and legume seed crops in the 2003-04 crop year ($347,763,000) increased 20.4% compared to the value of 2002-03 production. This increase builds on the previous year's 5.7% increase, which reversed a three-year decline that commenced in 1999-2000 following the industry's historic high of $371,376,000").

222. Oregon Seed Council, HIGH YIELD GRASS SEED PRODUCTION AND WATER QUALITY PROTECTION HANDBOOK 4 , *available at* http://forages.oregonstate.edu/organizations/seed/osc/brochures/water-quality/residue.html [hereinafter *Grass Seed Handbook*]

223. Telephone Interview with John Hart, soil scientist at Oregon State University (Oct. 15, 2004).

224. *See* GRASS SEED HANDBOOK, *supra* note 222.

225. For example, Oregon has offset the greater cost resulting from more expensive residue disposal and lower yields by finding a market for the residue itself, both for local animal feed

Washington's Spokane County, just west of the counties in which grass residue burning was challenged in this case, is quite similar geographically, and farmers there have managed to adopt different cultivation practices that have allowed them to survive.

Resources to assist farmers in developing other residue management techniques are numerous. A number of plant and soil scientists from the Oregon State University, Washington State University, University of Idaho, and the United States Department of Agriculture's Agricultural Research Service have been collaborating for several years on different projects to investigate alternative residue management techniques that would enable growers to cultivate bluegrass profitably without burning.[226] These scientists are studying ways to overcome the negative effects of non-burning methods including weed and pest infestation and abbreviated stand life-spans. These studies often examine fine details, such as the yield results associated with variable timing of pesticide and fertilizer applications or the interactions of different residue removal techniques with different cultivars of bluegrass, but their main goal is to find a viable replacement method for burning. The various research groups have yet to formulate best management practices or to identify a technique of residue management that is as simple and cheap as burning.[227] Nevertheless, promising alternatives have emerged in several area including straw removal via baling,[228] direct tillage to return straw to

and in Asian markets. *Id.* at 9. Whether land-locked Idaho could cost-effectively ship its residue abroad is questionable.

226. Several consortia serve as loci for this research. Progress reports of the Grass Seed Cropping Systems for a Sustainable Agriculture (GSCSSA) can be found at http://gscssa.wsu.edu/progress/index.htm. For publications produced by the University of Idaho College of Agric. and Life Sciences, visit http://www.ag.uidaho.edu/bluegrass/pubs.asp. Other research projects related to open field burning are available from the website of Washington's Department of Ecology at http://www.ecy.wa.gov/programs/air/aginfo/research.htm. For more general research on environmentally responsible systems for crop production and harvest, see the website for STEEP (Solutions to Environmental and Economic Problems) at http://pnwsteep.wsu.edu.

227. *But see, e.g.*, D.L. Walenta, et al., *Evaluation of Alternative Residue Management Methods for Kentucky Bluegrass Seed Production in the Grande Ronde Valley*, SEED PRODUCTION RESEARCH (2003), *available at* http://cropandsoil.oregonstate.edu/seed-ext/Pub/2003/index.htm (supporting the notion that yields can be sustained without burning).

228. *See* W.C. Young III, et al., *Evaluation of equipment used by Willamette Valley grass seed growers as a substitute for open-field burning*, Oregon State University (1992) *available at* http://cropandsoil.oregonstate.edu/seed-ext/Pub/1992/page01.html (describing one study on the efficacy of different residue management techniques involving baling).

the soil,[229] no-till distribution of chopped straw,[230] and rotations in the field with other crops, such as legumes or wheat.[231]

CONCLUSION

Why should any of this evidence on emerging alternatives to open burning or the economic feasibility of burn bans have mattered to a federal court? Is it not information that belongs in a petition to the legislature for modifications in the law governing field burning?

Although many in Idaho believe that it is only a matter of time before field burning is outlawed,[232] the Idaho legislature has in the past been more receptive to growers' appeals than to popular protests.[233] While open field burning is not truly a national problem, it is a regional one. Since air pollution does not respect state boundaries, adversely affecting many people who have already taken steps to eliminate emissions, the argument for a region-wide solution to plaintiffs' complaint is compelling. EPA's Region 10 recognized this need, an awareness that led it to call for reform, organize stakeholder discussions, and even threaten pre-emptive action.[234]

From regulatory and policy perspectives, the relative harms and benefits of a practice that prompts conflicts of interest is relevant to whether that practice should be sustained. Yet the federal regime of environmental statutes, composed of *per se* rules, numerical thresholds, and categorical definitions, does not permit cost-benefit considerations or comparisons between the *status quo* and alternatives of the sort that a common law tort system's balancing inquiry encourages. However, with nuisance suits against open field burning barred, EPA unwilling to assert its authority, and the Idaho legislature and state courts disinclined to curb the practice, the federal courts and Congress appear to be the sole forums for citizens to achieve redress.

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229. *See* Kathryn Stelljes, *supra* note 9, at 12 (describing experiments with composting and leaving residue directly on the field).

230. *See* David Elstein, *Putting out the (Grass) Fire*, AGRIC. RESEARCH MAG. (Feb. 2004), *available at* http://www.ars.usda.gov/is/AR/archive/feb04/fire0204.htm.

231. *See* SCHULTHEIS FARM CASE STUDY, Pac. Northwest Extension Doc. #530 (2000), *available at* http://pnwsteep.wsu.edu/CEPublications/pnw0530/pnw0530.pdf.

232. *See We're Choking on This Decision*, *supra* note 211 (criticizing the Idaho Supreme Court's approval of the statutory provision immunizing growers from nuisance and trespass claims, but observing that "[i]n all likelihood, the ruling only served to delay an inevitable ban on field burning."); *See also Court Affirms Law Shielding Field Burners*, supra note 198 (citing the comments of State Senator Shawn Keough, who represents Sandpoint, one of the area's where open field burning is prevalent, that the practice is likely to be a "diminishing issue" as prairie land is converted to housing subdivisions).

233. Sara Phillips, *Idaho Chokes Spokane*, HIGH COUNTRY NEWS, Dec. 22, 1997 (recounting political resistance to reducing or halting field burning in Idaho).

234. Recently, EPA has pulled back, taking a more aloof stance toward the conflict and no longer attempting to broker a compromise or force a solution.

Does the dismissal of plaintiffs' suit on summary judgment suggest the need for a revival of federal common law of nuisance? That would be a rather extreme proposal to promote based on dissatisfaction with one case, likely to evoke cries that such a move would allow federal courts to arrogate quasi-legislative authority. However, whether or not one believes the Ninth Circuit should have been free to employ federal common law principles in resolving *SAFE v. Meyer*, the outcome of the case ought to trouble observers. The court's decision ought to give pause not only those who believe the opinion unnecessarily extended RCRA protection to waste disposals that masquerade as recycling. It ought also to bother anyone who is familiar with the facts that plaintiffs did not have a firmer legal footing for their claims. There is abundant evidence that open-field burning does genuinely damage people's health; there is also evidence that growers' transition to other residue disposal methods is a realistic option.

Where the only legal vehicle for combating a legitimate problem happens not to offer the best fit, courts should not be so rigid in requiring perfect statutory congruence but rather should construe the applicable law broadly. Admittedly, RCRA is an unusual law to address a quintessential air pollution problem. However, the foreclosure of alternative remedies weighs heavily in favor of a generous reading of RCRA that would cover the burning practice that plaintiffs have sought to enjoin. At the very least, plaintiffs' claim ought to have survived summary judgment. If the court ultimately were to have decided after a full hearing on the merits that Idaho law, federal precedent, and the judiciary's role as an interpreter of law, not a legislator, tied its hands in the matter, it ought then to have written an opinion that acknowledged plaintiffs' injuries and urged EPA and the Idaho legislature to take measures within their power to rectify the problem. By choosing to do neither, the Ninth Circuit panel did not resolve a conflict, but rather prolonged it.