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The EPA's Prosecution of Clean Air Act Asbestos NESHAP Cases Based Upon Nonbinding Bulk Material Test Methods

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I. INTRODUCTION

For the last fourteen years, the Environmental Protection Agency (EPA) and many states have structured their civil and criminal Clean Air Act (CAA) asbestos enforcement programs upon a bulk material test method that has never been promulgated into law through administrative rulemaking. In so doing, the federal and state governments disregard the only bulk material test method for asbestos content enumerated by law for CAA compliance. The particular test method used in an enforcement proceeding is highly consequential: it effectively defines the universe of material that is subject to regulation under the asbestos National Emission Standards for Hazardous Air Pollutants (asbestos NESHAP).T[1]

Changing the asbestos NESHAP's test method, as the EPA did informally in 1993, alters the jurisdictional reach of the regulation

1. The EPA regulates the emissions of air toxics, such as asbestos, through a series of National Emission Standards for Hazardous Air Pollutants (NESHAPs) promulgated under the 1990 amendments to the CAA. *See* 40 C.F.R. pts. 61, 63 (2006). The EPA's regulation to limit significant asbestos fiber releases during demolition and renovation projects is known as the "asbestos NESHAP." 40 C.F.R. §§ 61.140–.157 (2006).

immediately; that is, certain formerly lawful conduct becomes instantly unlawful. At least two courts—one federal district court and one state appellate court—concluded almost simultaneously in 2006 that the EPA's asbestos NESHAP enforcement program, to the extent it is predicated upon nonbinding test methods, raises profound administrative law and constitutional due process complications.

The legal analysis starts with two basic facts. First, there is *one* test method mandated by law for quantifying a material's asbestos content for purposes of the asbestos NESHAP, a method which is incorporated into the very definition of "friable asbestos material" and "regulated asbestos-containing material" (RACM).[2] Second, that test method was promulgated into law by the EPA as part of the 1990 amendments to the asbestos NESHAP and has remained on the books without modification ever since ("1990 test method").[3]

In 1993, however, the EPA made a policy choice to disregard the one and only asbestos test method mandated by law in favor of a new test. The EPA concluded within only a few years of adoption of the 1990 test method that the test was deficient, especially with respect to multilayered systems. The EPA effectively rewrote the 1990 test method through a series of "clarifications," coupled with widespread circulation of a preferred test method in 1993 ("1993 test method"). The EPA took no legal steps whatsoever either to rescind or supersede the 1990 test method.

The due process implications of the EPA's 1993 policy decision to switch tests finally coalesced in 2006 in separate criminal and civil proceedings. Due process instructs that criminal prosecutions rest upon statutes and promulgated regulations only, not on agency "policy" or discretionary test methods that have never been adopted into law. This maxim is especially applicable where an agency does not purport simply to *interpret* an existing regulation, but instead to *replace* the promulgated

2. *See* 40 C.F.R. § 61.141 (2006) (defining "friable asbestos material" and "nonfriable asbestos-containing material").

3. *See* National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision, 55 Fed. Reg. 48,406 (Nov. 20, 1990). The 1990 test method incorporates by reference U.S. ENVTL. PROT. AGENCY, INTERIM METHOD FOR THE DETERMINATION OF ASBESTOS IN BULK INSULATION SAMPLES (1982), which was previously codified at 40 C.F.R. pt. 763, subpt. E, app. E (2006) in 1987 as Title II of the Toxic Substances Control Act (TSCA) and the asbestos program for schools implemented by the Asbestos Hazard Emergency Response Act of 1986 (AHERA), Pub. L. No. 99-519, 10 Stat. 2970 (codified in scattered sections of 15 U.S.C.).

regulatory definitions and test method.[4] To be enforceable, such a change in the governing regulation must be accomplished through CAA rulemaking with public participation and judicial review. In fact, the CAA specifically mandates that all NESHAP test methods must be developed and promulgated through the rulemaking procedures set forth in the statute itself.[5] Applying this irreducible constitutional principle to the EPA's asbestos NESHAP enforcement program, the EPA (and delegated states) continues to openly defy basic constitutional safeguards by prosecuting companies and individuals based upon the weight and findings of a nonbinding asbestos test method.

Two cases of first impression, decided within one month of each other in 2006, vindicate the long-standing due process principle that no prosecution can lie where the government relies upon the findings of nonbinding test methods that have never been subjected to rulemaking. In January 2006, the federal government indicted San Diego Gas & Electric Company (SDG&E) for the first time in its 125-year history, two employees, and an outside contractor for the removal of multilayered, coal tar pipe coating by licensed and qualified asbestos abatement subcontractors.[6] None of the project's asbestos abatement contractors was indicted—only the property owner, two employees, and the project's general contractor. In *United States v. San Diego Gas & Electric*, there was no dispute that the removal project was entirely lawful if the quantity of asbestos in the pipe coating material was one percent or less. Stated differently, unless the quantity of asbestos in the multilayered SDG&E pipe coating material exceeded the one percent jurisdictional

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4. Not even the Administrator's interpretations of his own regulations can cure an omission or add certainty and definiteness to otherwise vague language. The prohibited conduct must, for criminal purposes, be set forth with clarity in the regulations and orders which he is authorized by Congress to promulgate under the Act . . . . And certainly a criminal conviction ought not to rest upon an interpretation reached by the use of policy judgments rather than by the inexorable command of relevant language.

M. Kraus & Bros. v. United States, 327 U.S. 614, 622, 626 (1946) (reversing conviction under World War II commodity price regulation).

> [T]he responsibility to promulgate clear and unambiguous standards is on the [agency]. The test is not what [the agency] might possibly have intended, but what [was] said. If the language is faulty, the [agency] had the means and obligation to amend. Thus, reliance on policies underlying a statute cannot be treated as a substitute for the agency's duty to promulgate clear and definitive regulations.

United States v. Trident Seafoods Corp., 60 F.3d 556, 559 (9th Cir. 1995) (vacating civil asbestos NESHAP penalty) (alteration in original) (citations omitted).

5. 42 U.S.C. §§ 7412(b)(5), 7607(d) (2000).

6. Indictment, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Jan. 11, 2006).

threshold to become "regulated asbestos-containing material," or RACM, the asbestos NESHAP and its "work practices" did not apply at all.

In July 2003, the State of Wisconsin filed suit seeking to impose substantial civil penalties on a licensed asbestos abatement contractor for the removal of multilayered, asbestos-containing wall systems in the Milwaukee Auditorium under a delegated state asbestos program identical to the federal asbestos NESHAP program.[7] In 2005, the trial court granted summary judgment in favor of the State, but the court of appeals reversed in October 2006 on the ground that the State cannot impose liability based on a nonbinding test method.[8] In *State of Wisconsin v. Harenda Enterprises*, there was no dispute that depending upon the test method used, the asbestos content of the multilayered wall system at issue either exceeded or fell below the one percent jurisdictional threshold for the NESHAP work practices to apply. The State conceded that if the 1990 test method is used, the Milwaukee Auditorium wall system is not regulated. Contrary to the EPA's position in the federal *SDG&E* case, Wisconsin argued, and the trial court agreed, that the 1990 test method is "not clear," which the trial court believed opened the door to examine two EPA clarifications purporting to adopt the 1993 test method.[9]

The crux of the EPA's and Wisconsin's constitutional dilemma is that the 1990 test method, incorporated directly into core definitions of the asbestos regulation, operates to draw a bright, jurisdictional dividing line between lawful and unlawful activity. Changing the test method moves that line, with dramatic consequences to individuals and corporations who are charged with violating the asbestos NESHAP. The 1990 test method upon which asbestos-containing material and RACM are explicitly defined calculates asbestos content based upon the *average* of all layers of multilayered material. The nonbinding 1993 test method

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7. Civil Complaint, State v. Wis. Ctr. Dist., 724 N.W.2d 434 (Wis. Ct. App. 2006) (Unclassified Civil No. 30703); State v. Harenda Enters., Inc., 724 N.W.2d 434 (Wis. Ct. App. 2006), *rev. granted*, 732 N.W.2d 857 (Wis. 2007); Brief of Plaintiff-Respondent at 20, State v. Harenda Enters., Inc., 724 N.W.2d 434 (Wis. Ct. App. 2006) (No. 2005AP1829).

8. *Harenda*, 724 N.W.2d at 439.

9. S*ee* Brief of Plaintiff-Respondent, *supra* note 7, at 3–8 (quoting trial court's analysis). In *SDG&E*, the government argued that the "EPA need not have complied with rulemaking procedures because the single-layer test method is merely a 'clarification' of the averaging test method." Order Granting Motion to Dismiss Counts 1, 2, 3 and 5 of the Indictment for Failure to State an Offense Involving Jurisdictional Amount of "Regulated" Asbestos-Containing Material at 7:17–19, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Nov. 21, 2006).

does not. The nonbinding test method upon which both the *SDG&E* and *Harenda Enterprises* cases are based asks the much narrower question of whether *any single layer* (or any portion thereof) exceeds one percent asbestos, in which event the "entire material is deemed to be regulated asbestos containing material."[10] By definition, the 1993 test method therefore reports artificially high concentrations of asbestos for multilayered material and positively identifies certain material as "regulated" material that would not exceed the law's jurisdictional threshold under the 1990 test method.

The federal court in *SDG&E* concluded in November 2006 that the indictment was fatally defective because the government's theory of prosecution effectively rewrote the regulation without rulemaking.[11] The court dismissed all asbestos NESHAP counts of the indictment.[12] SDG&E also noted that if the government was allowed to prosecute five to six years after project completion and in the absence of any intact multilayered coating material, the defendants would be deprived of the ability to vindicate themselves using the only scientific test method authorized by law to demonstrate that their conduct was lawful during active subcontractor removal operations in 2000 and 2001.[13]

SDG&E and *Harenda Enterprises* exposed the widening gulf between the EPA policy in 2006 and the binding NESHAP jurisdictional 1990 test method. The EPA favors the newer and nonbinding 1993 test method because the promulgated 1990 test method excludes material that the EPA now believes ought to be, but is not, regulated. Under well-settled due process principles and interpretative canons of strict regulatory construction in criminal cases, if the literal language of the asbestos NESHAP and its enumerated test method is faulty in the EPA's view, it has the "means and obligation to amend" that regulation before sanctions are available to the government.[14] The government cannot unilaterally

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10. *See* Government Bill of Particulars at 9:18–22, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Oct. 18, 2006).

11. Order Granting Motion to Dismiss, *supra* note 9, at 9–13. The government obtained a second indictment on February 27, 2007, describing the court's dismissal of the first indictment as a quarrel with the proper language. *SDG&E, 3 Workers Are Indicted Again*, SAN DIEGO UNION-TRIB., Feb. 28, 2007, at B3.

12. Order Granting Motion to Dismiss, *supra* note 9, at 17. The Government reindicted on February 27, 2007 under the theory that it has now been able to perform the appropriate testing set forth in the asbestos NESHAP. Indictment, United States v. San Diego Gas & Elec., No. 07CR0484 DMS (S.D. Cal. Feb. 27, 2007).

13. Order Granting Motion to Dismiss, *supra* note 9, at 5:5–9.

14. *See* Bethlehem Steel Corp. v. Occupational Safety & Health Rev. Comm'n, 573 F.2d 157, 161 (3d Cir. 1978) (invalidating order finding OSHA safety work practice violation, stating, "The responsibility to promulgate clear and unambiguous standards is upon the Secretary. The test is not what he might possibly have intended, but what he said. If the language is faulty, the Secretary has the means and the obligation to amend.").

disregard RACM's definition and the asbestos NESHAP's enumerated, jurisdictional test method, both elements of a NESHAP crime, as "words of no consequence"[15] and develop instead common law test methods and crimes. Because the 1990 test method applies equally to the TSCA schools program and asbestos testing in schools and public buildings under the Asbestos Hazard Emergency Response Act of 1986 (AHERA) and its regulations,[16] the due process lessons drawn from *SDG&E* and *Harenda Enterprises* apply with equal force to other enforcement programs as well.

By the EPA's own admission, the differences between the nonbinding 1993 and the promulgated 1990 test methods are substantive and not interpretative. The EPA concedes in the introduction of the 1993 test method that it "contains significant revisions" to the enumerated 1990 test method and adds "new procedures" that expand the universe of regulated material.[17] Upon promulgating the 1990 test method as part of the 1990 amendments to the asbestos NESHAP, the EPA admitted that it would have to undergo CAA rulemaking and judicial review if it wanted to amend the regulation's test method at any time in the future.[18] Indeed, the EPA went so far as to commit in 1995 to "amend the asbestos NESHAP in the near future" to make the 1993 test method new law.[19] *It has never done so*. In the absence of EPA rulemaking to modify the definition of RACM and the NESHAP's enumerated test method, seven states have felt compelled in the last ten years to adopt the 1993 test method into their respective state asbestos regulations, one on an "emergency" basis in June 2006.[20]

Taken together, *SDG&E* and *Harenda Enterprises* address important due process issues of first impression under the CAA and AHERA. These are the first test cases since the 1973 promulgation of the asbestos

15. Ratzlaf v. United States, 510 U.S. 135, 140, 149 (1994) (reversing conviction where element of crime treated as surplusage).

16. Asbestos Hazard Emergency Response Act of 1986, Pub. L. No. 99-519, 10 Stat. 2970 (codified in scattered sections of 15 U.S.C.); see also the promulgated AHERA regulations at 40 C.F.R. pt. 763 (2006).

17. U.S. ENVTL. PROT. AGENCY, EPA/600/R-93/116, METHOD FOR THE DETERMINATION OF ASBESTOS IN BULK BUILDING MATERIALS 1 (1993).

18. EMISSIONS STANDARDS DIVISION, U.S. ENVTL. PROT. AGENCY, EPA-450/3-90-017, NATIONAL EMISSION STANDARDS FOR ASBESTOS—BACKGROUND INFORMATION FOR PROMULGATED ASBESTOS NESHAP REVISIONS 4-16 (1990).

19. Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems, 60 Fed. Reg. 65,243 (Dec. 19, 1995).

20. *See infra notes* 38–40 and accompanying text; *see also* Testing of Bulk Material Samples, 38 N.J. Reg. 2526-29 (June 5, 2006).

NESHAP work practices regulation to address whether the government can demonstrate material is "regulated" under the asbestos NESHAP for purposes of imposing penal sanctions on the weight of a discretionary agency test method of choice.[21] Paradoxically, in *SDG&E*, the government elected to test its pioneering reinterpretation of the NESHAP and RACM's definition at the expense and potential freedom of individuals, and even in the face of hundreds of contemporaneous project-specific air and soil data demonstrating no releases of asbestos fibers whatsoever during the (licensed subcontractor) removal operations. It was a form-over-substance prosecution.

The government's criminal and civil application of a nonbinding test method in substitution of the enumerated test effectively rewrites the law and confers upon the government arbitrary and discriminatory enforcement power. It would effectively create a common law crime, which due process principles of fair warning and lenity forbid. Under the 1993 test method, or any other nonbinding test method of choice, the government could systematically thin or physically alter any multi- or single-layered material to a sufficient pinch, slice, or dimension to push nonregulated material over to the criminal side of the jurisdictional dividing line.

"[A] criminal prosecution is not the place to decide pioneering interpretations of the law."[22] Nor is the purpose of criminal law to "penalize frank differences of opinion"[23] or settle an unresolved battle of

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21. There are well over 100 published and unpublished civil and criminal asbestos NESHAP cases. The vast majority are civil disputes regarding above-ground building materials where the jurisdictional application of the NESHAP regulation to the particular material at issue has never been disputed. Most cases postdate the 1990 NESHAP amendments and involve common denominators such as dry removal of above-ground building materials, unlicensed workers, failure to notify, or improper disposal or abandonment of waste at unlicensed facilities. One administrative EPA Environmental Appeals Board decision concluded that the 1993 test method could support a $9160 penalty based upon the weight of two post-1990 EPA clarifications purporting to disallow averaging for multilayered material under the 1990 test method. *See* In re LVI Envtl. Servs., Inc., 10 E.A.D. 99, 106 (2001) (concluding Category I asphalt roofing material is regulated where any single layer is above 1%, even though asbestos content falls below 1% when all layers are averaged under the 1990 test method). Both the *SDG&E* and *Harenda Enterprises* courts disregarded the EPA administrative law judge's 2001 opinion as having no persuasive or binding force.

22. United States v. Gen. Dynamics Corp., 644 F. Supp. 1497, 1501 (C.D. Cal. 1986), *rev'd*, 828 F.2d 1356 (9th Cir. 1987) (citing United States v. Critzer, 498 F.2d 1160, 1164 (4th Cir. 1974) (reversing tax conviction where the Government was literally in dispute with itself over whether income at issue was taxable)) (finding indictment based on vague military contract, voluntarily dismissed later by Government).

23. *See* United States v. Dahlstrom, 713 F.2d 1423, 1428 (9th Cir. 1983) (stating legality of specific tax shelters which were subject of prosecution was "completely unsettled").

the experts.[24] Under no circumstances may the government criminalize otherwise lawful conduct that it purports crosses a jurisdictional dividing line based upon a "recommended" and nonbinding test method that disregards enumerated law. Yet the EPA and various states continue to defy these constitutional safeguards to advance evolving policies and priorities of their respective CAA enforcement programs.

II. BACKGROUND OF THE ASBESTOS NESHAP TEST METHOD

A. Asbestos NESHAP 1990 Test Method

To appreciate the dramatic and ongoing divergence of law and EPA policy, one must look at the asbestos NESHAP's evolution and history. For the first seventeen years of the asbestos NESHAP's existence (1973–1990), the asbestos content of material was measured on the basis of *percentage weight*, and no particular test method was enumerated by the regulation. By 1990, the EPA had decided it was "long overdue" to adopt a specific test method to determine asbestos content to "reduce confusion over what activities are subject to the regulation."[25] The EPA initiated rulemaking to, among other things, clarify the regulation's weight-based standard (with no test method) because the EPA had concluded that a one percent dry-weight standard tended to underestimate asbestos quantity in denser materials.[26]

Instead of developing an entirely new analytical test method to quantify asbestos for NESHAP purposes alone, the EPA incorporated a preexisting asbestos test method that had twice been through EPA rulemaking in 1982 and 1987 under different, non-CAA regulations.[27] That 1990 test method was incorporated into the very definition of "friable asbestos material" under the NESHAP and therefore is a fundamental

24. *See* Order at 7, United States v. W.R. Grace, 455 F. Supp. 2d 1122, 1128 (D. Mont. 2006) (No. CR 05-07-M-DWM), *appeal docketed*, No. 06-30472 (9th Cir. Sept. 5, 2006) (rejecting prospect of allowing battling experts to define at trial whether particular forms of asbestos fibers are regulated by NESHAP).

25. *See* U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 4-8.

26. *See* National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision, 55 Fed. Reg. 48,406, 48,410 (Nov. 20, 1990) (noting that cement-based fireproofing material containing unregulated amount of less than 1% asbestos *by weight* actually contains 30% asbestos *by area*).

27. See Interim Method for the Determination of Asbestos in Bulk Insulation Samples, 40 C.F.R. pt. 763, subpt. E, app. E (2006), which was incorporated into the EPA's TSCA and AHERA programs.

component of the definition of RACM.[28] Unlike the nonbinding 1993 test method, the 1990 test method mandates a multistep analysis of all layers of the material to generate a composite or average asbestos percentage result for the material as a whole:

> Bulk samples of building materials taken for the identification and quantitation of asbestos are first examined for homogeneity. . . . *When discrete strata are identified, each is treated as a separate material so that fibers are first identified and quantified in that layer only, and then the results for each layer are combined to yield an estimate of asbestos content for the whole sample*.[29]

Implicit within the "whole sample" concept set forth in the 1990 test method is the requirement to determine the average asbestos content based upon a weighted average of the multilayered system that accounts for the relative thicknesses of the individual layers. Wisconsin argued in *Harenda Enterprises* that the 1990 test method must account for relative thicknesses of individual layers to avoid "absurd results."[30] The court of appeals noted that, absent averaging of the thickness of individual layers, absurd outcomes were possible, but it did not need to reach the question of whether the combination of the asbestos content of each separate layer "is done in reference to the mass, weight, or volume of each layer. Accordingly, we apply the one-percent threshold without further refinement . . . ."[31] Likewise, the *SDG&E* court did not need to reach that issue to rule the indictment defective.

B. The EPA's Nonbinding 1993 Test Method

Within only a few years of the 1990 promulgation of the first and only asbestos NESHAP test method, the EPA concluded that the 1990 test method excluded certain multilayered materials from the definition of RACM. Multilayered materials that ought to be regulated in the EPA's view fell below the NESHAP's one percent threshold under the literal application and averaging of the 1990 test method. In 1993, the EPA therefore decided that a new asbestos test method was desirable.[32]

The 1993 test method promised "significant revisions" to the 1990 test method and "new procedures."[33] Included among the significant revisions

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28. *See* 40 C.F.R. § 61.141 (2006).
29. 40 C.F.R. pt. 763, subpt. E, app. E § 1.7.2.1 (2006) (Gross Examination) (emphasis added).
30. State v. Harenda Enters., Inc., 724 N.W.2d 434, 439 n.4 (Wis. Ct. App. 2006), *rev. granted*, 732 N.W.2d 857 (Wis. 2007) (using example of multilayered wall made of twelve inches of styrofoam insulation covered by a quarter inch of plaster containing 5% asbestos).
31. *Id.* at 436 n.2.
32. U.S. ENVTL. PROT. AGENCY, *supra* note 17, at 1.
33. *Id.*

was an emphatic rejection of the multilayered averaging of asbestos content mandated by the 1990 test method.[34] A comparison of the 1990 test method and the 1993 test method for multilayered material is set forth below.

1990 Test Method (1990 NESHAP Amendments)	**1993 Test Method (1993)**
Promulgated through CAA or non-CAA rulemaking (3 times: 1982 TSCA, 1987 AHERA, 1990 NESHAP).	Never promulgated through rulemaking and not part of the definition of RACM.
Multilayered analysis required.	Only single-layer or sub-layer analysis recommended.
Asbestos content based on average for all layers.	Each layer of multilayered material separately analyzed and if any of the individual layers, standing alone, exceeds 1% asbestos, then entire multilayered material is deemed "regulated."
Laboratory makes no determination of friability of sample.	Laboratory determines friability of sample based on broader non-NESHAP definition set forth in Appendix A of 1993 test method, which is measured by the "disaggregation" of sample by laboratory instruments and analyst.

34. *Id.* at 6–7.

More complete and accurate quantitation of asbestos fibers.	Less accurate "visual area estimation" techniques.[35]
Intact and representative multilayered sample of original thickness required (all layers).	No intact, representative, multilayered sample required; pipe wrap sample must be three to four square inches of layered material; anything less than fifteen grams considered "small quantity" bulk sample and subject to reliability precautions and rejection risk.

By the EPA's own admission, the "much improved"[36] 1993 test method substantially expands the universe of "regulated" material to include material not otherwise above the one percent threshold under the 1990 test method.

> Because the [1990 test method] allowed the result to be reported as one number, multi-layered samples which may contain asbestos in a single layer may have been reported by laboratories as nonasbestos-containing. The improved method directs laboratories to analyze and report a result for individual layers. . . . *[A] multi-layered sample which previously was determined to be nonasbestos-containing may now have layers which will be classified as asbestos-containing based on the presence of asbestos in greater than 1 percent*.[37]

Since 1990, and in the absence of federal rulemaking modifying the jurisdictional NESHAP test method, at least seven states have expressly adopted the 1993 test method in whole or in part into their respective

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35. Experts describe visual estimation methods now favored by the EPA under the 1993 test method as "significantly less accurate" than the techniques of the 1990 test method. *See* Robert L. Perkins et al., *The One Percent Dilemma*, ENVTL. INFO. ASS'N J., Summer 1994, at 7, 10 (noting 92% of NVLAP-certified laboratories overestimated asbestos content of test samples because of human error, *including one 60% result containing in actuality only 0.5% asbestos*; NVLAP laboratory "overestimation of asbestos in bulk samples" is found to be "pervasive"); Robert L. Perkins, *Point-Counting Technique for Friable Asbestos-Containing Materials*, 38 MICROSCOPE, 1990, at 29, 33–34 (stating visual estimation techniques "tend to be on the high side" and affected by "analyst bias" compared to 1990 test method techniques); James S. Webber et al., *Quantitating Asbestos Content in Friable Bulk Samples: Development of a Stratified Point-Counting Method*, 51 AM. INDUS. HYGIENE ASS'N J. 447, 447 (1990).

36. Letter from Michael E. Beard, EPA Atmospheric Research and Exposure Assessment Lab., to all Asbestos Analytical Laboratories (Sept. 7, 1993) (on file with authors).

37. Advisory Regarding Availability of an Improved Asbestos Bulk Sample Analysis Test Method, 59 Fed. Reg. 38,970, 38,971 (Aug. 1, 1994) (emphasis added).

state asbestos regulations.[38] In 2002, for example, Texas enacted rules to disallow averaging under the 1990 test method for multilayered materials.[39] In 2006, New Jersey adopted the 1993 test method in substitution for the 1990 test method in emergency rulemaking because New Jersey contractors were relying upon the literal language of the 1990 test method to exclude material as nonregulated to the dismay of state regulators.[40]

The EPA's actions since it publicly distributed the 1993 test method to testing laboratories underscore that the test method has never been adopted into law and remains nonbinding:

1. In September 1993, the EPA provided a courtesy notice of its "much improved" 1993 test method to all the asbestos analytical laboratories in the nation.[41] The EPA acknowledged in its letter that the 1990 test method "remains the EPA compliance monitoring method and must be used for AHERA and NESHAP monitoring until further notice," but the EPA stated the NESHAP test method's longevity has been cast into serious doubt because "the agency is considering replacing the [1990 test method] with this newer, improved [1993 test method] procedure."[42]
2. In January 1994, the EPA responded to "many questions" from industry regarding averaging of the asbestos content of multilayered material under the 1990 test method to determine whether the material is regulated.[43] The EPA criticized ongoing averaging under the 1990 test method, with one exception—certain multilayered wall systems. Seven months later, on August 1, 1994, the EPA announced

38. *See* LA. ADMIN. CODE tit. 33, § 2711 (2006) (amending 22 La. Reg. 699 (Aug. 1996) and prohibiting averaging of bulk sample content); 06-096-425 ME. CODE R. § 4 (Weil 2003) (mandating 1993 test method for flooring samples); 453 MASS. CODE REGS. 6.08 (2006); MINN. R. 4620.3460 (1996) (prohibiting averaging as set forth in the EPA's second clarification); 20 Minn. Reg. 2765, 2770 (June 24, 1996); 38 N.J. Reg. 2526 (June 5, 2006); 25 TEXAS ADMIN. CODE § 295.32 (2007); 18 VA. ADMIN. CODE § 15-20-459.3 (2006).

39. 27 Tex. Reg. 11,424, 11,426, 11,443 (Dec. 6, 2002).

40. *See* Testing of Bulk Material Samples, 38 N.J. Reg. 2526-29 (June 5, 2006).

41. *See* Letter from Michael E. Beard, EPA Atmospheric Research and Exposure Assessment Lab., to all Asbestos Analytical Laboratories (Sept. 7, 1993) (on file with authors).

42. *Id.*

43. *See* Asbestos NESHAP Clarification Regarding Analysis of Multi-layered Systems, 59 Fed. Reg. 542 (Jan. 5, 1994).

in the Federal Register the availability of an "improved" scientific test method (the 1993 test method) that explicitly rejects averaging.[44]

3. In 1995, the EPA was forced to respond yet again to ongoing public frustration in harmonizing the NESHAP's 1990 test method (averaging) and the nonbinding 1993 test method (no averaging).[45] In the face of the irreconcilable positions of the two test methods, the EPA elected to point to its long-standing "unwritten policy" against averaging.[46] The EPA admonished industry that its regulatory objectives are more accurately set forth in the nonpromulgated 1993 test method, and EPA *promised to amend the NESHAP regulation* to make the 1993 test method binding new law.[47] *The agency has never done so*.

In practical terms, the 1993 test method remains today, at most, a nonbinding, regulatory safe harbor to ascertain whether material is *potentially* regulated by the asbestos NESHAP, because the 1993 test method is deliberately calculated to encompass a broader range of materials than the NESHAP itself mandates. Stated differently, the nonbinding method is deliberately overinclusive. The *SDG&E* and *Harenda Enterprises* cases present a different issue, however, and one of first impression under the asbestos NESHAP: whether the EPA's "unwritten policy" about what ought to be regulated using nonbinding and discretionary test methods can be applied outside a promulgated regulation as an instrument of prosecution. At least two courts have rejected the enforceability of the EPA's "unwritten policy."

III. ASBESTOS MATERIAL TESTING IN *UNITED STATES V. SDG&E* AND *STATE V. HARENDA ENTERPRISES*

The material at issue in *SDG&E* comprised 9.23 miles of coated natural gas underground pipelines that were buried at a sixteen acre site for five decades.[48] The natural gas storage facility was constructed in 1953 to 1955 and decommissioned in 1999. The pipes were unearthed and removed over the course of several months during 2000 and 2001.

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44. *See* Advisory Regarding Availability of an Improved Asbestos Bulk Sample Analysis Test Method; Supplementary Information on Bulk Sample Collection and Analysis, 59 Fed. Reg. 38,970 (Aug. 1, 1994).

45. *See* Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems, 60 Fed. Reg. 65,243 (Dec. 19, 1995).

46. *Id.* at 65,243.

47. *Id.*

48. The background facts of the *SDG&E* case are set forth in SDG&E's motion to declare the case complex. Defendants' Memorandum of Points and Authorities in Support of Motion to Declare Case Complex at 3–10, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Feb. 3, 2006).

The pipe coating material was tested with the pipe *in situ* before and more extensively after pipe access became available upon trenching. The pipe coating was removed by licensed asbestos abatement subcontractors on-site both manually and mechanically with the oversight of California certified asbestos consultants. The removed anti-corrosive pipe coating was sent to a licensed asbestos disposal facility. Three separate courtesy notices of nonfriable operations were provided to the delegated county air pollution control district. County air inspectors visited the site over twenty times. All air and soil testing demonstrated no releases of asbestos fibers contemporaneously with removal operations.[49]

County inspectors became concerned in response to citizen noise and odor complaints that mechanical removal would render the coating friable and issued notices of violation. EPA Region 9 was consulted, which concluded during a one-hour field inspection in January 2001 that, although the coating was nonfriable while affixed on the pipe, any mechanical removal would render asbestos-containing material regulated. The EPA did not then observe the machine in operation. Years after project completion, the County of San Diego sued SDG&E's parent company, Sempra Energy, in August 2005 for over $1.5 million in civil penalties but summarily dismissed the civil action seven months later in March 2006 during depositions of its inspectors.[50]

The federal government indicted SDG&E in January 2006 and, for the first time, performed material testing on six remaining 2001 coating samples at the EPA's National Enforcement Investigations Center in Denver, Colorado.

All project contractor and government asbestos bulk samples of the pipe coating from 1998 to 2006, including all EPA tests following the indictment, adhered exclusively to the nonbinding 1993 test method NVLAP-certified laboratories are required to perform. The government so admitted.[51] No bulk samples were analyzed under the 1990 test method

49. Air testing was performed separately by the project contractors, California certified asbestos consultants, County of San Diego regulators, and even the California EPA. Over 300 air samples and 180 soil samples were obtained with no detections of any asbestos fibers during or after on-site abatement operations. *Id.* at 7.

50. *See* Complaint, People v. Sempra Energy, No. GIE028660 (Cal. Super. Ct. Aug. 30, 2005); Dismissal, People v. Sempra Energy, No. GIE028660 (Cal. Super. Ct. Mar. 28, 2006).

51. Government Bill of Particulars, *supra* note 10, at 9:18–22.

by any laboratory from 1998 to 2006.[52] Nor did sufficient physical evidence remain, in the view of the defense, five to six years after project completion to faithfully perform the 1990 test method for the original 9.23 miles of multilayered pipe coating material.

The former SDG&E pipe coating material was a multilayered, coal tar-based coating comprised of the following: (i) primer coating on the bare steel pipe; (ii) one application of hot coal tar enamel (similar in texture to coal tar used in roofing operations); (iii) fiberglass felt; (iv) a second application of hot coal tar enamel; (v) coal tar saturated "asbestos felt"; and (vi) white wash to reduce solar heating.[53] The government conceded the SDG&E pipe coating material was "made up of multiple layers," which were "distinct and dissimilar."[54]

Coal tar pipe wrap specifications in the 1950s were well established within the pipe industry and comprised multilayered material affixed together by various layers of hot coal tar enamel that bonded all layers into a permanently cohesive composite material upon cooling.[55] Once applied under extremely high-temperature conditions (over 400°F), the coal tar coating and its embedded layers were permanently affixed and did not delaminate or "peel like an onion" upon removal. The saturated asbestos felt layer (a commercial and patented product from companies such as Allied Chemical and Johns-Manville)[56] is itself saturated within a type of coal tar and formed into long sheets and stored on heavy rolls (like pulp paper rolls) for future application at a coating plant or in the field. Saturated asbestos felt is black and described as having the consistency of heavy, coal tar roofing paper and is occasionally confused with, but is different than, roofing paper.[57]

Asbestos-containing coal tar pipe wrap has been used by the utility industry for many decades on thousands of miles of pipe,[58] and such

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52. In *SDG&E*, a total of seventy-five bulk samples were analyzed by five different laboratories between 1998 and 2006. Defendants' Points and Authorities in Support of Joint Motion to Dismiss Counts 1, 2, 3 and 5 of the Indictment for Failure to State an Offense Involving Jurisdictional Amount of Regulated Asbestos-Containing Material at 11–13, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Oct. 18, 2006).

53. *See id.* at 12–13 (pipe coating field specifications); *accord* KOPPERS CO., BITUMASTIC PIPE LINE HANDBOOK 9–11 (1953).

54. Government Bill of Particulars, *supra* note 10, at 9:11–19.

55. *See* KOPPERS CO., *supra* note 53, at 40–46 (providing coal tar coating applications at relevant time, including multilayered construction).

56. *See* Asbestos Pipeline Felt, U.S. Patent No. 3,607,515 (filed July 18, 1967); NAT'L ASS'N OF PIPE COATING APPLICATORS, INTERIM SPECIFICATIONS FOR SATURATED ASBESTOS PIPELINE FELT § 5-69 (1969).

57. *See* KOPPERS CO., *supra* note 53, at 10, 13, 42–43, 44, 52, 64–66.

58. *See id.* at 11, 44–45, 64; JOHNS-MANVILLE CORP., PRODUCTS HANDBOOK 46 (1955) (discussing Transhield® asbestos pipe line felt and stating that asbestos felt "now protects more than 100,000 miles of oil and gas pipe lines"); JOHNS-MANVILLE CORP.,

coating has been both removed and applied mechanically in the field. Asbestos-containing pipe wrap was banned from commerce with most other asbestos products starting on August 27, 1990,[59] but applications of asbestos-containing coal tar pipe wrap remain on many active pipelines around the country.

In *SDG&E*, the thickness of the entire pipe coating in its original field condition (pre-removal) was described by third party eyewitnesses as approximately one-half to one inch in thickness.[60] Using the nonbinding 1993 test method, the government instead purported to test after the 2006 indictment a one millimeter-thick "piece" of one layer of the coating only, after physically isolating any remnants of the embedded asbestos felt layer using a microscope and laboratory instruments.[61]

Between 1998 and 2006, a total of seventy-five pipe coating bulk samples were tested by five different laboratories, including tests by three nongovernment and two government laboratories (one state and one federal).[62] There was no dispute regarding the specific test method upon which the California and Wisconsin prosecutions were based. Preliminarily, in *SDG&E,* the government conceded in its Bill of Particulars that its indictment was based exclusively upon the 1993 test method. Citing to the EPA's 1994 clarification of multilayered testing, the federal government explained the 1993 test method upon which its prosecution rested as follows:

> If a material believed to contain asbestos consists of several distinct and dissimilar layers, each layer must be separately analyzed for its asbestos content. *If any of the layers, standing alone, meets the definition of regulated asbestos containing material (i.e., over 1% asbestos and friable), then the entire material is deemed to be regulated asbestos containing material, and the NESHAP work practice standards are applicable to the project.*[63]

JM PRODUCTS MANUAL 48 (1935) (describing "J-M Asbestos Pipe Line Felt['s]" strength to protect coating and resist soil chemicals, water and bacteria).

59. After ten years of work, the EPA promulgated a rule banning most commercial asbestos products in three stages. Asbestos; Manufacture, Importation, Processing and Distribution in Commerce Prohibitions, 54 Fed. Reg. 29,460 (July 12, 1989). Asbestos-containing pipe wrap was banned in "stage 1," effective August 27, 1990. Parts of that rule were judicially invalidated in Corrosion Proof Fittings v. EPA, 947 F.2d 1201 (5th Cir. 1991).

60. Defendants' Points and Authorities, *supra* note 52, at 14–15.

61. U.S. ENVTL. PROT. AGENCY, NAT'L ENFORCEMENT INVESTIGATIONS CENTER, NEIC RP1134R01 at 5, tbl. 1 (2006) (all testing limited to "1-mm thick piece").

62. *See* Defendants' Points and Authorities, *supra* note 52.

63. Government Bill of Particulars, *supra* note 10, at 9:18–22 (emphasis added).

In the Wisconsin case, the licensed abatement contractor, Harenda Enterprises, Inc. (HEI), obtained over 325 bulk material samples of the walls, stairs, and ceiling tiles prior to removal from the Milwaukee Auditorium.[64] HEI had the samples tested by two independent laboratories.[65] Although various auditorium materials were determined by the outside laboratories to exceed one percent asbestos content, the contractor's outside testing of the multilayered wall systems fell below one percent when averaged.[66] The multilayered wall system was the central issue in the 2003 to 2006 civil action. The State's testing revealed one of the wall system's layers contained approximately 1.25 to 2.50% asbestos.[67] The State obtained ten additional multilayered wall samples, four of which had at least one layer that was reported by the outside testing laboratory to contain more than one percent asbestos.[68]

The Wisconsin trial court in *Harenda Enterprises* agreed with the State that it is "obvious" that the 1990 test method is "not clear."[69] On that basis, the court elected to give deference to subsequent 1994 and 1995 EPA interpretations of the 1990 test method that effectively adopted the 1993 test method as the better choice. The Wisconsin trial court found it noteworthy that both the EPA and NVLAP-certified laboratories now rely exclusively on the EPA clarifications and the 1993 test method.[70] The State argued, "Harenda cannot ignore, and this Court cannot ignore, the EPA's plain and simple clarification of its confusing rule."[71] Wisconsin believed that the application of the 1990 test method would lead to an "absurd result" because a thin layer of material with greater than one percent asbestos content would be diluted to less than one percent content when mathematically combined in a weighted average approach with a thick layer of non-asbestos-containing material.[72] Despite the professed ambiguity of the 1990 test method in the eyes of both the State and the *Harenda Enterprises* trial court, the court

64. Brief of Defendant-Appellant at 6, State v. Harenda Enters., Inc., 724 N.W.2d 434 (Wis. Ct. App. 2006) (No. 2005AP1829).

65. *Id.* at 6.

66. Brief of Plaintiff-Respondent at 10–11, State v. Harenda Enters., Inc., 724 N.W.2d 434 (Wis. Ct. App. 2006) (No. 2005AP1829).

67. *Id.* at 11–12.

68. *Id.* at 12.

69. *Id.* at 4, 14–15. The state argued to the court of appeals that "[w]ithout doubt, the language from the [1990 test method] relied upon by defendant Harenda in making his argument has led to considerable confusion in the regulated industry." *Id.* at 21–22.

70. *Id.* at 7.

71. *Id.* at 25.

72. Wisconsin used the example of twelve inches on non-asbestos-containing styrofoam combined with a quarter inch of plaster containing 5% asbestos. *Id.* at 22–23.

nonetheless reached the conclusion that the EPA "clarifications are not legislative rules" that require rulemaking.[73]

The *SDG&E* court concluded just the opposite. The federal court held that the two EPA "clarifications have the effect of fashioning a new test method."[74] It ruled that the 1993 test method is a legislative rule requiring rulemaking procedures and, in the absence of rulemaking procedures, the test method "may not provide the basis for the Government's prosecution."[75] The court concluded that the indictment therefore failed to allege all essential elements of the offense and dismissed all NESHAP work practice counts.[76]

IV. HISTORY OF THE EPA'S ASBESTOS NESHAP REGULATION

A. Asbestos Federally Regulated by Patchwork of Statutes and Regulations

Asbestos is a naturally occurring mineral used for many decades in construction materials because of attributes such as heat resistance, durability, and tensile strength.[77] Asbestos use is regulated by an incongruous array of federal statutes and regulations. The Occupational Safety & Health Act of 1970, for example, regulates asbestos worker exposure.[78] The Federal Mine Safety and Health Act of 1977 regulates mine worker asbestos exposure.[79] TSCA regulates the commercial elimination of asbestos products and mandates asbestos warnings and removal actions in schools.[80] The CAA, in contrast, regulates asbestos emissions during manufacturing and the removal of certain asbestos-containing materials during "demolitions" or "renovations." Under the 1970 CAA amendments, the EPA began to regulate asbestos emissions during manufacturing operations, product applications, and demolition activities in 1973.[81]

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73. *Id.* at 8.
74. Order Granting Motion to Dismiss, *supra* note 9, at 12:7–8.
75. *Id.* at 12:26–13:2.
76. *Id.* at 14–17.
77. *See* Corrosion Proof Fittings v. EPA, 947 F.2d 1201, 1207 (5th Cir. 1991).
78. 29 U.S.C. §§ 651–678 (2000).
79. 30 U.S.C. §§ 801–962 (2000).
80. *See* 15 U.S.C. §§ 2641–2656 (2000).
81. National Emission Standards for Hazardous Air Pollutants; Asbestos, Beryllium, and Mercury, 38 Fed. Reg. 8826 (Apr. 6, 1973).

B. The Clean Air Act

The genesis of the modern Clean Air Act dates back to the 1950s.[82] The Act has been amended and expanded more than ten times.[83] The 1970 CAA amendments authorized the EPA to identify and regulate "hazardous air pollutants" or HAPs.[84] For the next twenty years, until the 1990 CAA amendments, the EPA identified only eight hazardous air pollutants through rulemaking alone.[85] Naturally occurring asbestos was the first of three hazardous air pollutants identified by the EPA in 1971, along with beryllium and mercury.[86] The EPA promulgated its first asbestos NESHAP regulation (less than two pages in length) in 1973.[87] The NESHAP has been substantively amended four times.[88]

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82. Air Pollution Control Act of 1955, Pub. L. No. 84-159, 69 Stat. 322 (providing federal research and technical assistance to states to develop their own air quality standards).

83. The major clean air legislation and amendments thereto include the following: Clean Air Act of 1990, Pub. L. No. 101-549, 104 Stat. 2399; Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685; Clean Air Act of 1970, Pub. L. No. 91-604, 84 Stat. 1676; Air Quality Act of 1967, Pub. L. No. 90-148, 81 Stat. 485; Motor Vehicle Air Pollution Control Act, Pub. L. No. 89-272, 79 Stat. 992; Clean Air Act of 1963, Pub. L. No. 88-206, 77 Stat. 392 (amended for additional funding for state air quality research programs in 1965, 1966, 1967, and 1969); Air Pollution Control Act of 1955, Pub. L. No. 84-159, 69 Stat. 322.

84. Clean Air Act of 1970, Pub. L. No. 91-604, 84 Stat. 1676, § 112.

85. EPA listed the following eight hazardous air pollutants through rulemaking before the 1990 congressionally mandated list of 189 in the 1990 Clean Air Act: (1) asbestos, 36 Fed. Reg. 5931 (Mar. 31, 1971); (2) beryllium, 36 Fed. Reg. 5931 (Mar. 31, 1971); (3) mercury, 36 Fed. Reg. 5931 (Mar. 31, 1971); (4) vinyl chloride, 40 Fed. Reg. 59,532 (Dec. 24, 1975); (5) benzene, 42 Fed. Reg. 29,332 (June 8, 1977); (6) radionuclides, 44 Fed. Reg. 76,738 (Dec. 27, 1979); (7) inorganic arsenic, 45 Fed. Reg. 37,886 (June 5, 1980); and (8) coke oven emissions, 49 Fed. Reg. 36,560 (Sept. 18, 1984).

86. Air Pollution Prevention and Control; List of Hazardous Air Pollutants, 36 Fed. Reg. 5931 (Mar. 31, 1971).

87. National Emission Standards for Hazardous Air Pollutants; Asbestos, Beryllium, and Mercury, 38 Fed. Reg. 8826, 8829–30 (Apr. 6, 1973). The asbestos NESHAP was repromulgated at 40 C.F.R. subpt. M in 1984 after *Adamo Wrecking Co. v. United States*. 434 U.S. 275 (1978). In *Adamo*, the Supreme Court invalidated the asbestos NESHAP work practices as being unauthorized by the 1970 CAA and an erroneous EPA extrapolation of its own authority under then-existing legislation that had been later cured in subsequent amendments to the CAA. *See* National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard, 49 Fed. Reg. 13,658 (Apr. 5, 1984).

88. National Emission Standards for Hazardous Air Pollutants; Amendments to Standards for Asbestos and Mercury, 40 Fed. Reg. 48,292 (Oct. 14, 1975); National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard, 49 Fed. Reg. 13,658 (Apr. 5, 1984); National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision, 55 Fed. Reg. 48,406 (Nov. 20, 1990). The 1994 amendments added an EPA "Interpretative Rule Governing Roof Removal Operations" authorizing, among other things, mechanical removal of roofing materials using a "rotating blade (RB) roof cutter," 40 C.F.R. pt. 61, subpt. M, app. A.

Under the 1990 CAA amendments, Congress dramatically expanded the list of hazardous air pollutants beyond the eight identified through slow EPA rulemaking between 1970 and 1990. Congress unilaterally listed 189 hazardous air pollutants in the CAA itself and delegated to the EPA the task of framing emission standards regulations for each. Congress directed that the EPA "shall promulgate regulations establishing emission standards" to achieve the "maximum degree of reduction in emissions of the [listed] hazardous air pollutants" taking into consideration, among other things, the "cost of achieving such emission reduction," non-air impacts, and energy requirements.[89] The EPA is required to review, and revise as necessary, the respective NESHAP emission standards not less than every eight years.[90] The last major revision to the asbestos NESHAP took place seventeen years ago in 1990.

C. Evolution of the Asbestos NESHAP Regulation

The asbestos NESHAP (now set forth at 40 C.F.R. subpart M) is an EPA regulation with roots in both the 1970 CAA and the 1976 Toxic Substances Control Act.[91] The asbestos NESHAP bridges Congress's mandate under the 1970 CAA to develop emission standards for hazardous air pollutants and the TSCA's goal of eliminating asbestos-containing products from commerce and schools.[92] In fact, the 1990 test method to quantify asbestos under the NESHAP was enacted originally into law through TSCA rulemaking in 1982, which required school authorities to

89. 42 U.S.C. § 7412(d)(1), (d)(2) (2000).
90. 42 U.S.C. § 7412(d)(1) (2000).
91. A chronology of the asbestos NESHAP is attached as Appendix A. In general, NESHAP regulations can pertain either to specific HAPs, or manufacturing processes or "source categories" that emit HAPs as a by-product. *See, e.g.*, 40 C.F.R. pts. 61, 63 (2006). Part 61 contains twenty-two NESHAP regulations for uranium mining, beryllium, beryllium rocket motors, mercury, vinyl chloride, radionuclides, benzene, phosphorous plants, asbestos, arsenic emissions from copper smelter and glass manufacturing plants, and radon. 40 C.F.R. §§ 61.01–.359 (2006). Part 63 applies to a wide array of manufacturing processes, including, for example, shipbuilding and repair of pleasure craft. 40 C.F.R. §§ 63.5680–.5779 (2006). There are at least ninety-two NESHAP regulations. *See Thirteen EPA Rules Limiting Emissions of Toxics from Industrial Sites Announced*, BNA DAILY ENV'T REP. NO. 167, at A-3 (2003).
92. *See* Toxic Substances Control Act § 6, 15 U.S.C. § 2605 (2000); *see also* Asbestos: Manufacture, Importation, Processing, and Distribution in Commerce Prohibitions; Final Rule, 54 Fed. Reg. 29,460, 29,468 (July 12, 1989) (describing three-stage ban of approximately 94% of all commercial asbestos products under TSCA; banning asbestos-containing pipewrap effective August 27, 1990).

inspect and identify friable asbestos in schools.[93] That test method was readopted in 1987 under rulemaking to implement the Asbestos Hazard Emergency Response Act of 1986 (AHERA), legislation that amended and expanded TSCA. The 1990 test method was later explicitly incorporated into the asbestos NESHAP and the definition of asbestos-containing material in 1990 as part of the last major revisions to the CAA regulation.[94] The 1990 test method remains today the only test authorized by law to quantify asbestos in material for purposes of the asbestos NESHAP.

The asbestos NESHAP evolved most dramatically during its first seventeen years, and has remained fairly static since the 1990 amendments. The original 1973 asbestos NESHAP regulation started very modestly.[95] It mandated three to four basic "procedures" to remove friable material *before* "demolition" of buildings to limit the extent of "emissions of particulate asbestos material to outside air."[96]

The concept of friability was left completely undefined until 1975, at which time the EPA amended the NESHAP regulation to define "friable asbestos material" as "any material that contains more than *1 percent asbestos by weight* and that can be crumbled, pulverized, or reduced to powder, when dry, *by hand pressure*."[97] In defining friability in 1975, the agency reasoned that:

> EPA's intention was to distinguish between materials that would readily release asbestos fibers when damaged or disturbed and those materials that were unlikely to result in the release of significant amounts of asbestos fibers. To accomplish this, EPA labeled as "friable" those materials that were likely to readily release fibers.[98]

The EPA stated that the intent of the 1975 NESHAP amendments and its definition of friability "is not to control handling of vinyl-asbestos floor tile, asbestos felt roofing, or other similar materials, since it is the Administrator's judgment that such activities will not release asbestos in

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93. *See* Friable Asbestos-Containing Materials in Schools; Identification and Notification, 47 Fed. Reg. 23,360, 23,376 (May 27, 1982).

94. *Id.* (original TSCA 1982 test method); Asbestos-Containing Materials in Schools; Final Rule and Notice, 52 Fed. Reg. 41,826, 41,837 (Oct. 30, 1987) (stating in 1987 that the existing 1982 TSCA test method is "sufficient" for AHERA purposes); National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule, 55 Fed. Reg. 48,406, 48,410 (Nov. 20, 1990) (incorporating 1987 AHERA test method into 1990 asbestos NESHAP amendments). Thus, the test methods under TSCA (1982), AHERA (1987) and the asbestos NESHAP (1990) are identical.

95. National Emission Standards for Hazardous Air Pollutants; Asbestos, Beryllium, and Mercury, 38 Fed. Reg. 8826, 8829–30 (Apr. 6, 1973).

96. *Id.* at 8829 (no "visible emissions" allowed to outside air).

97. National Emission Standards for Hazardous Air Pollutants; Asbestos and Mercury, 40 Fed. Reg. 48,292, 48,299 (Oct. 14, 1975) (emphasis added).

98. National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule, 55 Fed. Reg. 48,406, 48,408 (Nov. 20, 1990).

a manner which is dangerous to human health."[99] The EPA also recognized for many years that the hand pressure field test for determining friability is "somewhat subjective."[100] However, no objective measure for determining friability had yet been developed. The EPA deemed the human hand pressure test adequate for "most materials."[101] The NESHAP rule also was amended in 1975 to include renovation projects, another perceived major source of asbestos fiber emissions.[102]

The asbestos NESHAP regulation was next amended in 1984. Essentially, the work practices were repromulgated in 1984 after the Supreme Court's decision in *Adamo Wrecking Co. v. United States*,[103] which determined that the work practices were not then explicitly authorized by an earlier version of the CAA.[104] Major substantive NESHAP changes would take place in 1990, certain of which were the genesis of the *SDG&E* criminal and *Harenda Enterprises* civil cases. Indeed, most criminal asbestos NESHAP prosecutions postdate the 1990 amendments to the regulation.[105]

D. 1990 Asbestos NESHAP Amendments

In January 1989, the EPA commenced nearly two years of CAA rulemaking that led to major revisions in the asbestos NESHAP because of the "overwhelming consensus among enforcement officials and industry groups that there is a significant level of noncompliance and confusion with the NESHAP."[106] For example, in 1990, the EPA first

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99. U.S. ENVTL. PROT. AGENCY, OFFICE OF AIR & WASTE MGMT., EPA-450/2-74-009A, BACKGROUND INFORMATION ON NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS—PROPOSED AMENDMENTS TO STANDARDS FOR ASBESTOS AND MERCURY 16 (1974).

100. *See* U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 4-11.

101. *Id.*

102. Amendments to Standards for Asbestos and Mercury, 40 Fed. Reg. 48,292, 48,299 (Oct. 14, 1975). "Demolition" requires the "wrecking or taking out of any load-supporting structural member." 40 C.F.R. § 61.141 (2006). In 1994, the EPA construed the removal of underground pipes as "renovation" activity because of the absence of a "load-bearing" component for underground pipes. *See* EPA-Clean Air Act Applicability Determination Index, Control No. A960010, http://cfpub.epa.gov/adi/index.cfm?CFID= (click on "Search by Document Control Number" hyperlink, select "A960010" from list, select "Display/Submit Query," select "Submit Query," and select "A960010" hyperlink).

103. 434 U.S. 275 (1978).

104. National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard, 49 Fed. Reg. 13,658, 13,658–65 (Apr. 5, 1984).

105. *See supra* note 21.

106. *See* U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 3-1.

defined the concepts of "Category I" and "Category II" nonfriable, asbestos-containing materials (ACM) to help separate lower-risk and higher-risk asbestos-containing materials.[107] "EPA has been able to compile a list of nonfriable ACM that, under normal conditions, do not have to be removed prior to demolition operations. These ACM [Category I materials] are not expected to release significant amounts of asbestos fibers to the outside air during demolition . . . ."[108]

Today there are four Category I materials that "under normal conditions, do not have to be removed prior to demolition operations" because the EPA believes they pose a lower risk of releasing fibers into the air during demolition or renovation operations.[109] The four materials are (i) resilient floor covering; (ii) asphalt roofing products; (iii) gaskets; and (iv) packings. Anything not expressly identified as Category I is, by definition, Category II material.[110] Multilayered, coal tar pipe wrap like that in the *SDG&E* case is not included in the enumerated list of Category I materials, and therefore constitutes Category II material, although the EPA equivocated on this basic issue.[111]

The 1990 NESHAP amendments moved away from the original 1973 *weight-based* standard to determine asbestos quantity in materials (1% by weight) to more of a two-dimensional *area-based* standard (1% by area) for single-layered material. The EPA did not specify how to average the layer-specific results for multilayered material (for example, average by volume or weight of the layers). The EPA also decided it was "long overdue" to adopt a specific test method to determine asbestos content to "reduce confusion over what activities are subject to the regulation."[112] However, the EPA recognized that a promulgated test method would carry heavy agency obligations:

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107. National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision, 55 Fed. Reg. 48,406, 48,409 (Nov. 20, 1990); *accord* U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 7-110.

108. National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision, 55 Fed. Reg. at 48,409.

109. *Id.*

110. 40 C.F.R. § 61.141 (2006) (definitions).

111. The Bill of Particulars in *SDG&E* devotes four pages to the government's ongoing and profound contradictions on whether coal tar pipe coating is Category I or II material. Government Bill of Particulars, *supra* note 10, at 2–6. Various EPA letters also take inconsistent positions regarding whether the pipe wrap is Category I or Category II. In 1992, the EPA described pipe wrap coating as "Category II nonfriable ACM." *See* Letter from John B. Rasnic, Dir. of EPA Office of Air Quality Planning and Standards, to Williams Pipe Line Co. (May 22, 1992) (on file with authors). The EPA Region 9 inspector also took inconsistent positions on whether the coating is Category I or II material during the course of the *SDG&E* matter.

112. U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 4-8.

> One advantage to including the analytical method for the identification and quantification of asbestos directly in the NESHAP is that the method is then readily available to those who have an interest in the asbestos NESHAP. *A disadvantage of this approach is that, when the analytical method is revised as a result of improvements in methodology, the analytical method contained in the NESHAP cannot be changed without going through lengthy and time-consuming procedures to amend the regulation. . . . The EPA believes that, by including the analytical method used to determine asbestos content in the definition, future misinterpretation of the definition is unlikely*.[113]

The EPA ultimately decided to incorporate the preexisting test method from TSCA (1982) and AHERA (1987) into the asbestos NESHAP regulation (1990). The EPA's decision meant that the asbestos NESHAP test method would change automatically with any test method updates promulgated under TSCA or AHERA, without mandating separate CAA rulemaking to keep the asbestos test method uniform and consistent under TSCA, AHERA, and the CAA. The EPA recognized as early as 1990 that the enumerated test method adopted into the 1990 NESHAP was virtually "locked in place" until such time as either (1) the asbestos NESHAP regulation was amended to adopt a new or unique asbestos NESHAP test method, or (2) the TSCA/AHERA test method regulation (incorporated by reference into the asbestos NESHAP and the definition of RACM) was amended. Notably, this did not occur: *RACM's definition and its governing test method have never been changed since 1990*.[114]

The existing NESHAP regulation definition states RACM must contain "more than 1 percent asbestos as determined using the method specified in [TSCA/AHERA] appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy."[115] As indicated by this language, the NESHAP regulation cross-references to a non-CAA, AHERA regulation. Specifically, the 1990 test method incorporated by reference into the NESHAP is outlined in fifteen pages of the AHERA regulation for schools and public buildings.[116]

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113. *Id.* at 4-16 (emphasis added).
114. *Id.* The EPA notes the downside to adopting a test method in a NESHAP regulation is that when test improvements became available, the NESHAP test method "cannot be changed without going through lengthy and time-consuming procedures to amend the regulation." *Id.*
115. 40 C.F.R. § 61.141 (2006) (definitions) (emphasis added).
116. 40 C.F.R. pt. 763, subpt. E, app. E (2006).

E. 1990 Asbestos NESHAP Work Practices

The asbestos NESHAP does not establish any maximum level of asbestos fibers that may be released in the air during removal activities. In 1975, the EPA explained that the omission resulted from the fact that analytical test methods for airborne asbestos were relatively inaccurate at the time, and geographically diffuse, urban demolitions and renovations did not easily lend themselves to a precise and workable point to monitor total asbestos emissions.

> Congress has specified that EPA should set emission standards for hazardous air pollutants. EPA, charged with implementing this requirement, has determined that the term "emission standard" includes work practice requirements designed to limit emissions. . . . These methods of control are required because of the impossibility at this time of prescribing and enforcing allowable numerical concentrations or mass emissions limitations. One difficulty in prescribing a numerical emission standard is the relative inaccuracy of asbestos analytical methods.[117]

Fifteen years later, in response to public comments supporting numerical asbestos emission standards and as part of the 1990 NESHAP amendments, the EPA balked again because it was still "not aware that methods of measuring asbestos concentrations in ambient air [were] available *at an acceptable cost* for routine monitoring purposes."[118]

As a concession to practicality and cost, the EPA decided to control emissions of specific forms of asbestos fibers[119] *indirectly* through "work practices" rather than numerical emission standards. The number of applicable NESHAP work practices can vary depending on the project, but generally comprise less than one dozen possible low-tech field measures that have the practical effect in the EPA's eyes of limiting or minimizing asbestos fiber releases into the ambient air. The EPA is the first to acknowledge that these work practices are not designed to guarantee or achieve zero asbestos fiber emissions; rather, the EPA

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117. National Emission Standards for Hazardous Air Pollutants; Amendments to Standards for Asbestos and Mercury, 40 Fed. Reg. 48,292, 48,296 (Oct. 14, 1975) (emphasis added).

118. U.S. ENVTL. PROT. AGENCY, *supra* note 18, at 7-110 (emphasis added).

119. Asbestos means "asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthrophyllite, and actinolite-tremolite." 40 C.F.R. § 61.141 (2006). In the high profile criminal case of *United States v. W.R. Grace*, the court excluded all Libby, Montana asbestos data that pertained to species of asbestos that fell outside the enumerated NESHAP definition. 455 F. Supp. 2d 1122 (D. Mont. 2006) (No. CR 05-07-M-DWM), *appeal docketed*, No. 06-30472 (9th Cir. Sept. 5, 2006). *See* Order, *supra* note 24. That exclusionary order is now on appeal to the Ninth Circuit.

envisions that the work practices simply limit asbestos emissions to an acceptable level.[120]

Following the 1990 NESHAP amendments, and depending on the specific project, the generally applicable work practices for RACM are set forth below:

No.	ASBESTOS NESHAP WORK PRACTICES
1.	Written Notification to Agency of Intention to Demolish/Renovate Covered Facility Ten Working Days Prior to Commencement of Activities 40 C.F.R. § 61.145(a)(2), 61.145(a)(4), 61.145(b) (2006)
2.	Remove "Regulated" ACM Before Material is Disturbed 40 C.F.R. § 61.145(c)(1) (2006)
3.	Competent Person Trained in Asbestos NESHAP Regulation On-Site to Supervise "Regulated" ACM Removal (40-hour course) 40 C.F.R. § 61.145(c)(8) (2006)
4.	"Regulated" ACM "Adequately Wet" Until Collected During Removal or Demolition, or Negative Pressure Enclosure if Wetting Unavailable 40 C.F.R. § 61.145(c)(3), (c)(6), (c)(9) (2006)
5.	Seal "Regulated" ACM While Wet in Leak-Tight Containers with OSHA Labels 40 C.F.R. § 61.150(a)(1)(iii) (2006)
6.	Leak-Tight Wrapping for Removed "Regulated" ACM 40 C.F.R. § 61.145(c)(3), (c)(4) (2006)

120. U.S. ENVTL. PROT. AGENCY, OFFICE OF AIR & WATER PROGRAMS, APTD-1503, BACKGROUND INFORMATION ON THE DEVELOPMENT OF NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: ASBESTOS, BERYLLIUM, AND MERCURY 26 (1973).

No.	ASBESTOS NESHAP WORK PRACTICES
7.	Deposit "Regulated" ACM at Licensed Disposal Site 40 C.F.R. § 61.150(b) (2006)

As explained by the Supreme Court in *Adamo Wrecking Co. v. United States*,[121] the EPA chose to regulate asbestos fibers released into the air indirectly through work practices where the agency felt it could not feasibly regulate *actual* emissions. In response to the Supreme Court's 1978 ruling vacating a criminal NESHAP asbestos work practices case in *Adamo Wrecking Co.*, the CAA now explicitly authorizes the EPA to adopt work practices "if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant."[122] In the EPA's view, the policy goal of "vindicating the work practices" is more important than demonstrating conclusively through actual air monitoring that no releases of asbestos fibers occurred in real time. The futility of wetting a water-repellant coal tar or the real possibility that wetting might be less effective than eliminating actual emissions are equally beside the point and irrelevant to the EPA under the existing regulation.

F. Three Jurisdictional Elements for Asbestos-Containing Material to be "Regulated" and Subject to Work Practices under the 1990 NESHAP Amendments

Not all materials containing asbestos, and not all demolition and renovation projects, are regulated. The material and project must, among other things, exceed certain thresholds regarding project size and asbestos content. "Regulated" material is broader by definition than friable material alone. In addition to friable material, RACM may include presently *nonfriable material* that will be subject to certain future acts of disturbance. Under all circumstances, however, to be regulated, the government must demonstrate three elements.[123] An analytical roadmap of the asbestos NESHAP is attached as Appendix B.

a. PROJECT QUANTITY THRESHOLD: The amount of asbestos-containing material to be removed during the project must exceed a minimum threshold: (i) 260 linear feet on pipes; (ii) 160 square

121. 434 U.S. 275, 286–87 (1978).
122. 42 U.S.C. § 7412(h)(1) (2000).
123. *See* Order Granting Motion to Dismiss, *supra* note 9, at 6:11–21.

feet on other facility components; or (iii) 35 cubic feet where length or area cannot be measured.[124] The size of the project is thus a jurisdictional predicate for the NESHAP regulation.

b. PERCENT THRESHOLD OF ASBESTOS IN MATERIAL: The quantity of asbestos fibers in the material must exceed 1% as *determined by the 1990 test method (or the identical 1982 TSCA or 1987 AHERA test method) only*.[125] The quantity of asbestos in the material is thus a jurisdictional predicate for the NESHAP regulation.

c. REMOVAL PROCESS INVOLVES FRIABLE MATERIAL OR PROCESS RENDERS, OR IS LIKELY TO RENDER, CATEGORY I OR CATEGORY II, NONFRIABLE, ASBESTOS-CONTAINING MATERIAL FRIABLE: Since 1990, the asbestos NESHAP now divides the universe of nonfriable asbestos-containing materials into the mutually exclusive groups of Category I or Category II material. Asbestos-containing material becomes "regulated" (assuming it exceeds the project size and percentage jurisdictional thresholds noted above) under four possible circumstances:

(1) The material already is in friable[126] condition, pre-disturbance;
(2) The four enumerated Category I nonfriable, asbestos-containing materials become friable during removal or disturbance;
(3) The four enumerated Category I nonfriable, asbestos-containing materials will be, or have been, subject to the following acts of disturbance: "sanding," "grinding," "cutting," or "abrading"; or
(4) The remaining universe of Category II nonfriable, asbestos-containing materials have a "high probability" of becoming "crumbled, pulverized or reduced to powder" (that is, friable) by the "forces expected to act on the material in the course of demolition or renovation operations."[127]

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124. *See* 40 C.F.R. § 61.145(a) (2006).

125. *See* 40 C.F.R. § 61.141 (2006) (defining "friable" and "nonfriable" asbestos-containing materials) (emphasis added); 40 C.F.R. pt. 763, subpt. E, app. E, § 1 (2006).

126. "Friable asbestos material means any material containing more than 1 percent asbestos *as determined using* [the 1990 test method/1987 AHERA test method] *specified* in appendix E, subpart E, 40 CFR part 763, section 1 . . . that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure." 40 C.F.R. § 61.141 (2006) (emphasis added).

127. *Id.* (defining "regulated asbestos-containing material").

The *SDG&E* court held that it was not enough for the government to allege project size only in an indictment and disregard other elements, such as percentage content and the Category I or II nature of the material.[128]

G. Major Substantive Distinctions Exist Between the NESHAP 1990 Test Method and the EPA 1993 Test Method

There are at least five substantive differences between the 1990 and 1993 test methods. Of paramount importance, the 1990 test method, which mandates the analysis and averaging of *all layers* of multilayered material, has been through federal rulemaking three times. In contrast, the 1993 test method rejects basic tenets of the 1990 test method (averaging) and has never been through federal rulemaking.[129] In addition to the obvious disparity in legal standing and rules of quantification, the differences extend to the size of reliable samples and laboratory determinations of friability, a unique feature of the 1993 test method. These incompatible approaches and definitions profoundly affect what is considered "regulated," and therefore what actions are subject to prosecution.

Whereas the 1990 test method mandates "representative," multilayered samples to quantify asbestos content layer-by-layer, the 1993 test method deems material to be "regulated" if any single layer (or portion thereof) contains over 1% asbestos. As applied by the EPA laboratory in the *SDG&E* case, for example, the 1993 test method purports to characterize the asbestos content of 9.23 miles of pipe coating on the weight of a "1 millimeter piece" of any single layer of the coating. In fact, the government represented in *SDG&E* that, for purposes of demonstrating a crime, a "one gram [0.035 ounce] sample of material is more than sufficient to perform the necessary testing to determine a [sic] whether a violation of the Clean Air Act has occurred."[130] Even the EPA has flatly disagreed with this position outside the 2006 *SDG&E* prosecution. The 1993 test method starts from the premise that a "sample should be of sufficient size to provide for an adequate examination."[131] "Generally, samples of insufficient volume *should be*

128. *See* Order Granting Motion to Dismiss, *supra* note 9, at 14–17.

129. Various states have adopted the EPA's recommended 1993 test method following proper rulemaking procedures. New Jersey even issued emergency rules in June 2006 adopting the 1993 test method for purposes of its own state asbestos laws. 38 N.J. Reg. 2526–29 (June 5, 2006).

130. Letter from Melanie K. Pierson, Assistant U.S. Attorney, U.S. Dep't of Justice, to Gregory A. Vega et al. (July 18, 2006) (on file with authors).

131. U.S. ENVTL. PROT. AGENCY, *supra* note 17, at 3.

rejected and further analysis curtailed . . ." because it adversely affects reliability.[132]

For pipe wrap, the 1993 test method recommends a minimum of three to four square inches of all layered material.[133] The EPA's 1993 test method considers anything less than fifteen grams for a single sample to be a "small quantity" bulk sample requiring special precautions to avert rejection for unreliability.[134]

The 1990 test method also stands in stark contrast to the EPA's nonpromulgated 1993 test method because the binding method makes no laboratory determination of friability, as a predictor of the material's actual condition in the field. Under the asbestos NESHAP, friability determinations are reserved to accredited or certified experts inspecting the original material in the field. A material's condition in the field is not necessarily representative of the condition of a sample in the laboratory one day or, as in the *SDG&E* case, five to six years later.[135] Laboratories analyze bulk samples under the 1990 test method for two limited purposes: (1) to determine asbestos content, and (2) to identify the type of any asbestos fiber that is present. The fact that various laboratories now go much further and purport to report on the friable or nonfriable condition of the bulk samples underscores that the 1993 test method is now routinely applied.

Unlike the 1990 test method, the newer 1993 test method requires laboratories to report on friability, as that term is separately defined in the nonbinding 1993 test method itself. According to the 1993 test method, and in stark contrast to the NESHAP's 1990 test method, laboratories examine "bulk building material" samples for the following:

132. *Id.* at 4 (emphasis added).
133. *Id.* at 3.
134. *Id.* at app. C, C-3.
135. In the *SDG&E* case, the EPA first tested coating material removed in 2001 in 2006, after that material was used as "training aids" by an EPA inspector. The material was tested again in 2007 in an effort to comply with the 1990 test method after dismissal of the original indictment. *See* Order Granting Motion to Dismiss, *supra* note 9.

> [H]omogeneity, texture, *friability*, color, and the extent of fibrous components of the sample. . . . *Friability* may be indicated by the ease with which the sample is *disaggregated (see definitions in Appendix A)* as received by the analyst. *This does not necessarily represent the friability of the material as determined by the assessor at the collection site.*[136]

The 1993 test method's definition of friability differs substantively from the asbestos NESHAP's definition, thereby exacerbating the constitutional dilemma of prosecutions based on the nonbinding test.[137] Thus, when a laboratory reports a bulk sample as "friable" under the nonbinding 1993 test method, that description is not necessarily the same thing as "friable" under the NESHAP regulation. According to Appendix A of the 1993 test method, friability "[r]efers to the *cohesiveness* of a bulk material, *indicating that it may be crumbled or disaggregated* by hand pressure,"[138] which is nothing more than a subjective and predictive assessment by a laboratory analyst with the aid of instruments of what might actually happen in the field with hand forces and sufficient material, but without actually being in the field. Laboratory technicians are called upon by the nonbinding method to predict vicariously from a small, one-millimeter piece of material, using laboratory instruments and a microscope, whether the original intact material (assuming sufficient quantity) *may be* capable of being crumbled by humans in the field with hand pressure while the material is dry. It is indisputable that the nonbinding 1993 test method definition differs from the NESHAP's field-test definition of friability.

One of the nongovernmental laboratories in the *SDG&E* case explained in the parallel state civil case, *People v. Sempra Energy*, that the laboratory reported on friability in all of its reports to maintain its NVLAP accreditation.[139] The laboratory also explained that the definition of friability for purposes of the 1993 test method is broader and not congruent with the competing definition set forth in the asbestos NESHAP

136. U.S. ENVTL. PROT. AGENCY, *supra* note 17, at 6 (emphasis added).

137. 40 C.F.R. § 61.141 defines "friable asbestos material" as any material (1) containing more than 1 percent asbestos, (2) as determined by the 1990 test method, that (3) "when dry, can be crumbled, pulverized, or reduced to powder by hand pressure." For purposes of the 1993 test method, friable refers to the "*cohesiveness* of a bulk material, indicating that it may be crumbled or disaggregated by hand pressure." U.S. ENVTL. PROT. AGENCY, *supra* note 17, at app. A (Glossary of Terms), A-3 (emphasis added).

138. U.S. ENVTL. PROT. AGENCY, *supra* note 17, at A-3 (emphasis added).

139. *See* Deposition of Virginia Shefa at 117:1–12, People v. Sempra Energy, No. GIE028660 (Cal. Super. Ct. Dec. 7, 2005).

regulation.[140] In the laboratory, an analyst uses a pick to break apart a piece of material under a microscope to evaluate friability.[141]

Taken to its logical extreme, friability under the 1993 test method encompasses the universe of material that can be "crumbled" by a lab instrument (for example, paper) or "disaggregated" (for example, charcoal or dirt). It does not even necessarily relate to *asbestos-containing material* or, more specifically, asbestos-containing material containing more than 1% asbestos, as set forth explicitly in the asbestos NESHAP definition. Accordingly, under the looser definition of the 1993 test method, it is conceivable for a laboratory to report material as friable that contains trace or no asbestos fibers whatsoever. The broader and purely subjective definition of friability under the 1993 test method further operates to expand without rulemaking the regulatory definitions for both "friable" and "regulated asbestos-containing material." Even if the government was free to substitute the nonbinding 1993 test method (or any other jurisdictional test method of choice) into the NESHAP regulation and RACM's definition outside rulemaking, which it cannot, the inconsistent test methods and definitions of key NESHAP concepts in the 1993 test method operate to blur the jurisdictional dividing line between regulated and nonregulated material and, in so doing, entirely lawful conduct.

1. Post-1993 EPA Clarifications to the 1990 NESHAP Test Method

After circulating its nonbinding test method to the nation's laboratories in September 1993, the EPA twice purported to "clarify" (in 1994 and 1995) that the NESHAP's 1990 test method did not mean what it literally said. On August 1, 1994, the EPA issued an advisory in the Federal Register of the "availability of an improved" 1993 test method that would avoid underreporting for asbestos content in multilayered material.[142] Notably, the agency took no steps necessary to make the 1993 test method binding law. The EPA reported that its first clarification in 1994 was necessary to answer "many questions" regarding the 1990 test method.[143] While disclaiming that the 1994 clarification in any way replaced the existing

140. *Id*. at 220:3–14.
141. *Id*.
142. Advisory Regarding Availability of an Improved Asbestos Bulk Sample Analysis Test Method, 59 Fed. Reg. 38,970 (Aug. 1, 1994).
143. Asbestos NESHAP Clarifications Regarding Analysis of Multi-Layered Systems, 59 Fed. Reg. 542 (Jan. 5, 1994).

asbestos NESHAP 1990 test method, the EPA advised that "when a sample consists of two or more distinct layers or materials, each layer should be treated separately and the *results reported by layer (discrete stratum)*."[144] The "results of the analysis of those individual layers of 'add-on' material *may not be averaged* . . . ."[145] If any add-on material exceeds 1%, the entire "project would be subject to the asbestos NESHAP."[146]

One month following its first clarification, the EPA published an Asbestos Sampling Bulletin to educate the public on its new policy direction.[147] The EPA claimed that its public outreach bulletin did not change the law, but it was merely designed to "clarify" multilayered material testing and "build[] on" the 1990 test method. Such an outreach was required, according to the EPA, because of ongoing "misidentification" of multilayered materials as nonregulated under the literal language of the 1990 test method as a result of averaging.[148]

Two years after the first agency clarification of the 1990 test method for multilayered materials, the EPA felt compelled to publish a *second* clarification in 1995 to address "further questions."[149] The EPA explained more empathetically on the second occasion that, notwithstanding the literal language of the NESHAP regulation, the agency's "unwritten policy" has long been to disregard multilayered "averaging or dilution."[150] The EPA acknowledged that the literal language of the 1990 test method has "led to considerable confusion as to how to analyze multi-layered samples for NESHAP purposes."[151] The EPA was forced to concede in its December 1995 second clarification that the 1990 test method required averaging of multilayered materials, which it viewed as decreasing the asbestos content significantly. But in lieu of subjecting its new test method to the rigors of rulemaking and judicial review, the EPA simply reinterpreted the literal language of the 1990 test method in its second clarification as follows: "If any layer contains greater than one percent asbestos, that layer must be treated as asbestos-containing. *This will have the effect of requiring all layers in a multi-layered system to be treated as asbestos-containing*."[152] Both the federal government and the

144. *Id.* (emphasis added).
145. *Id.* (emphasis added).
146. *Id.*
147. U.S. ENVTL. PROT. AGENCY, ASBESTOS SAMPLING BULLETIN, OPPT/CMD 7404 (1994).
148. *Id.* at 1, 2–3.
149. Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems, 60 Fed. Reg. 65,243 (Dec. 19, 1995).
150. *Id.*
151. *Id.*
152. *Id.* (emphasis added).

State of Wisconsin adopted the EPA's "unwritten policy" against averaging for purposes of their respective asbestos enforcement programs.

Taking the EPA's words in its first and second clarifications at face value, either the 1990 test method as written is vague in the agency's and the State of Wisconsin's eyes, and in need of multiple clarifications, or the 1990 test method plainly directs an outcome that the EPA and delegated states strongly dislike as a matter of policy. Either way, erasing elements of RACM's definition and the NESHAP test method from the books as "words of no consequence"[153] and resorting to a new test method outside rulemaking is not a permissible response to bridge the divide between law and evolving agency policy. On the contrary, it is constitutionally prohibited and utterly defeats the jurisdictional predicate for enforcement under the asbestos NESHAP regulation.

True to the EPA's prediction upon the adoption of the first NESHAP test method in 1990, the agency acknowledged in 1995 that the NESHAP regulation would need to be changed through rulemaking to make the 1993 test method legally enforceable. In its 1995 second clarification about multilayered averaging, the EPA announced that it "intends to amend the asbestos NESHAP in the near future to refer specifically to these [1993 test method] procedures."[154] But while the EPA has amended the rule to correct typographical errors in the 1990 NESHAP amendments[155] and has passively witnessed seven states undergo rule changes to the NESHAP test method, the EPA has taken no CAA rulemaking action whatsoever to make the 1993 test method new law.

The EPA's failure to perform the rulemaking required to enforce the 1993 test method contrasts with actions taken by some states, such as New Jersey. On June 5, 2006, the State of New Jersey enacted "emergency rules" for the sole purpose of adopting into state law provisions of the 1993 test method.[156] Under pre-2006 New Jersey law, no explicit analytical method had been adopted at the state level to test asbestos-containing material, and according to the State of New Jersey, its various

153. Ratzlaf v. United States, 510 U.S. 135, 140, 149 (1994) (reversing conviction where element of crime treated as surplusage).

154. *Id.*

155. *See* National Emission Standards for Hazardous Air Pollutants for Asbestos, 68 Fed. Reg. 54,790 (Sept. 18, 2003) (providing final rule amending cross-reference citations to OSHA citations); National Emission Standards for Hazardous Air Pollutants for Asbestos, 69 Fed. Reg. 43,322 (July 20, 2004) (correcting additional typographical errors).

156. *See* Testing of Bulk Material Samples, 38 N.J. Reg. 2526(a) (June 5, 2006).

departments have typically been "utilizing the analytical method which is *recommended, but not required*, by the Federal Environmental Protection Agency (EPA) for use in testing bulk materials, namely, the 1993 [test] Method."[157]

New Jersey explained that the 1993 test method is preferable to the 1990 test method because the enumerated NESHAP 1990 test method underreports asbestos content: "[M]ulti-layered samples which may contain asbestos in a single layer may have been reported by laboratories as nonasbestos-containing."[158] New Jersey became alarmed that various private contractors had been removing floor tiles in New Jersey schools that apparently did not exceed the 1% jurisdictional threshold under the 1990 test method. In response, the state initiated emergency rulemaking to address the situation where New Jersey contractors could rely lawfully upon the 1990 test method and its "false-negative results for the presence of asbestos."[159] New Jersey harshly admonished followers of the 1990 test method:

> These contractors have chosen to adhere to the strict letter of the Federal regulations, utilizing the less precise 1982 Method [referring to 1982 TSCA or 1990 NESHAP test method] which appears in the Code of Federal Regulations at 40 CFR Part 763, Appendix E to Subpart E, rather than adopting the state-of-the-art 1993 [test] Method which is not an official EPA standard, but rather, has been "recommended" by both EPA's AHERA program for schools and the EPA asbestos NESHAP program.[160]

According to New Jersey, emergency rulemaking was warranted to "establish unequivocally" that the 1993 test method applies in that state.[161] As New Jersey concluded in 2006, the EPA's 1993 test method has become increasingly separated from the NESHAP law. The *SDG&E* court ruled that the EPA "clarifications have the effect of fashioning a new test method" and constitute a nonpromulgated legislative rule.[162] The Wisconsin court of appeals held that the EPA's clarifications are "at odds with the clear command" of the 1990 test method and declined to give any deference to the EPA's interpretations.[163]

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157. *Id*. (emphasis added).
158. *Id*.
159. *Id*.
160. *Id*.
161. *Id*.
162. Order Granting Motion to Dismiss, *supra* note 9, at 12.
163. State v. Harenda Enters., Inc., 724 N.W.2d 434, 438–39 (Wis. Ct. App. 2006), *rev. granted*, 732 N.W.2d 857 (Wis. 2007).

2. 1994 Government Accreditation Program Endorsement of the 1993 Test Method for All Laboratories

Deepening the divide between what the NESHAP directs and the EPA now prefers, the nation's laboratories promptly heeded the EPA's two back-to-back clarifications in 1994 and 1995. Government and private laboratories are accredited by the U.S. Department of Commerce's National Institute of Standards and Technology (NIST) through its National Voluntary Laboratory Accreditation Program (NVLAP).[164] At the direction of NVLAP in 1994, the 1993 test method has incrementally become today's *de facto* test method for national laboratory certification. The change in standard testing has been well camouflaged.

NVLAP first promulgated standards for asbestos testing in the same month (August 1994) that the EPA first announced the availability of its 1993 test method in the Federal Register.[165] On the one hand, NVLAP embraced either the 1990 test method *or* the 1993 test method. On the other hand, the NVLAP proceeded to direct the nation's laboratories to adhere to the *newer method*. The 1994 NVLAP Handbook states, "The laboratory shall use the test method contained in the U.S. EPA 'Interim Method for the Determination of Asbestos in Bulk Insulation Samples' [1990 test method] *or* the current U.S. EPA method for the analysis of asbestos in building material [1993 test method]. . . . *The laboratory is responsible for ensuring that it implements the latest revision of the method*."[166] To remain certified under government-approved standards, asbestos testing laboratories nationally have been directed since August 1994 to implement the EPA's "latest revision of the method,"[167] or the 1993 test method.

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164. Since 1976, NVLAP has provided third party accreditation services to government and private laboratories to promote national uniformity and competence. *See* C.D. FAISON, NAT'L INST. OF STANDARDS & TECH., WHAT IS THE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)? 1 (2006), *available at* http://ts.nist.gov/Standards/upload/What-is-the-NVLAP.pdf. There are 252 national laboratories accredited under NVLAP for bulk asbestos testing. *Id.* at Attachment II, 1.

165. *See* ERIC B. STEEL ET AL., NAT'L INST. OF TECH. HANDBOOK 150-3, NAT'L VOLUNTARY LAB. ACCREDITATION PROGRAM: BULK ASBESTOS ANALYSIS (1994).

166. *Id*. at 11 (emphasis added).

167. The 1994 NVLAP Asbestos Handbook expressly and repeatedly cites the 1993 test method as authority for its accreditation program. *See id.* at 1. The NVLAP Asbestos Handbook also adopts the 1993 test method's definition of friable verbatim, not NESHAP's definition of friable. *Compare id.* at 2 (providing that *friable* "refers to the cohesiveness of a bulk material, indicating that it may be crumbled or disaggregated by hand pressure"), *with* 40 CFR § 61.141 (2006) (defining "friable asbestos material" as

The EPA and NVLAP jointly have promoted the application of the 1993 test method for over ten years, effectively rewriting the definition of RACM and expanding the EPA's jurisdiction outside rulemaking. In contrast, NVLAP's own scope of accreditation states that laboratories are accredited for asbestos bulk sample analysis under the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" as published by the EPA's Environmental Monitoring Systems Laboratory in December 1982 (EPA-600/M4-82-020). NVLAP erroneously believes that EPA-600/M4-82-020 is identical in all respects to the promulgated test method.[168] It is not. In 2007, there are up to three different test methods all being marketed by either NVLAP or the EPA as the appropriate asbestos test method for any and all purposes, including criminal prosecution.

Despite the EPA's promise in 1995 of forthcoming rulemaking to subject its 1993 test method to public comment and judicial review, and the frustration of multiple states concerning the literal language of the NESHAP standard, the *EPA has never amended the regulation* to modify or supersede the 1990 test method that it twice felt compelled to clarify as either vague, or clear but undesirable. In its petition for review to the Wisconsin Supreme Court, the State took the position that the 1990 test method is "confusing" and "unclearly written," and the EPA's 1994 and 1995 clarifications legally fill that void.[169] In *SDG&E*, the EPA took the opposite position, namely that the 1990 and 1993 tests are legally and substantively one and the same.[170] The EPA also argued that the particular test method is not a jurisdictional predicate to state an offense.[171] Nonetheless, the EPA has taken no steps to even *propose* a NESHAP rule change.

The combination of the government's post-1994 laboratory accreditation program promoting the 1993 test method and the EPA's "unwritten

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"any material containing more than 1 percent asbestos . . . that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure").

168. *See* Nat'l Inst. of Standards & Tech., U.S. EPA–National Enforcement Investigations Center, http://ts.nist.gov/Standards/scopes/1017030.htm (last visited June 4, 2007). An added dimension to this conundrum is that the EPA and NVLAP have apparently yet to discover the discrepancies that exist between the 1990 test method set forth in the regulation and the EPA-600/M4-82-020 test method. There is a notable difference between the language set forth in the regulation itself and the EPA 1982 laboratory test manual upon which NVLAP relies. Specifically, the EPA-600/M4-82-020 test method that is, on its face, the NVLAP standard of accreditation does not include language allowing an optional "equivalent estimation method" (as the 1990 test method allows) and thus requires 400-point counting only.

169. *See* Petition for Review of a Decision of the Court of Appeals, State v. Harenda Enters., Inc., 724 N.W.2d 434 (Wis. Nov. 30, 2006), *rev. granted*, 732 N.W.2d 857 (Wis. 2007).

170. Government's Response and Opposition to Defendant's Motions at 48–49, United States v. San Diego Gas & Elec., No. 06CR0065 DMS (S.D. Cal. Oct. 17, 2006).

171. *Id.* at 45.

policy"[172] to disregard the 1990 test method has created a due process conundrum. *SDG&E* and *Harenda Enterprises* are the first cases since the 1990 NESHAP amendments to address the implications of basing criminal and civil prosecutions upon policy rather than enumerated law.

H. Constitutional and Case Law Analysis

1. Well-Settled Due Process Principles and Interpretative Canons of Strict Construction of Regulations in Criminal Cases Render Criminal Prosecutions (and Some Civil Cases) Under the 1993 Test Method Defective

It is well settled that the construction of the asbestos NESHAP regulation is a question of law.[173] The specific test method to quantify asbestos provides a jurisdictional dividing line between what activity is lawful and unlawful. The criminal application of a purely discretionary and nonbinding test method developed after, and outside of, rulemaking for the asbestos NESHAP violates fundamental principles of due process, including the doctrine of "fair warning" and the "rule of lenity."

In 1997, a unanimous Supreme Court instructed that the due process doctrine of fair warning in criminal cases applies in three contexts:

172. Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems, 60 Fed. Reg. 65,243 (Dec. 19, 1995).

173. In *United States v. Trident Seafoods Corp.*, the Ninth Circuit vacated a forty-four day civil asbestos NESHAP penalty of up to $1.1 million based on the Ninth Circuit's interpretation that the regulation allows only a one-day, noncontinuing "notice violation" of not more than $25,000. 60 F.3d 556 (9th Cir. 1995). Construing the NESHAP regulation, the Ninth Circuit concluded that, when the "violation of a regulation subjects private parties to criminal or civil sanctions, a regulation cannot be construed to mean what an agency intended but did not adequately express." *Id.* at 559 (citation omitted). Thus, courts are directed not only to evaluate the jurisdictional application of the asbestos NESHAP as a question of law, but they must apply ordinary canons of judicial statutory construction, where the "test is not what [the agency] might possibly have intended, but what [was] said." *Id.* at 559; Order, *supra* note 24, at 7 (stating that defining asbestos under NESHAP presents a legal question). The Ninth Circuit has held that the construction of even environmental "permits" issued pursuant to an environmental regulation presents a question of law. *See* United States v. Weitzenhoff, 35 F.3d 1275, 1288 (9th Cir. 1993) (sewage treatment plant operating permit).

> There are three related manifestations of the fair warning requirement. First, the vagueness doctrine bars enforcement of a "statute which either forbids or requires the doing of an act in terms so vague that men of common intelligence must necessarily guess at its meaning and differ as to its application." . . . Second, as a sort of "junior version of the vagueness doctrine," . . . the canon of strict construction of criminal statutes, or rule of lenity, ensures fair warning by so resolving ambiguity in a criminal statute as to apply it only to conduct clearly covered. . . . Third, although clarity at the requisite level may be supplied by judicial gloss on an otherwise uncertain statute, . . . due process bars courts from applying a novel construction of a criminal statute to conduct that neither the statute nor any prior judicial decision has fairly disclosed to be within its scope.[174]

Under the rule of lenity, doubts concerning the scope or application of a criminal statute or regulation are resolved in favor of defendants.[175] "The rule of lenity provides that if a court must choose between two readings of a criminal statute, the court should apply the more lenient one, leaving it to the legislature to speak in clearer terms if the harsher alternative is intended."[176] "[B]ecause of the seriousness of criminal penalties, and because criminal punishment usually represents the moral condemnation of the community, legislatures and not courts should define criminal activity."[177] The reason for lenity lies in the constitutionally based need for "fair warning."[178] "Because construction of a criminal statute must be guided by the need for fair warning, it is rare that legislative history or statutory policies will support a construction of a statute broader than that clearly warranted by the text."[179]

The rule of lenity is particularly appropriate where, as here, the same conduct is entirely legal in certain circumstances.[180] The rule of lenity and the fair notice doctrine apply equally to statutes and regulations. "If a violation of a regulation subjects private parties to criminal or civil

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174. United States v. Lanier, 520 U.S. 259, 266 (1997) (citations omitted).

175. Ratzlaf v. United States, 510 U.S. 135, 147–48 (1994) (applying rule to reverse criminal tax conviction); United States v. Bass, 404 U.S. 336, 348 (1971) (reversing firearm conviction because criminal statute vague on jurisdictional "interstate commerce" predicate for offense); People v. Materne, 72 F.3d 103, 106 (9th Cir. 1995) ("[R]ule of lenity applies where a criminal statute is vague enough to deem both the defendant's and the government's interpretations of it as reasonable.").

176. United States v. D'Alessio, 822 F. Supp. 1134, 1143 (D.N.J. 1993) (dismissing six-count indictment based on vague regulations) (citing *Bass*, 404 U.S. at 347).

177. *Bass*, 404 U.S. at 348.

178. *Id.* (quoting McBoyle v. United States, 283 U.S. 25, 27 (1931) (Holmes, J.)).

179. Crandon v. United States, 494 U.S. 152, 160 (1990). Under the well-settled canons of statutory construction, courts are deeply reluctant to treat elements of a crime as surplusage or "words of no consequence." *Ratzlaf*, 510 U.S. at 140.

180. United States v. One Big Six Wheel, 987 F. Supp. 169, 181 (E.D.N.Y. 1997) (stating that crime is dependent upon specific distance of gambling activity from U.S. shoreline).

sanctions, a regulation cannot be construed to mean what an agency intended but did not adequately express."[181]

The rule of lenity and the doctrine of fair warning have recently been invoked by defendants in 2006 to foreclose the government's attempt in a Montana asbestos criminal case to disregard the literal language of the asbestos NESHAP and expand the definition of asbestos for purposes of a CAA criminal prosecution.[182] In *W.R. Grace*, the government indicted a company and seven executives for allegedly putting workers and the community of Libby, Montana in danger due to the company's former mine operations, which had closed in approximately 1992. The indictment is based in part on the CAA's prohibition against knowingly releasing "hazardous air pollutants" that place a person in imminent danger of death or serious bodily injury under 42 U.S.C. § 7413(c)(5)(A).[183] The EPA described the Libby mine as "the nation's biggest environmental disaster" and its prosecution as "one of the most significant criminal indictments for environmental crime in our history."[184] The Department of Justice called the matter a "human and environmental tragedy."[185] However, the *W.R. Grace* court ultimately concluded that the government was prosecuting conduct that was not regulated.

The government was forced to admit that the vast majority of the asbestos fibers originating from the Libby vermiculite mine (over 90%) comprised two forms of fibers that fall outside the six enumerated fibers that define asbestos in the NESHAP.[186] As in the *SDG&E* and *Harenda Enterprises* cases, the *W.R. Grace* defendants sought to hold the government to the literal language of the NESHAP for purposes of its

181. Phelps Dodge Corp. v. Fed. Mine Safety & Health Review Comm'n, 681 F.2d 1189, 1193 (9th Cir. 1982) (citing Diamond Roofing Co., Inc. v. Occupational Safety and Health Review Comm'n, 528 F.2d 645, 649 (5th Cir. 1976)); Opinion & Order at 6, United States v. Apex Oil, No. 95-332-MA (D. Or. Sept. 18, 1996) ("[E]nvironmental regulation is sufficiently ambiguous when applied to the facts of this case to justify the application of the rule of lenity.").

182. *See* Order, *supra* note 24.

183. Superseding Indictment, United States v. W.R. Grace, 455 F. Supp. 2d 1122, 1128 (D. Mont. 2006) (No. CR 05-07-M-DWM), *appeal docketed*, No. 06-30472 (9th Cir. Sept. 5, 2006).

184. Andrew Schneider, *W.R. Grace Indictment in Libby Asbestos Deaths*, SEATTLE POST-INTELLIGENCER, Feb. 8, 2005, at A1.

185. Press Release, U.S. Dep't of Justice, W.R. Grace and Executives Charged with Fraud, Obstruction of Justice, and Endangering Libby, Montana Community (Feb. 7, 2005), *available at* http://www.justice.gov/opa/pr/2005/February/05_enrd_048.htm (last visited June 4, 2007).

186. Order, *supra* note 24, at 3.

CAA prosecution. As the court noted, however, the "government wants to ignore the NESHAPs regulations."[187] The government considered the six-fiber NESHAP definition of asbestos to be undesirable and inconsequential to the scope of its CAA criminal prosecution.[188]

The government purported to adopt a broader non-NESHAP definition of asbestos derived from non-CAA civil cases and regulations for purposes of its criminal CAA prosecution. Citing Supreme Court and Ninth Circuit authority, the *W.R. Grace* court would have none of it. The court concluded that "the rule of lenity requires that the law be interpreted to cover only conduct that clearly falls within its scope."[189] The court noted the lack of expert consensus on the basic definition of asbestos and the ongoing battle of the experts regarding what forms of fibers comprise regulated asbestos.[190] The government's conundrum was exacerbated by the fact that it advocated inconsistent definitions of asbestos that "fail[] to provide the requisite fair warning about what conduct is considered criminal."[191]

The court rejected the government's proposed substitution of a non-NESHAP definition for asbestos as "ambiguous," and it applied the rule of lenity to bar any evidence or government expert testimony at trial based upon government samples containing forms of asbestos fibers not clearly within the NESHAP definition. Because a minority of the asbestos at the Libby mine (less than 10%) included "regulated" forms of fibers, the case was not dismissed altogether, but significantly altered nonetheless.[192] The government has appealed that ruling, which is pending before the Ninth Circuit.[193]

The issue of whether and under what circumstances the government can expand its jurisdiction to "convert[] some previously lawful conduct into crimes" was also tested in *One Big Six Wheel* and adjudicated against the government because of the rule of lenity.[194] In that case, the government believed a U.S. gambling ship was operating unlawfully in territorial waters more than three, but less than twelve, nautical miles from the U.S. shoreline and sought the forfeiture of the ship's gambling equipment.[195] The Gambling Ship Act (as amended in 1994) authorized offshore gambling beyond the "territorial waters" of the U.S., which had

187. *Id.* at 14.
188. *Id.* at 6.
189. *Id.* at 9.
190. *Id.* at 7.
191. *Id.* at 12.
192. *Id.* at 21–23.
193. United States v. W.R. Grace, 455 F. Supp. 2d 1122, 1128 (D. Mont. 2006) (No. CR 05-07-M-DWM), *appeal docketed*, No. 06-30472 (9th Cir. Sept. 5, 2006).
194. 987 F. Supp. 169, 175 (E.D.N.Y. 1997).
195. *Id.* at 170.

been defined by *regulation* to be three miles from the U.S. shoreline since at least 1994.[196] A separate and subsequent legislation, the Antiterrorism and Effective Death Penalty Act of 1996, implemented a "blanket" *statutory* twelve-mile limit for U.S. territorial waters.[197] The company continued to allow ship-based gambling beyond three miles in the aftermath of the 1996 statute because twelve miles took too long to reach.

The *One Big Six Wheel* court noted that the 1996 antiterrorism *statute* did nothing to revoke explicitly the preexisting three-mile *regulation* for gambling cruises, leading to internally inconsistent statutory and regulatory definitions of U.S. territorial waters.[198] The court reasoned that it would not repeal the preexisting three-mile regulation by "implication" and construed the jurisdictional ambiguity against the government.[199] It stated that "[e]ven if the government is correct in its interpretation, the path to its conclusion . . . is too serpentine for most readers (including this court) to follow with any degree of confidence."[200]

The rule of lenity squarely applies to the criminal enforcement of environmental regulations. In *United States v. Apex Oil Co., Inc.*,[201] the Ninth Circuit affirmed the trial court's dismissal of a criminal charge because of ambiguity in the environmental regulation's definition of the material prohibited from discharge, "cargo-related oil residues." The *Apex Oil* court applied the rule of lenity to uphold the trial court's pretrial dismissal of a count of the indictment alleging conspiracy to violate the Act to Prevent Pollution from Ships and its implementing regulation at 33 C.F.R. § 151.10(c). The Ninth Circuit stated that the regulation was "not a model of clarity."[202] It held the regulation too vaguely defined regarding the precise material prohibited from discharge and thus criminally unenforceable. "In the face of uncertainty as to the meaning of what is forbidden, the rule of lenity requires dismissal of count one of the indictment."[203]

196. *Id.* at 171–72.
197. *Id.* at 173.
198. *Id.* at 178.
199. *Id.* at 179 n.11.
200. *Id*. at 179.
201. 132 F.3d 1287, 1288 (9th Cir. 1997).
202. *Id.* at 1291.
203. *Id.*

The applicable regulation in *Apex Oil* and its foundational definition were amended on the heels of the Ninth Circuit's 1997 ruling.[204] In *SDG&E* and *W.R. Grace*, the government actually sought to render vague (broader in scope) what is otherwise clearly enumerated in the 1990 NESHAP regulation. The rule of lenity and the related doctrine of fair notice prohibit the criminal application of nonbinding test methods.

The rule of lenity also applies squarely to criminal prosecutions involving novel government interpretations of the asbestos NESHAP.[205] In *United States v. American National Can Co.*,[206] the EPA sought $1.4 million in civil NESHAP fines against the owner of an abandoned building that contained pipes and components covered with asbestos.[207] The EPA attempted to expand the application of the asbestos NESHAP to building damage *caused by trespassers and scavengers*. The EPA argued that the building owner had failed to follow the NESHAP work practices for renovations and vicariously attributed liability to the property owner for the conduct of trespassers and scavengers. The court was so offended by the EPA's misapplication of the clear language of the asbestos NESHAP that it granted the company summary judgment as a matter of law and ordered the government to pay the company's attorneys' fees.[208]

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204. In a criminal case seven years after *Apex* involving a cargo ship's discharge of 442 metric tons of diesel-contaminated wheat and diesel fuel into the ocean, a Florida court declined to dismiss charges under the Act to Prevent Pollution from Ships or apply the rule of lenity. *See* United States v. Stickle, 355 F. Supp. 2d 1317 (S.D. Fla. 2004). Not only had the defective regulation at 33 C.F.R. § 151.10(c) been amended after the 1997 *Apex* decision, but the *Stickle* court held that *Apex* was "plainly distinguishable" and "does not come close to the regulatory issue in this case as to whether diesel fuel and diesel-contaminated wheat plainly come within" an entirely different definition and provision set forth at 33 C.F.R. § 151.10(a) and not, as in *Apex Oil*, § 151.10(c). *Id.* at 1337.

205. In *Adamo Wrecking Co. v. United States*, the Court upheld the trial court's dismissal of the indictment for alleged asbestos NESHAP work practice violations under the rule of lenity, because the EPA's work practices did not then constitute an emission standard, until the CAA was later amended. 434 U.S. 275, 284–85 (1978) ("At the very least, it may be said that the issue is subject to some doubt. Under these circumstances, we adhere to the familiar rule that, 'where there is ambiguity in a criminal statute, doubts are resolved in favor of the defendant.'") (citing United States v. Bass, 404 U.S. 336, 348 (1971)).

206. 126 F. Supp. 2d 521 (N.D. Ill. 2000).

207. *Id*. at 523–24.

208. *Id.* at 532; United States v. Am. Nat'l Can Co., No. 98 C 5133, 2001 WL 13628 (N.D. Ill. 2001) (awarding attorneys' fees).

2. The Government's Adoption of the 1993 Test Method in Lieu of the 1990 Test Method Outside Clean Air Act Rulemaking Expands the Jurisdiction of the Asbestos NESHAP in Violation of Clean Air Act Section 307(d)

"In 1977, Congress amended the Clean Air Act to provide new procedural requirements for EPA rulemaking under the Act, requirements that are more stringent than those previously applicable under the Administrative Procedure Act."[209] The CAA's rulemaking requirements are deliberately methodical and involve public notice, OMB review, agency disclosure of relevant data and policy considerations, public comments and agency responses thereto, and, most importantly, judicial review.[210] The enhanced CAA rulemaking procedures were designed to remedy inadequacies noted by Congress in pre-1977 EPA rulemaking under the Administrative Procedure Act.[211]

EPA NESHAP "applicability determinations" or "regulatory interpretations," such as the EPA's multiple clarifications, are purely interpretative guidance and not promulgated rules.[212] Indeed, the EPA's own internal guidance disclaims reliance upon any regulatory determinations from the EPA staff on the type of activities regulated by the NESHAP. Such interpretations cannot be relied upon by the public, do not bind the agency, and can be revised without public notice.[213] The EPA issues approximately one hundred nonbinding NESHAP determinations per year, generally from its ten EPA regional offices' NESHAP branch chiefs.[214]

CAA section 307(d) defines twenty-two areas where the EPA must conform to rulemaking to make policy the law, including NESHAP regulations upon which criminal and civil prosecutions like *SDG&E* and *Harenda Enterprises* can be based.[215] It is well established that substantive changes to existing CAA rules require rulemaking, while interpretative

209. Union Oil Co. of Cal. v. EPA, 821 F.2d 678, 681–82 (D.C. Cir. 1987); *see also* Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified in scattered sections of 42 U.S.C.).

210. 42 U.S.C. § 7607(d) (2000).

211. *See* H.R. REP. NO. 95-294, at 27 (1977).

212. *See* U.S. ENVTL. PROT. AGENCY, OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, EPA 305-B-99-004, HOW TO REVIEW AND ISSUE CLEAN AIR ACT, APPLICABILITY DETERMINATIONS AND ALTERNATIVE MONITORING (1999).

213. *Id.* at ii ("Disclaimer").

214. *Id.* at iii ("Executive Summary"), 14.

215. 42 U.S.C. § 7607(d)(1)(C) (2000).

rules are exempt because they do not impose new duties and are not otherwise binding upon the agency or public.[216] A substantive change includes CAA "test methods" and modifications thereto that expand the jurisdictional reach of EPA regulations.[217] In fact, the CAA mandates that the EPA "may establish, *by rule*, test measures and other analytic procedures."[218] EPA test methods established outside CAA rulemaking, such as the 1993 test method, arguably have no legal significance in criminal or civil NESHAP prosecutions.

For example, the *Appalachian Power* court set aside an EPA guidance document that purported to require states issuing CAA permits to mandate more extensive air monitoring of facilities in those permits, even though such enhanced monitoring was not at all required by federal law.[219] The court noted the increasing "phenomenon" of creepage of agency regulatory "law" without appropriate rulemaking, motivated in part to immunize agency actions from judicial review:

> The phenomenon we see in this case is familiar. Congress passes a broadly worded statute. The agency follows with regulations containing broad language, open-ended phrases, ambiguous standards and the like. Then as years pass, the agency issues circulars or guidance or memoranda, explaining, interpreting, defining and often expanding the commands in the regulations. One guidance document may yield another and then another and so on.[220]

EPA test methods (or revisions thereto) that govern CAA compliance constitute substantive rules that require rulemaking.[221] In *Donner Hanna*, the EPA threatened a coke plant operator with criminal sanctions if it did not allow EPA compliance testing at its facility using a nonpromulgated, "proposed" test method to measure smoke opacity from its ovens.[222] The plant refused, disputing the reliability of the proposed EPA test method and the nonbinding method's tendency to find a higher percentage of opacity violations.[223]

Consistent with *SDG&E* and *Harenda Enterprises*, only one CAA opacity test method had been promulgated through rulemaking (adopted in 1971 and revised in 1974) to determine the opacity of emissions using human observers. The opacity test method was called "Revised Method

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216. *See* Appalachian Power Co. v. EPA, 208 F.3d 1015, 1020–21 (D.C. Cir. 2000).
217. *Id.* at 1026–27 (stating that CAA test methods "are surely 'substantive' requirements" that require rulemaking).
218. 42 U.S.C. § 7412(b)(5) (2000) (emphasis added).
219. *Appalachian Power*, 208 F.3d at 1028.
220. *Id.* at 1020 (striking down EPA guidance document giving states "marching orders" to require enhanced monitoring that was not required by federal law).
221. Donner Hanna Coke Corp. v. Costle, 464 F. Supp. 1295, 1304 (W.D.N.Y. 1979).
222. *Id.* at 1298.
223. *Id.* at 1298, 1301 n.6.

9." However, the EPA did not want to use that enumerated test method because Revised Method 9 allowed averaging.[224] Instead, in 1975 the EPA selected parts of Revised Method 9 and added new procedures to cobble together a unique test method specifically for coke ovens.[225] However, the EPA's recommended test method for coke ovens never went through rulemaking, and as here, had no force of law.[226] The EPA described its new method as merely an "interpretation" of the previously promulgated opacity test method.[227] Complicating matters, the plant operator, the EPA, and even the court found that Revised Method 9 was not, in practical terms, appropriate for coke oven operations, where smoke emissions are intermittent and not continuous.[228] Accordingly, there was no serious dispute that the only promulgated opacity test method fell short. Nonetheless, the court held that the government could not fill the void with its own nonpromulgated test method.

The promulgated smoke opacity test method in *Donner Hanna* mandated averaging of twenty-four consecutive readings. The informal EPA test method did not. The court considered the new EPA test method's rejection of averaging to be significant, as averaging moderates human error and reduces the impact of erroneous results.[229] As with the asbestos NESHAP, the EPA even promised in *Donner Hanna* to undergo future rulemaking in the preamble of its promulgated 1974 test method for smoke opacity: "It is EPA's intent to propose an additional revision to Method 9 specifying an alternative method to enforce opacity standards."[230] In a familiar pattern, EPA never followed through but nonetheless sought to invoke criminal sanctions based on a nonbinding test.[231]

The *Donner Hanna* court concluded that rulemaking is necessary before the EPA's proposed test method is available to assess CAA compliance.[232] The court noted that rulemaking "produce[s] more objective testing methods," and "[e]nforcement officials cannot circumvent the rulemaking requirements of the Clean Air Act by making substantial changes in

224. *Id.* at 1301–02.
225. *Id.* at 1300–02.
226. *Id.* at 1301.
227. *Id.* at 1302.
228. *Id.* at 1302–03.
229. *Id.* at 1303.
230. *Id.* at 1302–03.
231. *Id.* at 1303.
232. *Id.* at 1304.

testing methods without notice and a hearing."[233] The "significance of rulemaking cannot be underemphasized," such as providing aggrieved parties the opportunity of judicial review of those rules agencies intend to civilly and criminally enforce.[234] The *Donner Hanna* court stated that the EPA's proposed method "strayed so far from the original substance and intent of Method 9 that it in effect created a new and different method, not subject to the scrutiny of rulemaking procedures" and is therefore inconsequential.[235]

The criminal case of *United States v. Ward*[236] is particularly instructive on the due process problems of reinterpreting jurisdictional thresholds of "regulated" material in the absence of agency rulemaking. In *Ward*, criminal charges based upon an OSHA regulation were dismissed on a pretrial motion because the government purported to demonstrate that the material at issue was "regulated" by means and methods outside the applicable OSHA regulation itself. The president of Concept Sciences, Inc. (CSI) was indicted following a February 1999 explosion that killed five individuals at CSI's Allentown, Pennsylvania facility. The facility manufactured hydroxylamine, a solvent for the pharmaceutical and semiconductor industries. Hydroxylamine is unstable and explosive in highly concentrated form.

The government charged the company's president with willfully violating OSHA's "process safety management" regulation, then at 29 C.F.R. § 1910.119 (OSHA PSM Regulation). The defendant, as in *SDG&E* and *Harenda Enterprises*, argued that the OSHA PSM Regulation did not apply to the company's hydroxylamine process because the material at issue was below the "threshold quantity at which the [OSHA] Regulation would apply" and the criminal application of the regulation "violates the rulemaking requirements of the Administrative Procedure Act, 5 U.S.C. § 552, *et seq*."[237]

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233. *Id.* at 1305.
234. *Id.*
235. *Id.* In *Corrosion Proof Fittings v. EPA*, the Fifth Circuit invalidated a comprehensive asbestos regulation ten years in the making that banned asbestos commercial products under TSCA. 947 F.2d 1201, 1212–13 (5th Cir. 1991). The court found EPA had changed its "methodology" outside the formal rulemaking process that effectively bootstrapped and enhanced the purported benefits of the asbestos ban. *Id.* ("In summary, on an issue of this import, the EPA should have announced during the years in which the hearings were ongoing, rather than the subsequent weeks after which they were closed, that it intended to use [the different methodology]."). The court further held that a change in methodology outside the formal rulemaking process proved fatal to ten years of EPA asbestos rulemaking, reasoning that the EPA cannot deviate from rulemaking requirements to reach a "desired result." *Id.* at 1230.
236. United States v. Ward, No. CRIM.00-681, 2001 WL 1160168 (E.D. Pa. 2001).
237. *Id.* at *1.

In *Ward*, the OSHA PSM Regulation applied to any process that involved a listed chemical (for example, hydroxylamine) at or above a specified threshold quantity.[238] The OSHA threshold quantity for hydroxylamine was defined in the applicable regulation to be 2500 pounds.[239] However, the OSHA PSM Regulation failed to address the issue of whether the regulation applied to *dilute forms* of hydroxylamine.[240] The indictment alleged 3520 pounds of hydroxylamine, but without any adjustment for the amount of chemical dilution at the time of the CSI explosion.[241] The highest hydroxylamine concentration at the defendant's plant was a 50% aqueous solution, which potentially reduced the amount of actual hydroxylamine to 1760 pounds (one half of 3520 pounds, and potentially below the 2500-pound OSHA regulation threshold) at the time of explosion.[242] CSI's indicted company president argued that the regulation plainly applied only to 100% pure hydroxylamine, and the indictment erroneously represented that the potentially explosive dilute 50% mixture is "regulated."

The *Ward* court attempted to address three issues:

(1) Whether the OSHA PSM Regulation applies to defendant's dilute form of 50% hydroxylamine;
(2) Whether defendant's hydroxylamine process exceeded the OSHA PSM Regulation's threshold requirements to be "regulated" material;
(3) Whether OSHA was required to follow the rulemaking procedures of the Administrative Procedure Act before its interpretations of the OSHA PSM Regulation "could be enforced in a criminal case."[243]

The court held that the OSHA PSM Regulation was too ambiguous to answer the first two questions regarding the chemical's jurisdictional threshold in the government's favor, and that the government's criminal enforcement of its own subsequent "interpretations" of the regulation to demonstrate jurisdiction violated the Administrative Procedure Act.[244]

238. 29 C.F.R. § 1910.119(a)(1)(i) (2006).
239. 29 C.F.R. app. A, § 1910.119 (2006).
240. *Ward*, 2001 WL 1160168, at *3.
241. *Id.*
242. *Id.* at *10.
243. *Id.* at *3–*4.
244. *Id.* at *23.

The government conceded that 50% hydroxylamine was not specifically listed in the OSHA PSM Regulation but urged the *Ward* court to defer to OSHA's subsequent and more generous interpretations (or clarifications) of its own regulation.[245] The court rejected the government's argument, stating that "courts should not defer to an agency's informal interpretation of an ambiguous statute or regulation in a criminal case."[246] The court relied upon the Ninth Circuit's *Apex Oil* decision to conclude that "strict construction of promulgated rules and regulations is required when implicated in a criminal case."[247] Where the required analytical method is actually enumerated in the regulation, but the government nonetheless disregards that test method as inconsequential, no deference is warranted at all.[248]

In *Ward*, the agency tried to bootstrap its criminal prosecution on the weight of interpretative guidance purporting to expand the regulation to encompass dilute forms of hydroxylamine. The *Ward* court concluded that the basic principles of administrative law and rulemaking prohibited the application of OSHA's informal interpretations in a criminal case and dismissed the indictment.[249]

In another case, the EPA unsuccessfully attempted to expand the asbestos NESHAP's definition of renovation outside rulemaking in a civil matter to include damage arising from unlawful activity—specifically trespassing and scavenging.[250] The court reasoned that, even under the deferential *Chevron* standard[251] for agency interpretations of regulations reserved for noncriminal civil or administrative matters, the EPA "has gone too far."[252] The court held the proposed EPA reinterpretation of the NESHAP was barred by basic administrative rulemaking obligations.

> The EPA cannot escape the strictures of the notice-and-comment process by cloaking a substantive addition to the asbestos NESHAP (such as regulating scavenging) in the guise of a mere interpretation of an extant regulation. . . . By interpreting "renovation" to include unauthorized scavenging, the EPA attempts to broaden the scope of the asbestos NESHAP in a substantive manner without

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245. *Id.* at *3.
246. *Id.* at *8.
247. *Id.* at *10 (citing United States v. Apex Oil Co., Inc., 132 F.3d 1287 (9th Cir. 1997)).
248. *Id.* at *9 n.5 ("[D]eference is warranted only when the language of the regulation is ambiguous.") (citing Christensen v. Harris County, 529 U.S. 576, 588 (2000)).
249. *Id.* at *1, *23.
250. United States v. Am. Nat'l Can Co., 126 F. Supp. 2d 521, 523–24 (N.D. Ill. 2000).
251. Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 844 (1984) (providing that courts may defer to agency interpretations of vague aspects of agency regulations where civil or criminal liability is not at issue).
252. *Am. Nat'l Can Co.*, 126 F. Supp. at 530 n.8.

> engaging in notice and comment rulemaking, and thereby violates a basic canon of administrative law.[253]

Cases such as *Ward*, *W.R. Grace, Apex Oil, Adamo Wrecking, Donner Hanna, Corrosion Proof Fittings*, *American National Can* and *Owens Contracting* consistently instruct that the government's reinterpretation and jurisdictional expansion of its own regulations, such as the asbestos NESHAP, must undergo rulemaking to be civilly or criminally enforceable.

V. CONCLUSIONS

It is not the 1990 NESHAP regulation as currently written that bears blame for the government's enforcement transgressions. Rather, it is the EPA's calculated departure from that enumerated 1990 NESHAP regulation for purposes of unilaterally expanding its criminal and civil enforcement jurisdiction that renders the EPA, the State of Wisconsin, and similar enforcement programs constitutionally unsustainable. Well-settled canons of strict construction, coupled with the rule of lenity and doctrine of fair warning, instruct that criminal prosecutions and civil enforcement actions must rest upon the bright-line jurisdictional test method set forth in the applicable CAA regulations. In 2006, two courts held that CAA test methods implicate important due process rights that only administrative rulemaking can cure. In the absence of rulemaking, long-held EPA assumptions about the use of new and nonbinding test methods are now being rejected in court. Cases such as *SDG&E* and *Harenda Enterprises* are

253. *Id.* at 530. In *United States v. Owens Contracting Services, Inc.*, the court granted summary judgment in favor of a project's demolition contractor and against the government because the EPA attempted to expand the NESHAP regulation to include *nonfriable materials* not regulated at the time of demolition by the pre-1990 NESHAP. 844 F. Supp. 1095, 1105 (E.D. Mich. 1994). The government offered interpretative guidance prepared *after* the 1990 NESHAP amendments in support of its broad application of the regulation to nonfriable material. The court stated that the EPA's "decision to expand the coverage of the asbestos NESHAP to address issues unanticipated at the time of promulgation, i.e., nonfriable asbestos which becomes friable or has the potential to become friable is, in kindest terms, creative. Less charitably, it could be an example of bureaucratic arrogance." *Id.*

The NESHAP was eventually amended in 1990 to encompass presently nonfriable material at issue in *Owens Contracting*. However, before such 1990 rulemaking, the application of the EPA's interpretations to reverse engineer the jurisdictional reach of the regulation "would stand as anathema to the requirement that administrative rules be properly promulgated so that notice of the rules is given prior to meting out punishment for their transgression." *Id.* at 1106. The *Owens Contracting* court rejected the government's "substitution of new law for old law that was reasonably clear" through the "guise of 'clarification' of pre-existing rules." *Id.*

forcing EPA to come to grips with the reality that agency policy cannot outpace the APA and its own rulemaking obligations.

APPENDIX A

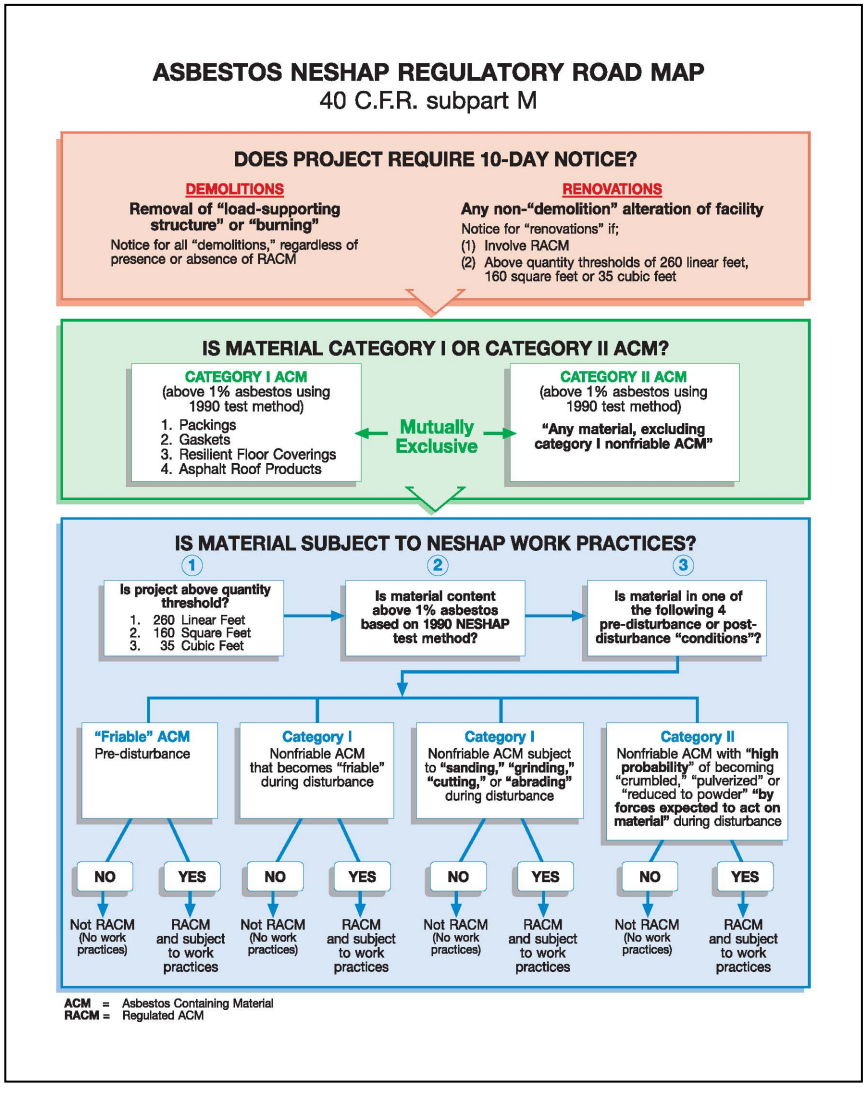
DATE	LEGISLATIVE AND REGULATORY HISTORY OF ASBESTOS NESHAP & EPA TEST METHODS
Dec. 31, 1970	Congress amends CAA, 42 U.S.C. § 7412, requiring the EPA to list "hazardous air pollutants" and develop national "emission standards."
Mar. 31, 1971	The EPA publishes its first three "hazardous air pollutants": asbestos, beryllium, and mercury. 36 Fed. Reg. 5931 (Mar. 31, 1971).
Dec. 7, 1971	Proposed rule for asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP). 36 Fed. Reg. 23,239 (Dec. 7, 1971).
Apr. 6, 1973	National Emission Standards for Hazardous Air Pollutants (NESHAP) for asbestos promulgated at 40 C.F.R. 61, subpart B under the CAA. Asbestos content based upon percentage based on "dry weight" in material; no standardized test method adopted to determine quantitatively the content of asbestos in a material based on dry weight. 38 Fed. Reg. 8835 (Apr. 6, 1973).
Oct. 14, 1975	The asbestos NESHAP is amended to add the definition for "friable asbestos-containing material" and specify a minimum content of "more than 1 percent by weight." No analytical method specified. 40 Fed. Reg. 48,292, 48,299–302 (Oct. 14, 1975).

DATE	LEGISLATIVE AND REGULATORY HISTORY OF ASBESTOS NESHAP & EPA TEST METHODS
May 27, 1982	Adoption into law under TSCA of test method that would ultimately become 1990 test method. "Interim Method of the Determination of Asbestos in Bulk Insulation Samples" promulgated at Appendix A at 40 C.F.R. part 763 under TSCA Section 6(a)(3) and Asbestos School Hazard Detection and Control Act of 1980 regarding asbestos in schools. Regulation addresses asbestos in school buildings. Test method requires multi-strata analysis and averaging of all strata of material. Asbestos; Friable Asbestos-Containing Materials in Schools; Identification and Notification, 47 Fed. Reg. 23,360, 23,370, 23,377 § 1.7.2.1 (May 27, 1982).
Dec. 1982	The EPA's Environmental Monitoring Systems Laboratory publishes the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020). This is a Polarized Light Microscopy (PLM) method that requires 400 point counting and combining the results of each layer of multilayered material to yield an estimate of asbestos content for the whole material. Visual area estimation is not an option in this version.
Apr. 5, 1984	The asbestos NESHAP repromulgated by the EPA after Supreme Court in *Adamo Wrecking* invalidates "work practice" requirements as not authorized by 1970 CAA and its "emission standards" requirement. The 1984 NESHAP amendments do not specify an analytical method to determine material that contains "more than 1 percent asbestos by weight." National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard, 49 Fed. Reg. 13,658, 13,658 (Apr. 5, 1984).
Oct. 1986	Congress enacts Asbestos Hazard Emergency Response Act (AHERA) for schools, amending the Toxic Substances Control Act (TSCA). 15 U.S.C. §§ 2641–2656 (2000).

DATE	LEGISLATIVE AND REGULATORY HISTORY OF ASBESTOS NESHAP & EPA TEST METHODS
Oct. 30, 1987	Asbestos Hazard Emergency Response Act (AHERA) regulations promulgated at 40 C.F.R. 763, subpart E under the Toxic Substances Control Act (TSCA). Appendix E to AHERA adopts 1990 test method (1982 TSCA test method) requiring PLM by 400 point count and combining the results of each layer of multilayered bulk samples to yield an estimate of asbestos content for whole material.
Nov. 20, 1990	The asbestos NESHAP is amended to revoke "1 percent by weight" standard in effect since 1973 and specify new "area test" of 1 percent as determined by 1982 TSCA and 1987 AHERA test method ("Interim Method for the Determination of Asbestos in Bulk Insulation Samples," set forth at TSCA's regulations for AHERA, 40 C.F.R. 763, subpart E). The EPA also defines Category I and Category II materials, with Category I materials to remain in place during demolition because of low risk of releasing fibers. National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Provision, 55 Fed. Reg. 48,406, 48,410, 48,415 (Nov. 20, 1990).
July 1993	The EPA Atmospheric Research and Exposure Assessment Laboratory publishes the "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116). This PLM test method contains "significant revisions" to procedures outlined in the 1990 test method, including visual estimation techniques and delayering of nonseparable layers in multilayered systems.

DATE	LEGISLATIVE AND REGULATORY HISTORY OF ASBESTOS NESHAP & EPA TEST METHODS
Jan. 5, 1994	The EPA's first clarification in response to "many questions about analyzing multi-layered systems." The "clarification does not supersede, alter, or in any way replace the existing asbestos NESHAP." In general, when a sample consists of two or more layers or materials, the EPA advises that each layer should be treated separately and the results reported by layer (discrete stratum). The one exception is for wallboards (that is, joint compound, joint tape, and wallboard), when a multi-strata composite average should be conducted. The EPA excludes wallboard systems from a layer-by-layer analysis on the grounds that it "in effect becomes one material." Asbestos NESHAP Clarification Regarding Analysis of Multi-layered Systems, 59 Fed. Reg. 542, 542 (Jan. 5, 1994).
Aug. 1994	NVLAP "Bulk Asbestos Analysis" NIST Handbook 150-3 (Aug. 1994) requiring laboratory compliance to 1990 test method *or* current EPA 1993 test method, but laboratories "responsible for ensuring it implements the latest revision of the method."
Aug. 1, 1994	EPA advisory of availability of "improved" 1993 asbestos bulk sample test method, "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116). The EPA directs laboratories to follow the "preferred substitute method" and delayer multilayered systems. The EPA acknowledges that there is no modification of the governing regulations and test results following the 1990 test method. Advisory Regarding Availability of an Improved Asbestos Bulk Sample Analysis Test Method; Supplementary Information on Bulk Sample Collection and Analysis, 59 Fed. Reg. 38,970, 38,971 (Aug. 1, 1994).

DATE	LEGISLATIVE AND REGULATORY HISTORY OF ASBESTOS NESHAP & EPA TEST METHODS
Dec. 19, 1995	The EPA's second clarification regarding analysis of multilayered systems. It states the EPA's "unwritten policy" has been to require delayering and "no averaging or dilution" by combining the results of all strata. The EPA states that the 1990 test method requires a combined result for all layers, which contradicts the EPA's unwritten policy. The EPA finds the 1993 test method (EPA/600/R-93/116) an acceptable alternative method to the 1990 test method at Appendix E of AHERA. "EPA intends to amend the asbestos NESHAP in the near future to refer specifically to these procedures." Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems, 60 Fed. Reg. 65,243, 65,243 (Dec.19, 1995).
Dec. 19, 1995 to Present	Despite two EPA clarifications to the 1990 test method and multilayered systems since adoption on November 20, 1990, there have been no amendments (or proposed amendments) to the asbestos NESHAP to adopt the 1993 test method; the 1990 test method remains the law.


ASBESTOS NESHAP REGULATORY ROAD MAP
40 C.F.R. subpart M
DOES PROJECT REQUIRE 10-DAY NOTICE?
DEMOLITIONS
Removal of "load-supporting structure" or "burning"
Notice for all "demolitions," regardless of presence or absence of RACM
RENOVATIONS
Any non-"demolition" alteration of facility
Notice for "renovations" if;
(1) Involve RACM
(2) Above quantity thresholds of 260 linear feet, 160 square feet or 35 cubic feet
IS MATERIAL CATEGORY I OR CATEGORY II ACM?
CATEGORY I ACM
(above 1% asbestos using 1990 test method)
1. Packings
2. Gaskets
3. Resilient Floor Coverings
4. Asphalt Roof Products
Mutually Exclusive
CATEGORY II ACM
(above 1% asbestos using 1990 test method)
"Any material, excluding category I nonfriable ACM"
IS MATERIAL SUBJECT TO NESHAP WORK PRACTICES?
1
Is project above quantity threshold?
1. 260 Linear Feet
2. 160 Square Feet
3. 35 Cubic Feet
2
Is material content above 1% asbestos based on 1990 NESHAP test method?
3
Is material in one of the following 4 pre-disturbance or post-disturbance "conditions"?
"Friable" ACM
Pre-disturbance
Category I
Nonfriable ACM that becomes "friable" during disturbance
Category I
Nonfriable ACM subject to "sanding," "grinding," "cutting," or "abrading" during disturbance
Category II
Nonfriable ACM with "high probability" of becoming "crumbled," "pulverized" or "reduced to powder" "by forces expected to act on material" during disturbance
NO
YES
Not RACM (No work practices)
RACM and subject to work practices
ACM = Asbestos Containing Material
RACM = Regulated ACM