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## The Bubble Concept - A Feasible Emissions Reduction Alternative

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## COMMENTS

### THE BUBBLE CONCEPT—A FEASIBLE EMISSIONS REDUCTION ALTERNATIVE?

#### I. INTRODUCTION

During the 1980's, American industries will likely witness a major shift in regulatory approaches to pollution control,<sup>1</sup> from the "command and control"<sup>2</sup> approach of the 1960's and 1970's to a market-oriented economic approach known as "controlled trading."<sup>3</sup> The current economic climate of the United States, burdened with mass industrial unemployment, economic stagnation, and inflation indicates the necessity for economically sound alternatives to regulatory strategies.<sup>4</sup> Otherwise, pollution regulation requirements will further burden industry<sup>5</sup> and ultimately wreak economic havoc by virtually driving industry to a grinding halt.<sup>6</sup>

The market-oriented Reagan Administration<sup>7</sup> has exhibited a move toward economically sensitive approaches to pollution control. An economic approach is advantageous to facility owners<sup>8</sup> and provides incentives for industry to develop and implement better and more effi-

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1. See, e.g., Rosencranz, *Economic Approaches to Air Pollution Control*, ENVIRONMENT, Oct. 1981, at 25; Behr, *EPA's "Bubble" Strategy*, ENVIRONMENT, Mar. 1979, at 2, 4.

2. Seltz-Petrash, *Marketplace Solutions to Air Pollution*, CIV. ENGINEERING, Jan. 1980, at 68. Command and control regulations set emission limits for each specific polluting source. That is, the same emission standard applies to each vent or smokestack of a facility. The regulations are not adjustable for feasibility problems in controlling a pollution point, be they economic or technological problems. *Id.*

3. *Id.* Controlled trading basically eliminates regulations on each specific source of pollution within a plant. Instead, the focus is on the total emissions of each pollutant from the entire plant. Excessive emissions from one polluting point in the plant can be balanced (traded) against reduced emissions from another point. The emission standards must still be met, but for the plant as a whole. *Id.*

Other controlled trading mechanisms include offsetting, banking, emissions fees, and brokerage systems. *Id.* at 68-71; Rosencranz, *supra* note 1, at 26-29. For further discussion of these controlled trading mechanisms see *infra* note 130.

4. Behr, *supra* note 1, at 2-3.

5. de Nevers, *Measuring and Managing Pollutants*, ENVIRONMENT, June 1981, at 25, 31-32.

6. *Id.* at 32.

7. Rosencranz, *supra* note 1, at 25, 29.

8. *Id.* at 26; Behr, *supra* note 1, at 2-3; Seltz-Petrash, *supra* note 2, at 68, 70-71. The shift to economic approaches to pollution control exhibits a cost-benefit concern with respect to pollution control regulations which was nonexistent under the command and control approach. See *supra* note 2; see also *infra* notes 25-34 and accompanying text.

cient methods for controlling pollution.<sup>9</sup>

One of the first economic-oriented controlled trading proposals to emerge was the bubble concept.<sup>10</sup> Utilization of the bubble concept provides a facility owner with greater flexibility in controlling air pollution by altering the way in which the facility's emissions are measured and regulated.<sup>11</sup> The facility owner can theoretically place a bubble over the entire polluting facility rather than over each point of emission.<sup>12</sup> The net emissions would then be regulated as they escape through a single hole in the top of the bubble, as opposed to being regulated from each polluting source.<sup>13</sup>

The Environmental Protection Agency (EPA)<sup>14</sup> has the authority to approve or deny a facility's utilization of a bubble. The agency authorizes or denies the use of a bubble according to the location of the facility and the designated program for regulating the air quality in that particular region.

This comment will explain the bubble concept, consider the arguments for and against its use and examine the three major court decisions that currently govern use of the bubble. Additionally, the importance of the bubble concept for promoting the acceptance of other controlled trading mechanisms will be discussed.

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9. See *infra* notes 35-42 and accompanying text.

10. Under the bubble concept, an entire plant would be placed under a theoretical "bubble" with a hole at the top. Rather than measuring the emissions from each pollution point (smokestacks, vents, etc.), under the bubble, the *total* emissions escaping from the "hole" at the top are measured. The objective is to treat a plant as a unit for measuring and regulating emissions, rather than dividing the plant into individual pollution source components. F. SKILLERN, *ENVIRONMENTAL PROTECTION: THE LEGAL FRAMEWORK* § 3.56 (1981); Seltz-Petrash, *supra* note 2, at 68.

11. A facility owner who utilizes "bubbling" can choose which pollution source or emission point to control, rather than being *required* to control *each* polluting source. See *infra* notes 34-36 and accompanying text.

12. A point of emission is any point or source from which air pollutants are discharged within an industrial facility. Examples of emission points are smokestacks, air vents, areas of loading or transferring operations, and furnaces. Seltz-Petrash, *supra* note 2, at 68; Behr, *supra* note 1, at 2.

13. For example, a factory with three smokestacks may be permitted to emit 10 tons of hydrocarbons per stack per day. Without "bubbling", each stack must be regulated within that 10-ton limit. Under a bubble, the factory would be allowed a *total* stack emissions limit of 30 tons per day. The controls on each stack could vary as long as the 30-ton limit was achieved. Seltz-Petrash, *supra* note 2, at 68.

14. The Environmental Protection Agency (EPA) was formed as part of the Clean Air Act Amendments of 1970. Prior to 1970, administration of the Clean Air Act came under the Department of Health, Education, and Welfare. J. ARBUCKLE, M. JAMES, M. MILLER, T. SULLIVAN & J. WATSON, *ENVIRONMENTAL LAW* (Homewood ch. 4, § 2.0, at 148-49 (6th ed. 1979)).

## II. THE BUBBLE CONCEPT

### A. The "Bubble"

Federal regulation of air quality began with the Clean Air Act of 1963.<sup>15</sup> The Act introduced procedures for governmental investigation of air pollution conditions, as well as methods for enforcement of pollution standards and abatement of air pollution.<sup>16</sup> In 1970, the Clean Air Act was amended<sup>17</sup> to require polluting sources within state boundaries to meet the national air quality standards.<sup>18</sup> The Clean Air Act was again amended in 1977,<sup>19</sup> changing the stationary source standards<sup>20</sup> and adding the Nonattainment program<sup>21</sup> and the Prevention of Significant Deterioration program.<sup>22</sup> Essentially, the Nonattainment program was established to attempt to *improve* air quality in areas not in compliance with national air quality standards.<sup>23</sup> In contrast, the Prevention of Significant Deterioration program seeks to *maintain* the air quality in regions where the air is cleaner than the national air quality standards.<sup>24</sup>

Although the Clean Air Act went through numerous amendments

15. Pub. L. No. 88-206, 77 Stat. 392 (codified at 42 U.S.C. §§ 1857-1857I (1976)) (recodified at 42 U.S.C. §§ 7401-7642 (Supp. V 1981)).

16. F. SKILLERN, *supra* note 10, at § 3.02.

17. Pub. L. No. 91-604, 84 Stat. 1676 (1970).

18. F. SKILLERN, *supra* note 10, at § 3.07 (outlining the major changes made by the Clean Air Act Amendments of 1970).

19. Pub. L. No. 95-95, 91 Stat. 685 (1977).

20. A stationary source is "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. § 7411(3) (Supp. V 1981). See generally F. SKILLERN, *supra* note 10, at § 3.27.

21. The Nonattainment Area provisions of the Clean Air Act are codified at 42 U.S.C. §§ 7501-08 (Supp. V 1981). A nonattainment area is any area in which the national air quality standards for a particular pollutant have not been achieved. *Id.* § 7501(2). The nonattainment provisions require states to revise their implementation plans for achieving the national air quality standards as a precondition to constructing or modifying any major stationary source within the nonattainment area. *Id.* The provisions are aimed at improving air quality in these areas for eventual compliance with national air quality standards. See generally F. SKILLERN, *supra* note 10, at § 3.55; ARBUCKLE & JAMES, *supra* note 14, ch. 4, § 3.6, at 182-85.

22. The Prevention of Significant Deterioration program, abbreviated as the "PSD" program, is codified at 42 U.S.C. §§ 7470-91 (Supp. IV 1981). PSD areas are those regions where the air is cleaner than the national air quality standards require. These PSD areas are primarily national parks, wilderness areas, national monuments, seashores, and other natural, scenic, or recreational areas. *Id.* § 7470(2). The PSD regulations are aimed at preserving the air quality in these "clean air regions." The program is implemented through a permit process which requires that a major emitting facility obtain a permit before beginning construction in a PSD area. *Id.* § 7475(a)(1). The applicant facility must show that its proposed operation will not violate the PSD air quality standards for the area. *Id.* § 7475(a)(3). See also F. SKILLERN, *supra* note 10, at § 3.37; ARBUCKLE & JAMES, *supra* note 14, ch. 4, § 3.7.

23. 42 U.S.C. §§ 7501(2), 7502(a) (Supp. IV 1981).

between 1963 and 1977, the general approach for regulating air pollution remained that of "command and control."<sup>25</sup> This approach regulates air pollution by controlling the emissions from each polluting source. The Clean Air Act sets emission limits for every vent or smokestack, thus controlling the pollution emitted from each of these points.<sup>26</sup> The economic feasibility of controlling each specific emission or discharge point is of no consequence under a true "command and control" approach.

The "controlling trading" approach to pollution regulation adds an economic incentive that is lacking under "command and control."<sup>27</sup> Basically, this approach allows for the emissions from each polluting source to be balanced. The concern is that the *net* effect of the pollution emissions comes within air quality standards.<sup>28</sup>

The bubble concept was one of the first controlled trading mechanisms proposed.<sup>29</sup> It can be utilized by facilities that emit various pollutants,<sup>30</sup> and by those that emit the same pollutants at different stages of production.<sup>31</sup> Only the pollutants emitted through the imaginary hole at the top of the theoretical bubble surrounding the entire facility are measured.<sup>32</sup> The total effect upon air quality under the bubble concept, however, must at least meet the air quality requirements imposed by the standard emissions level.<sup>33</sup>

The advantage of the bubble concept to a facility owner is the flexibility that it allows. The owner can choose the points or sources of pollutants that are most feasible and economically beneficial to control. Thus, it is the total or net emissions which must meet the EPA standards.<sup>34</sup> Obviously, industry would favor any new regulation which can be economically advantageous. However, the bubble concept has met with challenges from environmental groups who see it as a threat to air quality.

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25. See *supra* note 2.

26. Seltz-Petrash, *supra* note 2, at 68.

27. *Id.*

28. *Id.* at 68-71. See generally Del Duca, *The Clean Air Act: A Realistic Assessment of Cost-Effectiveness*, 5 HARV. ENVTL. L. REV. 184, 189-92 (1981); Behr, *supra* note 1, at 2-3; de Nevers, *supra* note 5, at 31; Rosencranz, *supra* note 1, at 25.

29. The bubble concept first appeared in proposals from the Department of Commerce and the nonferrous smelting industry in December, 1972. *ASARCO, Inc. v. EPA*, 578 F.2d 319, 323 (D.C. Cir. 1978).

30. 44 Fed. Reg. 71,780, 71,782 (1979).

31. *Id.*

32. See *supra* notes 10-13 and accompanying text.

33. 44 Fed. Reg. 71,780, 71,782 (1979).

34. Seltz-Petrash, *supra* note 2, at 68.

### B. The Pros and Cons of the "Bubble"

Industry, in general, is supportive of the bubble concept.<sup>35</sup> Industries which are able to utilize the bubble concept enjoy the advantage of substantial reductions in the economic cost of compliance with the EPA's air quality standards.<sup>36</sup> The bubble concept affords a facility owner the opportunity to focus pollution control mechanisms where the marginal cost of control is low and reduce efforts where the cost is high.

Additionally, the bubble concept provides industry with an economic incentive to find more cost efficient and more effective methods for controlling pollution.<sup>37</sup> The incentive is provided by the *results* achieved by new controlling mechanisms.<sup>38</sup> Not only is industry motivated to develop the most cost efficient mechanisms in order to save money, but it is also motivated to develop more effective controls. Effective reductions in one process can be traded for increases elsewhere.<sup>39</sup> Such benefits encourage and reward industrial innovations, and, at the same time, relieve the EPA of the problem of devising more efficient and effective pollution control methods.<sup>40</sup>

Another selling point for the bubble concept is that it may lessen the financial burden of regulatory compliance on economically depressed industries.<sup>41</sup> The bubble provides these industries with an opportunity to get the most control for the least amount of money.<sup>42</sup>

The use of the bubble concept, however, is not without opposition. Environmentalists charge that utilization of the bubble will preserve the status quo rather than improve air quality.<sup>43</sup> Their concern is that

35. *Id.* at 71.

36. *Id.* The dramatic savings which a facility can enjoy by "bubbling" are indicated by the following two examples. The DuPont facility in Fairfield, Connecticut had to reduce its solvent emissions. The estimated capital cost to reduce the emissions from each vent was \$4 million. If the facility could "bubble," however, the cost estimate was only \$400,000 to achieve the required 85% emissions reduction. *Id.* at 68.

In a second example, Clemson University did a study of data from 52 DuPont plants with a total of 548 emission points. The study indicated that reducing the hydrocarbon emissions of each smokestack by 85% would cost an estimated \$108 million. The same reductions achieved under "bubbling" would cost \$43 million, or 60% less. *Id.* at 71.

37. Rosencranz, *supra* note 1, at 25-26.

38. *Id.* at 26.

39. *Id.*

40. *Id.* at 29-30.

41. Seltz-Petrash, *supra* note 2, at 71.

42. *Id.* The examples of cost savings exhibited by the Clemson study become even more dramatic if viewed from the perspective of the owner of an economically depressed industrial facility. The reduction in capital costs to the industry could make the difference in whether or not such a facility would be forced to discontinue operations because of the financial burden of reducing emissions. See *supra* note 36.

43. Rosencranz, *supra* note 1, at 29-30; Seltz-Petrash, *supra* note 2, at 72. See also *supra*

allowing several industries within a region to use bubbles might cause serious problems in determining the net effect on the air quality of the region. The fear is that uncontrollable factors such as meteorological conditions, release heights, interaction of pollutants, and dispersion factors will pose even greater problems than they pose under current source regulation, if "bubbling" is allowed.<sup>44</sup>

The local agencies responsible for administering and enforcing air pollution regulations and monitoring air quality also oppose the bubble concept.<sup>45</sup> These agencies see the measurement of pollution emissions by facility rather than by source as the major drawback to the bubble concept. They contend that monitoring a plant may prove to be much more difficult than monitoring each polluting source.<sup>46</sup>

Many of the potential problems with "bubbling" which are propounded by its opponents have been addressed by some of the EPA regulations.<sup>47</sup> The next section will discuss the limits on utilization of a bubble and the requirements placed upon the industries approved for a bubble.

### C. Utilizing and Obtaining a "Bubble"

An industry interested in getting approval for a bubble must file a proposed plan with the local agency authorized to monitor and enforce air quality standards. At the same time, the plan is submitted to the state regulatory agency.<sup>48</sup> The industry's proposed plan must demonstrate that the facility is currently in compliance with the EPA regulations and that it will ensure compliance with the conditions for "bubbling."<sup>49</sup> If the industry's evidence of compliance is sufficient to meet the standards of the local control agency, the plan is submitted to the EPA regional office for further review. In order for the industry to implement the bubble, the plan must eventually be approved by the state controlling agency as well as the EPA.<sup>50</sup>

As stated previously, the first condition under the EPA regulations is that the industry already has attained the EPA standards for the

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note 22.

44. Seltz-Petrash, *supra* note 2, at 72. Contrarily, the EPA maintains that "bubbling" will not make any difference in monitoring regional air quality because facilities will still have to measure the emissions from each polluting source under the "bubble." One of the regulatory conditions for "bubbling" is that the facility include monitoring and enforcement techniques in the proposed "bubbling" plan. See 44 Fed. Reg. 71,780, 71,781-71,784 (1979).

45. Seltz-Petrash, *supra* note 2, at 72.

46. *Id.* See also Comment, *An Overview of the Bubble Concept*, 8 COLUM. J. ENVTL. L. 137, 157-59 (1982).

47. See *infra* notes 51-55 and accompanying text.

48. 44 Fed. Reg. 71,780, 71,782 (1979).

49. *Id.* at 71,782.

50. *Id.*

pollutants included in the bubble plan. This requirement mandates that only comparable pollutants<sup>51</sup> be involved in the trade-off under the bubble, and forbids any trade-off of hazardous pollutants for less hazardous ones.<sup>52</sup>

Secondly, as an enforcement precaution, the EPA requires the trade-off of pollutants be equal and quantifiable.<sup>53</sup> The "bubbling" industry must provide scientific quantification of all levels of emissions under the bubble. Additionally, the industry's plan must include easily enforceable techniques for controlling each emission point under the bubble.<sup>54</sup> These conditions are viewed by the EPA as ways to ensure that overall emissions do not increase, which has been one of the opponents' major fears.<sup>55</sup>

The EPA, however, is not the only governmental body with authority over those facilities wanting to utilize the bubble concept. The courts also have authority to restrict the use of the bubble. In three major court cases decided by the Circuit Court of Appeals for the District of Columbia,<sup>56</sup> the court has specifically restricted the use of the bubble to designated areas under the EPA new source programs for air quality regulation.<sup>57</sup> An analysis of those cases follows.

### III. THE COURT LIMITS THE USE OF THE "BUBBLE"

Since the bubble concept was first proposed in 1972,<sup>58</sup> and subsequently adopted by the EPA as an alternative emission reduction policy in 1979,<sup>59</sup> its use has been challenged in three major court cases. The Court of Appeals decided the fate of the bubble under each of the

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51. *Id.* at 71,784.

52. *Id.*

53. *Id.* at 71,783.

54. *Id.* at 71,784.

55. *See supra* notes 22, 43 and accompanying text.

56. *ASARCO, Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978) (holding that the bubble is invalid in New Source Performance Standards areas); *Alabama Power v. Costle*, 606 F.2d 1068, *modified*, 636 F.2d 323 (D.C. Cir. 1979) (holding that the bubble is valid under the Prevention of Significant Deterioration program); *Natural Resources Defense Council, Inc. v. Gorsuch*, 685 F.2d 718 (D.C. Cir. 1982) (invalidating the bubble in Nonattainment areas), *cert. granted sub nom. Ruckelshaus v. Natural Resources Defense Council, Inc.*, 51 U.S.L.W. 3857 (U.S. May 31, 1983).

57. Three new source programs regulate the construction and modification of industrial polluting facilities, ensuring that the purpose of the Clean Air Act "to protect and enhance" air quality in the United States is achieved. 42 U.S.C. § 7401(b)(1) (Supp. V 1981).

The three new source programs are: 1) the Nonattainment Area program which regulates air in "dirty air regions," *id.* §§ 7501-08; 2) the Prevention of Significant Deterioration program for regulating air quality in "clean air regions," *id.* §§ 7470-91; 3) the New Source Performance Standards program for regulating the air quality in both clean and dirty air regions as affected by "new sources," *id.* § 7411.

58. *See supra* note 29.

59. 44 Fed. Reg. 71,788 (1979).



three EPA new source programs.<sup>60</sup> In each case, the court's decision was based on its analysis of "source"—namely, the issue of whether an entire plant comprised of several emissions points could be considered as a single "source."<sup>61</sup>

#### A. *ASARCO, Inc. v. Environmental Protection Agency*

The Court of Appeals declared the utilization of the bubble concept invalid in areas governed by the New Source Performance Standards (NSPS) program<sup>62</sup> in *ASARCO, Inc. v. Environmental Protection Agency*.<sup>63</sup> The court held that the use of the bubble in these areas was inconsistent with the purpose of the Clean Air Act.<sup>64</sup>

*ASARCO* came about due to a Sierra Club challenge to an EPA regulation which changed the statutory definition of a "stationary source."<sup>65</sup> The new regulation defined a stationary source as "any . . . combination of . . . facilities. . . ."<sup>66</sup> The Club argued that this definition was inconsistent with Section 111 of the Clean Air Act<sup>67</sup> which defines a stationary source as "any building, structure, facility, or installation which emits or may emit any air pollutant."<sup>68</sup>

The EPA argued that the new regulation, which incorporated the bubble concept, was an economic necessity. It contended that the bubble was necessary to alleviate the excessive cost of bringing modified industrial facilities within the New Source Performance Standards.<sup>69</sup>

60. See *supra* notes 56, 57.

61. The issue in *ASARCO, Alabama Power*, and *Gorsuch* centered on whether or not the bubble concept violated the Clean Air Act's definition of stationary source: "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. § 7411(a)(3) (Supp. V 1981). In each of the cases, the court's concern was whether or not a plant-wide definition of source in the EPA's regulations conflicted with the facility definition of source provided in § 7411(a)(3). See *infra* notes 65-70, 82-87, 94, 104-06 and accompanying text.

62. The New Source Performance Standards (NSPS) program was established by the 1970 Amendments to the Clean Air Act. The standards apply to new polluting sources and require that emission reductions be achieved by the best technology available. The ultimate goal is improved air quality. 42 U.S.C. § 7411 (Supp. V 1981); F. SKILLERN, *supra* note 10, at § 3.05; Del Duca, *supra* note 28, at 189-92.

63. 578 F.2d 319 (D.C. Cir. 1978).

64. *Id.* at 329. The congressional declaration of the purpose of the Clean Air Act is "to protect and enhance the quality of the Nation's air resources." 42 U.S.C. § 7401(b)(1) (Supp. V 1981).

65. 578 F.2d at 326.

66. 40 C.F.R. § 60.2(d) (1976), cited in 578 F.2d 326.

67. 42 U.S.C. § 7411 (Supp. V 1981).

68. *Id.* § 7411(a)(3) (emphasis added).

69. 578 F.2d at 328. The main argument that the EPA made was that the bubble was needed to help alleviate the financial burden of bringing *existing* facilities into compliance with the NSPS standards. The EPA contended that it was more costly for a facility owner to bring an *existing* facility into compliance with the standards than it was for a *new* facility to construct pollution controls which would regulate emissions within the NSPS standards. *Id.* at 328 n.31. An existing facility falls within the NSPS requirements when any physical or operational modifica-

Nevertheless, the court rejected the EPA's economic argument and agreed with the Sierra Club that the new stationary source definition was inconsistent with the language and purpose of the Clean Air Act.<sup>70</sup> Section 111 of the Act promulgated the New Source Performance Standards (NSPS) program, mandating application of NSPS to any *facility* which is so physically modified as to increase the level of air pollutant emissions.<sup>71</sup> The court maintained that the purpose of the NSPS program was to *enhance* air quality, not merely to *maintain* the status quo.<sup>72</sup> By allowing "bubbling" in NSPS areas, the court held that the EPA was, at best, maintaining present emissions levels.<sup>73</sup> Furthermore, industry would be able to postpone implementation of the best controlling technology.<sup>74</sup> Therefore, the majority firmly rejected the bubble concept, and *ASARCO* stands as precedent<sup>75</sup> for utilization of the bubble in areas under the New Source Performance Standards program.<sup>76</sup>

### B. *Alabama Power Co. v. Costle*

In 1979, the Court of Appeals faced another challenge to the bubble concept. The petitioners<sup>77</sup> in *Alabama Power Co. v. Costle*<sup>78</sup> challenged<sup>79</sup> the final EPA regulations for the Prevention of Significant De-

tions are made to the facility which increase the emission rate of any regulated pollutant. See 40 C.F.R. § 60.14(a) (1982).

70. 578 F.2d at 329.

71. If the total emission level does not increase, no modification is considered to have occurred. 40 C.F.R. § 60.14 (1982).

72. 578 F.2d at 327 n.25. See also 42 U.S.C. § 7411(a) (Supp. V. 1981), which specifies that the standards established for the NSPS program shall reflect emission *reductions* of air pollutants achievable by the best technology available.

73. 578 F.2d at 327-28.

74. *Id.* at 328.

75. 42 U.S.C. § 7607(b)(1) (Supp. V 1981) provides that a petition for review of any action of the EPA "in promulgating any . . . air quality standard, any emission standard . . . or any other nationally applicable regulations . . . or final action taken, by the Administrator . . . may be filed *only* in the United States Court of Appeals for the District of Columbia." (emphasis added).

76. See *supra* note 62.

77. The cases of sixty petitioners were consolidated in *Alabama Power*. For a list of the petitioners, see 636 F.2d 323-24 (D.C. Cir. 1979).

78. 606 F.2d 1068, *modified*, 636 F.2d 323 (D.C. Cir. 1979). The court issued a preliminary *per curiam* opinion in which it held that the NSPS definition of "source" dealt with in *ASARCO* controlled the PSD definition of "source." 606 F.2d at 1077. Six months later, however, the court issued a full opinion, incorporating the *per curiam* opinion but giving a more detailed analysis.

79. 636 F.2d at 394-98. There were three challenges to the EPA regulations:

- (1) that the EPA erred in expanding the definition of "source" to a "combination of facilities";
- (2) that the EPA could not generally treat contiguously or commonly-owned units as a single "source"; and

terioration (PSD) program.<sup>80</sup> These air quality standards govern the nation's "clean air areas."<sup>81</sup>

The challenged PSD regulations included a qualified form of the bubble concept for plants subject to PSD review.<sup>82</sup> The regulations provided that these plants would forego PSD review if the *net effect* of proposed modifications would not increase the emission level of any pollutant.<sup>83</sup>

In beginning its analysis of the PSD bubble concept, the court compared the PSD regulation<sup>84</sup> with the bubble regulation struck down in *ASARCO*.<sup>85</sup> The court affirmed the ruling in *ASARCO*, stating that the EPA had no authority to promulgate regulations which change the Clean Air Act definition of "source."<sup>86</sup> Nevertheless, the court held that the EPA could define a "facility" as encompassing an "entire plant or industrial grouping" for PSD review purposes.<sup>87</sup>

The court found four distinguishing points in *Alabama Power* which it viewed as justification for not following *ASARCO*.<sup>88</sup> The court saw the defect in *ASARCO*'s bubble concept as the trade off of emissions within a *combination* of facilities. It maintained that its *Alabama Power* ruling would allow offsets only *within a source*.<sup>89</sup> Secondly, the court decided that *ASARCO* did not rule out an interpretation of "increase" as net increase; rather, the court read *ASARCO* as an invalidation of bubbles in NSPS areas because the *enhancement* of air quality would be defeated.<sup>90</sup> Conversely, the court found the bubble concept not inconsistent with the purpose of the PSD provisions—that air quality be *maintained*.<sup>91</sup> Moreover the court saw the bubble as an effective technique for promoting the PSD program purpose of ensuring eco-

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- (3) that the EPA erroneously defined "major stationary source," regardless of physical size or production capacity of the facility, as one with potential emissions of 250 tons per year.

*Id.*

80. See *supra* note 22. The PSD standards govern air quality in "clean air regions": areas where the air quality is *better* than national air quality standards.

81. 42 U.S.C. § 7470(2) (Supp. V 1981).

82. 636 F.2d at 401-02.

83. *Id.*

84. 606 F.2d at 1077. The EPA has great latitude in defining the scope of the term "facility." The EPA has expanded the scope of a "facility" as "an entire plant or . . . 'industrial grouping'" for purposes of the PSD regulations. *Id.*

85. The *ASARCO* regulation defined "source" as "any one or combination of facilities." 578 F.2d at 324 n.17 (analyzing 40 C.F.R. § 60.2(d)).

86. 606 F.2d at 1077.

87. *Id.*

88. 636 F.2d at 402.

89. *Id.*

90. *Id.*

91. *Id.*

conomic growth while preserving existing clean air.<sup>92</sup> Finally, the court did not view its *Alabama Power* holding as inconsistent with *ASARCO* because of the "significantly" different regulation and statutory purpose involved in *ASARCO*.<sup>93</sup> Relying upon these distinctions, the *Alabama Power* court ruled that the regulations allowing "bubbling" in PSD areas were valid.

Although the court attempted to distinguish *ASARCO*, the *Alabama Power* holding cannot readily be reconciled with the result reached in *ASARCO*. The court interpreted the same definition of "source" in each case.<sup>94</sup> The result, however, was that the application of the bubble concept to a NSPS (enhancing air quality) source was invalid, while application of the bubble concept to a PSD (preserving air quality) source was valid.<sup>95</sup>

It would appear that the *Alabama Power* decision could be easily distinguished from *ASARCO* on the basis of program purposes: enhancing air quality (NSPS) versus preserving air quality (PSD). However, the *ASARCO* court decided that the bubble concept violated the purpose of the Clean Air Act as a whole, not merely the NSPS provisions.<sup>96</sup>

The practical result of *ASARCO* plus *Alabama Power* is general confusion regarding the validity of the bubble concept under the Clean Air Act. Because the court chose to attempt to distinguish *ASARCO* rather than review the correctness of its *ASARCO* decision,<sup>97</sup> *Alabama Power* produces conflicting results for the same event. A polluter in a clean air region (PSD) who modifies his facility so that emissions from one component increase while those from another decrease proportionately has no *net* increase of emissions under the PSD regulations.<sup>98</sup> The same polluter, who makes the same modifications in a facility within a NSPS area (enhancement region) *has* an increase.<sup>99</sup> Unfortunately, the most recent court challenge has not cleared the confusion.

### C. *National Resources Defense Council, Inc. v. Gorsuch*

The case of *National Resources Defense Council, Inc. v. Gor-*

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92. *Id.*

93. *Id.*

94. The same statutory definition of "source" was analyzed as "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. § 7411(a)(3)(Supp. V 1981).

95. 578 F.2d 319; 636 F.2d 323.

96. 636 F.2d at 402.

97. *Id.*

98. Note, *The EPA's Bubble Concept After Alabama Power*, 32 STAN. L. REV. 943, 958 (1980).

*such*<sup>100</sup> presented the D.C. Circuit Court of Appeals with the final chapter in the bubble concept controversy. This time, the challenged EPA regulations<sup>101</sup> incorporated the bubble concept into the Nonattainment Area provisions.<sup>102</sup> The court held that the bubble was impermissible in these areas.<sup>103</sup>

As in the two preceding bubble cases, the *Gorsuch* holding turned on the definition of "source." In *Gorsuch*, however, the definition was examined in the context of the Nonattainment program. The EPA adopted a plant-wide definition of "source" for the Nonattainment program in October, 1981.<sup>104</sup> The agency's definition was spawned by a general EPA concern with increasing regulatory burdens and complexities.<sup>105</sup> Additionally, it was an EPA attempt to reconcile the Nonattainment program with the PSD program's definition of "source."<sup>106</sup>

In approaching the validity issue of the bubble in Nonattainment areas, the *Gorsuch* court refused to review the *ASARCO* holding and reconcile it with *Alabama Power*.<sup>107</sup> Instead, the court chose to rely upon the purposes behind the new source review programs<sup>108</sup> and to delineate a test for determining the validity of the bubble concept based upon these purposes.<sup>109</sup>

The court found that the decisions in *ASARCO* and *Alabama Power* provided a "bright line test" for determining the validity of this new EPA bubble regulation.<sup>110</sup> The *Gorsuch* court decided that the bubble was rejected in *ASARCO* because it was inconsistent with the air quality enhancement purposes of the NSPS program.<sup>111</sup> Conversely, the court contended that the bubble in *Alabama Power* was found to be "precisely suited" to the PSD program goal of preserving air quality while encouraging industrial expansion.<sup>112</sup>

By applying its *Alabama Power-ASARCO* test to the *Gorsuch* case, the court concluded that the bubble was inconsistent with the ra-

100. 685 F.2d 718 (D.C. Cir. 1982), *cert. granted sub nom.* Ruckelshaus v. National Resources Defense Council, Inc., 51 U.S.L.W. 3857 (U.S. May 31, 1983).

101. 46 Fed. Reg. 50,768, 50,769 (1981) (promulgated the definition of "source" to be a "plant only" in Nonattainment Areas).

102. *See supra* note 21.

103. 685 F.2d at 720.

104. 46 Fed. Reg. 50,768 (1981).

105. 685 F.2d at 724.

106. 46 Fed. Reg. 50,768 (1981).

107. 685 F.2d at 725-26.

108. *Id.*

109. *Id.* at 726.

110. *Id.*

111. *Id.* at 725-26.

tionale of the Nonattainment program:<sup>113</sup> *enhancing* air quality in areas not in compliance with national air quality standards.<sup>114</sup> The court viewed the purpose of the Nonattainment program as being on the *ASARCO* ("improving") side of the test.<sup>115</sup> The bubble, therefore, was held invalid under the Nonattainment program.<sup>116</sup>

The court's "bright line test" determines the validity of a bubble on the basis of program purpose: those aimed at *improving* air quality versus those aimed at *maintaining* air quality.<sup>117</sup> The practical result of *Gorsuch*, however, is not much better than that which resulted from *Alabama Power*. The conflicting result remains—facilities that can be modified so as to balance emission increases and decreases have no net increase in PSD areas (maintaining air quality); but the same modified facility has an increase in NSPS or Nonattainment areas (enhancing air quality).

#### IV. ANALYSIS

The promulgation of a "bright line test" by the Court of Appeals for the District of Columbia may help to determine *when* a bubble is or is not valid. The test does not, however, determine *why* a bubble is or is not valid. Relating the bubble concept to the purposes behind the three new source programs does not necessarily justify validity to its opponents nor suggest invalidity to the proponents. The advantages and disadvantages of the bubble are apparently the same, regardless of the program purpose which determines the bubble's validity.

##### A. Economic Benefits

One of the primary advantages of the bubble concept is the economic flexibility which it provides a facility owner.<sup>118</sup> The bubble provides a market incentive for a facility owner to improve pollution controls where marginal cost is lowest.<sup>119</sup> Not only can an owner get the most for the money, but the development of more effective pollution controls will also yield improved emission results which can be traded for increased emissions elsewhere in the facility.

Theoretically, the market incentives which encourage technological development and ease industry's financial burden<sup>120</sup> should have the

113. 685 F.2d at 726.

114. *Id.* at 720 n.6 (citing from the EPA brief at 27: "a 'fundamental purpose of [the nonattainment program] is to enhance air quality.'").

115. 685 F.2d at 727.

116. *Id.* at 728.

117. *Id.* at 726.

118. See *supra* notes 11, 13, 27-34 and accompanying text.

119. See *supra* notes 37-40 and accompanying text.

Published by *Environmental Economics*, 1983 and accompanying text.

same effect in Nonattainment areas and NSPS areas as in the PSD areas.<sup>121</sup> By denying "bubbling" in areas where enhanced air quality has priority, the courts have effectively deterred the development of new technology in areas where the contributions to air quality could be the greatest.<sup>122</sup>

### B. Enforcement Difficulties

The local agencies responsible for enforcing air quality standards contend that "bubbling" will present great enforcement problems.<sup>123</sup> These local agencies contend that plant-wide monitoring of pollution emissions presents problems of accounting for the interaction of pollutants before they are emitted through the imaginary bubble hole.<sup>124</sup>

This monitoring problem, however, is not a potential problem only in NSPS and Nonattainment areas. These same monitoring problems, if they materialize, will also exist in the PSD areas. Whether the source of the pollutant is a plant or a single polluting point, the problem of monitoring must be confronted at the source. Monitoring difficulties alone cannot justify invalidating NSPS and Nonattainment bubbles while allowing PSD bubbles.

### C. Environmentalists' Concern: Improving Air Quality

Environmentalists see the bubble concept as a threat to the goal of improved air quality because they contend that "bubbling" maintains the status quo.<sup>125</sup> This concern is twofold: 1) whether "bubbling" in PSD areas will decrease the air quality of these "clean air areas," and 2) whether extensive "bubbling" in PSD areas could decrease the regional air quality.

When considering these points, it is hard to justify PSD bubbles. These are the areas where the air is *cleaner* than clean air standards.<sup>126</sup> If "bubbling" will decrease the air quality in these areas, then there is no justification for PSD bubbles.

Additionally, significant "bubbling" within a PSD area could affect surrounding regions which do not meet the PSD air quality standards. If the justification for bubbles in PSD areas is only that the air quality surpasses the standards, problems could arise if the effect of the PSD bubbles spreads into NSPS or Nonattainment areas. These are valid concerns. They are not, however, confined to the NSPS and

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121. Del Duca, *supra* note 28, at 189-92; Note, *supra* note 98, at 961-75.

122. Comment, *supra* note 46, at 155.

123. See *supra* notes 45-46 and accompanying text.

124. See *supra* note 44 and accompanying text.

125. See *supra* note 43 and accompanying text.

126. See *supra* note 22.

### Nonattainment areas.<sup>127</sup>

A possible solution, which could apply to "bubbling" in *any* area, would be the EPA "first come—first served" policy.<sup>128</sup> The EPA could limit the number of bubbles allowed in specific areas. Once the limit is reached, no more bubbles would be approved. Such a policy could have a dual advantage—minimizing the cumulative effects of "bubbling," while providing an added incentive for an industry to begin improving its pollution control technology immediately in order to "get in" before a "bubbling" cutoff.<sup>129</sup>

## V. CONCLUSION

The Court of Appeals for the District of Columbia has effectively limited the utilization of the bubble concept. The court has determined the validity of the bubble by relying on the purposes behind the EPA's new source programs: *enhancing* air quality in New Source Performance Standards areas and Nonattainment areas, and *preserving* air quality in Prevention of Significant Deterioration areas. The advantages and disadvantages of the bubble, however, do not necessarily parallel the programs' purposes.

The bubble concept is an important controlled trading mechanism, in that it could alleviate many of the financial and regulatory burdens which plague industry, especially in these times of economic stagnation. The successful acceptance of "bubbling" could also encourage utilization of other controlled trading mechanisms in all areas of pollution regulation.<sup>130</sup>

127. Note, *supra* note 98, at 963-64.

128. *Id.* at 964.

129. *See id.* at 964-65.

130. The acceptance of the bubble concept as a viable regulatory alternative could initiate development of other controlled trading proposals. Although these new controlled trading mechanisms are not panaceas for the high cost of pollution control, they do mark the emergence of a more flexible approach to pollution regulation by the EPA.

For example, offsetting is a system of negotiated agreements whereby a new industry is permitted to build in a Nonattainment area, provided that the industry controls emissions to the lowest possible level and persuades existing sources to reduce their emissions by an amount equivalent to the amount of emissions the new source will produce. The purpose of the offsetting policy is to provide for the development of new industries in Nonattainment areas without causing a deterioration of air quality. Seltz-Petrash, *supra* note 2, at 68-69.

An offsetting company-to-company trade occurred in Oklahoma when General Motors built a \$400 million plant. The Chamber of Commerce convinced oil companies within an 85-mile radius of the new General Motors plant to reduce their emissions from petroleum storage tanks so as to offset the emissions from the new plant. *Id.*

Offsetting, however, has not proven to be as successful as the EPA had expected, primarily because there was no mechanism to coordinate the offsets. Banking has been utilized in some areas of the country to attempt to alleviate this problem. In a banking system, an industry which is currently complying with local emissions standards, can "deposit" further emission reductions with the bank. The banking process requires the industry to submit an application to the EPA



The future of the bubble concept is now in the hands of the United States Supreme Court.<sup>131</sup> If the Court chooses to accept an economic approach to pollution regulation, in the form of the bubble concept, it will open the door for widespread utilization of other controlled trading mechanisms. If, however, the Court invalidates the bubble concept, the EPA will have to wage an uphill battle in order to promote the legal use of other controlled trading mechanisms in the future.

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district office to obtain a permit to bank. Once the EPA verifies the emission reduction, it issues the banking permit to the industry or company. *Id.* at 69-70. The permit can later be used by the industry to offset emission increases, or can be traded or sold to another industry, in the same region, to be used accordingly. Currently, two experimental banking systems are underway in Louisville, Kentucky and in the San Francisco Bay area. *Id.*

Emission fees are another means for encouraging clean air. Industries are not forced to reduce pollution, but are charged a fee for every pound of pollutant emitted in excess of a statutory limit. Companies that do not pollute, or which reduce their emissions, receive fee refunds in the form of tax credits or rebates. The EPA is currently attempting an emission fee plan in Philadelphia, Pennsylvania. Rosencranz, *supra* note 1, at 27-28; Seltz-Petrash, *supra* note 2, at 70.

131. The United States Supreme Court has granted certiorari in the last of the three major bubble cases. *Natural Resources Defense Council, Inc. v. Gorsuch*, 685 F.2d 718 (D.C. Cir. 1982), *cert. granted sub nom. Ruckelshaus v. Natural Resources Defense Council, Inc.*, 51