United States Court of Appeals
Fifth Circuit
F I L E D
October 28, 2003
Charles R. Fulbruge III
Clerk

UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

No. 02-60017

BCCA APPEAL GROUP; NATIONAL RESOURCES DEFENSE COUNCIL;
ENVIRONMENTAL DEFENSE; DAVID MARRACK; JANE W. ELIOSEFF;
GALVESTON-HOUSTON ASSOCIATION FOR SMOG PREVENTION (GHASP);
GALVESTON BAY CONSERVATION AND PRESERVATION ASSOCIATION (GBCPA);
SIERRA CLUB; AND BRAZORIA COUNTY, TEXAS,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY;
CHRISTINE T. WHITMAN, ADMINISTRATOR; AND
GREGG A. COOKE, ADMINISTRATOR UNITED STATE ENVIRONMENTAL PROTECTION AGENCY
REGION 6,

Respondents,

v.

STATE OF TEXAS; HARRIS COUNTY, TEXAS;
BCCA APPEAL GROUP; ENVIRONMENTAL DEFENSE;
DAVID MARRACK; JANE W. ELIOSEFF; GALVESTON-
HOUSTON ASSOCIATION FOR SMOG PREVENTION;
GALVESTON BAY CONSERVATION AND PRESERVATION
ASSOCIATION; HOUSTON-GALVESTON AREA COUNCIL;
CITY OF HOUSTON; AND SIERRA CLUB,

Intervenors.

On Petitions for Review of Final Rule
of the United States Environmental Protection Agency

Before DAVIS and BENAVIDES, Circuit Judges, and RESTANI,[*] Judge

DAVIS, Circuit Judge and RESTANI, Judge:

Before the court are consolidated petitions for direct review of a decision of the United States Environmental Protection Agency ("EPA") approving (1) the State of Texas's one-hour ozone attainment demonstration state implementation plan ("SIP") for the Houston-Galveston severe ozone nonattainment area, and (2) the state's control strategy (collectively referred to as the "Houston SIP"). See Approval and Promulgation of Implementation Plans, 66 Fed. Reg. 57,160 (EPA Nov. 14, 2001) (final rule). Petitioners consist primarily of industries subject to the emissions controls in the Houston SIP, a county government affected by some of the SIP's provisions, environmental groups, and individuals who live and work in the Houston-Galveston area. Finding that the EPA's final rule approving the Houston SIP is not arbitrary, capricious, or otherwise not in accordance with law, we deny the petitions for review.

I. BACKGROUND

A. Statutory Background

The Clean Air Act ("CAA" or "the Act"), 42 U.S.C. §§ 7401–7671q (2000), establishes a comprehensive program for controlling and improving the nation's air quality through state and federal regulation. The EPA is responsible for, among other things, identifying air pollutants that endanger the public health and welfare and formulating National Ambient Air Quality Standards ("NAAQS") that specify the maximum permissible concentrations of those pollutants in the

[*] The Honorable Jane A. Restani, U.S. Court of International Trade, sitting by designation.

ambient air. Id. §§ 7408–7409. The EPA administrator has promulgated NAAQS for various pollutants, including ozone. See 40 C.F.R. § 50.9(a) (promulgating the one-hour ozone standard relevant to the present dispute). The one-hour NAAQS for ozone is .12 parts per million (although EPA often refers to it as 124.5 parts per billion ("ppb")), and an area attains the standard when maximum measured hourly average ozone concentrations exceed the NAAQS no more than one day per calendar year. See id. subsection (b).

While the EPA determines the standards of air quality, the CAA imposes upon the states the primary responsibility for ensuring that the ambient air meets the NAAQS for the identified pollutants. 42 U.S.C. § 7407(a). The Act requires each state to prepare a one-hour ozone attainment demonstration SIP providing for the implementation, maintenance, and enforcement of the NAAQS for each air quality control region within the state. Id. § 7410(a)(1). The CAA requires each SIP to, among other things: (1) "include enforceable emission limitations and other control measures, means, or techniques . . . as may be necessary or appropriate" to meet the statutory attainment deadline; (2) establish and operate "appropriate devices, methods, systems, and procedures" to "monitor, compile, and analyze data on ambient air quality;" (3) include an enforcement program; (4) contain "adequate provisions" to prohibit emissions activity that will significantly interfere with attainment or deteriorate air quality; (5) provide "necessary assurances" that the state has adequate resources "and authority under State (and, as appropriate, local) law to carry out [its] implementation plan;" (6) require owners and operators of stationary sources to monitor emissions and provide reports to the state; (7) provide for revision of the SIP as may be necessary to comply with revised NAAQS or to implement improved methods of attaining such standard; and (8) provide for the performance of air quality modeling as the EPA

directs in order to predict an air pollutant's effect on ambient air quality. 42 U.S.C. § 7410(a)(2); see id. § 7502(c)(6) (requiring attainment of the NAAQS by the statutory deadline in designated nonattainment areas like Houston-Galveston).

Thus, the CAA supplies the goals and basic requirements of state implementation plans, but the states have broad authority to determine the methods and particular control strategies they will use to achieve the statutory requirements. See Union Elec. Co. v. EPA, 427 U.S. 246, 266 (1976) ("So long as the national standards are met, the state may select whatever mix of control devices it desires"). After reasonable notice and public hearings, a state must adopt the SIP and submit it to the EPA for review and approval. 42 U.S.C. § 7410(a)(1). The EPA in turn must approve the SIP if it meets all of the CAA's requirements. Id. § 7410(k)(3).

B. Facts and Procedural History

The Houston-Galveston area, a large geographic area consisting of eight counties, is one air quality control region in Texas. Houston-Galveston has one of the most serious ozone problems in the country. In order to comply with the CAA's requirement for attainment of the one-hour ozone standard by 2007, Texas adopted the attainment demonstration SIP at issue in this case, which the EPA approved in its final rule.

An "attainment demonstration SIP" has two components: (1) the attainment demonstration, which is based on computer modeling that predicts whether the area will meet the ozone standard by the statutory deadline of 2007; and (2) the state's control strategy, which is its plan for achieving the actual emissions reductions needed for attainment. Modeling efforts for the Houston-Galveston SIP were complicated by a number of unique environmental factors and a

shortage of readily-available control options sufficient to provide the needed reductions.[1] Nevertheless, Texas developed an attainment demonstration and control strategy that its analyses confirmed would reach attainment by 2007.[2]

The EPA evaluated the State's modeling and associated analyses and determined that they were consistent with the CAA and EPA's implementing regulations. EPA also conducted an exhaustive review of the State's control strategy and found that it was as stringent or more stringent than any other SIP in the country. See 66 Fed. Reg. at 57,178. Because the EPA determined that the control strategy would reach attainment by 2007 and that the SIP met other applicable requirements of the Act, EPA fully approved the Houston SIP as required by federal law. Id. at 57,160; see 42 U.S.C. § 7410(k)(3).

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[1] The Houston-Galveston area's unique "land-sea breeze" meteorological condition affects ozone formation and movement around the region, adding a "level of complexity . . . not seen anywhere else in the country." 66 Fed. Reg. at 57,164. This condition causes emissions in the Houston-Galveston to begin to form ozone in the local atmosphere, "later emissions and ozone formed are transported out over the warm air over the Gulf of Mexico where the warmer temperatures further activate the chemistry to form more ozone which is then transported back inland over the area." Id. In addition to overcoming this meteorological complexity, the Houston SIP had to reduce nitrogen oxide ("NOx") emissions by 71 percent to reach attainment by 2007, despite a shortage of control options. Id. at 57,174.

[2] The State's sophisticated computer modeling simulated ozone formation in the Houston-Galveston area despite the land-sea breeze phenomenon, and additional analyses confirmed that the control strategy would achieve attainment by the statutory deadline.

Petitioners, most of whom participated in the underlying administrative proceedings, now challenge EPA's approval of the Houston SIP and Texas's control strategy.[3] Two petitioners, BCCA Appeal Group ("BCCA")[4] and Brazoria County,[5] essentially oppose the Houston SIP because they believe some of its control measures are too stringent and will nevertheless fail to attain the NAAQS for ozone. BCCA raises numerous legal challenges to the EPA's approval of Texas's modeling and the State's use of other analytical methods used to demonstrate attainment, claims that the control strategy will not achieve the statutory standard, and asserts that the EPA erred in approving the SIP while withholding final action on certain state-adopted rule provisions integral to the SIP's control strategy. Brazoria County maintains that certain components of Texas's emissions control strategy violate state law and that EPA's approval of those measures was arbitrary and capricious.

Conversely, the environmental petitioners believe the Houston SIP does not go far enough in adopting sufficient control measures to achieve attainment by the statutory deadline. Petitioners Environmental Defense, David Marrack, Jane Elioseff, Galveston-Houston Association for Smog Prevention, and the Galveston Bay Conservation and Preservation Association (collectively "Environmental Defense" or "ED") challenge Texas's attainment

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[3] Petitioners apparently divided up the issues for briefing, and the environmental petitioners generally adopt each other's arguments.

[4] BCCA Appeal Group is comprised of owners and operators of stationary sources of air pollution that are subject to Texas's control measures.

[5] Brazoria County is one of eight counties within the Houston-Galveston area. Fort Bend County initially joined Brazoria County's petition for review, but later voluntarily withdrew from the action. Fort Bend County's petition was terminated on November 26, 2002.

demonstration, the SIP's inclusion of an enforceable commitment to adopt additional control measures in order to achieve attainment, and the motor vehicle emissions budgets ("MVEB") included in the SIP. Petitioner Natural Resources Defense Counsel ("NRDC") raises various challenges to EPA's approval of the SIP's Voluntary Mobile Emissions Reductions Program ("VMEP") and the Texas Emissions Reduction Program ("TERP"). Petitioner Sierra Club's claims focus on the Houston SIP's treatment of reasonably available control measures ("RACM").

II. JURISDICTION AND STANDARD OF REVIEW

The court has jurisdiction to review the EPA's approval of the Houston SIP pursuant to section 307(b)(1) of the CAA, 42 U.S.C. § 7607(b)(1). The court must uphold the EPA's findings, conclusions, and ultimate action approving the Houston SIP unless "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Administrative Procedure Act, 5 U.S.C. § 706(2)(A) (2000); see Sierra Club v. United States EPA, 314 F.3d 735, 739 (5th Cir. 2002).

III. DISCUSSION

The APA's standard of review is narrow. A rule is "arbitrary and capricious" only where the agency has considered impermissible factors, failed to consider important aspects of the problem, offered an explanation for its decision that is contrary to the record evidence, or is so irrational that it could not be attributed to a difference in opinion or the result of agency expertise. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). Thus, agency decisions will be upheld so long as the agency "examine[s] the relevant data and articulate[s] a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" Burlington Truck Lines v. United States, 371 U.S. 156, 168

(1962) (citation omitted). A reviewing court must be "most deferential" to the agency where, as here, its decision is based upon its evaluation of complex scientific data within its technical expertise. Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 103 (1983).

The court applies the two-step Chevron analysis to questions involving the EPA's interpretations of the statutes it administers. See Chevron U.S.A., Inc. v. NRDC, 467 U.S. 837, 842–43 (1984); Texas Office of Pub. Util. Counsel v. FCC, 265 F.3d 313, 320 (5th Cir. 2001). If Congress "has directly spoken to the precise question at issue," the agency and the court "must give effect to the unambiguously expressed intent of Congress." Chevron, 467 U.S. at 842–43. If the statute, however, is "silent or ambiguous with respect to the specific issue," id. at 843, the court must first assess the administrative decision-making process itself to determine whether the agency's action is entitled to Chevron deference. United States v. Mead Corp., 533 U.S. 218, 226–31 (2001). Under Mead, Congress must have "delegated authority to the agency generally to make rules carrying the force of law," and the agency interpretation claiming deference must have been promulgated in the exercise of that authority. Id. at 226–27. If the agency's decision is a result of a sufficiently formal and deliberative process to warrant deference, see id. at 230, the second step of Chevron requires the court to assess whether the agency's interpretation is "based on a permissible construction of the statute." Chevron, 467 U.S. at 843. If the agency's interpretation is reasonable, it will be upheld. See Smiley v. Citibank, N.A., 517 U.S. 735, 744–45 (1996) (explaining that a "permissible" interpretation is a "reasonable" one); Texas Office of Pub. Util. Counsel, 265 F.3d at 320 ("The question is not whether we might have preferred another way to interpret the statute, but whether the agency's decision was a reasonable one.").

Federal courts accord "great deference" to the EPA's construction of the Clean Air Act. Union Elec. Co. v. EPA, 427 U.S. 246, 256 (1976) (citing Train v. NRDC, 421 U.S. 60, 75 (1975)).

In the present case, Congress's enactment of the CAA delegated authority to the EPA to review SIPs for their compliance with the statute and EPA's implementing regulations. 42 U.S.C. § 7410(k). The EPA exercised its statutory authority in approving the Houston SIP through notice-and-comment rulemaking proceedings. Because notice-and-comment rulemaking is a formal process, EPA's final rules approving the Houston SIP, to the extent they involve the reasonable resolution of ambiguities in the CAA, will be afforded Chevron deference. See Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 484 (2001) (citations omitted).

A. Whether BCCA Has Standing to Challenge the SIP Approval

As an initial matter, EPA argues that BCCA lacks standing to challenge EPA's approval of the attainment demonstration. BCCA bears the burden of establishing Article III standing. See Lujan v. Defenders of Wildlife, 504 U.S. 555, 561 (1992); Am. Forest & Paper Ass'n v. United States EPA, 137 F.3d 291, 296 (5th Cir. 1998). BCCA must demonstrate that (1) it has suffered an "injury in fact" that is (2) fairly traceable to the defendant's conduct and not "some third party not before the court," and (3) it is "likely . . . that the injury will be redressed by a favorable decision." Lujan, 504 U.S. at 560–61 (citations omitted).

According to the EPA, BCCA is injured, if at all, as a result of the specific control measures Texas adopted in the Houston SIP. Accordingly, EPA argues that BCCA's injury is not fairly traceable to EPA and would not be redressed by a favorable decision. EPA also claims that BCCA has not suffered an injury in fact with respect to certain point source NOx control provisions and, therefore, lacks standing to challenge those provisions. BCCA accuses the EPA

of mis-characterizing the legal nature of its claims by confusing its motive with its method. While BCCA's motive may be to alter the mix of various air quality control measures in the Houston SIP, its legal challenge is based on the EPA's statutory authority to approve a SIP when it is allegedly based on flawed modeling, fails to demonstrate attainment of the ozone standard, and materially differs from the proposed SIP. Thus, BCCA maintains that its injury, being subject to a SIP that fails to meet minimum statutory standards, was caused by the EPA and would be redressed by a decision in its favor. We agree.

This court has held that companies forced to comply with EPA regulatory requirements meet each prong of the standing test. American Forest & Paper Association involved a group of industries that were subject to a state's pollutant discharge permit requirements. 137 F.3d at 294. Although permitting authority was statutorily vested in the EPA, the agency could delegate its authority to a state if the state's program demonstrated compliance with statutorily enumerated requirements. The court noted that "EPA does not enjoy wide latitude in deciding whether to approve or reject a state's proposed permit program. 'Unless the Administrator . . . determines that the proposed state program does not meet [the specified] requirements, he must approve the proposal.'" Id. at 294 (quoting Save the Bay, Inc. v. EPA, 556 F.2d 1282, 1285 (5th Cir. 1977)). The court held that petitioners subject to the EPA-approved permit program had standing to challenge the EPA's approval of the program. Id. at 296.

The present case is analogous to that in American Forest & Paper. Like the permitting program at issue there, the EPA's role in approving air pollution control plans is limited. The EPA must approve a plan if it meets minimum statutory requirements, and states are free to impose stricter measures. See 42 U.S.C. § 7410(k)(3); Union Elec. Co., 427 U.S. at 257 ("the

Administrator 'shall approve' the proposed state plan" if it satisfies the statutory criteria, and the Administrator "is not to be concerned with factors other than those specified"). If, however, the EPA approves a plan that does not meet the statutory standards, the regulated industry has standing to challenge that action.

Contrary to EPA's characterization of BCCA's claims, the legal basis for BCCA's challenge is the SIP's compliance with the minimum requirements of the CAA, not the SIP's stringency.[6] BCCA has suffered an injury in fact in the form of the costs of compliance with the Houston SIP's control measures, along with the added risk that its members will be responsible for any penalties assessed for the Houston SIP's failure to attain the ozone standard by the statutory deadline. BCCA's injury is fairly traceable to EPA because, if BCCA's claims are true, EPA unlawfully approved a SIP that failed to meet minimum statutory requirements. Finally, BCCA's injury is redressable by a decision in its favor because EPA would be forced to disapprove the portions of the Houston SIP the court finds incompatible with the CAA. See 42 U.S.C. § 7410(k)(3). In addition, the approved SIP is federally enforceable against BCCA's members, so that a favorable decision would redress that threat of injury as well. See id. §

[6] Thus, this case is distinguishable from cases where petitioners attempted to challenge SIPs that not only met the CAA's minimum requirements, but also exceeded them. Because the states can adopt more stringent air pollution control measures than federal law requires, the EPA is empowered to disapprove state plans only when they fall below the level of stringency required by federal law. See, e.g., Duquesne Light Co. v. United States EPA, 166 F.3d 609, 611, 613 (3d Cir. 1999) (holding that petitioner lacked standing to sue the EPA when its injury was being subject to state control measures that were more stringent than the CAA requires).

7413(b)–(c) (subjecting violators to civil and criminal penalties). Accordingly, the court finds that BCCA has established its right to sue the EPA under Article III.

B. Whether BCCA and Brazoria County Waived Arguments Not Properly Raised During the Administrative Process

EPA argues that even if BCCA has standing to pursue its challenge to EPA's action, BCCA failed to raise, or properly present, its challenges to the Houston SIP during the comment period. EPA also asserts that, because none of the arguments advanced by petitioner Brazoria County were raised in the administrative proceedings before the EPA, the County is prohibited from seeking judicial review of these matters.

1. BCCA

Although the EPA has an obligation to give full consideration to significant comments raised during the administrative proceedings, "it is still incumbent upon intervenors who wish to participate [in the proceeding] to structure their participation so that it is meaningful, so that it alerts the agency to the intervenors' position and contentions." Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 533 (1978). A commenter in administrative proceedings before the EPA has the burden of clarifying its position by specifying "why and how" the submitted documentation is relevant to its position. Northside Sanitary Landfill, Inc. v. Thomas, 849 F.2d 1516, 1520 (D.C. Cir. 1988). In Northside, the D.C. Circuit held that a commenter who submitted 420 pages of technical documentation without explaining the relevancy of the documents, or the "specific relationship between any of the documents and Northside's objections," had not properly raised the objections during the comment period. 849 F.2d at

1518–20. "[T]he mere submission of voluminous documentation to the EPA" is not enough. Id. at 1519. As the Supreme Court has explained,

> administrative proceedings should not be a game or forum to engage in unjustified obstructionism by making cryptic and obscure references to matters that "ought to be" considered and then, after failing to do more to bring the matter to the agency's attention, seeking to have that agency determination vacated on the ground that the agency failed to consider matters "forcefully presented."

Vermont Yankee, 435 U.S. at 553–54.

EPA concedes that the documentation supporting BCCA's challenges to its approval of the Houston SIP—deposition transcripts, hearing transcripts, and exhibits compiled in connection with a state court action—was submitted to the EPA during the comment period. EPA argues, however, that BCCA, like the commenter in Northside, failed to alert the EPA to the relevant portions of the voluminous material it submitted to the agency and to explain how that material relates to the specific objections in its comments. EPA maintains that BCCA's comments, much like those in Northside, provided only cursory descriptions of the documents themselves. EPA provides only one concrete example of this phenomena in its brief, claiming that the only direction in BCCA's comments with regard to more than 1,000 pages of hearing transcripts was: "In particular, the Group points to the testimony, and related exhibits, of Dr. Harvey Jeffries and Dr. Tom Tesche." BCCA Comments, J.A. Tab 1a, at 3. EPA claims that this vague reference to two experts' testimony fails to explain how the referenced testimony is relevant to the issues BCCA raised in its comments, where the testimony could be located in the voluminous transcripts, or which "related exhibits" were relevant and where they could be found.

The court has reviewed BCCA's comments and finds that petitioner sufficiently clarified its position for the EPA. BCCA expressed the Group's "very serious concerns . . . about the

feasibility and economic consequences of the . . . NOx point source controls," stated that the photochemical grid modeling that formed the basis for the State's control strategy was "fundamentally flawed," and that the proposed control strategy "will not attain the standard." BCCA Comments, J.A. Tab 1a, at 2. Contrary to EPA's characterization of the comments regarding the expert testimony, the court finds that BCCA sufficiently explained the issue to which the testimony was relevant. See id. at 3. It is apparent when reading the entire paragraph from which the EPA cherry picks its argument that the testimony relates to BCCA's objections to the SIP's NOx controls, which were based on the photochemical modeling results. BCCA raised objections to the modeling as well, claiming that its failure to account for ozone "spikes" rendered it fundamentally flawed, and BCCA commented on the statistical and graphical tests used to validate the model. See infra Part III.C. The comments also criticized the EPA's approval of the supplemental analyses Texas employed in formulating its control strategy, i.e., the quadratic equation and its inputs, as well as the EPA's weight-of-evidence analysis. Accordingly, the court concludes that BCCA was a meaningful participant in the administrative proceedings, and EPA's arguments to the contrary fail.

2. Brazoria County

Petitioner Brazoria County challenges for the first time speed limit reductions,[7] vehicle inspection/maintenance provisions, and lawn equipment operating restrictions[8] in the Houston

[7] Under the SIP, the speed limit would be lowered to 55 mph effective May 1, 2002.

[8] Use of lawn equipment would be limited to certain afternoon hours between April 1 and October 31 of each year.

SIP. The County's central argument is that these provisions were adopted by Texas in violation of state law and, therefore, the EPA's approval of the SIP is arbitrary and capricious. EPA responds that, because the County, or any other petitioner, failed to raise these issues during the administrative proceedings, the arguments are waived.[9] The court agrees.

Generally, in considering a petition for review from a final agency order, this court will not consider questions of law which were neither presented to nor passed on by the agency. E.g., Bass v. United States Dep't of Agriculture, 211 F.3d 959, 964 (5th Cir. 2000); Southwestern Bell Tel. Co. v. Public Util. Comm'n, 208 F.3d 475 (5th Cir. 2000); Myron v. Martin, 670 F.2d 49, 51 (5th Cir. 1982); Inst. for Tech. Dev. v. Brown, 63 F.3d 445, 449 n.3 (5th Cir. 1995). In 1998, the court specifically held that challenges to EPA action are waived by the "failure to raise the objections during the notice and comment period." Texas Oil & Gas Ass'n v. United States EPA, 161 F.3d 923, 933 n.7 (5th Cir. 1998) (citing United States v. L.A. Tucker Truck Lines, Inc., 344 U.S. 33, 35–37 (1952)).[10] For the federal courts to review a petitioner's claims in the first

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[9] The City of Houston and the State of Texas, intervenors in this action, concur with EPA's waiver argument. These intervenors also argue that this court lacks jurisdiction to consider the alleged errors of state law raised by the County's petition for review. Because Brazoria County's claims can be disposed of upon the court's finding of waiver, see discussion infra, the difficult question of whether the federal courts should properly adjudicate state law issues relating to state implemention plan development need not be addressed.

[10] Circuit precedent does conflict in this area, see City of Seabrook v. United States EPA, 659 F.2d 1349 (5th Cir. 1981) (concluding that a party's failure to raise challenges to a SIP during the administrative process did not waive those arguments on appeal) and Am. Forest & Paper Ass'n v. EPA, 137 F.3d 291, 295 (5th Cir. 1998) (following City of Seabrook), but the court chooses to follow Texas Oil & Gas as the most closely analogous case and the better rule of law. In Seabrook, the (continued...)

instance would "usurp[] the agency's function" and "deprive the [EPA] of an opportunity to consider the matter, make its ruling, and state the reasons for its action." Unemployment Comp. Comm'n v. Aragan, 329 U.S. 143, 155 (1946). This is a basic tenent of administrative law generally. E.g., L.A. Tucker Truck Lines, 344 U.S. at 37 ("Simple fairness . . . requires as a general rule that courts should not topple over administrative decisions unless the administrative

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[10](...continued)
court's primary basis for finding no waiver was that "[t]he EPA has cited no authority for the proposition that an argument not raised during the comment period may not be raised on review." 659 F.2d at 1361 n.17. This is not the case here. In addition, the question presented in Seabrook was a purely legal one, requiring the appellate court's evaluation of whether EPA complied with the statute. The court reasoned, "Since the EPA is required by statute to make these determinations in approving or disapproving a state plan, we do not think that petitioners needed to notify the agency that it had acted arbitrarily." Id. at 1361. By contrast, in the present case Brazoria County argues that EPA was arbitrary and capricious in failing to independently verify that the Houston SIP complied with state law. As this is not an obligation expressly imposed by the CAA, the County needed to raise its objections during the administrative proceeding and provide EPA an opportunity to consider the issue before asserting, after the fact, that EPA was arbitrary for failing to do so. Therefore, Seabrook is distinguishable from this case on its facts and the law. Furthermore, in recent years the court has stepped back from Seabrook's holding on waiver, and has even applied the waiver doctrine to bar its consideration of claims that were not raised before the EPA in similar situations as the present dispute. See Texas Oil & Gas Ass'n, 161 F.3d at 933 n.7 (recognizing, without mentioning Seabrook, that petitions for review of EPA decisions may not raise issues for the first time on appeal based on Supreme Court precedent); but see Am. Forest & Paper Ass'n, 137 F.3d at 295 (following Seabrook earlier that year). Other federal circuits have specifically questioned Seabrook's reasoning in light of the general consensus in other circuits that the waiver doctrine applies to EPA decisions. See 1000 Friends of Maryland v. Browner, 265 F.3d 216, 228 n.7 (4th Cir. 2001). Because the present case is distinguishable from Seabrook on the law and the facts, the court need not resolve the conflict in the circuit at this time. Rather, the court finds Texas Oil & Gas controlling here.

body not only has erred but has erred against objection made at the time appropriate under its practice."); Myron, 670 F.2d at 51 ("Practical notions of judicial efficiency, administrative autonomy and encouraging effective agency procedures provide the basis for the general rule") (citing McKart v. United States, 395 U.S. 185, 195 (1969)).

Therefore, only in exceptional circumstances should a court review for the first time on appeal a particular challenge to the EPA's approval of a state implementation plan that was not raised during the agency proceedings. See, e.g., 1000 Friends, 265 F.3d at 227–28; Michigan Dep't of Envtl. Quality v. Browner, 230 F.3d 181, 183 n.1 (6th Cir. 2000); Military Toxics Project v. EPA, 146 F.3d 948, 956–57 (D.C. Cir. 1998); NRDC v. United States EPA, 25 F.3d 1063, 1073–74 (D.C. Cir. 1994).

Brazoria County does not dispute that it failed to raise its arguments before the EPA. The County provides no justification for its failure to properly raise these claims during the administrative proceedings. In addition, rather than challenging EPA's failure to perform a statutory duty, the County asks us to declare that the EPA acted arbitrarily in failing to perform a function not mandated by statute. See supra n.11. We decline the invitation. The County has waived its state law-based arguments by failing to present them to the EPA.[11]

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[11] As mentioned above, the County claims that certain provisions in the Houston SIP were invalid under Texas state law and, therefore, EPA's approval of those provisions was arbitrary and capricious. The court notes that the CAA only requires that the states provide "necessary assurances that the State . . . will have adequate . . . authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of . . . State law from carrying out such implementation plan or portion thereof)." 42 U.S.C. § 7410(a)(2)(E)(i). There is no statutory requirement that the EPA review SIP

(continued...)

C. Whether EPA's Approval of Texas's Attainment Demonstration Is Supported by the Record and Consistent with the CAA

Section 182(c)(2)(A) of the CAA requires Texas to demonstrate that the Houston SIP will achieve attainment of the ozone NAAQS by the statutory deadline. 42 U.S.C. § 7511a(c)(2)(A). "This attainment demonstration must be based on photochemical grid modeling[12] or any other analytical method determined . . . to be at least as effective." Id. (footnote added). EPA approved Texas's attainment demonstration for the Houston-Galveston area because the agency concluded, based on all the evidence, that the area would reach attainment of the NAAQS for

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[11](...continued)
submissions to ensure compliance with state law, contrary to the County's position in this litigation. Such a requirement would be extremely burdensome and negate the rationale for having the state provide assurances in the first instance. The EPA is entitled to rely on a state's certification unless it is clear that the SIP violates state law, and proof thereof, such as a state court decision, is presented to the EPA during the SIP approval process. See Ohio Envtl. Council v. United States EPA, 593 F.2d 24, 27–29 (6th Cir. 1979) (holding that EPA was not arbitrary and capricious in relying upon a state's certification that its action was lawful and enforceable under state law).

[12] Photochemical grid modeling is computerized air quality modeling "that evaluates how emissions from various sources combine in the atmosphere and predicts the concentration of pollutants that likely will result." 1000 Friends, 265 F.3d at 220 n.4. This technique employs complex computer models that can predict ozone levels as of the statutory attainment date based on monitoring data, meteorology, the area's projected growth, planned emission reductions, and other factors. Id. (citation omitted).

The photochemical grid model overlays a grid on the geographical area being studied and simulates emissions and ozone concentrations in each "cell" of the grid. 66 Fed. Reg. at 57,165. Each cell is a three-dimensional block of space, about 4 kilometers by 4 kilometers in area, with a depth of 50 meters. Id. For each grid cell, the model simulates the average air quality conditions present in that space. Id.

ozone by 2007 and that no additional measures would advance the attainment date. See 66 Fed. Reg. at 57,160.

Texas's attainment demonstration includes both photochemical grid modeling and supplemental analyses that EPA considered in its "weight-of-evidence" analysis. As an initial matter, BCCA contends that Texas's photochemical grid modeling was flawed because it failed to simulate rapidly-forming ozone peaks, known as "spikes,"[13] and overestimated ozone formation in other parts of the Houston-Galveston area.[14] Thus, BCCA argues that EPA's reliance on the faulty modeling renders its approval of the Houston SIP arbitrary and capricious. In addition, BCCA and Environmental Defense both question the legality of EPA's weight-of-evidence approach that considers other analytical methods in addition to the attainment demonstration itself. Part 1 of this section discusses petitioners' challenges to Texas's photochemical grid modeling and EPA's approval thereof. Part 2 addresses the legality of EPA's decision to approve

[13] Ozone "spikes" are dramatic increases in measured ozone over short periods of time, ranging from several minutes to an hour. BCCA points out in its brief that from 1990 to 1998, there were 106 instances of ozone spikes measured by monitors in the Houston-Galveston area. That amounts to approximately one spike per month in an area covering 220,000 square kilometers. BCCA argues that the model's failure to predict the exact location of spikes renders it irreparably flawed. BCCA similarly argues that the EPA's approval of the Houston SIP was contrary to law because the control strategy does not control for spikes and, therefore, cannot bring the area into attainment with the ozone standard. Id. at 51. These arguments are rejected for the reasons explained in Part III.C.1, infra.

[14] The agency's final rule considered, but rejected, identical criticisms of Texas's modeling raised during the comment period. See 66 Fed. Reg. at 57,164–65.

the Houston SIP after determining that, based on all the record evidence, the SIP would achieve attainment of the ozone NAAQS by 2007.

1. EPA's Approval of Texas's Attainment Demonstration

Texas used an EPA-approved photochemical grid model, the Comprehensive Air Quality Model with Extensions, in its attainment demonstration for the Houston-Galveston area. Texas applied the model to a large geographic region, covering over 220,000 square kilometers, to ensure that all the major emission sources were included in the model's results. Texas adjusted the model to account for the unique land-sea breeze phenomenon conducive to ozone formation in the region. See supra n.1 and accompanying text. Before using the model to predict future ozone concentrations, however, Texas validated the model by performing a test run ("the base case") that compared the model's predictions with actual air quality data for a chosen time period. The base time period covered four days, September 8–11, 1993, that featured both high ozone concentrations and the land-sea breeze weather patterns characteristic of the Houston-Galveston area. Following EPA-accepted protocols, Texas then entered emissions data into the model for the base time period, ran the model, and compared the predicted results with actual ozone concentrations measured at 34 air quality monitors in Houston-Galveston during the base time period. Texas then applied a battery of tests and analyses set forth in EPA guidance, including diagnostic and sensitivity analyses, graphical displays, and statistical tests, which collectively demonstrated that the model's base case performance was acceptable. See 66 Fed. Reg. at 57,164.

Once it validated the model, Texas used it to predict ozone concentrations for the 2007 attainment date based on anticipated changes in the number and type of emissions sources. The

state then introduced its proposed control strategy and ran the model's "attainment test," which compared the predicted ozone levels to the NAAQS for ozone for all the grid cells in the selected episode. The model showed that Texas's proposed strategy would significantly reduce ozone concentrations in the Houston-Galveston area, but not enough to meet the applicable ozone standard.

In response, Texas, following an approach set forth in EPA guidance, estimated the additional emissions reductions necessary to bring the area into attainment, and adopted a revised control strategy that would provide for attainment by 2007. 66 Fed. Reg. at 57,160. The revised control strategy includes additional control measures and an enforceable commitment[15] to adopt even more control measures after a mid-course review in 2004 and submission of a SIP revision to the EPA. Id. EPA approved the attainment demonstration, including the photochemical grid modeling, as part of the final rule under review in these petitions. See id.

While photochemical grid models are imperfect tools for predicting future air quality, a modeled attainment demonstration "provide[s] a reasonable expectation that the measures and procedures outlined will result in attainment of the NAAQS by [the statutory deadline]." 1996 Modeling Guidance, J.A. Tab 43, at 3. "[A] reviewing court must remember that the [agency] is making predictions, within its area of special expertise, at the frontiers of science. When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential." Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 103 (1983). The court's role is to evaluate whether the EPA's projections represent arbitrary

[15] The legality of the state's enforceable commitment is discussed infra Part III.E.

or capricious exercises of its authority, not whether they are accurate. Texas v. EPA, 499 F.2d 289, 301 (5th Cir. 1974). Finally, there is a presumption of regularity to the EPA's choice of analytical methodology, so challenging parties must overcome a "considerable burden." Am. Petroleum Inst. v. EPA, 787 F.2d 965, 983 (5th Cir. 1986).

The court finds that EPA's reliance on the model's results was not arbitrary, capricious, or contrary to law. In its final rule, the EPA addressed BCCA's concern that the model fails to account for ozone spikes. See 66 Fed. Reg. at 57,165. EPA explained that while air quality monitors measure ozone concentration at one fixed point in space, ozone concentrations can vary significantly over a grid cell. Id. The photochemical grid model, by definition, averages natural conditions over the volume of each grid cell. Id. As such, EPA does not expect comparisons between model predictions and monitor observations to exactly match. Id. The EPA found that while the Texas model has difficulty replicating rapid increases in ozone, "[t]his is to be expected and does not necessarily call into question the model's utility as a tool to predict the level of emission reductions needed to reach attainment." Id. EPA determined that the Texas model "provides reasonable predictions of ozone levels as confirmed by comparisons with monitoring data and therefore can provide an acceptable estimate of the amount of emissions needed for attainment." Id. This explanation is reasonable and is supported by the record, and, therefore, EPA's determination is entitled to deference.

The EPA's final rule also addressed BCCA's concern that the photochemical grid model both over- and under-predicted ozone in some areas. See id. at 57,164. EPA's final rule explains that the model was validated by a battery of diagnostic and sensitivity analyses and graphical and

statistical performance measures. Id. The model's "Unpaired Peak Accuracy,"[16] "Normalized Bias,"[17] and "Gross Error"[18] statistical test results were all within the suggested limits in the EPA

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[16] The "Unpaired Peak Accuracy" test measures the difference between the highest observed ozone concentration at any time at any monitoring station and the highest model-predicted ozone concentration at any time in any grid cell. 1991 Modeling Guidance, J.A. Tab 42, at 54 & 81. BCCA asserts that Texas's passing statistic for this test was achieved by manipulating the model between 1997 and 2000. EPA responds that this point was not raised, and that BCCA relies upon matierials and testimony not properly identified, during the comment period. Regardless, the record reflects only that Texas improved its modeling in 1997, which resulted in an overprediction of ozone concentrations in one grid cell. As discussed infra, EPA found that the overprediction resulted from the model's difficulty in simulating wind speed and direction, and that opinion is entitled to deference.

Furthermore, BCCA's claim that the model should not have passed the Unpaired Peak Accuracy test because it predicted an ozone peak approximately 45 miles from the actual peak location is misplaced. This test measures the difference between the highest observed ozone value and the highest model-predicted value over all hours and monitoring stations. Geographic location is simply not a factor in that test. Rather, the Normalized Bias and Gross Error tests take geographic proximity into account, and the model passed those tests for all days in the base time period.

[17] The "Normalized Bias" test measures the model's ability to replicate observed patterns during times when available monitored data and modeling data are most likely to represent similar spatial scales. 1991 Modeling Guidance, J.A. Tab 42, at 54. EPA concluded that Texas's model performed acceptably on the Normalized Bias test because it produced results within EPA's suggested ranges for all days in the base time period. BCCA argues that these passing statistics mask "compensating errors" in the model, i.e., an ozone over-prediction in one area compensates for an under-prediction in another area. EPA's Modeling Guidance recognizes that this test can be subject to compensating errors. 1991 Modeling Guidance, J.A. Tab 42, at 82. This is why EPA recommends that states apply a variety of statistical and other tests to validate models. See id. at 49–50, 53–57.

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Guideline for each day of the base case period, which demonstrated that the model was predicting ozone concentrations in the Houston-Galveston area with a reasonable degree of accuracy. 66 Fed. Reg. at 57,164. EPA considered all model performance measures and concluded that the model performed well. Id. While the EPA recognized that the graphical model performance for one day of the base period indicated that the model underestimated ozone at some locations and overestimated ozone at others, the EPA attributed the error to the model's difficulty replicating wind speed and direction due to the area's unique land-sea breeze phenomenon.[19] Id.; see supra n.1. Nevertheless, because the diagnostic and sensitivity tests revealed no flaws in model formulations, and statistical measures confirmed that the model generally predicted the right magnitude of ozone peaks, the EPA determined that the model provided an acceptable tool for

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Regardless, the notion that the Texas model masked compensating errors in the Normalized Bias test is directly refuted by the fact that the model passed the Gross Error statistical test. See infra n.18.

[18] The "Gross Error" test provides an overall assessment of the model's precision. 1991 Modeling Guidance, J.A. Tab 42, at 54. In contrast to the Unpaired Peak Accuracy test, the Gross Error test compares predicted and monitored ozone values in the same geographic area. Under-predictions and over-predictions do not offset each other in the Gross Error test because the test assigns positive values to both. Id. at 83. The Texas model passed the Gross Error test for each of the four days in the modeled episode, which showed that the model was estimating ozone concentrations with an acceptable degree of geographic precision.

[19] Although it apparently did not raise the issue during the comment period, BCCA now asserts that Texas should have considered two additional graphical tests. The court declines to address the issue as EPA did not have the opportunity to do so in the first instance. See supra Part III.B.2 (applying the waiver doctrine to bar our consideration of issues not raised during the administrative proceedings).

estimating the amount of emissions reductions needed for attainment. 66 Fed. Reg. at 57,165–66.

Because EPA considered BCCA's arguments during the administrative process and offered a rational explanation for its reliance on the model despite the model's inability to exactly replicate Houston-Galveston's unique meteorological conditions, the court upholds EPA's approval of Texas's photochemical grid model. See Burlington Truck Lines, 371 U.S. at 168; Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43. EPA recognized the model's shortcomings in the final rule and provided plausible explanations that were supported by the record. In light of the reasonable explanation for the model's discrepancies, and given the fact that the model nevertheless performed well on the full battery of validation tests, EPA's acceptance of Texas's modeling was neither arbitrary nor capricious. Furthermore, because EPA's decision was based upon its evaluation of complex scientific data within its technical expertise, the court is mindful of its obligation to be "most deferential" to the EPA's approval of Texas's photochemical grid modeling. See Baltimore Gas & Elec. Co., 462 U.S. at 103. Therefore, the court concludes that EPA's acceptance of Texas's photochemical grid model is supported by substantial record evidence and is otherwise in accordance with law.

2. EPA's Weight-of-Evidence Analysis

The statute requires that an attainment demonstration be "based on photochemical grid modeling or any other analytical method determined . . . to be at least as effective." 42 U.S.C. § 7511a(c)(2)(A). Due to the inherent uncertainties in air quality modeling, EPA has interpreted the statute to allow states to supplement their photochemical modeling results with additional evidence to demonstrate attainment. 66 Fed. Reg. at 57,170; see 40 C.F.R. 51.112(a)(1)

(referencing Appendix W as listing the applicable requirements for gauging the adequacy of a control strategy); 40 C.F.R. Pt. 51 App. W § 10.0 (recognizing limitations of modeling and allowing consideration of evidence in addition to modeled attainment demonstrations). EPA's modeling guidance was updated in 1996, and again in 1999, to permit states to use the weight-of-evidence approach to assess additional emissions reductions that are part of its SIP but were not modeled. See 1996 Modeling Guidance, J.A. Tab 43, at 1–2; 1999 Modeling Guidance, J.A. Tab 44, at 1–2. According to EPA, this approach is consistent with the statute "because the modeling results constitute the principal component of EPA's analysis, with supplemental information designed to account for uncertainties in the model." 66 Fed. Reg. at 57,170. The question is whether EPA's interpretation of the statute it administers is entitled to deference under Chevron and its progeny.

As previously discussed, Texas's modeled control strategy alone did not demonstrate attainment of the NAAQS for ozone by the 2007 statutory deadline. In accordance with EPA guidance, Texas supplemented its modeling with other evidence to show that the area would reach attainment by 2007. Texas first used a quadratic equation to calculate the "gap" in NOx emissions reductions between those achieved by the modeled control strategy and the levels required to achieve the NAAQS.[20] See 66 Fed. Reg. at 57,172. Texas then revised its final

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[20] A commenter before the EPA, and petitioners here, criticize EPA's technique for estimating the ambient impact of additional emissions reductions not modeled on grounds that EPA employed a rollback modeling technique that is precluded under EPA regulations. See 66 Fed. Reg. at 57,172. The "proportional rollback" approach is derived from a purely empirical/mathematical relationship that assumes that if emissions from each source are decreased by the same percentage,

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control strategy to eliminate that gap and provide for attainment by 2007. EPA weighed all of the evidence and concluded that the control measures Texas adopted would more likely than not lead to attainment. Id. EPA's final rule indicated that a majority of the control measures were modeled, and EPA evaluated the impact of additional emissions reductions that were not modeled by reviewing the model's response to changes in emissions and observed air quality changes. Id. EPA viewed its decision as "strengthened by the state's commitment to check progress towards attainment in 2004 and to adopt additional measures, if the anticipated progress is not being made." Id. Petitioners BCCA and Environmental Defense challenge the EPA's approval of the Houston SIP based on its weight-of-evidence determination. The court finds, however, that the

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ambient air quality concentrations decrease proportionately. Id. Thus, if 20 percent improvement in ozone is needed for attainment, it is assumed that a 20 percent reduction in emissions would be required. Id.

EPA did not rely on this approach in its evaluation of the Houston-Galveston attainment demonstration. Id. EPA used a locally-derived relationship between emissions reductions and improvement in ozone levels as determined by the model and/or observed changes in air quality. Id. For example, if modeled or monitored results indicated that ozone was reduced by 25 ppb during a particular period, and that VOC emissions fell by 20 tons per day and NOx emissions fell by 10 tons per day during that period, EPA would develop a relationship for ozone improvement related to those reductions in emissions. Id. While the formula assumes a quadratic relationship between the emissions and ozone for a relatively small amount of ozone improvement, this is not a "proportional rollback" technique. Id. Furthermore, EPA makes limited use of these locally-derived adjustment factors to estimate the extent in which additional emissions reductions, not Texas's core control strategies, would reduce ozone levels. Id. The state's commitment to perform a mid-course review further convinced the EPA that Texas's overall plan would result in attainment by 2007. Id. at 57,173.

EPA properly interprets the CAA to allow for a weight-of-evidence analysis, and that the EPA's conclusions in its determination here were reasonable and entitled to deference.

The statute requires that an attainment demonstration be "based on photochemical grid modeling;" the statute does not require that an attainment demonstration be based solely or directly on photochemical grid modeling. See 42 U.S.C. § 7511a(c)(2)(A). As such, the statute is ambiguous as to how the photochemical grid modeling may be used. As the statute does not specifically govern the precise question at issue, the court must determine whether EPA's interpretation of it is entitled to deference.

EPA's weight-of-evidence approach to approving the Houston SIP was set forth in notice-and-comment rulemaking, and as such it is entitled to deference if it is reasonable. See Mead, 533 U.S. at 227–31. EPA has interpreted the "based on" language to allow for the assessment of additional emissions controls, not modeled, as part of the weight-of-evidence analysis.[21] See 66 Fed. Reg. at 57,171. The model's results are the "principal component" of EPA's weight-of-evidence determination, but the weight-of-evidence approach allows Texas to supplement the modeled results with additional control measures. Id. at 57,170; 1996 Modeling Guidance, J.A. Tab 43, at S-1 ("In a weight of evidence determination, model results are weighed heavily."). Furthermore, because the statute also grants EPA the broad authority to approve equally effective alternatives to photochemical grid modeling, Congress could not have intended to bar EPA from

[21] Contrary to Environmental Defense's suggestion to the contrary, nothing in the CAA or in EPA's regulations or guidance requires a state to model its entire control strategy. See 1000 Friends, 265 F.3d at 230 (concluding that the CAA does not require a state to model its entire control strategy so long as EPA reasonably concludes that attainment is likely based on the weight of the evidence).

considering data in addition to modeled results. See 42 U.S.C. § 7511a(c)(2)(A) (giving EPA Administrator broad discretion to approve "other analytical method[s]").[22] As such, EPA's conclusion that the weight-of-evidence approach to approving attainment demonstrations is consistent with the CAA is reasonable and is entitled to deference. See 1000 Friends, 265 F.3d at 234 (upholding EPA's weight-of-evidence analysis and explicitly rejecting the argument that the CAA requires new modeling upon the state's revision of a SIP).

Texas modeled 88 percent of the emissions reductions necessary for attainment, and the results from Texas's modeling formed the starting point for EPA's weight-of-evidence analysis. Petitioners contest EPA's approval of Texas's use of the quadratic equation to calculate the additional reductions needed for attainment. Texas, however, followed the general approach described in EPA's 1999 Modeling Guidance to identify the amount of additional emissions reductions needed for attainment. Texas evaluated the model's reaction to three hypothetical control strategies imposed on the modeled episode day with the highest ozone levels. Dec. 2000 SIP, J.A. Tab 12a, at 3-47. Based upon the results, Texas and EPA developed a quadratic equation that represented the relationship between NOx emissions and ozone levels. 66 Fed. Reg. at 57,174. Thus, the quadratic equation used in Texas's supplemental analysis was "based on," and was an extension of, actual photochemical grid modeling results from Houston-Galveston,

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[22] Environmental Defense asserts that the weight-of-evidence determination is an improper "other analytical method" under 42 U.S.C. § 7511a(c)(2)(A) because the EPA Administrator did not make a specific determination that this approach is "at least as effective" as photochemical grid modeling. Because weight-of-evidence analysis is based on photochemical grid modeling, EPA did not use an "other analytical method" that would have required the Administrator's effectiveness determination.

and it was used only to assess the 12 percent portion of the state's control strategy that was not included in the modeling. See id. at 57,172. Accordingly, EPA found that the quadratic equation was a sound scientific method for estimating the additional NOx reductions, beyond the modeled controls, that would be necessary for the Houston-Galveston area to reach attainment. Id. at 57,174.

As discussed, the quadratic equation was used to estimate what the model would predict to be the peak ozone concentration for the future episode if Texas had modeled its complete control strategy. Because the EPA's approval of the model itself was reasonable, see supra Part III.C.1, EPA reasonably concluded that additional analyses based on and derived from the model also predicted peak ozone levels with reasonable accuracy. Petitioners have not met their "considerable burden" of overcoming the presumption of regularity that attaches to EPA's choice of analytical methodology. See Am. Petroleum Inst., 787 F.2d at 983. As Petitioners have failed to establish that the weight-of-evidence approach to approving the Houston SIP's attainment demonstration is arbitrary, capricious, or otherwise not in accordance with law, we reject their general and as applied challenges to the EPA's weight-of-evidence determination.

D. Whether EPA Erred in Withholding Action on Certain Provisions of the Houston SIP

On November 14, 2001, the EPA approved the Texas Mass Emissions Cap and Trade program, one element of Texas's control strategy, as a revision to the Houston SIP. Approval and Promulgation of Air Quality State Implementation Plans (SIP), 66 Fed. Reg. 57,252 (EPA Nov. 14, 2001) (final rule). The program is mandatory for stationary facilities that emit NOx in the Houston-Galveston area, and facilities are required to meet annual maximum NOx allowances.

Id. Facilities may bank, sell, or purchase their allowances. Id. In addition, the program has a provision that allows facilities to use emission reduction credits, discrete emission reduction credits ("DERCs"), and mobile discrete emission reduction credits ("MDERCs") "in lieu of allowances if they are generated in the [Houston-Galveston] area." Id. However, EPA deferred action on DERCs and MDERCs so that neither credit can be used until EPA approves of those measures. See id. n.1.

BCCA argues that EPA acted contrary to law and failed to observe proper procedure in approving the Houston SIP while withholding final action on the DERC and MDERC provisions, which would allow compliance with the mandated NOx reductions through the use of emissions reductions credits.[23] EPA responds that its decision to withhold action on the DERC and

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[23] BCCA's opening brief also challenges EPA's failure to act on an alternate 80 percent reduction in emissions from industrial point sources ("ESADs"), as opposed to the EPA-approved 90 percent reduction. The use of the lower reductions in the Texas SIP was expressly conditioned upon further study and submission of a SIP revision to EPA. EPA's final rule approving the SIP therefore found that the issue was not ripe for its review because the record did not provide the needed scientific data or modeling to show that the alternate ESAD would achieve the NAAQS for ozone. 66 Fed. Reg. at 57,232. This is a reasonable explanation and EPA did not err in withholding action on the alternate ESAD reduction. Regardless, as a result of a consent order entered into between TNRCC and BCCA in a related state court proceeding, TNRCC recently substituted the 90 percent ESAD with the 80 percent rate. TNRCC submitted the new regulations to the EPA as a proposed revision to the Houston SIP on January 28, 2003. Letter from Savage to Fulbruge of 5/7/2003, at 1–2. While EPA contests BCCA's submission of these materials and argues that they do not qualify as appropriate supplemental authorities under Fed. R. App. P. 28(j), see Letter from Amaditz to Fulbruge of 5/20/2003, as a result of these recent developments, the court need only address the question of whether EPA erred in deferring action on the DERC and

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MDERC rules was within the agency's authority under the CAA. In responding to comments advanced during the administrative process, EPA explained that the DERC and MDERC rules are "separate and independent" from the cap-and-trade program because they were not submitted by the State of Texas for emission credit in the attainment demonstration. 66 Fed. Reg. at 57,255. Further, EPA found that the use of DERCs and MDERCs is not necessary for the cap-and-trade program to achieve emissions reductions necessary to reach attainment. Id. Rather, EPA explained that the purpose of the DERC and MDERC provisions, as defined in the Texas Administrative Code, is to provide emission point sources with a "voluntary compliance option." Id. The rules will be evaluated for compliance with the CAA and may be approved as a SIP revision after notice and comment. Id.

The court finds BCCA's reasoning unpersuasive and its reliance on case law from other circuits misplaced. Riverside Cement Co. v. Thomas, 843 F.2d 1246, 1247 (9th Cir. 1988), concerned a state rule regulating the permissible NOx emissions from cement kilns that also provided that, prior to the rule's effective date, a feasibility hearing would be held to evaluate the efficacy of the proposed emissions limits. EPA, however, approved the rule without waiting for the feasibility hearing, thereby imposing an absolute emissions limit without regard to the contingency the state built into the rule. Id. The Ninth Circuit held that this action was an arbitrary and capricious amendment of the state's proposal. Id. at 1248. Similarly, in Indiana & Michigan Elec. v. EPA, 733 F.2d 489, 491 (7th Cir. 1984), EPA approved a SIP provision while

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[23](...continued)
MDERC provisions.

deferring action on an exception to its application, which effectively revised the state's plan in a manner that made it more stringent than the state intended. See also Bethlehem Steel Corp. v. Gorsuch, 742 F.2d 1028, 1036 (7th Cir. 1984) (finding impermissible the EPA's action on an emissions limitation that eliminated a "blow-off allowance," thereby increasing the stringency of that control strategy).

These cases are inapposite to support BCCA's position. Unlike the situation in Riverside Cement and Indiana & Michigan Elec., EPA did not, in effect, amend Texas's proposal in a way that eliminated a prerequisite to, or an exception to, the approved rule's application. In fact, Indiana & Michigan Elec. actually supports EPA's action because the court stated, "if some provisions in a plan are independent of others, there is no reason why the agency must consider all of the provisions at the same time." 733 F.2d at 492. The EPA's final rule characterized the DERC and MDERC provisions as "separate and independent" from the cap-and-trade program it approved, 66 Fed. Reg. at 57,255, and BCCA did not contest this finding in either its comments before the agency or its brief to this court. Finally, the postponement of action on DERCs and MDERCs did not make the SIP more stringent than the state intended, as was the case in Bethlehem Steel.[24] Therefore, BCCA failed to demonstrate that EPA's action was arbitrary, capricious, or otherwise not in accordance with law. Thus, EPA's deferral of action on these provisions is upheld.

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[24] While EPA's action may take away one option for compliance, it does not alter the obligation to reduce emissions to specified levels. This view is supported Texas's express agreement to the timetable EPA proposed for considering the DERC and MDERC provisions. See Approval and Promulgation of Implementation Plans, 66 Fed. Reg. 38,231, 38,232 (EPA July 23, 2001).

E. Whether EPA's Approval of the SIP's "Enforceable Commitment" to Adopt Additional Controls on a Fixed Schedule is Consistent with the CAA

The EPA-approved control measures in the Houston SIP achieve 94 percent of the NOx reductions needed for attainment. 66 Fed. Reg. at 57,178 (explaining that adopted measures include, among other things, industrial point source NOx controls and the TERP and VMEP programs, see infra Part III.G–H). The final element of Texas's control strategy is an enforceable commitment[25] to adopt and implement additional NOx controls on a fixed schedule to achieve an additional 56 tons/day of NOx reductions.[26] Id. at 57,161, 57,178. Thus, the commitment

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[25] These commitments are enforced by the EPA and citizens under the CAA. See 42 U.S.C. §§ 7413 (federal enforcement) and 7604 (citizen suits). EPA has approved enforceable commitments in the past and courts have enforced them, as well as SIP provisions generally, against the states that failed to comply with those commitments. See, e.g., 1000 Friends, 265 F.3d at 236–37 (upholding EPA's approval of a SIP provision "when considered with the emissions reduction programs in place and when considered with Maryland's enforceable commitment to implement all other control measures necessary to reach attainment.") (emphasis added)); Am. Lung Ass'n v. Kean, 670 F. Supp. 1285 (D.N.J. 1987), aff'd, 871 F.2d 319 (3d Cir. 1989) (concluding that the court has jurisdiction to adjudicate citizen suits against the state in its regulatory capacity and enforcing state's SIP commitments); Friends of the Earth v. Carey, 535 F.2d 165 (2d Cir. 1976) (enforcing provisions of state implementation plan in citizen suit); NRDC v. New York State Dept. of Envtl. Conservation, 668 F. Supp. 848 (S.D.N.Y. 1987) (finding state agency liable for failure to implement control strategies by the timetable set in an enforceable commitment). Finally, if a state fails to meet its commitments, EPA could find a failure to implement the SIP under section 179(a) of the CAA, which would trigger an 18-month period for the state to begin implementation before mandatory sanctions are imposed. 66 Fed. Reg. at 57,177 n.11.

[26] Under the schedule, Texas was required to adopt additional controls to provide 25 percent of the reductions covered by the enforceable commitment, or 14

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addresses only 6 percent of the emission reductions necessary to attain the NAAQS for ozone. Id. at 57,178. Petitioner Environmental Defense asserts that the EPA lacks authority under the CAA and EPA's regulations and guidance to approve a SIP containing an enforceable commitment to adopt unspecified control measures. EPA maintains that the SIP's limited use of the enforceable commitment is permissible under the statute.[27]

Nothing in the CAA speaks directly to enforceable commitments. The CAA does, however, provide EPA with great flexibility in approving SIPs. A SIP may contain "enforceable emission limitations and other control measures, means, or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate" to meet the CAA's requirements. 42 U.S.C. § 7410(a)(2)(A) (emphasis added); see 42 U.S.C. § 7502(c)(6) (using the same language to describe nonattainment area plan requirements).[28] Thus, according to the

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[26](...continued)
tons/day of NOx, by December 2002. 66 Fed. Reg. at 57,161. Texas must adopt the remainder of the necessary controls by May 1, 2004. Id.

[27] The City of Houston and BCCA Appeal Group support EPA's position in their intervenor briefs.

[28] Environmental Defense claims that 42 U.S.C. § 7410(k)(4), which was enacted in 1990 amendments to the CAA and gives EPA discretionary authority to conditionally approve a SIP "based on a commitment of the State to adopt specific enforceable measures by a date certain," was meant to supplant EPA's practice of using enforceable commitments under § 7410(a)(2)(A). There is nothing in the statute or in the legislative history, however, to support this theory. Furthermore, the cases Environmental Defense relies upon, which address conditional SIP approvals or construe statutory provisions before the 1990 amendments, are inapposite.

The legislative history of the 1990 amendments of § 7410(a)(2)(A)
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plain language of the statute, SIPs may contain "means," "techniques," and/or "schedules and timetables for compliance" that the EPA considers "appropriate" for attainment so long as they are "enforceable." See id. § 7410(a)(2)(A). "Schedules and timetables" is broadly defined as "a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, prohibition or standard." 42 U.S.C. § 7602(p). The remaining terms are not defined by the Act. Because the statute is silent on the issue of whether enforceable commitments are appropriate means, techniques, or schedules for attainment, EPA's interpretation allowing limited use of an enforceable commitment in the Houston SIP must be upheld if reasonable.

EPA interprets § 7410(a)(2)(A) to mean that enforceable emission limitations and other control measures do not necessarily need to generate reductions in the full amount needed to attain. Rather, EPA interprets the statutory language to allow limited use of other "means" and "techniques," such as enforceable commitments, so long as the entire package of measures and

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[28](...continued)
acknowledged EPA's practice of fully approving SIPs that contained limited enforceable commitments, yet Congress made no changes to that section precluding the practice. See H.R. Rep. No. 101-490, pt. 1 at 218 (1990). In fact, the 1990 amendments expanded EPA's authority under § 7410(a)(2)(A) by adding the "means" and "techniques" and "as . . . appropriate" language. This strengthens, rather than limits, the statutory basis for EPA's practice of fully approving SIPs that contain enforceable commitments as part of an overall control strategy. Finally, because § 7410(a)(2)(A) is silent on the issue of whether an enforceable commitment is an "appropriate" "means" or "technique" to reach attainment, EPA's interpretation must be upheld if the court finds it a permissible construction of the statute.

rules provides for attainment.[29] 66 Fed. Reg. at 57,177. EPA generally considers three factors in determining whether to approve a SIP's enforceable commitment: (1) whether the commitment addresses a limited portion of the statutorily-required implementation plan; (2) whether the state is capable of fulfilling its commitment; and (3) whether the commitment is for a reasonable and appropriate period of time. Id. (explaining that, based upon its consideration of these factors, present circumstances in Houston-Galveston, along with New York City, Philadelphia, and Baltimore, warrant EPA's consideration of enforceable commitments).

In the present case, EPA determined that Texas's limited use of the enforceable commitment as part of its overall control strategy was appropriate within the meaning of CAA sections 110(a)(2)(A) and 172(c)(6), 42 U.S.C. §§ 7410(a)(2)(A) and 7502(c)(6). See 66 Fed. Reg. at 57,177. In applying the three-factor test to the Houston SIP, the EPA found that the first

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[29] Environmental Defense argues that EPA's regulations and guidance preclude the use of enforceable commitments. ED bases this argument in part on the agency's definitions in the Code of Federal Regulations of "control strategy" and "control measures." The defintion of control stragegy is broad and does not support ED's position, see 40 C.F.R. § 51.100(n)(1)–(8), and EPA has never construed the enforceable commitment to be a "control measure" within the meaning of the CAA. It is, rather, a "means" or "technique" specifically permitted under the Act. ED also claims that the enforceable commitment does not constitute a "measure[], rule[], or regulation[]," and therefore violates EPA's regulation requiring each SIP to "demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard it implements." See 40 C.F.R. § 51.112(a). Contrary to ED's contention, however, the enforceable commitment is a "rule" as defined by the Administrative Procedure Act. See 5 U.S.C. § 551(4). It creates specific rights, imposes specific obligations on, and is enforceable against the State of Texas. Therefore, we reject ED's arguments that EPA lacks discretion under EPA regulations and guidance to approve enforceable commitments.

factor supported the use of an enforceable commitment here because it only addressed a small portion of the overall plan. In fact, the enforceable commitment addresses only six percent of the total emission reductions needed to attain the standard. See id. at 57,178. The second factor also weighed in favor of approving the commitment because Texas "provided EPA with sufficient information to assure EPA that it will be capable of adopting controls to achieve the necessary level of emission reductions." Id. Texas provided EPA with a list of soon-to-be-available, cutting-edge technologies that would achieve at least 56 tons/day of NOx emission reductions by the statutory deadline,[30] thereby justifying its use of the enforceable commitment as opposed to adopted control measures. See id. Finally, because Texas was in the process of exploring, developing, and assessing the capabilities of those cutting-edge technologies, some of which were further along in the development process than others, EPA approved the two-tiered timetable for adopting the additional controls covered by the commitment. Id.; see supra n.26. EPA considered this timetable to be as expeditious as possible given the technological circumstances, in addition to the time Texas would need to adopt the measures that would achieve the necessary emission reductions. 66 Fed. Reg. at 57,178. Finally, such a commitment is enforceable and binding upon the State of Texas. See supra n.25. Therefore, EPA determined that the enforceable commitment was an appropriate mean, technique, or timetable for compliance that would provide for attainment by 2007. See 66 Fed. Reg. at 57,177.

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[30] The developing technologies submitted to EPA included, for example, diesel emulsion, fuel cells, diesel NOx reductions systems, energy efficiency measures, and several innovative ideas, such as marine loading operations and episodic emission controls, all of which required further scientific study. Approval and Promulgation of Implementation Plans, 66 Fed. Reg. 36,656, 36,665 (EPA July 12, 2001) (proposed rule).

The court finds that EPA reasonably concluded that an enforceable commitment to adopt additional control measures on a fixed schedule was an "appropriate" means, technique, or schedule or timetable for compliance under the statute.[31] See 42 U.S.C. §§ 7410(a)(2)(A) and 7502(c)(6). The statute is silent or ambiguous on this issue. Because the EPA's approval of the enforceable commitment in the Houston SIP was promulgated under notice-and-comment rulemaking, EPA's interpretation is entitled to Chevron deference if it is based on a permissible construction of the statute. EPA's three-factor test reasonably evaluates whether an enforceable commitment would be "appropriate" in a given situation. This test guarantees that a state's use of an enforceable commitment as part of its overall control strategy is limited in scope and that the state is capable of fulfilling the commitment pursuant to an expeditious, yet practicable, schedule. In the present case, EPA carefully considered each factor and found that Texas's use of the commitment was appropriate. Despite the uncertainty as to the exact technologies Texas will actually employ to achieve attainment by 2007, EPA considered the possibilities Texas submitted with its SIP and determined that the state is capable of adopting these "cutting-edge" controls to achieve the standard. See 66 Fed. Reg. at 57,178. Because that determination was a reasonable

[31] For over 20 years, EPA has consistently maintained its interpretation of the CAA as allowing states to submit, and EPA to approve in appropriate circumstances, a SIP that contains an enforceable commitment to adopt additional controls as part of an overall control strategy. See 66 Fed. Reg. at 57,177 (citing the use of such commitments in Arizona, California, New Jersey, and New York). Therefore, Environmental Defense's assertion in its brief that EPA "conjured up 'enforceable commitments' as a new theory" to allow its approval of the Houston SIP is completely false.

one given the facts and circumstances of the severity of the ozone problem in Houston-Galveston, it is entitled to deference.

F. Whether EPA Properly Approved the Motor Vehicle Emissions Budget in the Houston SIP

A Motor Vehicle Emissions Budget or MVEB establishes the maximum level of on-road emissions that, when considered with emissions from all other sources, still provides for attainment of the ozone NAAQS by the statutory deadline.[32] 40 C.F.R. § 93.101; 66 Fed. Reg. at 36,666. The MVEB is a necessary component of a SIP that demonstrates attainment because it identifies those vehicle emissions that can be produced without jeopardizing an area's attainment status. The Act's conformity provisions integrate the MVEB with the transportation planning process. 42 U.S.C. § 7506(c)(1). Transportation activities may only receive federal approval and funding upon a demonstration of compliance with the SIP. Id. An activity conforms with the SIP only if it is consistent with eliminating or reducing the severity and number of air quality violations and achieves expeditious attainment. Id. subsection (c)(1)(A). Once the EPA approves the MVEBs or issues an adequacy determination,[33] state agencies may rely on that budget when

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[32]The EPA's regulations specifically define the motor vehicle emission budget as "that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions." 40 C.F.R. § 93.101.

[33] An adequacy determination allows transportation planners to use the MVEBs in a submitted, but not yet approved, SIP for conformity purposes. E.g., 1000 Friends, 265 F.3d at 222.

determining if a proposed transportation project conforms to the relevant SIP. 1000 Friends, 265 F.3d at 222. The Houston SIP contains two MVEBs, one for NOx and one for VOCs.[34] 66 Fed. Reg. at 36,666. The EPA determined that the budgets, when considered with all other measures, provided for attainment by the statutory deadline.[35] Id. at 57,180.

Plaintiff Environmental Defense disagrees with the EPA's approval of the MVEB for the Houston SIP, claiming that (1) the EPA could not approve the budgets because the Houston SIP does not provide for attainment, and (2) the EPA violated the transportation conformity provisions of the CAA and its regulations. For the reasons that follow, these arguments fail.

First, because we have already affirmed the EPA's approval of the Houston SIP's attainment demonstration, which includes an enforceable commitment to adopt additional control measures on a fixed schedule, Environmental Defense's first challenge to the EPA's approval of the MVEBs must similarly be rejected. See 1000 Friends, 265 F.3d at 236–37 (upholding EPA's approval of the MVEB "when considered with the emissions reduction programs in place and when considered with Maryland's enforceable commitment to implement all other control measures necessary to reach attainment . . . .") (emphasis added)).

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[34] The budgets for the 2007 attainment demonstration SIP are 79.5 tons/day for VOCs and 156.7 tons/day for NOx. 66 Fed. Reg. at 57,179. Approval of the attainment budgets was based on the current control measures in the SIP and the enforceable commitments made for additional controls. Id. at 57,180. EPA recognized that the budgets would have to be revised upon Texas's adoption of additional transportation measures as part of the enforceable commitment. Id. at 57,161.

[35] Intervenors Houston-Galveston Area Council, a transportation and air quality planning agency of the State of Texas, and Harris County support EPA's approval of the MVEB in the Houston SIP.

Environmental Defense's arguments based on the transportation conformity provisions of the CAA and its implementing regulations are equally without merit. Environmental Defense incorrectly argues that a budget that does not provide for attainment, does not provide the "necessary emissions reductions" required by 7506(c)(2)(A). The statute cited requires a transportation plan or transportation improvement program to be consistent with an approved MVEB; it has nothing to do with EPA's preceding action of approving the MVEB itself. See 42 U.S.C. § 7506(c)(2)(A). Moreover, 40 C.F.R. § 93.118(e)(4)(iv) provides that the EPA will not find a MVEB adequate for transportation conformity purposes unless "the motor vehicle emissions budget(s), when considered together with all other emissions sources, is consistent with applicable requirements for . . . attainment." Id. EPA's adequacy finding[36] here was consistent with the regulation because EPA reasonably found that the Houston SIP's MVEB would achieve attainment when considered with all other sources. 66 Fed. Reg. at 57,178. Therefore, Environmental Defense's arguments based on this statute and its corresponding regulations are meritless. Because EPA acted in conformity with the CAA and its own regulations, EPA's action approving the MVEB was not arbitrary or capricious and must be upheld.

G. Whether EPA's Approval of the Texas Emissions Reduction Plan is Supported by the Record

The Texas Emissions Reduction Plan or TERP is a discretionary economic incentive program to reduce emissions. At issue is TERP's diesel emission reduction program that provides

[36] EPA approved the budgets after conducting a detailed examination of the SIP's control measures and technical analyses. See 66 Fed. Reg. at 57,180. Because the process for approving a MVEB in a SIP is more stringent than an adequacy determination, by approving the budgets, EPA necessarily found them to be adequate.

financial incentives to help private and public entities purchase or lease cleaner diesel technology for mobile sources. Tex. Health & Safety Code Ann., Title 5, Subtitle C, Ch. 386, SubChap. C. Texas's program is modeled after the Carl Moyer Program in California, which was very successful. Economic incentives, like TERP, are explicitly allowed under the Act as one tool to achieve attainment. See 42 U.S.C. § 7410(a)(2)(A). Congress directed EPA to promulgate regulations for economic incentive programs, id. § 7511a(g)(4), and EPA did so by enacting regulations for statutory incentive programs and by issuing guidelines for discretionary incentive programs. 40 C.F.R. Pt. 51, Subpt. U.

NRDC alleges that EPA's approval of the TERP diesel program is arbitrary and capricious because the state did not provide adequate information about resources, implementation, and legal authority. We agree with the EPA that the state did provide all of the information required by the Act and that its approval of the program was reasonable on the record.

In considering TERP, the EPA reviewed the state's estimated costs, funding mechanisms, funding allocations, and estimated emission reductions from this program. 66 Fed. Reg. at 57,175. Texas's TERP program was designed to generate 18.9 tons/day of NOx reductions at an estimated average cost of $5000 per ton. (The California program projected emissions reductions at an average cost of $3000 per ton based on data collected through 1999). Id.; 66 Fed. Reg. at 36,665. Funding was to be provided by various fees and surcharges on vehicles. It was ultimately determined that the Houston area would be allocated $25 million for its diesel emission reduction program for fiscal year 2002. 66 Fed. Reg. at 57,193. The EPA determined that Texas would achieve at least 25 tons/day of NOx reductions in Houston from TERP, an amount the EPA determined to be sufficient to offset the emission reduction shortfall created by the Texas

legislature in enacting TERP. Id. at 57,157. The EPA's past experience with this type of diesel emission program in California supported its conclusion that substantial NOx reductions could be achieved with the allocated funds.

NRDC argues that the state did not comply with certain provisions of the CAA. Section 110(a)(2)(E) of the CAA requires a SIP to "provide . . . necessary assurances that the State . . . will have adequate personnel, funding, and authority . . . to carry out such implementation plan." 42 U.S.C. § 7410(a)(2)(E)(I). The NRDC submits that this section requires a state to do so as to each specific control measure, mean, or technique in a state's SIP. This would mean that Texas would have to make the "necessary assurances" for its TERP program. We disagree. The plain language of the statute only requires a state to give assurances that it has the funding, personnel, and authority to implement the plan as a whole ("such implementation plan"). It does not require such assurances for each specific control measure.

While the Act does not define "necessary assurances," other circuits have held that "Congress has left to the Administrator's sound discretion determination of what assurances are 'necessary.'" NRDC v. EPA, 478 F.2d 875, 884 (1st Cir. 1973); see Friends of the Earth v. United States EPA, 499 F.2d 1118, 1126 (2d Cir. 1974) (following First Circuit); NRDC v. United States EPA, 494 F.2d 519, 527 (2d Cir. 1974) (same). Texas provided a general assurance that its fiscal and manpower resources were adequate to implement the SIP as a whole. Dec. 2000 Plan at 1-6. In adopting the SIP as a state rule, Texas also certified that "[l]egal counsel has reviewed and certified that this rule, as adopted, is a valid exercise of the [TNRCC's] legal authority." TNRCC Order No. 2001-0410-RUL (Dec. 20, 2000); TNRCC Order No. 2001-0410-RUL (Oct. 2, 2001). The EPA was entitled to rely on this certification. See Ohio Envtl.

Council v. EPA, 593 F.2d 24, 28 (6th Cir. 1979). The Houston SIP also provided a detailed discussion about the legal authority of state and local agencies to implement, maintain, and enforce the plan as a whole, including citations to applicable law. Dec. 2000 Plan at iii. Based on its past experience with Texas's air quality program and its relationship with the state, the EPA determined that these assurances regarding funding, resources, and legal authority met the minimum requirements of § 7410(a)(2)(E). Furthermore, as discussed above, the EPA also independently examined TERP's funding and resources and determined they were adequate.[37] As

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[37] The EPA approved the TERP based on, among other things, its evaluation of Texas's revised funding projections allocating $25 million to the diesel emission reduction program in Houston. 66 Fed. Reg. at 57,175. NRDC's claim that EPA should not have approved TERP because a state court invalidated one of its funding mechanisms is without merit. At the time the EPA approved the plan, a judge had entered a stipulated order temporarily enjoining the disputed funding provision pending trial. The court made no findings whatsoever on the merits of plaintiffs' claims. See H.M. Dodd Motor Co. v. Texas Dep't of Public Safety, No. GN 102585 (200th Judicial District, Travis Co., Oct. 4, 2001). EPA was not aware of the order when it approved TERP as part of the SIP on October 15, 2001. EPA's final rule acknowledged the pending state court litigation, but specifically stated that EPA cannot "anticipate a court's findings. If a court finds the funding mechanism illegal, Texas will have to revise the SIP at that time to address the loss in emission reductions or find alternative funding sources." 66 Fed. Reg. at 57,175. Thus, EPA did respond to NRDC's comments questioning TERP's funding because of state litigation. Therefore, based on the record before the EPA at the time it approved the SIP, EPA reasonably approved the state's funding estimates.

In 2002, plaintiffs in the TERP funding challenge prevailed on the merits. The state court found that a $225 inspection fee on out-of-state vehicles violated the Commerce Clause of the U.S. Constitution. H.M. Dodd Motor Co. v. Texas Dep't of Public Safety, No. GN 102585 (200th Judicial District, Travis Co., Feb. 21, 2002). EPA then issued a proposed rulemaking finding that the state had failed to implement the SIP for the Houston Area. Finding of Failure to Implement a State

(continued...)

such, the EPA's approval of TERP was in compliance with the CAA and not arbitrary and capricious.

NRDC also argues that the CAA requires a state or local agency to provide a step-by-step description of implementation and an implementation schedule. The statute includes no such requirements. The Act simply requires state and local agencies to make an early allocation of responsibility for SIP planning and implementation and that a properly authorized agency prepares and submits the SIP. See 42 U.S.C. § 7504(a). There is no requirement that states must provide a step-by-step description of how specific SIP provisions will be implemented or a specific schedule for each measure's implementation. See id. NRDC's argument that 42 U.S.C. § 7410(a)(2)(E) requires an implementation commitment on the part of state must also fail. This section provides that where a local or regional entity is responsible for implementation of any portion of a SIP, the state must ultimately ensure "adequate implementation" of that provision. As the State of Texas is responsible for TERP, not a local or regional entity, this statute is inapplicable.

H. Whether EPA Reasonably Interpreted the CAA as Allowing Emission Reductions from the Voluntary Mobile Emission Reduction Program to be Considered in Reaching Attainment, and Whether the Record Supports EPA's Approval of the Program in the Houston SIP

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[37](...continued)
Implementation Plan, 67 Fed. Reg. 49,895 (EPA Aug. 1, 2002) (proposed rule). If this rule becomes final as proposed, the state will have 18 months to provide adequate funds for TERP or revise its SIP before sanctions are imposed. Id. EPA's proposed rule does not, however, provide grounds for invalidating its prior approval of the SIP before the funding mechanism was invalidated.

The EPA encourages states to develop voluntary measures to reduce air pollution caused by vehicle emissions, such as trip reduction programs or growth management strategies, by granting limited SIP credit in appropriate circumstances for Voluntary Mobile Emission Reduction Programs or VMEP. See Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans at 1 (Oct. 24, 1997) ("VMEP Guidance"). The EPA believes that such voluntary measures, which rely on the discretionary actions of public or private parties, can provide emissions reductions that would not be available through traditional state regulatory programs. Id. at 3, 5. The EPA's VMEP Guidance provides a framework for states to obtain credit for such emission reductions. States must identify and describe the voluntary measures in its VMEP and include supportable projections of emissions reductions associated with the measures. Id. at 2, 6–7. The state must also make an enforceable commitment to monitor, assess, and report on the implementation and emissions effects of the VMEPs, as well as to timely remedy any shortfall in emissions reductions that do not meet the projected levels. Id.; see 66 Fed. Reg. at 57,190–91. The EPA requires that VMEP emissions reductions be quantifiable, surplus (i.e., they are not credited twice), enforceable, permanent, and adequately supported by the states. VMEP Guidance at 6–7. If these requirements are met, the emission reductions that can reasonably be attributed to VMEPs are included in a state's control strategy.[38]

[38] EPA's guidance limits the SIP credit to three percent of the total future year emissions necessary to reach attainment until EPA gains additional experience in calculating credits for such voluntary measures. VMEP Guidance at 5.

The EPA's authority for the VMEP program is § 7410(a)(2)(A), which, as previously discussed, allows "enforceable . . . control measures, means or techniques . . . as may be necessary or appropriate to meet the applicable requirements of this chapter." Due to increasing levels of mobile emissions despite improved technology, the EPA determined that limited voluntary measures that reduce emissions are "appropriate" measures under the CAA if enforceable against the states as described above. VMEP Guidance at 3–4. Additional authority for EPA's VMEP policy can be found in 42 U.S.C. § 7408(f)(1)(B), which allows EPA to publish "information on additional methods or strategies that will contribute to the reduction of mobile source related pollutants during periods in which any primary ambient air quality standard will be exceeded." The EPA is allowed substantial discretion in its assessment of what constitutes an approvable SIP and whether the control measures, means, or techniques contained in the SIP are necessary and appropriate. Based on our review of the record, the EPA's VMEP Guidance is a reasonable exercise of that discretion consistent with the CAA.

The Texas VMEP consists of 14 voluntary measures designed to achieve 23 tons/day of NOx reductions. The state's decision to use voluntary measures was necessary due to the large magnitude of reductions needed for attainment.[39] Many of the measures in the VMEP were existing voluntary programs that the state wanted to take SIP credit for towards its attainment demonstration. The VMEP added a few new programs that were already in development by Houston-Galveston Area Council, the regional transportation agency.

[39] Additionally, vehicle emissions are expected to be the largest category of NOx emissions in 2007. Dec. 2000 Plan at 6-1.

NRDC argues that the EPA's approval of Houston's VMEP is arbitrary and capricious because the state did not provide adequate information about resources, implementation and legal authority for the program. Again, we agree with the EPA that the state did provide all of the information required by the Act and that its approval of the program was consistent with the CAA and reasonable on the record.

The state provided supporting documentation for each voluntary measure that included a description of the measure, the identified or predicted participants, the basis for the quantified emission reductions, and commitments to monitor, assess, and report emission reductions for the voluntary measures. While the state did not make a separate specific commitment to remedy any shortfall in the VMEPs, it believed that the existing enforceable commitment regarding adoption of additional NOx controls also applied to any shortfall in reductions from VMEPs.[40] Based on its review of each VMEP measure and the SIP's recognition of the state's commitment to "monitor, evaluate, and report" on the VMEP, as well as "to remedy in a timely manner any SIP credit shortfall if the VMEP program does not achieve projected emission reductions," the EPA believed that Texas had fulfilled its requirements for VMEP submissions. The EPA's final rule

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[40] To reinforce its commitment to VMEPs, the state later submitted a SIP revision subsequent to EPA's approval of the SIP clarifying that it has a specific enforceable commitment to remedy, by the attainment date, any shortfall in reductions credited to VMEPs. EPA proposed approval of this revision on September 18, 2002. See Proposed Approval and Promulgation of Implementation Plans, 67 Fed. Reg. 60,633 (EPA Sept. 26, 2002) (proposed rule). After the EPA received public comments on its proposal, it responded to comments and approved the state's clarification of its enforceable commitment for VMEP. See Approval and Promulgation of Implementation Plans, 67 Fed. Reg. 68,941 (EPA Nov. 14, 2002) (final rule).

included a detailed discussion of the state's commitments. See 66 Fed. Reg. at 57,190–92. The EPA determined that Texas had made the required commitments to monitor, assess, report, and remedy any credit shortfall from the VMEP measures in accordance with EPA guidance and that these commitments satisfied the enforceability requirements of the CAA. Id. at 57,191.

In summary, the EPA's VMEP policy is a reasonable interpretation of the statute and the EPA's approval of the Texas VMEP is upheld as reasonable on the record. To the extent this challenge to VMEP is based on a contention that the CAA requires a state to provide necessary assurances as to each specific measure, mean, or technique or on a contention that the CAA requires a state or local agency to provide a step-by-step description of implementation and an implementation schedule, we reject those positions as discussed above.

I. Whether EPA's Findings on "Reasonably Available Control Measures" in the Houston SIP Were in Accordance with the CAA and Supported by the Record

All nonattainment area SIPs must provide for implementation of "all reasonably available control measures as expeditiously as practicable." 42 U.S.C. § 7502(c)(1). The EPA interprets this section as imposing a duty to implement only those control measures that contribute to attainment as expeditiously as practicable. See Sierra Club v. United States EPA, 314 F.3d 735, 743 (5th Cir. 2003). In the present case, EPA concluded that Houston's ozone attainment demonstration contained all reasonably available control measures ("RACM") required by the CAA and, therefore, EPA approved the demonstration.[41] 66 Fed. Reg. at 57,182.

[41] BCCA Appeal Group, City of Houston, and Harris County, intervenors on this issue, support EPA's interpretation of RACM and approval of Texas's RACM demonstration.

Sierra Club challenges EPA's approval of the RACM analysis on essentially two grounds. First, Sierra Club argues that EPA's interpretation of RACM is contrary to the CAA. This court, however, recently held that EPA's interpretation of RACM is reasonable. Sierra Club, 314 F.3d at 744. The court found that EPA "need not require an analysis of all transport control measures" ("TCMs") specifically listed in 42 U.S.C. § 7408(f), and that EPA could properly conclude that the CAA only requires transport control measures that would contribute to expeditious attainment. Id. The court also affirmed EPA's interpretation that "potential measures requiring intensive and costly implementation were not RACMs because they could not be readily implemented due to excessive administrative burden or local conditions such as high costs." Id. Therefore, Sierra Club's challenge to EPA's interpretation of "reasonably available control measures" must be rejected.

Second, Sierra Club argues that EPA's approval of a RACM-deficient plan was arbitrary and capricious. EPA reviewed what the state submitted and agreed that all RACMs were included in the Houston SIP. 66 Fed. Reg. at 57,183. EPA even performed its own analysis of transportation control measures to confirm Texas's conclusions as to mobile measures. 66 Fed. Reg. at 57,183. The EPA's RACM analysis included tables listing potential transportation control measures, associated potential emissions reductions, and evidence showing that these measures either would not advance attainment in Houston or were too costly to be considered "reasonably available." See 66 Fed. Reg. at 57,184. Based on Texas's and EPA's analyses, EPA concluded that the state's submission contained sufficient control measures to meet the statutory RACM requirement. Id. at 57,183.

EPA's consideration of whether the potential RACM were economically feasible and would advance attainment is permitted under the statute. Sierra Club, 314 F.3d at 744. EPA provided a detailed evaluation of the RACM issue in its approval of the SIP and appropriately responded to numerous comments challenging Texas's RACM in the SIP. See 66 Fed. Reg. at 57,181–90. As such, it can hardly be said that EPA's approval of the Texas SIP's RACM, after its own independent analysis of the TCMs, is arbitrary and capricious.

IV. CONCLUSION

For the foregoing reasons, the court denies the petitions for review and upholds EPA's action approving the Houston SIP.

DENIED.