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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued September 15, 2003

Decided April 9, 2004

No. 02-1181

STATE OF WEST VIRGINIA,
PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

STATE OF NEW YORK, ET AL.,
INTERVENORS

Consolidated with
02-1185, 02-1188, 02-1193, 02-1200, 02-1204, 02-1205

On Petitions for Review of an Order of the
Environmental Protection Agency

Mary E. Welsh, Assistant Attorney General, Illinois Attorney General's Office, argued the cause for petitioners State of

Bills of costs must be filed within 14 days after entry of judgment. The court looks with disfavor upon motions to file bills of costs out of time.

Illinois and West Virginia. With her on the briefs were *Lisa Madigan*, Attorney General, *Gary S. Feinerman*, Solicitor General, and *Thomas H. Zerbe*, Senior Counsel, West Virginia Attorney General's Office.

Norman W. Fichthorn argued the cause for petitioners Utility Air Regulatory Group, et al. on Common Issues. With him on the briefs were *David M. Flannery*, *Gale R. Lea*, *Kathy G. Beckett*, *Mel S. Schulze*, *Steven G. McKinney*, *C. Grady Moore, III*, *Philip S. Gidiere, III*, *Daniel S. Reinhardt*, *Margaret C. Campbell*, and *Gary R. Sheehan, Jr.* *Andrea B. Field* entered an appearance.

C. Grady Moore, III, argued the cause for petitioners Alabama Power Company, et al. on State-Specific Issues. With him on the briefs were *Steven G. McKinney*, *P. Stephen Gidiere, III*, *Daniel S. Reinhardt*, *Margaret Claiborne Campbell*, *Gary R. Sheehan, Jr.*, *David M. Flannery*, *Gale R. Lea*, and *Kathy G. Beckett*.

Norman L. Rave, Jr., Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were *Howard J. Hoffman* and *Dwight C. Alpern*, Attorneys, Environmental Protection Agency.

William L. Pardee, Assistant Attorney General, Commonwealth of Massachusetts Attorney General's Office, argued the cause for intervenors States of Massachusetts, et al. With him on the brief were *Thomas F. Reilly*, Attorney General, *Richard Blumenthal*, Attorney General, Connecticut Attorney General's Office, *Eliot Spitzer*, Attorney General, New York State Attorney General's Office, *J. Jared Snyder*, Assistant Attorney General, *G. Steven Rowe*, Attorney General, Maine Attorney General's Office, *Gerald D. Reid*, Assistant Attorney General, *J. Joseph Curran, Jr.*, Attorney General, Maryland Attorney General's Office, *Kathy M. Kinsey*, Assistant Attorney General, *Peter C. Harvey*, Attorney General, New Jersey Attorney General's Office, *Howard Dedulig*, Deputy Attorney General, *Patrick C. Lynch*, Attorney General, Rhode Island Attorney General's Office, *Tricia Je-*

dele, Special Assistant Attorney General, *Peter W. Heed*, Attorney General, New Hampshire Attorney General’s Office, *Maureen D. Smith*, Senior Assistant Attorney General, *Kristen Campfield*, *William H. Sorrell*, Attorney General, Vermont Attorney General’s Office, *Eric Titrud*, Assistant Attorney General, and *Kevin Leske*, Special Assistant Attorney General. *John M. Looney, Jr.*, Assistant Attorney General, Connecticut Attorney General’s Office, entered an appearance.

Before: GINSBURG, *Chief Judge*, and SENTELLE and ROGERS, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* SENTELLE.

SENTELLE, *Circuit Judge*: This is a petition for review of the Environmental Protection Agency’s (“EPA” or “Agency”) response to this Court’s remands in *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001) (“*Appalachian I*”), and *Appalachian Power Co. v. EPA*, 251 F.3d 1026 (D.C. Cir. 2001) (“*Appalachian II*”). In those cases, we remanded the EPA’s electric generating unit (“EGU”) growth-factor determinations, which are used to develop Nitrogen Oxide (“NOx”) emission limits for regulated states and EGUs. Petitioners—two states and several business and energy policy entities—raise multiple challenges to the Agency’s Order on remand. Several states intervene in support of the EPA.

We hold that the EPA satisfied its obligation on remand to engage in reasoned decisionmaking and explain its choice of methodology. The remaining claims are not properly before this Court, as they were not raised at the time of the rulemaking or in the initial proceedings, and the EPA did not reopen these issues on remand. For these reasons, we deny the petitions.

I. Background

A. Regulatory Background

The Clean Air Act, 42 U.S.C. § 7401 *et seq.* (1994) (“CAA”), requires the EPA to identify air pollutants that endanger the public health, and to formulate National Ambient Air Quality

Standards (“NAAQS”) that specify the maximum permissible concentrations of those pollutants in the ambient air. Once the EPA has established NAAQS, each state must adopt a “state implementation plan” (“SIP”) “providing for the implementation, maintenance, and enforcement of the NAAQS.” *Michigan v. EPA*, 213 F.3d 663, 669 (D.C. Cir. 2000). Pursuant to the statute, the EPA has promulgated NAAQS for ozone, which is linked to multiple adverse health effects. *See* 40 C.F.R. pt. 50 (2003). Ozone, itself, is not emitted directly into the air; rather, it is formed from chemical reactions between NO_x and volatile organic compounds in the presence of sunlight. NO_x is, therefore, a “precursor” of ozone. NO_x is emitted primarily from fossil fuel combustion sources, including motor vehicles and power plants. Owing to the ability of NO_x to move through the atmosphere, emissions of NO_x in one area can result in ozone non-attainment in a distant area. Evidence in the record demonstrates that states in the eastern United States have difficulty attaining ozone standards because of ozone, or ozone precursor, emissions in upwind states. 64 Fed. Reg. 28,253 (May 25, 1999). The two rules at issue in this petition deal with NO_x exhaust limitations on upwind states and EGUs within their borders.

The first rule was based on the work of the Ozone Transport Assessment Group (“OTAG”). The OTAG was a national work group comprising 37 states, along with representatives of EPA, industry, and environmental groups, formed “to study and devise solutions to the interstate ozone transport problem.” *Michigan v. EPA*, 213 F.3d at 672; *see also* 62 Fed. Reg. 60,318 at 60,319. Based on OTAG’s findings, EPA determined that NO_x emissions from 23 jurisdictions were “contribut[ing] significantly” to non-attainment in downwind states in violation of the CAA. 42 U.S.C. § 7410(a)(2)(D)(i)(I). Accordingly, in October 1998, the EPA issued the NO_x State Implementation Plans Call, which required 22 states and the District of Columbia to revise their SIPs to impose controls on NO_x emissions. 63 Fed. Reg. 57,356 (Oct. 27, 1998) (“NO_x SIP Call”). Under the NO_x SIP Call, each upwind state must limit its summertime NO_x

emissions to a statewide emissions “budget.” “The budgets represent the amount of allowable NO_x emissions remaining after a covered state prohibits the NO_x amount contributing significantly to downwind non-attainment.” *Michigan v. EPA*, 213 F.3d 663, 686 (D.C. Cir. 2000). Specifically, the NO_x state budgets represent the EPA’s projection for NO_x emissions in 2007 for each state if highly cost-effective controls were implemented. “Highly cost-effective” is defined as those controls capable of removing NO_x at a cost of \$2,000 or less per ton. *See Appalachian Power Co. v. EPA*, 251 F.3d 1026, 1030 (D.C. Cir. 2001).

The EPA adopted the second rule in response to petitions from eight states requesting a finding, pursuant to CAA section 126(b), 42 U.S.C. § 7426(b), that stationary sources in upwind states were contributing to ozone non-attainment in the petitioning states in violation of the CAA. 42 U.S.C. § 7410(a)(2)(D). Each petitioning state further sought direct federal regulation of stationary sources in upwind states. Because the Section 126 petitions raised many of the same issues as the NO_x SIP Call, the EPA coordinated its response to the section 126 petitions with the NO_x SIP Call rulemaking. Based on the analysis underlying the NO_x SIP Call, the EPA determined that sources in all or parts of 12 states contributed to non-attainment in the petitioning states; therefore, the Agency established emission limits for major NO_x sources in those states. 65 Fed. Reg. 2674 (Jan. 18, 2000) (“Section 126 Rule”). As with the NO_x SIP call, the EPA considered both NO_x emissions and the cost of controlling them in determining which sources contributed significantly to downwind ozone non-attainment. The EPA also established a “cap and trade” program for the Section 126 Rule, which allows sources with emissions that exceed their budget to purchase allowances from other facilities.

NO_x emissions budgets for both the Section 126 Rule and the NO_x SIP Call are calculated for the year 2007, although states and EGUs must begin meeting their budgets on May 31, 2004. *See* 67 Fed. Reg. 21,522–21,525 (April 30, 2002). Additionally, both rules rely on the same underlying determinations. In setting the NO_x budgets, the EPA divided each

state's NO_x emissions according to five source types or "sectors": EGUs, non-EGU stationary sources (such as industrial boilers), area sources (smaller stationary sources), highway mobile sources, and nonroad mobile sources. The EPA calculated budget allocations for each sector. *See Appalachian II*, 251 F.3d at 1030. At issue in this petition is the EPA's method for determining the EGU budgets.

To calculate the EGU budgets, the EPA started with a baseline utilization measured as heat input, in million British thermal units ("mmBtu"), from fossil fuels for each EGU's actual heat input from 1995 or 1996, whichever was higher. To that baseline, the EPA added a heat input growth factor. To determine the growth factor, the EPA used the Integrated Planning Model ("IPM"). Several assumptions went into the IPM, one of the most critical of which was projected electricity demand for the states. The EPA utilized inputs derived from the model for 2001–2010. The EPA then applied the projected heat input growth for the 2001–2010 period to the 1995 or 1996 baseline to determine projected heat inputs for the year 2007. Under the NO_x SIP Call, each state can allocate its NO_x allowances to individual sources as it deems appropriate. Under the Section 126 Rule, EPA distributed the allowances to specific EGUs based on historical heat input levels.

B. This Court's Remands

We have previously considered petitions for review of both the NO_x SIP Call and the Section 126 Rule. In both cases we remanded the rules and instructed the EPA to "fulfill its obligation to engage in reasoned decisionmaking on how to set EGU growth factors and explain why results that appear arbitrary on their face are, in fact, reasonable determinations." *Appalachian I*, 249 F.3d at 1055; *Appalachian II*, 251 F.3d at 1035. This decision was based, at least in part, on the fact that in two states "actual utilization in 1998 already exceeded the EPA's projected level for 2007." *Appalachian I*, 249 F.3d at 1053. Additionally, the EPA's implied prediction of "negative growth in electricity generation over

the course of a decade appear[ed] arbitrary,” as it was left completely unexplained. *Id.* “While courts routinely defer to agency modeling of complex phenomena, model assumptions must have a ‘rational relationship’ to the real world.” *Id.* (citing *Chemical Mfrs. Ass’n v. EPA*, 28 F.3d 1259, 1265 (D.C. Cir. 1994)). In sum, although we noted that EPA’s choice may have been reasonable, its failure to explain why it made that choice was error, particularly in the face of contrary real-world data.

C. EPA’s Response on Remand

EPA published its response to this Court’s remands in the Federal Register on May 1, 2002. 67 Fed. Reg. 21,868 (“Remand Response”). There, the EPA explained that it decided to retain the previously determined growth rates and provide a fuller explanation. The EPA first pointed out that the 2001–2010 modeled period utilized a consistent set of assumptions. While many commenters suggested using predicted annual growth rates in energy demand from 1995 or 1996 to 2007, the agency was “not aware of any projected heat input growth rates for that period for each State . . . that were developed using a consistent set of assumptions.” *Id.* at 21,875. According to the EPA, this Court had already held that the EPA’s decision to rely upon the IPM instead of inconsistent projections offered by individual states was not arbitrary and capricious. *Appalachian I*, 249 F.3d at 1052–53. The EPA also noted that the two time periods at issue overlap substantially and run a similar length of time. 67 Fed. Reg. 21,875. Furthermore, the EPA explained that the increased costs in man-hours and dollars associated with adding extra years to the model would require “simplifying other assumptions within the model,” thus decreasing its accuracy. *Id.* at 21,876. In addition, by utilizing the years 2001–2010, the IPM results could be used in a variety of EPA programs, including implementation of the recently revised NAAQS for ozone. *Id.* at 21,875.

The EPA also addressed this Court’s concerns regarding the difference between EPA’s predictions and actual heat

input levels at the time of the earlier *Appalachian* cases. Using data for the two years following those decisions, the EPA points out that heat input in the two states cited as inconsistent with EPA's predictions—Michigan and West Virginia—had significantly dropped. *Id.* at 21,882–90. The Remand Response explained that most of the regulated states' actual heat input values are now consistent with EPA's predictions, and none are so far above EPA's predictions as to indicate that its assumptions are incorrect. The Agency also conducted a historical analysis of heat input, which showed that it is quite variable and subject to both up and down swings. Thus, heat input can decline over multi-year periods. *Id.* at 21,884–85.

Following EPA's publication of its Remand Response, two states and several business entities petitioned this Court for review. They claim, *inter alia*, that the EPA's projections remain arbitrary, that EPA's use of the 2001–2010 modeling years is unsupportable, and that EPA's predictions regarding future electricity demand were unreasonable.

II. Analysis

This Court sets aside EPA final action under the CAA if that action is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 42 U.S.C. § 7607(d)(9). The standard of review is the same for the NO_x SIP Call, which is not subject to § 7607(d)(9), but is subject to the Administrative Procedure Act. 5 U.S.C. § 706(2)(A). Under this familiar standard, “[a]gency determinations based upon highly complex and technical matters are ‘entitled to great deference.’” *Appalachian I*, 249 F.3d at 1051–52 (quoting *Public Citizen Health Research Group v. Brock*, 823 F.2d 626, 628 (D.C. Cir. 1987)). *See also Huls Am., Inc. v. Browner*, 83 F.3d 445, 452 (D.C. Cir. 1996) (“[W]e will give an extreme degree of deference to the agency when it ‘is evaluating scientific data within its technical expertise.’”) (citation omitted). This is particularly true when we review the use of computer models because “their scientific nature does not easily lend itself to judicial review.” *Appalachian Power Co.*

v. EPA, 135 F.3d 791, 802 (D.C. Cir. 1998). The EPA has “undoubted power to use predictive models” as long as it “explain[s] the assumptions and methodology used.” *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983). We will “defer to the agency’s decision on how to balance the cost and complexity of a more elaborate model against the oversimplification of a simpler model.” *Id.* We will vacate if the agency’s conclusions drawn from this model are unreasonable.

A. Standing

We first address the standing of petitioner States. The EPA contends that West Virginia and Illinois do not have standing to challenge the Agency’s action, arguing that these States are suing as *parens patriae* on behalf of electric generators inside their respective borders. While it is true that “[a] State does not have standing as *parens patriae* to bring an action against the Federal Government,” that is not the case before us. *Maryland People’s Counsel v. FERC*, 760 F.2d 318, 320 (D.C. Cir. 1985) (internal citations omitted). Here, the states are suing as states.

The NOx SIP Call directs each state to revise its SIP in accordance with EPA’s NOx emissions budget for the state. The lower the emissions budget, the more difficult and onerous is the states’ task of devising an adequate SIP. Thus, lower growth factors leading to lower emissions budgets causes injury to the states as states. EPA’s own brief belies its argument, as it states that “[u]nder the NOx SIP Call, states have the option of participating in [a] cap and trade program or obtaining the reductions through other mechanisms.” This injury is sufficient to confer standing. *Cf. City of Olmstead Falls v. FAA*, 292 F.3d 261, 268 (D.C. Cir. 2002) (declining to decide whether a city may sue as *parens patriae* because injury to the city itself suffices for standing).

B. EPA’s Failure to Provide an Opportunity for Comment

Petitioner States challenge EPA’s failure to provide formal notice-and-comment after adding data to the docket on re-

mand. According to petitioner States, the CAA requires EPA to engage in formal notice-and-comment procedures when promulgating or revising a SIP (under 42 U.S.C. § 7410(c)) or taking action under Section 126. 42 U.S.C. § 7607(d)(1)(B), (N). During the remand proceedings, the EPA published a Notice of Data Availability (“NODA”) that stated that the growth rates could “be supported with a more robust explanation, based on the existing record.” 66 Fed. Reg. 40,609 (Aug. 3, 2001). In addition, the EPA stated it was “considering new data” that “appear[ed] to confirm the reasonableness of the growth calculations.” *Id.* EPA invited comment and gave thirty days to respond.

On March 11, 2002, EPA released its second NODA (“NODA II”). 67 Fed. Reg. 10,844. After listing 15 documents, the EPA offered no invitation to comment. *Id.* Despite the lack of an invitation, Illinois responded and asked for clarification of what had been added to the record and also requested the opportunity to have “meaningful review and comment.” Illinois also reasserted the concerns it had raised in the first NODA and reattached them for EPA’s consideration. *Id.*

The EPA contends that no notice-and-comment was required, because our earlier *Appalachian I & II* cases merely remanded for a fuller explanation. As such, on remand no notice-and-comment was required because EPA was only providing a better explanation, not engaging in rulemaking. The EPA also claims that even if notice-and-comment were required it complied because, although it did not expressly request comment in NODA II, it did receive comments.

Petitioner States have the better argument. The EPA erred in not providing an opportunity to comment when it added new material to the record subsequent to its publication of the first NODA. The CAA specifically requires that EPA shall specify a comment period for any “action of the Administrator under [Section 126].” 42 U.S.C. § 7607(d)(1)(N), (d)(3).

This Court, however, will invalidate agency action because of procedural error only if the error is “so serious and related

to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such error[] had not been made.” *National Petrochemicals & Refiners Ass’n v. EPA*, 287 F.3d 1130, 1148 (D.C. Cir. 2002) (quoting CAA § 307(d)(8), 42 U.S.C. § 7607(d)(8)). Petitioner States argue that EPA’s refusal to conduct full notice-and-comment rulemaking fails under this standard. The only support petitioner States offer for this proposition, however, is their contention that had the states been given meaningful opportunity for comment, Illinois would have been able to offer evidence about its nuclear power and electricity generation capacity that would have countered EPA’s assumptions. This example is not convincing.

In its response to NODA II, Illinois stated that it had already “provided detailed support for [Illinois’ position that EPA’s projected electrical generation was too low] to EPA and we have explained our analyses and supporting facts in detail.” Illinois pointed out that during the NODA I comment period, it had commented on the “data and on the broader underlying growth factor issues which Illinois has repeatedly raised to EPA.” In Illinois’ response to NODA I, it specifically provided its opinion regarding its nuclear power generation and capacity. In sum, the only evidence petitioning States offer to show that the absence of formal procedures following NODA II caused EPA to decide differently was, in fact, before the EPA in responses to NODA I. This is not sufficient under the applicable standard of review. While EPA erred in failing to provide comment following NODA II, petitioners have offered no evidence that there is a “substantial likelihood” that the rule would have been “significantly changed” in the absence of the procedural error.

C. EPA’s Growth Factor Methodology

This Court previously found that the EPA failed to explain its method for projecting EGU growth rates. In *Appalachian I* and *Appalachian II*, we remanded the rules at issue and instructed the EPA to “fulfill its obligation to engage in

reasoned decisionmaking on how to set EGU growth factors and explain why results that appear arbitrary on their face are, in fact, reasonable determinations.” *Appalachian I*, 249 F.3d at 1055; *Appalachian II*, 251 F.3d at 1035. In particular, we were concerned about EPA’s decision to apply projected heat input growth rates from 2001–2010 to the 1996–2007 period. *Appalachian I*, 249 F.3d at 1053–54. Fueling those concerns was our observation that real-world growth rates were not in line with EPA’s projections. *Id.* Petitioners contend that on remand the agency has failed to satisfy its obligation to resolve these concerns.

According to petitioners, the overlapping quality of the time periods is irrelevant, because 2001–2010 is not representative of 1996–2007. In particular, petitioners argue that there is an absence of evidence regarding heat-input growth for the 1996–2000 period. If growth rates during that time period were different, it would set all of the EPA’s predictions askew, because the IPM uses the difference between two modeled years to determine the growth rate. In other words, according to petitioners, the starting point matters greatly in determining the end result, as the years build on one another. Furthermore, petitioners do not accept the agency’s explanation that the high costs in conducting extra IPM runs militate against adding runs for the additional years 1996–2001, and they question the EPA’s explanation that by running the IPM for 2001–2010, the EPA will be able to utilize the information for several other programs. In sum, petitioners argue that EPA cannot rely on generalized cost savings as an excuse for limiting the quality of its work.

We think EPA has reasonably explained why it chose to rely on the IPM projections for years 2001–2010 in determining the projected growth rate for 1996–2007. We pause to note that actual heat inputs have changed since our prior decisions. The discrepancies we observed between the actual heat input values and the projections for various states during the original *Appalachian* cases – which discrepancies made EPA’s modeled growth rates appear arbitrary – are no longer so severe. Both West Virginia and Michigan, which were cited in our earlier opinions as having actual heat input in

1998 already exceeding the EPA's 2007 projections, have both experienced declining heat input from 1998 to 2001. *Appalachian I*, 249 F.3d at 1053. By 2001, the last year for which data was available for EPA's Remand Response, Michigan's heat input levels had dropped significantly and were in line with EPA's 2001 projections and 8.7% below 2007 projections. 67 Fed. Reg. 21,895. Furthermore, actual heat-input values have decreased in several of the regulated states from 1998 to 2001. 67 Fed. Reg. 21,883. Finally, EPA points out that the NOx SIP Call covers 23 jurisdictions, and the existence of some margin of error with respect to some of the predictions is not indicative of an unreasonable approach.

In response to our concern that “[f]uture growth projections that implicitly assume a baseline of negative growth in electricity generation over the course of a decade appear arbitrary, and the EPA can point to nothing in the record to dispel this appearance,” *Appalachian I*, 249 F.3d at 1053, the EPA has published historical data that shows there have been historical periods of multi-year heat-input decline. 67 Fed. Reg. 21,884–21,885.

The EPA also points out the significant overlap between the modeled time period and the regulated time period. Again, the IPM was run for the years 2001–2010, and then applied to the 1995 or 1996 to 2007 time frame. Therefore, for the 2001–2007 period, all of the underlying inputs would be the same as if the model had been conducted on the 1995 or 1996 to 2007 time period. The resulting projected demand for those years would also be the same. Because the growth factor is derived from the difference in heat input growth between modeled years, for this entire period the growth rate is directly correlated.

Finally, the EPA describes its effort to “balance the cost and complexity of a more elaborate model against the oversimplification of a simpler model.” *Id.* at 21,876 (quoting *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983)). As the EPA explains, “[t]he complexity of the model – its simulations, inputs, and variables – means that each additional run year adds many more

calculations to the model, a task that requires time and resources.” *Id.* Because of the increased cost, “other ways would have had to be [sic] found to reduce the number of equations,” including reduction of variables or constraints which would have decreased the accuracy of the model. *Id.* In addition, by starting the IPM in 2001, “the model adequately served the needs of several programs.” *Id.* In sum, EPA asserts that any further refinement in the heat input growth rate that may have resulted from adding additional years would not have been worth the increased cost.

In the *Appalachian* cases we were faced with a situation in which “even in the face of evidence suggesting the EPA’s projections were erroneous, the EPA never explained why it adopted this particular methodology.” *Appalachian I*, 249 F.3d at 1053. On remand, EPA adequately explained why it chose to apply IPM results from 2001–2010 to determine 2007 heat input requirements, and the evidence suggesting the projections were erroneous has greatly diminished. As we stated in the earlier cases, we will “give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise.” *Id.* at 1052 (quoting *Huls Am., Inc. v. Browner*, 83 F.3d 445, 452 (D.C. Cir. 1996)). Furthermore, “we must defer to the agency’s decision on how to balance the cost and complexity of a more elaborate model against the oversimplification of a simpler model.” *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d at 535. We will “reverse only if the model is so oversimplified that the agency’s conclusions from it are unreasonable.” *Id.* This great degree of deference, coupled with EPA’s explanation and the evidence added to the record on remand, requires that the petitions be denied.

D. EPA’s Electrical Demand Projections and Disaggregation

Petitioners raise two other distinct challenges. First, they claim that the EPA erred in projecting electricity demand growth. More specifically, petitioners contend that EPA erred in discounting electricity demand projections made by

the North American Electric Reliability Council (“NERC”), a not-for-profit corporation made up of electric utility generators, sellers, and users. Petitioners also challenge EPA’s reduction of projections made by the Energy Information Administration (“EIA”), a department within the United States Department of Energy. The EPA made these reductions because it thought the forecasts did not take into account future reductions in electricity demand caused by energy conservation programs. Petitioners challenge both the amount of the reduction EPA applied, and the premise that these energy conservation programs were not already accounted for in the projections.

Second, they challenge EPA’s method of disaggregating regional data. Because the IPM “necessarily models electricity generation and sales on a regional basis in order to reflect the regional nature of the electricity sector,” EPA is required to take regional results and turn them into state-specific budgets. 67 Fed. Reg. 21,888. Petitioners contend that EPA failed to adequately explain its disaggregation methodology, and that failure to do so on remand was arbitrary.

Both petitioners’ disaggregation and electricity demand reduction claims are forfeit. The EPA correctly points out that petitioners never raised these claims to the agency in the administrative proceedings when the modeling period was adopted, or in the earlier challenges in this Court. To the extent that petitioners challenged the validity of EPA’s use of the IPM, this Court has already rejected that challenge. *Appalachian I*, 249 F.3d at 1052–53. Petitioners, having forgone the ability to attack these aspects of the model while the rule was being promulgated and initially challenged in court, cannot now do so. *Appalachian II*, 251 F.3d at 1036 (“It is black-letter administrative law that ‘absent special circumstances, a party must initially present its comment to the agency during the rulemaking in order for the court to consider the issue’”) (quoting *Tex Tin Corp. v. EPA*, 935 F.2d 1321, 1323 (D.C. Cir. 1991)). Because neither of these claims were raised in the initial litigation or the original rulemaking, they cannot be raised now.

Additionally, EPA did not reopen these issues in the remand proceedings. Petitioners argue vehemently that EPA did so because it “respond[ed] on the merits” to virtually all comments. 67 Fed. Reg. 21,901. That statement in the Federal Register, however, was made in response to commenters’ request that EPA treat any comments it believed outside the scope of the remand as a petition to reconsider. *Id.* As we have previously held, “the reopening rule of *Ohio v. EPA* is not a license for bootstrap procedures by which petitioners can comment on matters other than those actually at issue, goad an agency into a reply, and then sue on the grounds that the agency had re-opened [sic] the issue.” *American Iron & Steel Inst. v. EPA*, 886 F.2d 390, 398 (D.C. Cir. 1989) (internal citations omitted). Petitioners are correct that “[w]hether an agency has in fact reopened an issue, explicitly or implicitly,” depends on “the entire context of the rulemaking including all relevant proposals and reactions of the agency.” *Public Citizens v. NRC*, 901 F.2d 147, 150 (D.C. Cir. 1990). However, petitioners have not shown that the EPA either explicitly or implicitly reconsidered these issues on remand.

As a threshold matter, EPA expressly stated on remand that it “is not soliciting comment on IPM itself or on state-specific approaches for determining 2007 heat input levels.” 66 Fed. Reg. 40,616 (August 3, 2001). Looking for implicit reconsideration of these claims, we find none. A reading of EPA’s explanation of its reduction of EIA and NERC forecasts, contained in its Remand Response, shows that it did not reconsider that aspect of the rule; rather, it responded to commenters’ concerns by further explaining its reasoning. See Fed. Reg. 21,867–21,881. This is also true of its disaggregation methodology. The EPA’s disaggregation methodology was made public on August 24, 1998. 63 Fed. Reg. 45,032–45,033. Petitioners, however, did not raise any claims about EPA’s disaggregation methodology in the previous litigation. Again, a reading of the EPA’s Remand Response shows that there was no implicit reconsideration of its disaggregation methodology; instead, it simply reiterated the

reasoning it had used from the beginning. 67 Fed. Reg. 21,881.

In sum, these claims fall squarely within the ambit of *American Iron & Steel Institute*. Here, petitioners submitted comments, “goad[ed] [EPA] into a reply, and [now] sue on the grounds that the agency ha[s] re-opened [sic] the issue.” *American Iron & Steel Inst.* 886 F.2d at 398. This, we cannot allow. The record does not reflect that EPA explicitly or implicitly reopened the issue. See *Public Citizens v. NRC*, 901 F.2d at 150.

III. Conclusion

The EPA erred in not providing an opportunity to comment when it added new material to the docket subsequent to its initial NODA, but because the petitioners have not shown a substantial likelihood that the rule would have been significantly changed in the absence of that procedural error, it will not serve as the basis for invalidating the agency’s action. Because EPA has now explained its choice of methodology for projecting EGU growth factors, and because petitioners’ claims regarding: (1) EPA’s reduction of NERC and EIA forecasts, and (2) EPA’s disaggregation methodology have been waived, we deny the petitions for review.