ORAL ARGUMENT NOT YET SCHEDULED

No. 20-1068

Consolidated with Nos. 20-1072, 20-1100

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

AMERICAN PUBLIC GAS ASSOCIATION,

Petitioner,

v.

U.S. DEPARMENT OF ENERGY,

Respondent.

AMERICAN GAS ASSOCIATION, ET AL.

Intervenors.

On Petition for Review of a Rule of the
U.S. Department of Energy

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties and Amici

All parties, intervenors, and amici appearing in this Court are listed in Petitioners' Opening Brief.

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, Respondent-Intervenors state that Natural Resources Defense Council, Inc., Sierra Club, Consumer Federation of America, and Massachusetts Union of Public Housing Tenants are non-profit advocacy organizations dedicated to protecting public health, the environment, and the consumer interest. They have no parent companies, and no publicly held company has an ownership interest in any of them.

B. Rulings Under Review

Petitioners seek review of the Department of Energy's final rule captioned Energy Conservation Program: Energy Conservation Standards for Commercial Packaged Boilers, 85 Fed. Reg. 1592 (Jan. 10, 2020).

C. Related Cases

These consolidated cases have not previously been before this Court or any other court. As noted in Respondent's Brief, the Ninth Circuit previously considered a challenge to the Department of Energy's failure to publish the final rule at issue in this case. *See NRDC v. Perry*, 940 F.3d 1072 (9th Cir. 2019). Counsel for Respondent-Intervenors are not aware of any other related cases.

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GLOSSARY

PETR: Petitioners' Opening Brief

AHRI: Air-Conditioning, Heating, and Refrigeration Institute

RESP: Respondent's Brief

JA: Joint Appendix

INTRODUCTION

The Energy Policy and Conservation Act directs the Department of Energy to periodically evaluate and update its energy conservation standards for appliances and commercial or industrial equipment. This mandate carries out Congress's goal of steadily improving covered products' minimum energy efficiency. To that end, the Department has promulgated more than 50 new or amended standards that have conserved enormous amounts of energy, reduced dangerous air pollutant emissions, and saved consumers hundreds of billions of dollars. Not one of those standards has ever been struck down as too stringent or lacking in analytical or evidentiary support.

This case involves the Department's energy conservation standards for commercial packaged boilers, which are used to heat commercial and multifamily residential buildings. Because those standards were last amended over a decade ago, the Act required the Department to evaluate the standards for possible updating. Following a years-long rulemaking process that offered stakeholders multiple opportunities to submit evidence supporting or opposing amended standards, the Department determined that its standards for eight of twelve boiler equipment classes should be updated because more stringent standards were both technologically feasible and economically justified, and would conserve significant additional energy. Specifically, the Department found that technologies already exist to meet those standards and projected that requiring all new boilers to meet the standards would

avoid approximately 16 million metric tons of carbon dioxide emissions over the next 30 years and save consumers between $500 million and $2 billion on their energy bills.

Two industry groups and natural gas companies have challenged the updated boiler standards in this case. These Petitioners primarily argue that the standards should be struck down because the Department purportedly did not base its decision on clear and convincing evidence. Contrary to Petitioners' characterization, however, the Department expressly (and repeatedly) confirmed that it made its relevant findings "based on clear and convincing evidence." JA__[FinalRule1606], __[FinalRule1674].[1] While the Department briefly questioned whether a lesser evidentiary standard could have sufficed for this rulemaking, it explained that question was academic because its findings nonetheless "fully satisfy" the clear-and-convincing test. JA__-__[FinalRule1607-08].

The record demonstrates that the Department reasonably relied on a robust and detailed analysis, informed by its decades of experience promulgating energy conservation standards, to reach a "strong conviction" that its findings about the public benefits of updated boiler standards are "highly likely to be correct." JA__[FinalRule1608]. Petitioners identify no record evidence that contradicts the Department's findings. Rather, they argue that the Department could not act without perfect information—a result that would effectively preclude reasonable (and

[1] This brief cites the Joint Appendix as JA__, Petitioners' opening brief as PETR__, and Respondent's brief as RESP__.

enormously beneficial) regulation and contravene Congress's mandate that the Department regularly update and improve its standards.

The Court should deny the petitions for review and affirm the Department's updated energy conservation standards for commercial packaged boilers.

STATEMENT OF THE ISSUES

Did the Department reasonably conclude that clear and convincing evidence supported its findings that the updated boiler standards are "technologically feasible," would result in "significant additional conservation of energy," and are "economically justified"?

STATUTES AND REGULATIONS

42 U.S.C. § 6316 is reproduced in pertinent part in an addendum to this brief. All other pertinent statutes are contained in addenda to the other parties' briefs.

STATEMENT OF THE CASE

Congress requires increasingly stringent efficiency standards

Congress enacted the Energy Policy and Conservation Act in 1975 to "conserve energy supplies through energy conservation programs" and to improve the energy efficiency of major appliances, among other purposes. Pub. L. No. 94-163, § 2(4)-(5), 89 Stat. 871, 874 (1975) (codified at 42 U.S.C. § 6201(4)-(5)). The Act initially sought to accomplish these goals through a voluntary market-based approach, setting energy-efficiency "targets" and requiring labels that disclosed covered appliances' efficiency. *Id.* §§ 324-326. But Congress soon determined that the market-

based approach was insufficient and amended the Act to require the Department of Energy to prescribe mandatory energy conservation standards for covered appliances. Pub. L. No. 95-619, § 422, 92 Stat. 3206, 3259 (1978); *see Zero Zone, Inc. v. U.S. Dep't of Energy*, 832 F.3d 654, 662 (7th Cir. 2016). After several Respondent-Intervenors here sued the Department for failing to set meaningful standards, *NRDC v. Herrington*, 768 F.2d 1355 (D.C. Cir. 1985), Congress directly imposed conservation standards for certain residential products; required the Department to periodically review and update the standards; and prohibited the weakening of existing standards. Pub. L. No. 100-12, § 5, 101 Stat. 103, 107-17 (1987); *see NRDC v. Abraham*, 355 F.3d 179, 186-88 (2d Cir. 2004). Together, these provisions carry out Congress's "goal of steadily increasing the energy efficiency of covered products." *Abraham*, 355 F.3d at 197.

In 1992, Congress expanded the Act's appliance program to include energy conservation standards for certain commercial and industrial equipment, including packaged boilers. Pub. L. No. 102-486, § 122, 106 Stat. 2776, 2806-17 (1992) (codified as amended at 42 U.S.C. §§ 6311-6317); *see Air Conditioning & Refrigeration Inst. v. Energy Res. Conservation & Dev. Comm'n*, 410 F.3d 492, 500 (9th Cir. 2005). Congress set initial standards for this equipment but mandated that the Department update those standards if the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (Society of Engineers)—a private professional association—amended its industry standards. Pub. L. No. 102-486, § 122(d), 106 Stat. at 2812-13 (codified as amended at 42 U.S.C. § 6313(a)(6)(A)-(B)). The Department's updated standards had

to, at minimum, match the amended Society of Engineers standards, but could be made more stringent than the amended industry standards if the Department determined, by clear and convincing evidence, that more stringent standards were technologically feasible, would result in significant additional conservation of energy, and were economically justified. *See id.* In determining whether more stringent standards are economically justified, the Department must decide whether the benefits of the standards exceed the burdens by considering factors such as:

- the standards' economic impact on manufacturers and consumers;
- the savings in operating costs throughout the estimated average life of the products compared to any likely increase in the price of, or maintenance expenses of, the products;
- the total likely projected amount of energy savings;
- any likely lessening of the utility or the performance of the products;
- the likely impact of any lessening of competition, as determined in writing by the Attorney General; and
- the need for national energy conservation.

Id. (codified as amended at 42 U.S.C. § 6313(a)(6)(B)(ii)).

The Department has prescribed energy conservation standards more stringent than amended Society of Engineers standards on several occasions. *See, e.g.*, 80 Fed. Reg. 57,438 (Sept. 23, 2015) (adopting more stringent standards for certain classes of single package vertical air conditioners and heat pumps); 73 Fed. Reg. 58,772 (Oct. 7, 2008) (adopting more stringent standards for packaged terminal air conditioners and heat pumps); *see also* 81 Fed. Reg. 2420 (Jan. 15, 2016) (adopting more stringent

standards for certain commercial package air conditioning and heating equipment and commercial warm air furnaces pursuant to joint stakeholder recommendation).

In 2007, Congress again amended the Act, this time to "improv[e] [the] schedule for standards updating." Pub. L. No. 110-140, § 305, 305(b), 121 Stat. 1492, 1553-56 (2007). Congress improved that schedule in at least two ways. First, it gave the Department deadlines to act on any amended Society of Engineers standard: the Department had to either adopt the industry standard within 18 months or prescribe a more stringent standard within 30 months. *Id.*, 121 Stat. at 1555.

Second, and as relevant here, Congress also imposed an additional obligation on the Department. Similar to when Congress grew "impatient" with the Act's original voluntary market-based approach, *see Abraham*, 355 F.3d at 185, Congress enacted a lookback provision that guarded against Society of Engineers inaction by requiring the Department to evaluate its existing standards at least every six years to determine whether they should be updated. *See* 42 U.S.C. § 6313(a)(6)(C)(i). If the Department proposes updating a standard pursuant to the lookback provision, it must publish a final rule amending the standard within two years of its proposal. *Id.* § 6313(a)(6)(C)(iii)(I).

The Act's energy conservation program for covered appliances and equipment has been remarkably effective. Between 1989 and 2019, the Department issued more than 50 new and amended standards. *See* 84 Fed. Reg. 36,037, 36,038 (July 26, 2019) (citing Energy Savings Data for DOE Energy Conservation Standards, 1989-2019,

https://beta.regulations.gov/document/EERE-2017-BT-STD-0062-0144). The Department estimated that its standards saved consumers more than $60 billion on their utility bills in 2015 alone and that, within ten years, cumulative savings from its standards will reach nearly $2 trillion. *See* U.S. Dep't of Energy, Energy Efficiency & Renewable Energy, Buildings, Appliance & Equipment Standards, https://www.energy.gov/eere/buildings/appliance-and-equipment-standards-program (last visited Feb. 18, 2021). Not one of these standards has been struck down as too stringent or lacking in analytical or evidentiary support.[2]

The Department promulgates updated commercial packaged boiler standards

Among the equipment covered by the Act's energy conservation program are commercial packaged boilers. 42 U.S.C. § 6311(1)(J). These boilers are powered by oil or natural gas and are generally used in buildings with central distribution systems that circulate steam or hot water from the boiler to other parts of the building. RESP4. Space heating is one of the largest uses of energy in these buildings. Commercial packaged boilers can look like this, JA__[0054-A1_at_1]:

[2] Respondent-Intervenors are aware of only one court decision granting an industry petition for review of energy conservation standards. *See Hearth, Patio & Barbecue Ass'n v. U.S. Dep't of Energy*, 706 F.3d 499 (D.C. Cir. 2013) (holding only that a class of products, decorative fireplaces, do not qualify as covered "direct heating equipment").

The Department last updated its energy conservation standards for commercial packaged boilers more than a decade ago, in 2009. *See* 74 Fed. Reg. 36,312 (July 22, 2009). That amendment was made in response to the 2007 revision of the Society of Engineers standards. *See* JA__[FinalRule1599]. The Society has not amended its boiler standards since then. *See id.*

As a result, the Act required the Department to evaluate its commercial packaged boiler standards and, by July 2015, either determine that they did not need to be amended or propose updated standards. *See* 42 U.S.C. § 6313(a)(6)(C)(i). In 2013, the Department invited public comment on a framework document it had prepared that explained the analytical and procedural approaches it intended to use in conducting its review of the boiler standards. JA_[0004]; *see* JA__-__, __-__[00002_at_1-4,15-16]. In 2014, the Department published preliminary results of the various analyses it had conducted and solicited further comments on its approach and methodology. JA__[00026], __[00027-A1]. During this time, the Department gathered

data, held various public meetings, and received and reviewed feedback and comments to help improve its analysis. RESP6; *see also* JA__[FinalRule1600] (describing rulemaking process).

In March 2016, the Department published a proposed rule to update its boiler standards. JA__[0043_15836]. The proposed rule updated the Department's analyses in response to comments and recent data, and tentatively concluded that clear and convincing evidence supported more stringent standards for eight of twelve boiler equipment classes. JA__[0043_15838]. (The Department divides commercial packaged boilers into different equipment classes based on their size, fuel type (gas or oil), and heating medium (hot water or steam). *See* JA__-__[FinalRule1610-11].) The proposal also sought further input from interested parties. JA__[0043_15920]; *see also* JA__[00056] (extending comment period).

In December 2016, the Department finalized its update to the energy conservation standards for commercial packaged boilers and publicly posted a signed, final rule on its website. *See* Pre-Publication Final Rule, Energy Conservation Standards for Commercial Packaged Boilers (Dec. 28, 2016), *available at* https://www.energy.gov/sites/prod/files/2016/12/f34/CPB_ECS_Final_Rule.pdf.[3] The Department found that technologies already exist to meet the updated standards,

[3] Because the January 2020 published version of the final rule is "substantively identical" to the one the Department signed in December 2016, JA__[FinalRule1681], this brief hereinafter cites to the published version, for the Court's convenience.

JA__[FinalRule1674], and that requiring all new boilers to meet those standards would reduce energy use by roughly 0.27 quadrillion British thermal units (quads) over a 30-year period and avoid emissions of approximately 16 million metric tons of carbon dioxide and 41,000 tons of nitrogen oxides, JA__[FinalRule1595]. Using a common statistical modeling technique known as Monte Carlo simulations, JA__[FinalRule1626], the Department also projected that the updated standards would save consumers between $500 million and $2 billion over the 30-year period, JA__[FinalRule1595]. All told, considering both economic and public health impacts, the Department estimated that the updated standards would have net benefits of between $85 and $143 million per year. JA__[FinalRule1597].

The Department thus concluded, "based on clear and convincing evidence," that the updated commercial packaged boiler standards would result in a "significant improvement in energy efficiency that is technologically feasible and economically justified." JA__[FinalRule1674].[4] Although the Department questioned (primarily in a footnote) whether clear and convincing evidence is *required* when it updates its standards as part of a mandatory six-year lookback review, JA__-__[FinalRule1607-08] & n.21, the Department concluded that the answer is irrelevant here because, "even assuming clear and convincing evidence is required," its findings "fully satisfy"

[4] The Department analyzed five different potential standards—known as "trial standard levels" or "TSLs," JA__, __-__[FinalRule1654,1671-74]—before ultimately selecting "TSL 2" as the updated boiler standards, JA__[FinalRule1674].

that test. JA__[FinalRule1608]; *see also, e.g.*, JA__[FinalRule1606] (concluding, "based on clear and convincing evidence," that the "benefits of amended standards . . . outweigh the burdens, and the standards . . . are economically justified").

Notwithstanding the demonstrated public benefits of updated commercial packaged boiler standards, the Department—following a change of administration in January 2017, and without explanation—unlawfully refused to publish the updated standards (as well as three additional final rules prescribing other energy conservation standards that are not at issue in this case). Several Respondent-Intervenors here successfully sued the Department to enforce its nondiscretionary duty to publish the standards. *See NRDC v. Perry*, 940 F.3d 1072 (9th Cir. 2019).[5] After being directed to do so by the Ninth Circuit, the Department finally published the updated boiler standards in January 2020. *See* JA__[0098]; JA__[FinalRule1681] (the "Boiler Rule"). Because compliance with updated standards is required "3 years after *publication* of the final rule establishing a new standard," 42 U.S.C. § 6313(a)(6)(C)(iv)(I) (emphasis added), the Department's unlawful years-long delay in publishing the Rule pushed out manufacturers' compliance obligations until January 2023, *see* JA__[FinalRule1593].

Shortly after publishing the Boiler Rule, the Department issued another rule in February 2020 asserting that clear and convincing evidence is required for the

[5] In addition to the regulatory duty that formed the basis of that lawsuit, *see Perry*, 940 F.3d at 1077-80, the Department's inaction also violated its statutory duty to publish a final rule "[n]ot later than 2 years after" issuing the proposed commercial packaged boiler standards, 42 U.S.C. § 6313(a)(6)(C)(iii)(I)—i.e., by March 2018.

Department to update its equipment standards as part of a six-year lookback review. 85 Fed. Reg. 8626, 8643 (Feb. 14, 2020) (the "Process Rule"). That rule has been challenged in the Ninth Circuit and is under review for possible major revisions (or rescission) by the new administration. *See California v. U.S. Dep't of Energy*, No. 20-71068 (9th Cir.); Exec. Order 13990, § 2(iii), 86 Fed. Reg. 7037, 7038 (Jan. 25, 2021).

Meanwhile, Petitioners challenged the Boiler Rule in this litigation. Mindful of the Department's unlawful refusal to publish the updated boiler standards under the prior administration, and this Court's observation that "doubtful friends may provide dubious representation," *Crossroads Grassroots Policy Strategies v. FEC*, 788 F.3d 312, 314 (D.C. Cir. 2015), Respondent-Intervenors (eleven states, two cities, and four nonprofit organizations) intervened to help defend the Boiler Rule and preserve its substantial public benefits. In December 2020, just weeks before the most recent administration change, Respondent filed a brief declining to defend the Rule.

SUMMARY OF ARGUMENT

I.A. The Court should affirm the updated boiler standards because the Department reasonably determined that they are "technologically feasible," would "result in significant additional conservation of energy," and are "economically justified," 42 U.S.C. § 6313(a)(6)(A)(ii)(II)—and it expressly made those findings "based on clear and convincing evidence," JA__[FinalRule1606], __[FinalRule1674]. Petitioners' and Respondent's arguments that the clear-and-convincing standard applied to this rulemaking are thus irrelevant to the resolution of this case. Although

the Department briefly questioned whether clear and convincing evidence was required here, it went on to explain that, regardless, its findings "fully satisfy" that standard. JA__-__[FinalRule1607-08]. And contrary to Petitioners' and Respondent's attempt to portray the Department's clear-and-convincing determination as "conclusory" or "alternative," multiple other statements in the Boiler Rule—which Petitioners and Respondent ignore—confirm that the Department treated the clear-and-convincing standard as dispositive.

B. Petitioners' narrow focus on the clear-and-convincing standard also overlooks an important distinction between an agency's standard of proof for its rulemaking and the Court's standard of review. This Court does not determine, *de novo*, whether the Boiler Rule *is* supported by clear and convincing evidence. Rather, the Court reviews the Department's energy conservation standards for "substantial evidence," 42 U.S.C. § 6306(b)(2), which "means—and means only—'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion,'" *Biestek v. Berryhill*, 139 S. Ct. 1148, 1154 (2019) (citation omitted). The Court's role thus "remains deferential," as it reviews only whether the Department reasonably concluded that its findings were supported by clear and convincing evidence. *Mo. Pub. Serv. Comm'n v. FERC*, 864 F.3d 589, 590 n.1 (D.C. Cir. 2015) (Millett, J., concurring).

C. The Department reasonably concluded that clear and convincing evidence supported its findings that the updated boiler standards are technologically feasible, would result in significant additional energy conservation, and are

economically justified. Petitioners argue that the Department was precluded from using available data as a reasonable proxy to estimate three things: boiler shipments, burner operating hours, and marginal gas prices. But the clear-and-convincing standard does not require an agency to use any particular type of evidence to make its findings so long as the agency's reliance on the evidence chosen is reasonable. And agencies do not need perfect information to regulate, so long as they make reasonable efforts to develop the facts on which they rely. *See Nat'l Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 12-13 (D.C. Cir. 2015). Here, the Department afforded stakeholders ample opportunity to provide more accurate or contradictory information and, when they did, the Department incorporated that data into its analysis. But where stakeholders did not identify any such evidence, the Department reasonably relied on other appropriate data available to it to reach its clear-and-convincing determination.

Petitioners' other challenges to the Department's "economically justified" finding also fail. Petitioners argue that the Department's analysis erroneously assumed that some purchasers are declining to buy standards-compliant boilers, even though that equipment would ultimately save them money over time. But the Department explained that certain market failures, such as misaligned incentives between some purchasers and users, presently impede the purchase of more efficient equipment. Moreover, the Department's method for estimating consumer savings recognized and accounted for consumers that already purchase standards-compliant boilers. In estimating consumer savings, the Department relied on Monte Carlo simulations, a

widely used statistical technique that accounts for variability and uncertainty by modeling a range of probable outcomes across thousands of scenarios. Petitioners take issue with that method because it purportedly assigned equipment efficiency "randomly." But for each uncertain variable (such as equipment efficiency), the simulations selected a value *based on the probability* of that value occurring in the real world. The Department's well-considered decision to use this probabilistic model, rather than an alternative deterministic model suggested by Petitioners which "limited in many important ways the scope of the market being examined," JA__[FinalRule1637], is more than reasonable here, especially where the Department's task was to determine whether certain findings are "highly probable." JA__[FinalRule1608] (quoting *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984)).

II. Finally, even if the Court were to find any error with the Department's clear-and-convincing determination, which it should not, vacatur of the Boiler Rule would not be the appropriate remedy. Rather, the Court should—at most—remand the Boiler Rule without vacatur for the Department to supply a more complete explanation. This Court "frequently" remands without vacatur where, as here, any "defects are curable" and vacatur "'would at least temporarily defeat the enhanced protection of the environmental values covered by'" the rule. *U.S. Sugar Corp. v. EPA* (*U.S. Sugar Corp. II*), 844 F.3d 268, 270 (D.C. Cir. 2016) (per curiam) (alteration and citation omitted); *see also North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008) (per curiam). Vacatur would be particularly inappropriate here, where Petitioners

acknowledge that technology to meet the updated standards is readily available, and manufacturers' compliance with the Boiler Rule has already been unlawfully delayed by several years.

STANDARD OF REVIEW

This Court reviews the Boiler Rule in accordance with the Administrative Procedure Act (APA) and for substantial evidence. 42 U.S.C. § 6306(b)(2).[6] The substantial evidence standard is "not [a] high" threshold: the Court determines only whether the Department's findings are supported by "'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'" *Biestek*, 139 S. Ct. at 1154 (quoting *Consol. Edison Co. of N.Y. v. NLRB*, 305 U.S. 197, 229 (1938)). Under the APA, the Court reviews whether an agency decision is arbitrary or capricious. 5 U.S.C. § 706(2)(A). In reviewing factual support, "the substantial evidence test and the arbitrary or capricious test are one and the same." *United Steel Workers Int'l Union v. Pension Benefit Guar. Corp.*, 707 F.3d 319, 325 (D.C. Cir. 2013) (quoting *Ass'n of Data Processing Serv. Orgs. v. Bd. of Governors of the Fed. Reserve Sys.,* 745 F.2d 677, 683 (D.C. Cir. 1984)).

[6] *See also* 42 U.S.C. § 6316(a)-(b) (explaining that section 6306 applies to a rule promulgated under section 6313).

ARGUMENT

I. The Court should uphold the Department's reasonable determination that the Boiler Rule is supported by clear and convincing evidence

A. The Department's clear-and-convincing-evidence determination renders academic whether a lesser evidentiary standard applies

Petitioners (and Respondent) spend the bulk of their briefs arguing whether the clear-and-convincing-evidence test under section 6313(a)(6)(A)(ii)(II) applies when the Department updates its covered equipment standards pursuant to the six-year lookback obligation under section 6313(a)(6)(C)(i). *See* PETR23-40; RESP16-21. That question is irrelevant to the resolution of this case, however, because the Department expressly based the Boiler Rule on clear and convincing evidence and determined that its findings "fully satisfy" that test. JA__, __, __[FinalRule1606,1608,1674].

Petitioners (and Respondent) try to characterize the Department's clear-and-convincing determination as "terse[]," "alternative," or "conclusory," *see* PETR2, 14, 41; RESP22-24, but that is untrue. Although the Department briefly questioned whether clear and convincing evidence was required for this rulemaking, *see* JA__[FinalRule1607] & n.21, the Department went on to explain—over the course of the next several paragraphs—its understanding of the application of that evidentiary test in the context of setting energy conservation standards, JA__[FinalRule1608].

The Department quoted the Supreme Court's description of the test as requiring an "abiding conviction" that a finding is "highly probable"; recognized that the test requires more than the preponderance-of-the-evidence standard that

ordinarily applies to agency rulemakings; and noted that the test does not restrict the particular types of evidence that a factfinder may consider. JA__[FinalRule1608] (quoting *Colorado*, 467 U.S. at 316). The Department further explained that, in the context of setting energy conservation standards, the clear-and-convincing test requires the Department to reach a "strong conviction," based on the record as a whole, that its findings are "highly likely" to be correct. *Id.* And the Department reiterated its conclusion that, "[w]ith respect to the findings" in the Boiler Rule, the Department "does have that strong conviction." *Id.*

Indeed, contrary to Petitioners' contention that the Department must "resolve substantial doubts *against* the need for" more stringent standards, PETR45, the Department explained that clear and convincing evidence "need not eliminate all possible doubt, or even all reasonable doubt," JA__[FinalRule1608]. Rather, the Department explained, it is an "intermediate" standard, *id.*, which "falls between preponderance of the evidence and proof beyond a reasonable doubt," and requires only that a factual finding be "'highly probable,'" *Koszola v. FDIC*, 393 F.3d 1294, 1300 (D.C. Cir. 2005) (quoting McCormick on Evidence § 340 (5th ed.)); *see also Colorado*, 467 U.S. at 316.

Other statements in the Boiler Rule confirm that the Department treated the clear-and-convincing-evidence standard as dispositive here. At two other points in the Rule—neither of which Petitioners (or Respondent) acknowledge—the Department unequivocally reiterated that it made its determination "based on clear and convincing

evidence," without referencing a lesser evidentiary standard. JA__[FinalRule1606] (concluding "*based on clear and convincing evidence* that the benefits of amended standards . . . outweigh the burdens" and the amended standards are "economically justified" (emphasis added)); JA__[FinalRule1674] (concluding "*based on clear and convincing evidence*" that the updated standards "represent[] a significant improvement in energy efficiency that is technologically feasible and economically justified" (emphasis added)). The Department further explained that its clear-and-convincing determination was "detailed" in the "full economic analysis" for the Boiler Rule, JA__[FinalRule1606], citing two sections that total nearly 70 pages, JA__-__[FinalRule1608-76]. The Department also applied the clear-and-convincing test—and not a lesser evidentiary standard—when it decided not to update its standards for four of the twelve boiler equipment classes. JA__[FinalRule1599] (explaining that the Department maintained existing standards for those classes "because there is not sufficient data to support, *by clear and convincing evidence*, more stringent standards" (emphasis added)).

In this full context, the Department's determination that clear and convincing evidence supported the updated standards was anything but "conclusory." PETR41; RESP22. Indeed, Respondent's suggestion that the Department did not reach an "express and considered" determination is belied by the Boiler Rule itself. RESP22-24

(quoting *Time Warner Ent. Co. v. FCC*, 56 F.3d 151, 175 (D.C. Cir. 1995)).[7] In repeatedly referring to and applying the clear-and-convincing standard, the Department "explicitly" made such a determination, which can also "be inferred from the record as a whole." *U.S. Sugar Corp. v. EPA* (*U.S. Sugar Corp. I*), 830 F.3d 579, 666 (D.C. Cir. 2016) (per curiam); *see also Epsilon Elecs., Inc. v. U.S. Dep't of Treasury*, 857 F.3d 913, 924 (D.C. Cir. 2017) (noting the Court "will uphold an agency decision where 'the agency's path may reasonably be discerned,' even if the decision is 'of less than ideal clarity'" (citation omitted)).

Nor is there anything unusual about the Department questioning whether clear and convincing evidence was the appropriate standard. Respondent posits that the Department would not have done so "unless it considered the lower evidentiary standard to be important." RESP22. But courts, including this one, often note that they would reach a particular outcome regardless of an uncertain legal question. *See, e.g.*, *Delaware v. Surface Transp. Bd.*, 859 F.3d 16, 21 (D.C. Cir. 2017) (the Court "need not decide the precise level of deference" because agency decision "survives under either standard of review"); *Allina Health Servs. v. Price*, 863 F.3d 937, 945 (D.C. Cir. 2017) (holding, based on two alternative grounds, that a Health and Human Services regulation required notice and comment), *aff'd sub nom. Azar v. Allina Health Servs.*, 139

[7] It is not clear why Respondent relies on *Time Warner*, which observed only that although an agency must "reach an express and considered conclusion" about a required statutory factor, it need not "give any specific weight" to it. 56 F.3d at 175 (quoting *Cent. Vt. Ry. v. ICC*, 711 F.2d 331, 336 (D.C. Cir. 1983)).

S. Ct. 1804, 1816 (2019) (affirming this Court's decision on one ground and noting that the Supreme Court therefore had "no need to reach" the other).

Indeed, the Court can—and should—do that here. Because the Department's clear-and-convincing determination is "dispositive" and "validly supports" the Rule, the Court "need not address" arguments about whether a lesser evidentiary threshold could have sufficed. *Pierce v. SEC*, 786 F.3d 1027, 1034-35 (D.C. Cir. 2015).

B. The Court reviews only whether the Department's clear-and-convincing-evidence determination was reasonable

Petitioners' (and Respondent's) myopic focus on the clear-and-convincing test also elides an "elementary but crucial difference," *Woodby v. INS*, 385 U.S. 276, 282 (1966), between the Department's evidentiary *standard of proof* for its rulemaking and the Court's separate *standard of review* when considering a challenge to the Rule. *See, e.g.*, PETR14-15 (arguing the Rule was "unsupported by substantial evidence, let alone clear and convincing evidence"). In other words, Petitioners (and Respondent) largely "overlook[] the different functions of initial decisionmaking and judicial review of it." *Steadman v. SEC*, 450 U.S. 91, 100 n.20 (1981); *see also, e.g.*, *SSIH Equip. S.A. v. ITC*, 718 F.2d 365, 379-83 (Fed. Cir. 1983) (Nies, J., supplemental opinion) (discussing the "importance of recognizing the distinction").

As noted above, *supra* at 16, this Court reviews the Department's energy conservation rules for "substantial evidence." 42 U.S.C. § 6306(b)(2). Respondent erroneously suggests that this is the "normal evidentiary standard applied in the

rulemaking context." RESP23 (citing *Biestek*, 139 S. Ct. at 1154). But "'substantial evidence' is a 'term of art' used throughout administrative law to describe how *courts* are to review agency factfinding." *Biestek*, 139 S. Ct. at 1154 (quoting *T-Mobile S., LLC v. City of Roswell*, 574 U.S. 293, 301 (2015)) (emphasis added); *see also Charlton v. FTC*, 543 F.2d 903, 907 (D.C. Cir. 1976) ("substantial evidence" standard "implicates only the reviewing court" and serves an "entirely distinct purpose[]" from the standard "by which the agency itself is to initially ascertain the facts"). The Department correctly explained in the Boiler Rule, by contrast, that the preponderance-of-evidence standard "ordinarily applies in an agency rulemaking." JA__[FinalRule1608]; *see also Woodby*, 385 U.S. at 285 (describing "preponderance of the evidence" as the burden of proof that is "generally imposed in . . . administrative proceedings").

The Court's task in reviewing the Department's clear-and-convincing determination is thus not to decide, *de novo*, whether the Boiler Rule *is* supported by clear and convincing evidence. *Cf. Woodby*, 385 U.S. at 282 (explaining that "an appellate court in a criminal case ordinarily does not ask itself whether it believes that the evidence at the trial established guilt beyond a reasonable doubt"). Rather, this Court's role "remains deferential," as it reviews agency findings made pursuant to the clear-and-convincing (or other applicable) test "only for substantial evidence." *Mo. Pub. Serv. Comm'n*, 864 F.3d at 590 n.1 (Millett, J., concurring). And the threshold for sufficiency under substantial evidence review is "not high." *Biestek*, 139 S. Ct. at 1154. Substantial evidence "means—and means only—'such relevant evidence as a

reasonable mind might accept as adequate to support a conclusion.'" *Id.* (quoting *Consol. Edison*, 305 U.S. at 229).

Applying the proper standard of review, then, the Court's task here is to decide only whether it was *reasonable* for the Department to conclude that the Boiler Rule is supported by clear and convincing evidence. *See Biestek*, 139 S. Ct. at 1154; *see also Consolo v. FMC*, 383 U.S. 607, 619-20 (1966) (the "substantial evidence" standard "gives proper respect to the expertise of the administrative tribunal" and "frees the reviewing courts of the time[-]consuming and difficult task of weighing the evidence"). Or, put another way, under substantial evidence review, the Court "must affirm the agency's . . . determination unless 'any rational trier of fact would be *compelled* to conclude that the proof did not rise to the level of clear and convincing evidence.'" *Ahmed v. Lynch*, 804 F.3d 237, 240 (2d Cir. 2015) (emphasis added) (citation omitted).

Thus where, as here, an agency "expressly applies the 'clear and convincing' standard, the judicial function is only to see whether there is 'substantial evidence' to support the [agency's] determination." *Sea Island Broad. Corp. of S.C. v. FCC*, 627 F.2d 240, 244 (D.C. Cir. 1980). This Court and others have consistently applied this deferential approach when reviewing agency decisions that were to be supported by clear and convincing evidence—in contexts ranging from findings of immigration removability, *e.g.*, *Zerrei v. Gonzales*, 471 F.3d 342, 345 (2d Cir. 2006); *Nakamoto v. Ashcroft*, 363 F.3d 874, 882 (9th Cir. 2004), to personnel actions against

whistleblowers, *e.g.*, *Duggan v. Dep't of Def.*, 883 F.3d 842, 846 (9th Cir. 2018); *Hoffman v. Solis*, 636 F.3d 262, 268-69 (6th Cir. 2011), to patent invalidity determinations, *e.g.*, *Guangdong Alison Hi-Tech Co. v. ITC*, 936 F.3d 1353, 1359 (Fed. Cir. 2019).

Here too, the Court should affirm the Boiler Rule as "supported by substantial evidence," 42 U.S.C. § 6306(b)(2), because, as explained below, the Department reasonably concluded that its findings were based on clear and convincing evidence.

C. The Department's clear-and-convincing-evidence determination was reasonable and supported by substantial evidence

Petitioners concede that the Act requires the Department to update its standards for covered equipment, like commercial packaged boilers, if the Department determines by clear and convincing evidence that more stringent standards (1) are "technologically feasible," (2) "would result in significant additional conservation of energy," and (3) are "economically justified." 42 U.S.C. § 6313(a)(6)(A)(ii)(II). The Department reasonably made that finding for each of those three criteria here. *See* JA__[FinalRule1674].

1. The updated standards are "technologically feasible"

The Department concluded, "based on clear and convincing evidence," that the updated commercial packaged boiler standards are "technologically feasible" because "the technologies required to achieve these [efficiency] levels already exist in the current market and are available from multiple manufacturers." JA__[FinalRule1674]. To reach this determination, the Department consulted with

manufacturers, design engineers, and other interested parties to develop a list of current technology options and prototype designs that could improve the efficiency of the covered equipment. *See* JA__, __-__[FinalRule1603, 1612-13]. The Department then screened each technology option for how practicable it is to manufacture, install, and service, as well as any adverse impacts it may have on equipment utility, equipment availability, and health and safety. JA__[FinalRule1613]. The Department also confirmed that "all manufacturers are able to achieve the amended standard levels through the use of non-proprietary designs." JA__[FinalRule1603].

Petitioners do not (and cannot) dispute that technologies to comply with the updated boiler standards are "readily available," PETR15, much less that the Department reasonably concluded that clear and convincing evidence supported its finding of technological feasibility.

2. The updated standards would "result in significant additional conservation of energy"

The Department also concluded, "based on clear and convincing evidence," that the updated standards would result in a "significant improvement" in energy conservation. JA__[FinalRule1674]; *see also* JA__[FinalRule1604]. The Department reached this conclusion by conducting a "national energy savings" analysis that projected energy use over a 30-year period under the existing standards (the "base" or "no-new-standards" case) and then compared that to projected energy use under the updated standards. *See* JA__-__[FinalRule1640-42]. The Department's analysis found

that the standards would "save a significant amount of energy"—0.27 quads—over the next 30 years. JA__[FinalRule1595], __-__[FinalRule1666-67]. That amount is roughly equivalent to the annual electricity consumption of 7.4 million American homes.[8]

Petitioners do not expressly dispute the Department's finding that the updated boiler standards would result in significant additional energy conservation. In fact, the natural gas industry Petitioners assert standing to bring this case precisely because the updated standards will "directly cause decreased use of natural gas." PETR20-21. Petitioners thus forfeited any challenge to the Department's finding of significant energy conservation by "failing to raise it in [their] opening brief." *Al-Tamimi v. Adelson*, 916 F.3d 1, 6 (D.C. Cir. 2019).

While Petitioners argue that the Department's finding of economic justification (a different but arguably overlapping criterion) was inadequate because the Department purportedly needed more concrete data about boiler shipments and

[8] *See* JA__[FinalRule1595] n.5 (1 quad = 10^{15} British thermal units); U.S. Energy Info. Admin.(EIA), Units and calculators explained, British thermal units (Btu), https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php (1 kilowatthour = 3,412 British thermal units) (last visited Feb. 18, 2021); U.S. EIA, Frequently Asked Questions (FAQS), How much electricity does an American home use?, https://www.eia.gov/tools/faqs/faq.php?id=97&t=3 (average residential electricity consumption is 10,649 kilowatthours) (last visited Feb. 18, 2021).

burner operating hours to project energy consumption under the existing boiler standards, PETR42-43, those arguments lack merit.[9]

Take Petitioners' arguments about shipment data first. Petitioners contend that the Department "needed 'shipment' information (i.e., data on product sales)" to determine the efficiency distribution of boilers sold under the existing standards. PETR42. They argue that, where the Department "lacked such data," it was *precluded* from "us[ing] other information"—such as "'publicly available modeling listing and efficiency information'"—as a "'reasonable proxy for shipments.'" PETR42 (quoting JA__[FinalRule1635]).

Petitioners' argument misunderstands the clear-and-convincing standard, which requires an "'abiding conviction'" that a finding is "'highly probable,'" but does not require that an agency rely only on particular kinds of evidence to make that finding. JA__[FinalRule1608] (quoting *Colorado*, 467 U.S. at 316); *cf. Singh v. DHS*, 526 F.3d 72, 79 (2d Cir. 2008) (clear-and-convincing test for immigration removability, 8 U.S.C. § 1229a(c)(3), "does not prohibit [particular] types" of evidence). This Court has long recognized agencies' "undoubted power" to regulate in the absence of perfect information, so long as the agency "make[s] a reasonable effort to develop the facts." *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 531, 535 (D.C. Cir.

[9] Petitioners direct these arguments only at the Department's "economically justified" finding. *See* PETR41-42 (asserting purported "shortcomings" in the way the agency "calculate[d] economic impacts"); PETR45 (contesting whether agency had "clear and convincing evidence that the more stringent standards *were* economically justified").

1983); *see also, e.g.*, *Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999) (agency has "wide latitude in determining the extent of data-gathering necessary" and may "proceed on the basis of imperfect scientific information"); *NRDC v. EPA*, 529 F.3d 1077, 1086 (D.C. Cir. 2008) (similar); *Nat'l Ass'n for Surface Finishing*, 795 F.3d at 12-13 (similar). This Court and others have also upheld the Department's reliance on less than perfect information when prescribing energy conservation standards, absent record evidence that is "demonstrably more accurate," *Herrington*, 768 F.2d at 1390, or that "contradicts [the agency's] assumptions," *Zero Zone*, 832 F.3d at 677.

Petitioners identify no authority contradicting the Department's position that the clear-and-convincing test allows it to rely on the "same sorts of evidence and analysis that [it] would use in any other standards rulemaking." JA__[FinalRule1608]. And as the Department explained in the Rule, the inquiry that Congress assigned the Department under section 6313(a)(6) "repeatedly calls for predictive judgments" that, by their very nature, "cannot be instantly determined to be correct." JA__[FinalRule1608]; *see also* 42 U.S.C. § 6313(a)(6)(B)(ii) (instructing the Department to consider certain factors only "to the maximum extent *practicable*" (emphasis added)). As in analogous regulatory contexts, "'complete factual support'" is "'not possible or required,'" and the Department need only "acknowledge factual uncertainties and identify the considerations it found persuasive," *Rural Cellular Ass'n v. FCC*, 588 F.3d 1095, 1105 (D.C. Cir. 2009) (citation omitted)—just as it did here, *see* JA__[FinalRule1635-36].

Petitioners' argument that the Department was precluded from updating the boilers standards unless it obtained additional shipment data is accordingly meritless. Moreover, the Department in this rulemaking specifically and repeatedly asked stakeholders for shipment data—beginning as early as 2014, and again at the proposed rule stage in March 2016. *See, e.g.*, JA__-__[0027-A1_ES-34toES-35]; JA__[0043_15920]. Petitioner Air-Conditioning, Heating, and Refrigeration Institute (AHRI) provided some limited shipment data in response to the latter request, which the Department used to update its analysis in the final rule. *See* JA__, ___, __-__, __-__[FinalRule1612,1616,1635-36,1638-40]; *see also* JA__-__, __[0083-A1_9A-1to9A-2,9A-8]. For the remaining equipment classes where stakeholders did not supply shipment data, the Department continued to use manufacturers' publicly available modeling listing and efficiency information as a "reasonable proxy" for shipments. JA__[FinalRule1635-36] (explaining that, "[i]n general, manufacturers are likely to offer models with . . . efficiencies where demand is highest"); *see also* JA__-__ [0083-A1_8H-1to8H-4], __-__[0083-A1_9-1to9-7]. Indeed, the Department noted that it saw only a "minimal difference" between the shipment data provided by AHRI and the efficiency distribution the Department calculated based on its other information. JA__[FinalRule1635].[10]

[10] Petitioners' complaint that it is "unclear exactly what numbers" the Department compared because they are "not documented in the record," PETR42-43, ignores that the Department did not disclose those numbers in the Boiler Rule *because AHRI*

Importantly, industry stakeholders control the shipment data and can decide whether to share it with the Department. Petitioners, of course, were entitled to provide any such data (or other evidence) that may have contradicted the Department's determination during the rulemaking process. But they may not selectively withhold such evidence and then argue that the Department failed to meet its burden by using other available information as a reasonable proxy instead.

Nor does the Department's reliance on available proxy information, in the absence of additional shipment data, improperly "shift" the burden of proof to industry, as Petitioners wrongly suggest. PETR10.[11] Rather, it reflects the relevant inquiry under the clear-and-convincing test, which is satisfied when a factfinder has enough evidence to instantly tilt the scales "when weighed against the evidence offered in opposition." *Florida v. Georgia*, 138 S. Ct. 2502, 2541 (2018) (alteration omitted) (quoting *Colorado*, 467 U.S. at 316). In other words, the clear-and-convincing

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requested that its shipment data remain confidential, JA__[FinalRule1638]; *see also* JA__[FinalRule1639] ("In light of shipment data having been received under confidentiality agreement, [the agency] is unable to publish the shipment data furnished by AHRI."); Process Rule, 85 Fed. Reg. at 8644 (explaining that the Department "strives to make . . . data underlying its appliance standards rulemakings publicly available," but that "some portion of the relevant data on which the agency makes its decision is [frequently] proprietary in nature").

[11] That boilers had "gone through the Society's standard-setting process" ten years earlier, PETR10, changes nothing. As industry stakeholders have noted elsewhere, the Society "not acting to amend" its standards is not a decision that the existing standards remain sufficient. Process Rule, 85 Fed. Reg. at 8636. That is why Congress amended the Act in 2007 to require the Department to evaluate its standards every six years irrespective of whether the Society acted in the interim. *See supra* at 6.

test requires the factfinder to reach a firm conviction after viewing "each party's pile of evidence." *Parsi v. Daioleslam*, 778 F.3d 116, 131 (D.C. Cir. 2015) (quoting *United States v. Montague,* 40 F.3d 1251, 1255 (D.C. Cir. 1994)). But where, as here, there is no "evidence offered in opposition"—and therefore one "pile of evidence" is empty—the absence of perfect information (like additional shipment data) does not preclude an agency from making a clear-and-convincing determination.[12]

The same is true for Petitioners' next argument about burner operating hours—a measure of how much commercial packaged boilers are used. Here too, Petitioners contend that the Department's clear-and-convincing determination fails because the Department did not have actual data about burner operating hours and so "used other information to plug that data gap" instead. PETR43.

Specifically, the Department estimated boilers' energy consumption using data from the U.S. Energy Information Administration's most recent Commercial Building Energy Consumption Survey and Residential Energy Consumption Survey. JA__[FinalRule1621]; *see also* JA__-__[0083-A1_7-8to7-9] (explaining how the

[12] Nor does the forthcoming "peer review" of the Department's methodologies for setting energy conservation standards—which was not initiated until *after* the Boiler Rule had been published, RESP12-13—bear on this Court's review of whether the Department reasonably determined the Rule was supported by clear and convincing evidence. It is a "widely accepted principle of administrative law" that the Court reviews agency action based on the "materials that were before the agency at the time its decision was made." *IMS, P.C. v. Alvarez*, 129 F.3d 618, 623 (D.C. Cir. 1997).

Department estimated burner operating hours).[13] Petitioner AHRI's consultant criticized the Department's approach and mused that "a more logical approach" would "probably" be to use directly measured burner operating hours data, "rather than trying to develop [burner operating hours] from proxy data." JA__[0076-A1_at_40]. But as the Department explained in response, it had "not identified a source of comprehensive burner operating hour (BOH) data for commercial boilers . . . *nor was such identified to [the Department] by stakeholder*s." JA__[FinalRule1637] (emphasis added). Thus, again, where (as here) stakeholders "do[] not identify any specific, superior" information that they or others presented to the Department, they may not "simply criticize[] the agency" for relying on other available data instead. *Nat'l Ass'n for Surface Finishing*, 795 F.3d at 12.

In short, to the extent Petitioners challenge the Boiler Rule's finding of significant additional energy conservation, substantial evidence supports the Department's clear-and-convincing determination because it gave stakeholders an "effective opportunity to do what [they] could to undercut" the finding, *Sea Island*, 627 F.2d at 244, and Petitioners fail to identify any "evidence offered in opposition" that

[13] The Department—at Petitioners' urging—updated its analysis in the final rule based on a newly released and updated version of one of the surveys. *See* JA__[FinalRule1621]. This complied with the Department's "notice-and-comment obligations," PETR45, because it relied on "new 'supplementary' information that 'expand[ed] on and confirm[ed]' data in the rulemaking record." *Competitive Enter. Inst. v. U.S. Dep't of Transp.*, 863 F.3d 911, 920 (D.C. Cir. 2017) (quoting *Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991) (per curiam)).

actually did so, *Florida*, 138 S. Ct. at 2541 (alteration and citation omitted). As a result, the Department "acted reasonably" by relying on the reliable record evidence that was available to it. *NRDC v. EPA*, 529 F.3d at 1086.

3. The updated standards are "economically justified"

The Department properly determined that the updated standards are "economically justified." In making that finding, the Energy Policy and Conservation Act required the Department to determine whether the "benefits of the standard exceed the burden" by considering factors such as: the economic impact on manufacturers and consumers; the savings in operating costs throughout the estimated average life of the product; and the need for energy conservation. 42 U.S.C. § 6313(a)(6)(B)(ii); *see supra* at 5. The Department carefully considered each of the relevant factors here. *See* JA__-__[FinalRule1604-05]; JA__-__[FinalRule1654-74].

The Department ultimately concluded, "based on clear and convincing evidence," that the benefits of the updated standards—in the form of energy conservation, consumer savings, and decreased emissions of harmful air pollutants—outweigh the burdens to industry, and that the standards are therefore "economically justified." JA__, __[FinalRule1606,1674]. Specifically, the Department estimated total consumer benefits of between $500 million and $2 billion over a 30-year period (depending on the applicable discount rate), compared to industry costs of between $10 and $19 million in lost cash flows and $21 million in conversion costs. JA__, __[FinalRule1595,1674]. Or, in annualized values, the Department projected

consumer benefits of between $90 and $144 million in reduced boiler operating costs (depending on the applicable discount rate) and public health benefits of roughly $30 million from reduced pollution emissions, as compared to increased equipment costs of roughly $35 million, for total net benefits of between roughly $85 and $143 million per year. JA__-__, __[FinalRule1596-97,1675].

Petitioners press several challenges (in addition to the two described above) to the Department's "economically justified" finding, none of which renders the Department's clear-and-convincing determination unreasonable.

First, similar to the energy-savings arguments discussed above (*supra* at 26-32), Petitioners contend that the Department could not update its standards without additional "information on marginal gas prices," which it purportedly "needed" to determine utility-bill savings. PETR43-44. But once again, the Department explained that it used the best evidence available to determine energy pricing. JA__[FinalRule1632]. Specifically, the Department "derived average monthly energy prices for a number of geographic areas . . . using the latest data from [the U.S. Energy Information Administration]," and "assigned an appropriate energy price to each commercial and residential building in the sample based on its location." JA__-__[FinalRule1631-32]; *see* JA__-__[0083-A1_8-18to8-22], __-__[0083-A1_8C-1to8C-12]. The Department then "develop[ed] . . . marginal price factors for gas and electric fuels based on historical data relating monthly expenditures and consumption," and used this "marginal fuel price approach to convert fuel savings into corresponding

financial benefits for the different equipment classes." JA__[FinalRule1632]. Petitioners contend that it is not clear "exactly what all the adjustments were," PETR44, but the Department provided a detailed explanation in a technical support document, which listed the marginal price factors the Department applied in its analysis, JA__-__[0083-A1_8C-13to8C-15]. Nor do Petitioners identify any record evidence that contradicts the Department's explanation that it used "the best aggregate sources for energy prices currently available" to it. JA__[FinalRule1632]; *see Nat'l Ass'n for Surface Finishing*, 795 F.3d at 12. Accordingly, Petitioners cannot now credibly maintain that the Department unreasonably determined that its findings were supported by clear and convincing evidence. *See supra* at 30-33.

Second, Petitioners claim that the Department erroneously assumed that some purchasers choose to buy cheaper, less efficient boilers, even though more expensive, standards-compliant versions would ultimately save them money over time. PETR47-50. Petitioners contend that "business and institutional entities that purchase commercial packaged boilers 'routinely balance capital and operating costs' . . . and act in their own economic interests." PETR47-48 (quoting JA__[0073-A1_at_15]).

But as discussed below, *see infra* at 40-41, the Department's economic modeling and cost analysis does recognize, and account for, entities that "already purchase more-efficient equipment." JA__[FinalRule1626]; *see also* JA__[FinalRule1636] (explaining that the Department does not "further assess" impacts on entities that "voluntarily select higher efficiency equipment in the absence of standards");

JA__[FinalRule1655] (explaining that the Department does not claim any benefits from updated standards for such purchasers). And the Department "makes no such assertion" that "purchases of higher-efficiency commercial packaged boilers that would provide net economic benefits *to the purchaser* would not occur even in the absence of the proposed standard." JA__[FinalRule1636] (emphasis added).

Rather, as the Department explained, "[i]n some cases the benefits of more efficient equipment are not realized due to misaligned incentives *between purchasers and users*"—for example, "when the equipment purchase decision is made by a building contractor or building owner who does not pay the energy costs." JA__[FinalRule1676] (emphasis added). In other words, the Department's approach recognized that less efficient boilers with a lower upfront cost may be a rational purchase for businesses or individuals who do not pay the gas bill and will not realize any savings from improved energy efficiency, or who do not plan to own or occupy the building long enough for the long-term savings from reduced energy use to offset a higher upfront cost. Indeed, this situation was a "problem" that the Boiler Rule was specifically intended to address. JA__[FinalRule1676].

Petitioners do not dispute that these misaligned incentives exist in the commercial packaged boiler context. Petitioners assert only that they are of "*limited* relevance" here because the scenario with the "greatest" misaligned incentives—multiple occupancy buildings where building owners purchase appliances and tenants pay the utility bills—"generally does not occur." PETR50 (emphasis added) (citing

JA__[0076-A1_at_30] & n.3). In support, Petitioners cite a comment letter reporting that "75%+ of the commercial buildings in the [Commercial Building Energy Consumption Survey] data base are in categories where the end user either pays or has significant control over the decision to purchase a new boiler." JA__[0076-A1_at_30]. The letter also cited data that "25% of buildings are government owned and that 52% are owner occupied." JA__[0076-A1_at_30] n.3.

Petitioners' attempt to downplay this market failure does not render the Department's well-founded decision unreasonable. For example, a building owner who occupies one floor of a commercial building but rents out others may rationally purchase a cheaper, less efficient boiler, because the owner can pay a smaller upfront cost and then share the higher operating costs with tenants. Or a commercial "building contractor or building owner" may rationally choose to install a less expensive (and less efficient) boiler upon initial construction if they have plans to sell the building shortly thereafter for a profit. JA__[FinalRule1676]. And even assuming misaligned incentives are less prevalent in the circumstances cited by Petitioners, that still leaves up to 25% of commercial buildings—in addition to residential buildings, which account for roughly 12% of total boiler shipments, JA__[0083_9-6]—where end users lack significant control over boiler purchasing decisions and thus misaligned incentives remain a greater concern.

The Department also explained in the Rule that "[i]nsufficient information and the high costs of gathering and analyzing relevant information leads some consumers

to miss opportunities to make cost-effective investments in energy efficiency." JA__[FinalRule1676]. Petitioners question this explanation, *see* PETR49, but their own arguments in this case highlight the difficulty of gathering perfect information about the long-term economic savings associated with more efficient boilers, *see* PETR43-44. Nor do Petitioners acknowledge that commercial packaged boilers are not presently subject to labeling requirements that would disclose estimated annual operating costs or efficiency information to consumers at the time of purchase. *See* 16 C.F.R. §§ 305.14-22 (Federal Trade Commission regulations prescribing labeling requirements for covered appliances); *compare also, e.g.*, 10 C.F.R. §§ 431.31, 431.466 (Department regulations governing labeling requirements for other covered equipment), *with id.* §§ 431.81-87 (regulations governing commercial packaged boilers).

This Court "routinely and quite correctly" defers to an agency's understanding of the markets it regulates. *Pub. Citizen, Inc. v. NHTSA*, 374 F.3d 1251, 1260-61 (D.C. Cir. 2004) (quoting *Pub. Utils. Comm'n v. FERC,* 24 F.3d 275, 281 (D.C. Cir. 1994)); *see also Herrington*, 768 F.2d at 1424 (agency need not "document copiously every collateral inference it draws from its experience with a regulated industry"). Such deference is especially warranted here, where the Department has decades of experience setting energy conservation standards, and the relevant statutory history reflects Congress's determination that a voluntary, market-based approach was insufficient to accomplish its goal of steadily increasing the energy efficiency of covered products. *See supra* at 3-7.

Third and finally, Petitioners raise a related argument contesting the analytical method that the Department used to estimate consumer savings and efficiency distributions under the existing and updated standards. *See* PETR51-59. To perform that analysis, the Department relied on "Monte Carlo" simulations, JA__[FinalRule1626]—a relatively common statistical methodology used in a "wide variety of fields" to "measure[] the probability of various outcomes," *Lyondell Chem. Co. v. Occidental Chem. Corp.*, 608 F.3d 284, 293 (5th Cir. 2010); *see also, e.g.*, 12 C.F.R. § 1277.5(b)(1)-(2) (Federal Housing Finance Agency regulation identifying Monte Carlo simulations as a "generally accepted measurement technique" for regulated banks to estimate market risk); 14 C.F.R. § 25.981(b) & pt. 25 app. N (Federal Aviation Administration regulation setting forth Monte Carlo analysis as method for assessing flammability exposure time for fuel tanks).

A Monte Carlo analysis "accounts for variability and uncertainty" in data inputs by employing probability distributions to model a range of probable outcomes across hundreds, or even thousands, of possible scenarios. *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 428 (7th Cir. 2013) (noting that the Environmental Protection Agency has "endorsed this methodology as a reliable way to evaluate risk"); JA__-__[0083-A1_8B-2to8B-3] (describing Monte Carlo method); *see also, e.g.*, 81 Fed. Reg. 37,950, 38,006 (June 10, 2016) (Health and Human Services regulation using Monte Carlo simulation to estimate the impact of Medicare policy changes by modelling 1,000

different scenarios to "produce a distribution of potential outcomes that reflects the assumed probability distributions of the incorporated variables").

As the Department explained, the Monte Carlo method "provides a significant advantage over alternative approaches" in situations, such as here, where relevant inputs (like projected energy prices, installation costs, and equipment lifetime) are uncertain and variable. JA___[0002_at_42]. Among other things, a Monte Carlo analysis offers greater information about "the probability that the outcome will be in a particular range." JA__[0083-A1_8B-2]; *see also* JA __[FinalRule1626], __[FinalRule1637], __-__[0083-A1_8-1to8-5]. Thus, "[e]xplicit analysis of uncertainty and variability" via the probabilistic Monte Carlo approach can "provide more complete information to the decision-making process." JA__-__[0083-A1_8B-1]; *see also, e.g.*, 77 Fed. Reg. 32,308, 32,339-40 (May 31, 2012) (noting, in another energy conservation standards rulemaking, that several industry stakeholders "supported [the Department's] use of Monte Carlo simulation to account for variability and uncertainty").

Petitioners contend that the Department's analysis was faulty because it assumed "that purchasers of boilers *never* consider the economics of their investments" and thus "assign[ed]" equipment efficiency "randomly." PETR52-53. But Petitioners' characterization is incomplete, at best, and potentially misleading. As noted above, *supra* at 35-36, the Department's analysis explicitly recognized that some consumers already purchase more efficient boilers that comply with the updated

standards, *see* JA__[0083-A1_8H-1], and its model avoided calculating any economic benefit to such consumers so as not to overstate the benefits of updated standards, *see* JA__, __[FinalRule1626,1655].

Moreover, the Department's model is "not entirely random." 81 Fed. Reg. 65,720, 65,789 (Sept. 23, 2016) (responding to similar arguments from some of the same Petitioners here in another energy conservation standards rulemaking for residential furnaces).[14] Rather, for each uncertain variable, the Department determined a probability distribution "based on the conditions surrounding that variable." JA__[0083-A1_8B-3]. The Monte Carlo simulation then modeled thousands of scenarios that "randomly" selected values from *within the probability distribution* of an uncertain variable. JA__[0083-A1_8B-3]; JA__[FinalRule1626]. In other words, the Department's probabilistic method accounts for real-world consumer behavior by factoring consumer choices into the probability that the model will pick a particular value in any given run of the simulation. For example, if the Department had estimated that boilers of a particular efficiency level represent 30 percent of the market, there is a 30 percent chance that the Monte Carlo model will "randomly" select that efficiency level in a given scenario. *See* JA__[FinalRule1626] ("In performing an iteration of the Monte Carlo simulation for a given consumer,

[14] The Department's explanation in the residential furnace rulemaking also responded, in part, to the study that Petitioners reference in their brief here. *See* PETR54 & n.9; 81 Fed. Reg. at 65,789 (discussing and responding to criticisms from industry study).

equipment efficiency is chosen based on its probability."). And by modeling thousands of such scenarios, the analysis ultimately reliably predicts a range of outcomes based on their probabilities. *See id.* ("The analytical results include a distribution of 10,000 data points showing the range of [cost] savings . . . for a given efficiency level . . . ."); *cf. Lyondell Chem. Co.*, 608 F.3d at 293 ("Instead of simply averaging the input values, Monte Carlo analysis uses randomly-generated data points to increase accuracy, and then looks to the results that those data points generate.").

During the rulemaking, Petitioner AHRI suggested an alternative, "deterministic" method for modeling the economic benefits of the new standards. JA__[FinalRule1637]; *see* PETR54. That approach would have presumed that all consumers purchase the most efficient boilers when it would result in future cost savings regardless of whether the new standards were imposed, thereby lowering the projected economic benefit attributable to the new standards.

But the Department explained that it did not prefer the proposed alternative model for several reasons. First, the Department explained, the alternative model reflects an "overly optimistic and unrealistic working market" that ignores the misaligned incentives described above and "presumes information that may not be available to all purchasers." JA__[FinalRule1637]; *see supra* at 36-38. Second, the alternative approach "limited in many important ways the scope of the market being examined," including by ignoring the U.S. Energy Information Administration's data on residential energy consumption, "ignoring new construction, assum[ing] all

condensing boilers operate in the high return water temperature scenario, . . . and excluding the incremental costs of venting or maintenance and repair." JA__[FinalRule1637]. Third, "development of a complete consumer choice model . . . would require data that are not currently available." JA__[FinalRule1638]. And fourth, such a model would need to incorporate other factors that influence purchasing decisions—"such as incentives, the value that some consumers place on efficiency apart from economics (*i.e.,* 'green behavior'), and whether the purchaser is a building owner/occupier or landlord," *id.*—even though Petitioners had not suggested a practicable way of doing so. *See also, e.g.*, 81 Fed. Reg. at 65,789-90 (explaining, based on these same considerations, that the Monte Carlo "method of assignment, which is in part random, may simulate actual behavior as well as assigning furnace efficiency based solely on imputed cost-effectiveness").[15]

As noted above, *supra* at 27-28, this Court has long recognized that regulatory agencies have "undoubted power" to rely on predictive models, and that the Court "must defer to the agency's decision" on which model to use so long as that decision is rational. *Small Refiner Lead Phase-Down*, 705 F.2d at 535; *see also, e.g.*, *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1004-05 (D.C. Cir. 1997) (per curiam) (affirming agency's

[15] Notably, in other instances where industry stakeholders *had* provided the Department with specific data (such as discounts offered on list prices for particular boiler models), the agency used that information to inform its analysis, rather than relying on random distribution through a Monte Carlo simulation, as Petitioner AHRI had (somewhat inconsistently) suggested in that instance. *See* JA__[FinalRule1616].

choice of particular model, even though it "may at some level make assumptions that are not perfectly consistent with natural conditions"); *Herrington*, 768 F.2d at 1385 (similar). "That a model is limited or imperfect is not, in itself, a reason to remand agency decisions based upon it." *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1052 (D.C. Cir. 2001). Rather, an agency's "choice of model will be rejected" if it "bears no rational relationship to the reality it purports to represent." *Sierra Club*, 167 F.3d at 662 (citation omitted).

The Department has repeatedly used Monte Carlo simulations to prescribe energy conservation standards, *see, e.g.*, 78 Fed. Reg. 23,336, 23,373 (Apr. 18, 2013) (distribution transformers); 76 Fed. Reg. 70,548, 70,580-82 (Nov. 14, 2011) (fluorescent lamp ballasts); 75 Fed. Reg. 10,874, 10,917 (Mar. 9, 2010) (small electric motors), including when determining whether clear and convincing evidence supported setting standards more stringent than the Society of Engineers industry standards, *see, e.g.*, 80 Fed. Reg. at 57,481 (single package vertical air conditioners and heat pumps); 81 Fed. Reg. at 2474 (commercial package air conditioning and heating equipment and warm air furnaces). The Court thus "cannot conclude that the [Department's] approach is unreasonable" where it selected a well-established model that is "routinely used" in this and similar fields. *BNSF Ry. Co. v. Surface Transp. Bd.*, 526 F.3d 770, 781 (D.C. Cir. 2008). If anything, the Department's decision to use this "probability approach" is especially reasonable here, JA__[0083-A1_8B-2], where—as noted above, *supra* at 17-18—it had to determine, based on uncertain and variable

inputs, whether particular findings were "highly *probable*." JA__[FinalRule1608] (quoting *Colorado*, 467 U.S. at 316) (emphasis added); *see Koszola*, 393 F.3d at 1300 (quoting McCormick on Evidence § 340 (5th ed.)).

Indeed, the Department explained that it preferred the Monte Carlo model here because it is "valuable to capture variation in inputs to help establish variation . . . in the output." JA __[FinalRule1637]. Petitioners ignore the Department's finding, for example, that the benefits of updated commercial packaged boiler standards outweighed the burdens in "each of the low, primary and high" projections of U.S. economic growth that the Department modeled. JA__[FinalRule1674]; *see also* JA__[0083-A1_10D-1to10-D4] (describing different fuel price and building stock projections under each economic growth scenario); JA__-__[FinalRule1675-76] (table V.44 showing annualized benefits under each scenario). These results, the Department explained, indicated that "even under the [most] conservative estimations," the updated standards are "still economically justified." JA__[FinalRule1674].

To the extent Petitioners argue that the Department, in assessing variation of cost savings outputs, erred by looking primarily at the average, rather than the median, cost savings per consumer, their argument is misplaced. PETR55-57. That many consumers may have modest savings and a subset of users have larger savings does not mean the updated standards are not economically justified, especially where the data Petitioners cite in their brief show positive median cost savings as well. PETR56. Indeed, the Department paid close attention to the percentage of consumers who

incur net costs when determining whether particular standards are economically justified, *see* JA__[FinalRule1674], and highlighted the output of such information as another advantage of the Monte Carlo model, *see* JA__[FinalRule1637]. The skew that Petitioners allege in the average cost savings per consumer does not affect those numbers.

Furthermore, even as to those consumers who may incur net costs, Petitioners ignore a key statutory factor—the "need for national energy conservation," 42 U.S.C. § 6313(a)(6)(B)(ii)(VI)—that also informs whether the updated standards are "economically justified." Here, the Department found that the updated boiler standards would "yield significant environmental benefits," in the form of reduced emissions of harmful air pollutants "associated with energy production and use." JA__-__, __[FinalRule1595-96,1605]. Specifically, the Department projected that the standards would avoid emissions of approximately 16 million metric tons of carbon dioxide and 41,000 tons of nitrogen oxides, with an estimated monetary value of over $30 million per year. JA__-__[FinalRule1674-75]. The Department explained that these "externalities related to public health, environmental protection and national energy security" are "not reflected in energy prices" or "captured by the users of such equipment." JA__[FinalRule1676]. Petitioners simply ignore these substantial "external benefits resulting from improved energy efficiency of commercial packaged boilers," JA__[FinalRule1676], which help "justif[y]" the updated standards under 42

U.S.C. § 6313(a)(6)(B)(ii), even where more efficient boilers might arguably burden particular purchasers.

In short, "[a]fter carefully considering the analysis results and weighing the benefits and burdens" of updated standards, the Department reasonably determined that "clear and convincing evidence" supported its finding that the standards are "economically justified." JA__[FinalRule1674]. Certainly, based on the record before it, the Department was not "compelled" to conclude the contrary. *Ahmed*, 804 F.3d at 240.

II. If the Court finds any error in the Department's clear-and-convincing determination, it should—at most—remand without vacatur

For the reasons explained above, the Court should deny the petitions for review and affirm the Department's updated energy conservation standards for commercial packaged boilers. However, if the Court were to find the Department's clear-and-convincing determination too "terse[]" or "conclusory," PETR2, 14; RESP22-23, or otherwise find grounds for granting the petitions, the Court should—at most—remand the Boiler Rule without vacatur for the Department to provide a more comprehensive explanation.

As a threshold matter, although Respondent's brief asked the Court to remand with vacatur, Respondent's "consent is not alone a sufficient basis" to vacate the Rule. *Mexichem Specialty Resins, Inc. v. EPA*, 787 F.3d 544, 557 (D.C. Cir. 2015). That is

particularly so in this case, given the prior administration's unlawful attempt to withhold publication of the Boiler Rule in the first place, *see supra* at 11.[16]

Instead, if the Court finds any error in the Department's determination, the Court should select an appropriate remedy using the test set forth in *Allied-Signal, Inc. v. Nuclear Regulatory Commission,* 988 F.2d 146, 150-51 (D.C. Cir. 1993). Applying that test, this Court "frequently" remands without vacatur where "a rule's defects are curable" and vacatur "'would at least temporarily defeat the enhanced protection of the environmental values covered by'" the rule. *U.S. Sugar Corp. II*, 844 F.3d at 270 (alteration omitted) (quoting *North Carolina*, 550 F.3d at 1178).

This case "presents one of the circumstances in which remand without vacatur makes the most sense." *U.S. Sugar Corp. II*, 844 F.3d at 270. Any error in the Department's clear-and-convincing determination amounts to, at most, a mere explanatory deficiency. *See* RESP14 (characterizing the Department's determination as not "sufficiently developed or explained"). This Court has frequently recognized that such deficiencies do not warrant vacatur because the agency might yet supply an adequate explanation on remand. *See, e.g.*, *Clean Wis. v. EPA*, 964 F.3d 1145, 1177 (D.C. Cir. 2020) (remanding without vacatur where "there is at least a realistic

[16] Moreover, in light of the administration change that has occurred since Respondent filed its brief, and because Respondent's brief does not justify its request for remand with (rather than without) vacatur, the Court might consider asking the Department to file a supplemental brief clarifying its positions.

possibility that EPA will be able to substantiate the relevant designations on remand"); *City of Oberlin v. FERC*, 937 F.3d 599, 611 (D.C. Cir. 2019) (remanding without vacatur where it is "plausible that the Commission will be able to supply the explanations required"). That Respondent's brief does not defend the clear-and-convincing determination now says nothing about whether the Department, on remand, "might be able to offer a satisfactory reason" to support the determination. *Am. Bankers Ass'n v. Nat'l Credit Union Admin.*, 934 F.3d 649, 674 (D.C. Cir. 2019). Nor does the forthcoming peer review change the equation, *supra* at 31 n.12, since remand without vacatur would still allow the Department to "incorporate the results of the peer review on remand." RESP25.

In addition, vacatur "would at least temporarily defeat the enhanced protection of the environmental values" covered by the energy conservation standards. *U.S. Sugar Corp. II*, 844 F.3d at 270 (alteration and citation omitted). "As a general rule," this Court "do[es] not vacate regulations when doing so would risk significant harm to the public health or the environment." *Wisconsin v. EPA*, 938 F.3d 303, 336 (D.C. Cir. 2019) (per curiam). And vacatur here would deprive the public of the "significant environmental benefits" that would result from manufacturers' compliance with the updated standards. JA__[FinalRule1595] (projecting that the Rule would result in cumulative emissions reductions of 16 million metric tons of carbon dioxide, 139,000 tons of methane, and 41,000 tons of nitrogen oxides).

Petitioners, no doubt, would prefer to eliminate any obligation to comply with the updated boiler standards and to push the Boiler Rule's compliance deadlines out indefinitely into the future. But that result would be particularly unwarranted here, where the Boiler Rule was finalized and posted publicly more than four years ago, and the prior administration already unlawfully delayed its compliance deadlines (and the corresponding public benefits) by several years. *See Perry*, 940 F.3d at 1079-80 (holding that the Department had a non-discretionary regulatory duty to publish the Rule by March 2017); *see also supra* at 11 n.5 (explaining that the Department also had a statutory duty to publish a final rule by March 2018). Indeed, because the Boiler Rule's compliance deadlines are not until January 2023, the Court could resolve any challenges to the Department's revised explanation on remand before then by retaining jurisdiction over the instant litigation and directing the agency to "complete the remand as expeditiously as practicable." *Clean Wis.*, 964 F.3d at 1177.

Vacatur, by contrast, would inappropriately delay the Rule's compliance deadlines even further and "'set back' the Act's objective," *Am. Bankers Ass'n*, 934 F.3d at 674, of "steadily increasing the energy efficiency of covered products," *Abraham*, 355 F.3d at 197. And it would do so even though Petitioners acknowledge that technologies to comply with the updated commercial packaged boiler standards are available now. PETR47.

CONCLUSION

The petitions for review should be denied. If the Court grants the petitions, it should—at most—remand without vacatur for the Department to further explain its clear-and-convincing-evidence determination.

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Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the type-volume limitation of this Court's order of September 21, 2020 because it contains 11,700 words, excluding the parts of the brief exempted under D.C. Circuit Rule 32(e)(1), according to the count of Microsoft Word.

I further certify that this brief complies with the typeface and type-style requirements of Federal Rule of Appellate Procedure 32(a)(5) and (6) because it has been prepared in 14-point Garamond, a proportionally spaced font.

/s/ Ian Fein
Ian Fein

CERTIFICATE OF SERVICE

I hereby certify that on February 22, 2021, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit using the appellate CM/ECF system.

Participants in the case who are registered CM/ECF users will be served by the appellate CM/ECF system.

/s/ Ian Fein
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ADDENDUM

42 U.S.C. § 6316
Administration, penalties, enforcement, and preemption

(a) The provisions of section 6296(a), (b), and (d) of this title, the provisions of subsections (*l*) through (s) of section 6295 of this title, and section 6297 through 6306 of this title shall apply with respect to this part (other than the equipment specified in subparagraphs (B), (C), (D), (I), (J), and (K) of section 6311(1) of this title) to the same extent and in the same manner as they apply in part A. In applying such provisions for the purposes of this part—

(1) references to sections 6293, 6294, and 6295 of this title shall be considered as references to sections 6314, 6315, and 6313 of this title, respectively;

(2) references to "this part" shall be treated as referring to part A–1;

(3) the term "equipment" shall be substituted for the term "product";

(4) the term "Secretary" shall be substituted for "Commission" each place it appears (other than in section 6303(c) of title);

. . . .

(b)

(1) The provisions of section 6295(p)(4) of this title, section 6296(a), (b), and (d) of this title, section 6297(a) of this title, and sections 6298 through 6306 of this title shall apply with respect to the equipment specified in subparagraphs (B), (C), (D), (I), (J), and (K) of section 6311(1) of this title to the same extent and in the same manner as they apply in part A. In applying such provisions for the purposes of such equipment, paragraphs (1), (2), (3), and (4) of subsection (a) shall apply.

. . . .