March 23, 2026

The Honorable Lee Zeldin
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Submitted via regulations.gov

Re: Prime Mover Institute's Comment on the Proposed Rule Entitled: Interstate Transport Plan Review for the 2015 Ozone NAAQS, 91 Fed. Reg. 4026 (Jan. 30, 2026), Docket No. EPA-HQ-OAR-2025-0192

Dear Administrator Zeldin:

Prime Mover Institute respectfully submits these comments on EPA's proposed Interstate Transport Plan Review for the 2015 Ozone NAAQS, 91 Fed. Reg. 4026 (Jan. 30, 2026) (Proposed Rule). Prime Mover Institute supports EPA's proposal to approve the good neighbor state implementation plans (SIPs) submitted by Alabama, Arizona, Kentucky, Minnesota, Mississippi, Nevada, New Mexico, and Tennessee, and urges EPA to finalize the proposed approvals without delay.

These comments go beyond the specific approvals proposed in this Phase 1 action to address structural deficiencies in the interstate transport framework that have produced 15 years of regulatory instability, multiple Supreme Court and appellate court interventions, and persistent nonattainment at the very monitors the program was designed to protect—nonattainment that, as the source apportionment evidence in Section 3 demonstrates, is primarily attributable to local and mobile sources rather than the interstate EGU transport the framework targets. The current regulatory landscape—with the Good Neighbor Plan stayed nationwide, multiple SIP disapprovals vacated, and the foundational *Chevron* deference framework overruled—presents a rare opportunity for EPA to rebuild the interstate transport program on durable analytical and legal foundations.

Prime Mover Institute is a new public interest organization dedicated to advancing energy dominance in America. We work with coalition partners to engage in

rulemaking processes with technical information and legal arguments, calling attention to the impacts regulation has on citizens, the grid, and the rule of law.

America stands at a crossroads. A legacy of bad policy and worse ideas threatens the nation with blackouts and bill hikes, right as demand for energy rises. In order for America to scale up its energy production and avoid the worst-case scenarios, we cannot cling to the policies and procedures that got us here. Fortunately, both policymakers and the private sector realize the need for dramatic change. And courts have begun to look more skeptically at accretions of arbitrary power, accretions that government officials used to thwart energy production and use. This points the way to a future of streamlined regulation, taxpayer savings, and cheaper, more abundant energy for all.

The main obstacle to energy dominance is what Robert Bryce calls the "anti-industry industry," the non-profits and lawyers dedicated to defending the status quo. These groups have used litigation, regulatory comments, and intimidation to forestall change. They will no doubt keep at it. But, despite their vast funding, they will not be able to maintain a policy regime that's so far out of touch with the American public and their elected representatives. So long, that is, that the advocates of energy dominance show up to defend their ideas.

In the words of Vaclav Smil, "prime movers are energy converters able to produce kinetic (mechanical) energy in forms suitable for human uses." In the same way, Prime Mover Institute helps convert insight into action.

Thank you for the opportunity to comment.

Respectfully submitted,

/Russell Greene/
Russell Greene
Managing Director
Prime Mover Institute

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REGULATORY & LEGAL BACKGROUND

1. The Good Neighbor Provision and the 4-Step Framework

Section 110(a)(2)(D)(i)(I) of the Clean Air Act requires each state's implementation plan to contain adequate provisions prohibiting emissions activity within the state from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other state with respect to any NAAQS. 42 U.S.C. § 7410(a)(2)(D)(i)(I). This provision—known as the "good neighbor" or "interstate transport" provision—operates within the Act's broader structure of cooperative federalism, under which states bear "primary responsibility" for air quality. *Id.* § 7401(a)(3).

EPA evaluates good neighbor obligations using a 4-step framework developed through successive rulemakings. At Step 1, EPA identifies downwind air quality monitors ("receptors") projected to be in nonattainment or to have maintenance concerns for the applicable NAAQS. At Step 2, EPA uses photochemical air quality modeling to quantify each upwind state's contribution to ozone at those receptors, screening out states whose contributions fall below a significance threshold. At Step 3, EPA identifies emission reductions available at various cost levels using cost-effectiveness analysis. At Step 4, EPA translates those reductions into enforceable state emission budgets.

The Supreme Court upheld this framework in *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489 (2014), finding EPA's use of cost-effectiveness criteria to allocate reduction obligations among upwind states to be a permissible construction of the statute. *Id.* at 514. The Court rejected the argument that the statute required strict proportionality between each state's contribution and its reduction obligation. *Id.* at 519–21.

2. The 2015 Ozone NAAQS and EPA's Guidance to States

In 2015, the Obama EPA lowered the primary ozone NAAQS from 75 ppb to 70 ppb. States were required to submit good neighbor SIPs addressing their interstate transport obligations for the new standard by October 2018. To assist states, EPA issued memoranda in March and August 2018 providing modeling data and analytical guidance. The August 2018 Memorandum advised that a 1-ppb contribution threshold may be a reasonable and appropriate screening level for upwind states at Step 2. *See* 91 Fed. Reg. at 4028-29. EPA also made available its 2011-based modeling platform as the recommended analytical tool.

At least 19 states relied on EPA's guidance in developing their SIP submissions, adopting the 1-ppb threshold and using the 2011-based platform to evaluate their

interstate transport obligations. Many of those states concluded—reasonably, on the basis of EPA's own data—that their emissions did not significantly contribute to downwind nonattainment and submitted SIPs demonstrating compliance.

3. The Biden EPA's Reversal

Beginning in 2023, the Biden EPA reversed course. Using updated modeling and a lower contribution threshold of approximately 0.70 ppb (1% of the 70-ppb NAAQS), the Biden EPA disapproved 21 state SIP submissions—including submissions from states that had followed EPA's 2018 guidance. The Biden EPA simultaneously promulgated the Good Neighbor Plan, a federal implementation plan imposing seasonal NOx emission budgets on electric generating units (EGUs) and certain industrial sources in 23 states. 88 Fed. Reg. 36,654 (June 5, 2023).

The Good Neighbor Plan reflected significant departures from the prior framework. The Biden EPA lowered the significance threshold without adequate justification for abandoning the 1-ppb level it had previously endorsed. The Biden EPA substituted its own preferred modeling platform for the analyses states had developed at EPA's direction. And EPA's cost-effectiveness analysis relied on Integrated Planning Model (IPM) projections that assumed extensive generation shifting—the retirement or idling of coal-fired power plants in favor of natural gas and renewable generation—as a cost-effective control measure. The generation shifting assumptions were particularly problematic in light of the Supreme Court's intervening decision in *West Virginia v. EPA*, 597 U.S. 697 (2022), which held that EPA may not use the Clean Air Act to compel a fundamental restructuring of the nation's energy mix.

4. Legal Challenges to the Good Neighbor Plan

The Good Neighbor Plan was met with legal challenges across multiple circuits, producing a series of decisions that, taken together, represent a thorough repudiation of the Biden EPA's approach.

Supreme Court Stay. In *Ohio v. EPA*, 603 U.S. 279 (2024), the Supreme Court stayed the Good Neighbor Plan nationwide, finding that the applicant states had demonstrated a likelihood of success on the merits. The Court focused on EPA's failure to address whether the Plan's emission budgets remained valid as individual states were removed by court orders—the "subset" problem that the Plan's uniform cost-based methodology was ill-equipped to handle. The stay remains in effect.

State Reliance on EPA Guidance. The Sixth Circuit in *Kentucky v. EPA*, 123 F.4th 447 (6th Cir. 2024), vacated EPA's disapproval of Kentucky's SIP. The court held that EPA had endorsed the 2011-based modeling platform and the 1-ppb

threshold in its 2018 guidance, that Kentucky reasonably relied on that guidance, and that EPA's subsequent disapproval for following the guidance was arbitrary and capricious. The court's analysis confirmed that EPA had treated the 1-ppb threshold as a presumptively acceptable screening level. *Id.* at 469-72.

State Modeling Deference. The Fifth Circuit in *Texas v. EPA*, 2026 WL 710552 (5th Cir. 2026) (substituted opinion), vacated EPA's disapproval of both Mississippi's and Texas's SIPs. The court vacated Texas's SIP disapproval after EPA's own January 2026 Proposed Rule revealed that EPA had given "greater weight to the EPA's latest modeling results" that "showed linkages not identified in the March 2018 memorandum modeling"—data unavailable when Texas submitted its SIP. *Id.* at *20–*21. In light of that admission, the court concluded it could "no longer conclude with confidence that EPA's disapproval was based on its technical review of the data and reasoning Texas offered." *Id.* at *5.

State-Specific Review. In *Oklahoma v. EPA*, 605 U.S. 609 (2025), the Supreme Court reinforced that good neighbor SIP evaluations are state-specific undertakings, requiring EPA to assess each state's submission individually rather than applying a one-size-fits-all federal analysis.

The End of *Chevron* Deference. In *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024), the Supreme Court overruled *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), holding that courts must exercise independent judgment in determining whether an agency has acted within its statutory authority. While the decision includes a grandfather clause preserving prior holdings reached under *Chevron*—including *EME Homer City*'s approval of the 4-step framework—new applications of the framework no longer benefit from *Chevron* deference. Every methodological choice EPA makes at each step of the 4-step framework is now subject to de novo judicial review.

Two additional circuit court decisions provide important framework principles. In *Wisconsin v. EPA*, 938 F.3d 303 (D.C. Cir. 2019), the D.C. Circuit required EPA to apply parallel timeframes for upwind and downwind obligations, holding that EPA cannot impose reduction requirements on upwind states while allowing downwind states to delay their own controls. And in Delaware Department of Natural Resources v. EPA, 785 F.3d 1 (D.C. Cir. 2015), the D.C. Circuit recognized the distinct expertise of EPA and FERC with respect to grid reliability matters, suggesting that if EPA ventures into grid reliability considerations when setting emission budgets, it should consult with FERC.

5. The Proposed Rule

The Proposed Rule, 91 Fed. Reg. 4026 (Jan. 30, 2026), is the current administration's first concrete response to the regulatory and legal developments described above. EPA proposes to:

- Approve the good neighbor SIPs submitted by eight states—Alabama, Arizona, Kentucky, Minnesota, Mississippi, Nevada, New Mexico, and Tennessee—using a 1-ppb contribution threshold at Step 2;
- Defer to the modeling platform each state relied upon in developing its SIP, with cross-checks against EPA's updated 2016v3 platform for confirmation;
- Retain 2023 as the analytic year for consistency; and
- Withdraw previously proposed error corrections for Iowa and Kansas, leaving their prior SIP approvals undisturbed.

Id. at 4026–34. This is Phase 1 of what EPA has described as a two-phase approach. A forthcoming Phase 2 action will address the Good Neighbor Plan FIP and the remaining states whose SIPs were disapproved under the Biden administration.

EPA also expressly solicits comment on several issues relevant to the structural reforms proposed in these comments, including whether a higher significance threshold (2 ppb or 5 percent of the NAAQS) would be appropriate. *Id.* at 4033-34.

Summary of Comments

Prime Mover Institute's comments address eight issues central to the design and durability of the interstate transport framework.

1. EPA should formalize the 1-ppb significance threshold as a standing structural principle—validated by two circuits and analytically superior to the 0.70-ppb approach adopted in the 2023 rulemaking—and commit in Phase 2 to evaluating a higher alternative.
2. EPA's approach to state-modeling deference is correct. EPA should make this commitment durable by extending it to Phase 2 and all future good neighbor SIP reviews, and should clarify that the proposed rule's qualifying language does not reserve the discretion courts have found unlawful.

3. EPA's Step 1 receptor identification rests on outdated and incomplete data that systematically inflates the apparent nonattainment problem. States should be permitted to supplement their demonstrations with current evidence, and EPA should build data-integrity requirements into Step 1 for Phase 2.

4. EPA should adopt grid resolution consistent with its own guidance at coastal and lakeside monitors—where systematic modeling bias is documented—and validate models against observed data.

5. EPA should explicitly account for background and international ozone before attributing contributions to domestic interstate transport, given that background uncertainty exceeds the contributions being regulated.

6. The current framework imposes binding obligations on upwind states while allowing downwind states to defer their own controls—violating the temporal symmetry *Wisconsin v. EPA* requires. EPA should correct this asymmetry.

7. EPA should stop using the Integrated Planning Model for emission budget-setting—a resource-planning function that belongs to FERC, ISOs, and state PUCs, not EPA—and rely instead on unit-level engineering analysis.

8. EPA should adopt formal FERC consultation procedures before any rule affecting dispatch, retirements, or emission budgets, given that grid reliability is FERC's statutory domain and the reliability outlook is deteriorating.

Comments of Prime Mover Institute

1. EPA Should Finalize the 1-ppb Significance Threshold Now and Finalize a Higher Threshold in its Phase 2 Rulemaking.

The proposed rule's adoption of a 1-ppb contribution threshold at Step 2 is well-grounded in EPA's prior guidance, confirmed by two circuits, and analytically superior to the 0.70-ppb approach the prior administration substituted without adequate explanation. Prime Mover Institute endorses this threshold for Phase 1 and urges EPA to formalize it as a structural principle governing all future transport actions under the 2015 ozone NAAQS. EPA should also commit in Phase 2 to a rigorous technical evaluation of higher alternatives, grounded in the modeling performance evidence described below.

The legal case is settled. Two federal circuits have now validated the 1-ppb threshold. The Sixth Circuit held that EPA's August 2018 Memorandum "treated the 1 ppb threshold as presumptively acceptable unless a State's unique facts made the threshold improper." *Kentucky v. EPA*, 123 F.4th 447, 469 (6th Cir. 2024). The Fifth Circuit's substituted opinion in *Texas v. EPA* reserved judgment on the threshold question because EPA is reconsidering it, 2025 WL 710552, at *18, but vacated Texas's SIP disapproval on the related ground that EPA relied on post-submission modeling data. *Id.* at *5, *20–*21.

The Fifth Circuit's analysis, while reserving the ultimate question, is instructive. The court conducted an independent textual analysis of "contribute significantly" under *Loper Bright* and concluded that " 'amounts' suggests that Congress had in mind some measurable amount, just as NAAQS are expressed in measurable amounts, such as 0.70 ppb," and that "the meaning of 'amounts which will … contribute significantly' would not be static but would have to be re-evaluated from time to time." *Id.* at *17–*18. The court further confirmed that *EME Homer City*'s core holdings survive *Loper Bright*, including the prohibition on over-control: "EPA cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State." *Id.* at *11. These principles reinforce the need for EPA to formalize a threshold that reflects what the models can actually measure—and to do so with a record-based explanation that can withstand independent judicial review.

Both courts identified defects in the 2023 rulemaking approach. The Sixth Circuit held that EPA abandoned a threshold it had specifically endorsed without acknowledging or explaining the change. *Kentucky*, 123 F.4th at 469. The Fifth Circuit vacated because EPA's own January 2026 Proposed Rule revealed its acknowledged reliance on post-submission modeling unavailable to the state. *Texas v. EPA*, 2026 WL 710552 at *5, *20–*21. An agency that reverses a prior policy

must provide a "reasoned explanation," including acknowledgment of serious reliance interests. *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009). EPA failed both requirements. It ignored the reliance interests of 19 states that built their SIP analyses on the August 2018 guidance, then penalized those states for following EPA's own instructions. The proposed rule corrects this error.

But correction is not enough. Unless EPA formalizes the 1-ppb threshold as a structural principle, the same pattern will repeat: states will rely on a threshold, a subsequent administration will substitute a different one, and courts will spend years sorting out the wreckage. Under *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024), every threshold choice EPA makes is subject to de novo judicial review. Courts will demand a reasoned, record-based explanation—not an assertion of agency expertise. EPA should build that explanation into the final rule: why 1 ppb reflects the limit of scientifically meaningful transport measurement for a 70-ppb standard, what evidence would justify departing from it, and how the threshold satisfies the statutory requirement that transport contributions be "significant." 42 U.S.C. § 7410(a)(2)(D)(i)(I). Formalizing the threshold now is both better administrative practice and the strongest defense against future judicial challenge.

The technical case supports going higher. A contribution threshold is meaningful only if the models used to estimate contributions can reliably distinguish values above and below it. At sub-ppb levels, EPA's photochemical models cannot. Commenters documented individual-day modeling errors exceeding 10 ppb at ozone monitors, with systematic biases of 4-6 ppb across high-ozone day populations—precisely the days that drive attainment determinations. Midwest Ozone Group, Comments on Proposed Good Neighbor Plan FIP, at 52-54 (EPA-HQ-OAR-2021-0668-0323, June 21, 2022) ("MOG 2022 Comments"). These errors are not random noise that cancels in the aggregate; they are systematic overpredictions and underpredictions driven by grid resolution, land-water interface artifacts, and boundary condition assumptions. *See* MOG 2022 Comments, at 52-54; Alpine Geophysics, Model Performance Evaluation at Land-Water Interfaces (EPA-HQ-OAR-2015-0500-0383, Feb. 1, 2016) ("Alpine 2016 LWI Report"). A threshold of 0.70 ppb—and even 1.0 ppb—claims precision that falls well within the model's documented error range. The D.C. Circuit drew a bright line: "*EPA must first establish that there is a measurable contribution*. Interstate contributions cannot be assumed out of thin air." *Michigan v. EPA*, 213 F.3d 663, 684 (D.C. Cir. 2000) (emphasis in original). When models predict contributions within their own systematic error, those predictions are not measurably distinguishable from zero. Addressing this measurability question in the record would strengthen EPA's position under *Loper Bright*'s de novo review standard and ensure consistency with *Michigan*'s requirement.

The principal counterargument to a higher threshold is a capture-rate concern: that raising the threshold will exclude contributions that, collectively, are material. The MOG data answer this directly. At the 1-ppb threshold, Connecticut monitors retain over 93% and Wisconsin monitors retain over 96% of the transport signal captured at 0.70 ppb. MOG 2022 Comments, at 57. States excluded at 1 ppb contribute so little that their removal does not materially diminish the program's capture of actual transport. At 2 ppb, capture rates decline further (Connecticut: 70-93%; Wisconsin: 82-83%), but "notably less" must be evaluated against the model's uncertainty, not in isolation. MOG 2022 Comments, at 56-57 tbls. 11-12; 91 Fed. Reg. at 4034. When the model's systematic error is 4-6 ppb, an 18-30% reduction in a modeled signal may simply represent removal of states whose contributions are below the model's own margin of error.

The fact that excluded states contribute small amounts collectively does not make those individual contributions more measurable. States excluded at 1 ppb contribute, by definition, less than 1 ppb each. Their aggregate falls below the model's systematic bias. EPA has no way to determine with scientific confidence whether the contributions it would capture below 1 ppb are real transport, modeling artifact, or both. Statutory authority to regulate demands a more reliable evidentiary foundation.

We recognize that 1 ppb itself falls within the model's error range. But formalization rests on a different foundation: 1 ppb is the threshold EPA's own guidance endorsed, that 19 states relied upon, that two circuits validated, and that has proven administratively workable across two NAAQS cycles. The model-uncertainty evidence argues for going higher, not lower—and the Phase 2 commitment below is the vehicle for determining how much higher.

Phase 2 should evaluate and adopt a higher threshold. EPA need not adopt a higher threshold for these eight states—the 1-ppb threshold is well-supported for Phase 1. But in its Phase 2 rulemaking, EPA should evaluate and adopt a higher significance threshold. Prime Mover Institute specifically supports consideration of both a 2-ppb threshold and the 5-percent-of-NAAQS alternative EPA has solicited comment on. Prime Mover Institute urges EPA to include in the final Phase 1 rule an express commitment to conduct a threshold analysis in Phase 2 that: (a) compares modeled contribution estimates against monitored observations at each receptor where sub-threshold linkages would be established; (b) quantifies the model's known systematic bias on high-ozone days at those receptors; and (c) evaluates whether contributions below a proposed threshold are distinguishable from that bias at a defined confidence level. This analysis should be submitted for independent technical review—whether through the Science Advisory Board, a peer review panel, or a comparable process—before EPA finalizes a threshold for any Phase 2 action. EPA has the tools: Alpine's nested 4km modeling domains,

embedded within the coarser 12km national grid at specific receptor locations, demonstrate receptor-level performance validation that EPA's 12km platform does not achieve—and this nested approach is computationally feasible without rebuilding the entire national platform at fine resolution. Alpine Geophysics, "Good Neighbor" Modeling Technical Support Document—4km Resolution Platform (EPA-HQ-OAR-2020-0272-0139-ExA, Dec. 14, 2020) ("Alpine 2020 TSD"); *see also* Alpine 2016 LWI Report.

The proposed rule correctly embraces 1 ppb. The final rule should commit to going further.

2. EPA Should Provide Deference to State-Submitted Modeling.

EPA's approach to state-modeling deference is correct and should be made permanent through regulatory changes. EPA's commitment in the proposed rule to giving "full consideration . . . to the modeling available to the States at the time they develop their interstate transport SIP submissions, whether that be developed by the EPA or otherwise" is the right approach. 91 Fed. Reg. at 4035. EPA will rely first on the modeling a state used in developing its SIP; if that modeling shows no linkage above 1 ppb for the 2023 analytic year, EPA will approve the submission. *Id.* EPA frames this as consistent with "the cooperative-federalism framework of NAAQS implementation." *Id.*

That framing is correct, and EPA should make it permanent by codifying state-modeling deference as the default for all future good neighbor SIP reviews.

Congress assigned primary responsibility for air pollution control to state and local governments. 42 U.S.C. § 7401(a)(3). A good neighbor SIP is a state's demonstration of compliance prepared using methodologies the state's own engineers developed and defended. When EPA constructs a separate federal modeling platform, withholds it during SIP development, and uses it to disapprove the resulting submission, it inverts that structure—relegating states to respondents in an EPA-controlled process rather than principal actors exercising independent analytical judgment.

Two circuit courts have held that this inversion is unlawful. In *Kentucky v. EPA*, 123 F.4th 447 (6th Cir. 2024), the Sixth Circuit vacated EPA's SIP disapproval because EPA had directed states to use specific modeling and a 1-ppb threshold, Kentucky complied, and EPA then disapproved using different modeling and a lower threshold. The Fifth Circuit reached the same result in *Texas v. EPA*, holding that EPA's reliance on updated 2016v3 modeling was "outcome determinative" for Mississippi—which passed under the framework it had relied upon and failed only under modeling introduced after the fact. *Oklahoma v. EPA*,

605 U.S. 609 (2025), reinforces the point from a different angle: if SIP reviews are inherently state-specific—involving "intensely factual determinations" and a "unique mixture of reasons"—then the analytical baseline for each review must be the state's own submission, not a uniform federal platform.

The regulatory history of this proceeding shows what happens without a default rule. EPA issued three guidance memoranda in 2018, at least 19 states relied on them, and EPA then characterized the guidance as "archival" and disapproved submissions using updated modeling and a lower threshold. *See* MOG 2022 Comments, at 16–20; Midwest Ozone Group, Comments on Region 5 SIP Disapprovals (EPA-R05-OAR-2022-0006-0013, April 25, 2022) ("MOG 2022 Region 5 Comments"), at 6–9. The states documented the consequences. Oklahoma described "continually paddling the channels of communication with EPA Region 6" and never receiving notice that reliance on the 2018 guidance would be considered inadequate. MOG 2022 Comments, at 13. West Virginia reported that EPA had "reevaluated and modified without communication to states" what it considered acceptable. *Id.*, at 11. Tennessee observed that EPA appeared to be "set[ting] an impossible standard whereby states are held accountable for technical data that has yet to be produced." *Id.* at 12. These are not individual missteps. They are the predictable consequence of reserving discretion to substitute federal modeling at any point in the review process. A default rule of state-modeling deference—with procedural safeguards requiring notice and an opportunity to supplement before EPA can reject a state's methodology—eliminates that risk prospectively while preserving EPA's authority to evaluate the adequacy of each state's demonstration.

EPA should extend this approach to Phase 2 and make clear it governs all future good neighbor reviews. The proposed rule's deference to state-submitted modeling is the strongest structural reform in the Phase 1 action, and EPA should make it durable. Specifically, EPA should commit in the final rule to applying the same state-modeling-first framework in Phase 2 review of the Good Neighbor Plan FIP and the remaining disapproved SIPs. The states whose SIPs were disapproved in 2022 and 2023 developed submissions in reliance on EPA's 2018 guidance and were evaluated against modeling they never had access to.

The independent modeling also already exists. Alpine Geophysics developed nested 4km modeling domains at specific receptor locations within the coarser 12km national grid—producing finer-resolution results at the very monitors driving the transport analysis—and those results sit in the administrative record, unrebutted. Alpine 2020 TSD; *see also* Alpine 2016 LWI Report. EPA's responses to Alpine's performance evaluation and methodology were unpersuasive, and the agency did not persuasively explain why the 12km platform was superior despite its documented bias at coastal and lakeside monitors. The phrase "developed by

the EPA or otherwise" in the proposed rule acknowledges this category of modeling. 91 Fed. Reg. at 4035. Extending state-modeling deference to Phase 2 would give that phrase operational content and require EPA to engage with independently developed platforms rather than treat them as anomalies.

One aspect of the proposed rule's language warrants attention. The preamble states that EPA's deference to state modeling is "limited to this reconsideration" and reserves authority "to consider information more generally under the interstate transport provision or other provisions of the CAA." 91 Fed. Reg. at 4035. That qualifying language could be read as preserving the kind of discretion to substitute federal modeling after the fact that the *Kentucky* court found unlawful. *See Kentucky v. EPA*, 123 F.4th at 469–72. EPA may not intend that reading—but the best way to foreclose it is to make the commitment affirmative and forward-looking. Confirming that the state-modeling-first approach will govern Phase 2 and future transport actions would strengthen the rule's legal durability and signal to states that they can invest in SIP development with confidence that their analytical work will be evaluated on its merits. This is not a request for a novel policy position. It is a request that EPA build on what it has rightly started here and commit, in writing, to the approach two circuit courts and the Supreme Court have already identified as legally required.

3. EPA's Step 1 Analysis Rests on Outdated and Incomplete Data, and EPA Should Address this in Phase 2.

EPA's Step 1 receptor identification drives the entire transport framework. Every contribution linkage at Step 2, every emission budget at Step 4, flows from which monitors EPA identifies as nonattainment receptors. The analytical inputs to that determination—emissions inventories, design values, and boundary conditions—are outdated and incomplete in ways that systematically inflate the apparent nonattainment problem. EPA should allow states to supplement their demonstrations with current evidence on the three factors identified below, and should build data-integrity requirements into Step 1 for Phase 2 and future transport actions.

3.1. States should be permitted to supplement their SIP submissions with updated and complete data.

States built their demonstrations on EPA's guidance, the modeling platforms EPA made available, and the 1-ppb significance threshold. Two circuits have confirmed that reliance was reasonable. *See supra* Section 2. Prime Mover Institute does not urge EPA to send states back to square one. Instead, EPA should allow states to supplement their existing submissions with evidence on three factors that bear

directly on whether receptors are actually in nonattainment for reasons the Good Neighbor Provision can address.

The Good Neighbor Provision conditions upwind state obligations on a specific statutory finding: that the state's emissions "contribute significantly to nonattainment in, or interfere with maintenance by, any other state." 42 U.S.C. § 7410(a)(2)(D)(i)(I). "Nonattainment" is a defined regulatory condition tied to actual air quality at actual monitoring locations. Under *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 412-13 (2024), courts must independently determine whether EPA has met that statutory predicate. The permissibility standard that shielded EPA's analytical choices under *Chevron* no longer applies. *Loper Bright*'s grandfather clause preserves *EME Homer City*'s approval of cost-based allocation, 572 U.S. at 524, but it does not extend to every new rulemaking that borrows the same analytical structure. *See* Jonathan Remy Nash, *Chevron Stare Decisis in a Post-Loper Bright World*, 110 Iowa L. Rev. Online 180, 183 (2025). The D.C. Circuit has *Loper Bright*'s independent-interpretation standard to CAA cases. *See U.S. Sugar Corp. v. EPA*, 113 F.4th 984, 990 (D.C. Cir. 2024). Allowing states to present supplemental evidence—and addressing it on the merits—builds the kind of durable record that standard requires.

The administrative record contains substantial evidence on three factors that affect Step 1 receptor identification but are not currently reflected in EPA's analytical platform.

1. Exceptional events. Section 319(b) of the Clean Air Act requires EPA to "exclude" data affected by exceptional events from "any determination" regarding NAAQS violations. 42 U.S.C. § 7619(b)(3)(B); *see also* 40 C.F.R. § 50.14(b)(1). EPA has concurred on exceptional event exclusions at the very monitors it uses as Good Neighbor receptors—while giving no indication that it applies those exclusions to transport receptor identification. In 2024, EPA concurred with Connecticut DEEP's demonstrations, expressly stating it would "rely on the calculated design values that exclude the event-influenced data for the purpose of determining attainment." EPA TSD (July 22, 2024); EPA-R01-OAR-2024-0325-0014. The 2023 wildfire season produced the highest regional-scale surface ozone levels recorded across the northern tier since 1995. Cooper et al., *Early Season 2023 Wildfires Generated Record-Breaking Surface Ozone Anomalies Across the U.S. Upper Midwest*, 51 Geophysical Research Letters (2024). Key transport receptors—Sheboygan County (77 ppb), Milwaukee County (74 ppb), Allegan County (75 ppb)—were directly in the path. 89 Fed. Reg. 101,901, 101,904-05 (Dec. 17, 2024). There is no principled basis for treating identical monitoring data as invalid for attainment determinations while relying on it for transport receptor identification.

2. International transport. States should be permitted to present evidence that international transport and stratospheric intrusions inflate design values at nonattainment receptors—ozone that cannot be reduced by any domestic action and should not form the basis for upwind state obligations under the Good Neighbor Provision. EPA's continued reliance on 2011 GEOS-Chem boundary conditions for 2023 future-year projections compounds the concern. The scientific basis for this concern—including the magnitude of background ozone uncertainty and its implications for contribution attribution—is developed in Section 5.

3. Current emissions data. The modeling platform relies on NEI data now 12 to 15 years old. The 2011-based platform used by most states uses NEI 2011v2 data; the 2016v3 platform used in the Good Neighbor Plan mixed NEI 2019 for point sources with NEI 2017 for nonpoint sources. NEI 2020, the most recently published complete inventory, was not incorporated into any transport modeling platform. EPA should give states the option to present actual CAMPD data demonstrating that their emissions are substantially below modeled levels—not as a requirement to remodel, but as a tool to show the modeled baseline overstates the problem. National ozone-season NOx emissions from CSAPR-subject power plants declined approximately 57 percent between 2005 and 2023, from 456,000 tons to approximately 196,000 tons. *See* EPA, *Progress Report on Emission, Air Quality, and Health Trends Associated with the Cross-State Air Pollution Rule and the Acid Rain Program*; EPA Clean Air Markets Program Data (CAMPD), https://campd.epa.gov. Tennessee's actual 2023 ozone-season NOx of approximately 3,728 tons was 52 percent below the CSAPR Group 2 budget of 7,736 tons; Alabama's actual emissions were 49 percent below its Group 2 budget. *Id.* When photochemical models assume states are emitting roughly twice their actual ozone-season NOx, modeled concentrations at downwind receptors are systematically overstated. *See* MOG 2022 Comments, at 103-07; J. Edward Cichanowicz, Technical Comments on EGU Control Technology and Cost Analysis, at 45-46 (Exhibit F to MOG 2022 Comments) ("Cichanowicz 2022 Report").

This approach preserves state reliance interests—states do not have to redo their modeling. It empowers states to strengthen their own demonstrations within the existing framework. And it gets this evidence into the administrative record where EPA must engage with it. The prior Good Neighbor Plan's own performance record underscores the stakes: Alpine Geophysics calculated that the maximum AQAT-estimated ozone improvement at any receptor under the Good Neighbor Plan was 0.2 ppb, and no upwind state's contribution to any receptor was eliminated by the rule's controls. Alpine Geophysics, Review of EPA's Air Quality Assessment Tool, 13-14 (Exhibit E to MOG 2022 Comments). Supplemental showings would allow states to demonstrate why that result was predictable—and why correcting the analytical inputs would change it.

3.2. EPA's Phase 2 rule should build data integrity into Step 1 of the analysis.

The reason these supplemental showings are necessary now is that Step 1 receptor identification does not currently account for any of them. The baseline is contaminated by inventories that are 12 to 15 years old, design values that include unexcluded exceptional events, and boundary conditions frozen to a 2011 simulation. The *Ohio v. EPA* stay is instructive: the Court stayed the Good Neighbor Plan in part because EPA had failed to account for the effect of state departures on the overall analysis—structuring its methodology to ignore foreseeable changes that would affect the regulatory predicate. 603 U.S. at 295-96. The corrected-baseline problem is structurally parallel: EPA structures Step 1 to ignore foreseeable reductions that would affect whether the receptor is nonattainment in the first place.

For Phase 2 and future transport actions, EPA should correct this structural deficiency by building data integrity into Step 1 from the start. Specifically, before identifying Step 1 receptors in any future transport action, EPA should: use the most current NEI data rather than inventories that predate the analysis by a decade or more; screen design values for exceptional events before receptor identification, consistent with the statutory command of Section 319(b), 42 U.S.C. § 7619(b)(3)(B); and update boundary conditions to reflect current international transport rather than carrying forward 2011 GEOS-Chem simulations. The Information Quality Act, Pub. L. 106-554, § 515, independently requires agencies to ensure the quality, objectivity, and integrity of information used in regulatory decisions. Using pre-exclusion design values for transport analysis at monitors where EPA has already determined those same values are unsuitable for attainment determinations does not satisfy that standard.

This does not require EPA to prove that nonattainment is "caused by" interstate transport. It requires EPA to ensure that the nonattainment finding—the statutory predicate for the entire transport framework—rests on current, accurate data rather than assumptions the record has shown to be wrong. *See Michigan v. EPA*, 213 F.3d 663, 684 (D.C. Cir. 2000) ("*EPA must first establish that there is a measurable contribution*."). A Step 1 analysis built on corrected data strengthens that foundation for every downstream step.

Connecticut's own Department of Energy and Environmental Protection found that mobile sectors account for 43 percent of ozone at the Westport monitor while EGU emissions account for 14 percent. Conn. Dep't of Energy & Envtl. Prot., Source Contribution to Connecticut Ozone. EPA's own analyst, Norm Possiel, reached the same conclusion in a 2018 internal analysis, finding that "recent analyses of measured data by some states suggest that the current ozone problems

in parts of the Eastern US may have become more of a local problem within the nonattainment area and nearby states." Norm Possiel, EPA, Ozone Trends Analysis, 2 (Exhibit C to MOG 2022 Comments). Source apportionment modeling corroborates this at the monitor level: at the New Haven, Connecticut monitor, the EGU sector accounts for approximately 6 percent of total modeled ozone while boundary and international sources contribute approximately 33 percent; at the Kenosha, Wisconsin monitor, mobile and area sources together account for nearly 43 percent while EGU contributions represent 5.1 percent. MOG 2022 Comments, at 76-78, 82. The historical record confirms what these analyses found: between 2011 and 2020, upwind EGU ozone-season NOx fell by more than 65 percent, yet ozone design values at the Connecticut and Wisconsin receptors remained essentially unchanged. MOG 2022 Region 5 Comments, at 18-19. The transport framework is targeting a small fraction of the problem while leaving the dominant contributors unaddressed. The supplemental showings in this section would allow states to present this evidence; the Step 1 reforms would ensure future transport actions are calibrated to the actual problem.

4. EPA Should Address Documented Modeling Bias at Land-Water Monitors.

The five monitors that most consistently drive EPA's interstate transport analysis—Fairfield and New Haven, Connecticut on Long Island Sound; Sheboygan, Allegan, and Milwaukee, Wisconsin on Lake Michigan—share a physical characteristic that EPA's 12km national modeling grid cannot adequately resolve: they sit at the boundary between land and open water. EPA's own Modeling Guidance identifies these monitors as requiring finer resolution. Two peer-reviewed field campaigns—LMOS (2017) and LISTOS (2018)—independently confirmed that 12km resolution cannot capture the meteorological processes driving ozone at these locations. Independent nested 4km modeling at receptor locations and a retrospective comparison of EPA's projected design values against actual monitored data corroborate that conclusion: EPA's modeling systematically overstates ozone at these locations, and the overstatement is large enough to determine regulatory outcomes.

4.1. EPA's own guidance requires finer resolution at land-water monitors.

EPA's Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze, EPA-454/R-18-009 (Nov. 2018), states that "the use of grid resolution finer than 12 km would generally be more appropriate for areas with a combination of complex meteorology, strong gradients in emissions sources, and/or land-water interfaces in or near the nonattainment area(s)." Alpine 2020 TSD, at 26 (quoting Modeling Guidance). Every critical

eastern receptor satisfies all three criteria simultaneously. Long Island Sound and Lake Michigan generate persistent sea- and lake-breeze circulations; the Connecticut and Wisconsin shorelines feature sharp urban-rural emission gradients; and the monitors sit, by definition, at land-water interfaces. Yet EPA has used a 12km national grid in every transport rulemaking from CSAPR through the Good Neighbor Plan, without nested finer-resolution domains at any of these locations. *See* Alpine 2016 LWI Report, at 1; Alpine 2020 TSD, at 3-6; MOG 2022 Comments, at 23-27; MOG 2022 Region 5 Comments, at 26-27.

The 3x3 maximum selection method compounds the resolution problem. Rather than using the modeled concentration in the grid cell where the monitor sits, EPA selects the highest concentration from a 3x3 matrix of surrounding cells—roughly 36 km x 36 km. At land-water monitors, several of those cells lie over open water, where lower dry deposition produces higher modeled ozone. Alpine documented that "the highest concentrations are dominantly selected from over-water cells," with daily differences between the center cell and the 3x3 maximum reaching 29.84 ppb at Sheboygan—nearly half the NAAQS. Alpine 2016 LWI Report, at 7-8 tbl. 3. When evaluated at the 3x3 maximum values EPA actually uses, model performance collapses—with normalized mean bias exceeding +29% at multiple monitors and sign reversals at Sheboygan.[1]

4.2. Independent 4km modeling quantifies systemic bias at land-water-interface receptors.

Alpine Geophysics constructed nested 4km modeling domains at specific receptor locations—the 4kei platform—embedded within the coarser 12km national grid, using EPA's own 2023-year emissions data and following EPA guidance in all respects except grid resolution at the receptor sites. Alpine 2020 TSD presents the full technical support documentation. The results are consistent and directionally unambiguous: 4km modeling produces lower projected design values at every land-water interface monitor. The largest difference was at Westport, Connecticut (090019003), where the 12km average design value of 73.0 ppb dropped to 68.3 ppb at 4km—a 4.7 ppb reduction. At Milwaukee (550790085), the

[1] When evaluated at the 3x3 maximum values EPA actually uses for the RRF calculation, model performance collapses: normalized mean bias at Allegan was +34.89% (versus +14.17% at the center cell); at Fairfield, +29.74% (versus +11.13%). At Sheboygan, the sign reversed entirely—the model underpredicted at the center cell (NMB of -5.39%) but overpredicted at the 3x3 maximum (+15.93%). Alpine 2016 LWI Report, at 8-9 tbl. 4. MOG 2022 Region 5 Comments extended this analysis to the 2016v2 platform and found the same patterns, with the top modeled day at Fairfield showing a +24.51 ppb error. MOG 2022 Region 5 Comments, at 24-26 tbls. 1-2.

reduction was 4.1 ppb, moving the monitor from maintenance concern to clear attainment. At Suffolk County, New York (361030002), the reduction was 3.4 ppb. Alpine 2020 TSD, at 25-28 tbls. 7-1 through 7-3. Several monitors that drove upwind-state obligations under EPA's 12km analysis projected attainment under the 4km analysis—making the grid resolution choice, at these locations, outcome-determinative.

EPA's "no water" workaround—excluding cells identified as 50% or more water from the 3x3 selection—partially addresses the symptom but not the underlying physics. Even after the filter, 4km design values remain 1-5 ppb lower. Alpine 2020 TSD, at 25-28 tbl. 9-1. A coarser grid smears the sharp ozone gradient at the land-water interface across the cell regardless of which cell is selected.

The wind field errors documented by commenters confirm that the problem is deeper than grid size. At Kenosha, Wisconsin (550590019), on the day with the highest modeled ozone for the entire season, WRF-modeled wind vectors showed persistent lake-to-land flow while observations showed land-to-lake flow—a 180-degree directional error on the day that dominated the regulatory analysis. MOG 2022 Comments, at 27-32; MOG 2022 Region 5 Comments, at 32-37. When the model incorrectly simulates lake-to-land flow, it predicts that Chicago-area emissions are transported to Wisconsin shoreline monitors—the pathway that creates the upwind-downwind linkage. When actual winds flow the other direction, the linkage does not exist.

Two dedicated peer-reviewed field campaigns independently confirm these findings. The 2017 Lake Michigan Ozone Study (LMOS) concluded that "1.3 km horizontal resolution is necessary to resolve features of the lake breeze." LMOS 2017 Preliminary Finding Report, at 99 (v. 4/11/2019), filed as MOG 2022 Comments, Ex. B. Stanier et al. documented that during the June 12, 2017 event at Kenosha, observed ozone varied by more than 27 ppb within a single 12km grid cell. *Stanier et al.*, "Overview of the Lake Michigan Ozone Study 2017," 102 Bull. Am. Meteor. Soc. E2812 (2021). The 2018 Long Island Sound Tropospheric Ozone Study (LISTOS) ran WRF-CMAQ simultaneously at 12km, 4km, and 1.33km at the Connecticut monitors that drive the transport analysis, finding that ozone bias decreased from 2.40 ppb at 12km to 0.57 ppb at 4km to 0.37 ppb at 1.33km. *Torres-Vazquez et al.*, "Performance Evaluation of the Meteorology and Air Quality Conditions From Multiscale WRF-CMAQ Simulations for the Long Island Sound Tropospheric Ozone Study (LISTOS)," 127 J. Geophys. Res.: Atmos. e2021JD035890 (2022). The empirical record corroborates the modeling critique: between 2011 and 2020, upwind EGU NOx emissions decreased by more than 65%, yet design values at Sheboygan and the Connecticut monitors remained essentially unchanged. MOG 2022 Region 5 Comments, at 18-19 fig. 1. If the model is attributing ozone to upwind EGU NOx when the actual bias source is a

land-water modeling artifact, reducing actual EGU NOx would have no effect on measured ozone. That is the pattern observed.

4.3. Retrospective validation of modeling compared with observed conditions confirms systematic overprediction.

EPA projected 2023 ozone design values across successive modeling platforms—the March 2018 memorandum (2011-based), the 2016v2 platform, and the 2016v3 platform. The 2023 ozone season has passed; the actual 2021-2023 design values are publicly available. EPA has not compared the two. That omission matters: the Proposed Rule states that EPA is "retaining the 2023 analytical year used to inform past action on States' interstate transport SIP submissions." 91 Fed. Reg. at 4031.

The results are unambiguous: at all 16 receptors, the actual design value exceeded the projected value. The average underprediction is 7.6 ppb. EPA predicted 11 of 16 monitors would attain by 2023; none did—0% attainment accuracy.

Systematic underprediction does not strengthen EPA's case for action—it undermines the reliability of the model's source attribution. A model that systematically underestimates future design values has systematically overestimated the effect of the emission reductions it projected. The modeled contribution of any individual upwind state is a function of the same flawed projection system. The question is not whether nonattainment exists—it does—but whether the model can accurately attribute that nonattainment to specific upwind states at the sub-ppb precision the transport framework demands. A model that cannot predict aggregate ozone levels within 7.6 ppb on average cannot reliably determine that State X contributes 0.8 ppb while State Y contributes 1.2 ppb. The retrospective comparison does not call the nonattainment finding into question; it calls the source attribution into question—and source attribution is the analytical foundation of every Step 2 linkage and Step 4 emission budget.

This pattern is precisely the signature the land-water modeling deficiencies would produce. When the 3x3 maximum approach overpredicts base-year ozone, the Relative Response Factor is biased low—the model "calculates" a larger ozone reduction than will actually occur. The projected future design values therefore systematically understate future ozone. The land-water monitors show the largest underpredictions, consistent with the modeling artifacts documented above.[2]

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[2] The Lake Michigan monitors show an average underprediction of 6.6 ppb, with individual errors up to 8.6 ppb at Muskegon. *See* Alpine 2016 LWI Report, at 8-9 tbl. 4.

Alpine separately documented a code integrity problem in EPA's CAMx configuration that produced daily differences reaching 2.8 ppb.[3]

The Information Quality Act, Pub. L. 106-554, § 515, independently requires agencies to ensure the quality, objectivity, and integrity of information used in regulatory decisions.[4] Continuing to rely on modeling platforms whose 2023 projections were systematically wrong—in the wrong direction, by material amounts, uniformly across 16 receptors—without disclosing or addressing that divergence does not satisfy that standard.

EPA should: (1) conduct retrospective validation comparing projected 2023 design values to actual 2021-2023 and 2022-2024 design values at every receptor; (2) deploy nested fine-resolution modeling (minimum 4km, consistent with Alpine 2020 TSD) at all receptors satisfying the Modeling Guidance criteria for complex meteorology, emission gradients, and land-water interfaces; and (3) discontinue the 3x3 maximum method at land-water monitors, substituting center-cell or fine-resolution grid results.

5. EPA Should Account for Background and Non-EGU Ozone Sources.

Background ozone is large, variable, and inadequately characterized. EPA's transport framework attributes ozone at downwind receptors to upwind states without first removing the ozone that arrives regardless of what any American state does. That analytical failure is not a refinement issue—it is structural, and it renders marginal contribution determinations unreliable.

The scientific evidence is unambiguous. U.S. Background (USB) ozone ranges from 15-65 ppb (seasonal mean MDA8) across the United States, with uncertainty of approximately +/-10 ppb for seasonal means and higher for individual days.

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[3] Alpine also documented a code integrity problem: EPA's CAMx configuration modified the HMAX "super stepping" parameter from the developer-recommended 2,000 meters to 20 meters—a 100-fold reduction—with daily differences reaching 2.8 ppb and no published analysis of the modification's impact on model accuracy. Alpine-HMAX, at 1-3 (EPA-HQ-OAR-2015-0500-0383).

[4] EPA's own IQA Guidelines apply a heightened standard to "influential scientific information"—information that will have a clear and substantial impact on important public policies. Projected ozone design values that determine which states bear good neighbor obligations plainly qualify. Conducting and disclosing this retrospective comparison would strengthen the record's durability under the independent judicial review standard *Loper Bright* establishes.

D.A. Jaffe et al., "Scientific Assessment of Background Ozone Over the U.S.: Implications for Air Quality Management," *Elementa: Science of the Anthropocene*, 6:56 (2018). The Congressional Research Service has separately documented that stakeholders face challenges meeting the NAAQS "in part due to the difficulty of reducing ozone in areas with potentially large contributions from background sources." CRS, "Background Ozone: Challenges in Science and Policy," R45482 (Jan. 2019). EPA itself acknowledges that non-U.S. and non-anthropogenic sources contribute to downwind nonattainment receptors. What EPA has not done is subtract those contributions before determining whether upwind states contribute "significantly" under 42 U.S.C. § 7410(a)(2)(D)(i)(I).

Alpine Geophysics quantified the problem using CAMx APCA and OSAT source apportionment. At Connecticut monitors, boundary and international ozone accounts for approximately 30% of the modeled design value—roughly 25-29 ppb—while EGU and non-EGU point sources together account for approximately 12% (roughly 6% each). MOG 2022 Comments figs. 15-18. In Alpine's nested 4km OSAT modeling at eastern receptor locations, boundary condition contributions ranged from 11.01 ppb (Allegan County, MI) to 15.61 ppb (Suffolk County, NY). Alpine 2020 TSD tbl. 8-2. The uncontrollable fraction is three to four times larger than the EGU fraction the good neighbor program regulates.

At western receptors, the problem is worse. The Colorado Front Range monitors linked to Arizona and New Mexico sit at elevations where USB ozone is highest in the continental United States. Stratospheric intrusions at these monitors contribute more ozone in a single event than Arizona's total annualized contribution of approximately 0.40 ppb over an entire ozone season. Colorado DPHE, "Mitigation Plan for Stratospheric Ozone Intrusion and Wildfire" (2018). EPA's boundary conditions for 2023 projections are derived from a 2011 GEOS-Chem simulation that does not capture twelve years of changes in Asian emissions and transpacific transport. Alpine 2020 TSD, at 15. TCEQ independently confirmed that different GEOS-Chem configurations produce materially different boundary conditions, and that 2011's exceptional drought and wildfire conditions make it an unrepresentative baseline year. TCEQ, "Impact of Global Model Configurations on Boundary Conditions," Contract No. 582-23-45171-032 (June 2024).

The legal implication is plain. When contributions of 0.49-0.77 ppb are measured against background ozone of 15-50+ ppb with +/-10 ppb uncertainty—derived from frozen 2011 boundary conditions that likely understate current international transport—the claimed precision is illusory. The contribution estimate reflects the model's resolution limit, not a factual determination that upwind emissions are causing a problem domestic controls can fix. *Michigan v. EPA*, 213 F.3d 663, 684

(D.C. Cir. 2000) (requiring that EPA first establish a "measurable" contribution before imposing interstate transport obligations).

EPA should adopt four analytical requirements for Phase 2.

EPA should adopt four analytical requirements for any Phase 2 transport action. First, conduct receptor-specific background ozone quantification using OSAT or equivalent source apportionment—tracking boundary conditions, stratospheric contributions, biogenic precursors, and Canadian/Mexican anthropogenic sources as separate tagged categories—before any contribution analysis begins. Alpine's APCA and OSAT analyses in MOG 2022 Comments and Alpine 2020 TSD demonstrate this is technically feasible. Second, update boundary conditions for 2023 projections using a contemporaneous GEOS-Chem simulation rather than carrying forward 2011 conditions, and at minimum report the sensitivity of contribution estimates to alternative boundary condition assumptions. TCEQ, Contract No. 582-23-45171-032 (June 2024). Third, for receptors where background ozone exceeds 40 ppb—as at the Colorado Front Range monitors linked to Arizona and New Mexico—require a specific demonstration that domestic controls can produce attainment before those receptors qualify for Step 1 linkage. Fourth, consistent with Alpine 2020 TSD, Section 9.2, subtract the portion of the projected design value attributed to international anthropogenic sources before evaluating upwind contributions at all receptors where international transport is a material contributor.

These reforms are analytically tractable. The tools exist. The administrative record supporting them is detailed and unrebutted. What has been absent is EPA's willingness to treat background ozone as a foundational input to the transport framework rather than an afterthought.

6. EPA Should Align Upwind Obligations with Downwind Attainment Deadlines.

The D.C. Circuit requires temporal symmetry between upwind obligations and downwind attainment deadlines. *Wisconsin v. EPA*, 938 F.3d 303, 316-17 (D.C. Cir. 2019), held that upwind reduction obligations must operate on "parallel timeframes" with downwind attainment dates—a requirement first established in *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), which directed EPA to "harmonize" the two. The framework as applied violates that requirement. EPA's 2023 analytical year captures upwind obligations but does not reflect downwind controls that were adopted but not yet effective. Upwind states are evaluated against a baseline that treats nonattainment as a product of upwind emissions alone, without crediting downwind reductions that would have reduced modeled nonattainment, reduced the apparent upwind contribution, and potentially

removed some upwind states from coverage altogether. *See* MOG 2022 Comments, at 2-7, 39-40, 57-64; MOG 2022 Region 5 Comments, at 13-17. This asymmetry is exactly what *Wisconsin* condemned.

The evidence is concrete. New York's SCCT controls would produce approximately 4.8 ppb of air quality improvement—more than any individual upwind state's modeled contribution—but Phase 2 compliance was not required until May 2025, beyond the analytical year, and NYISO granted reliability extensions for the dirtiest peaker barges through 2027-2029. MOG 2022 Comments, at 59-61. Illinois enacted coal retirements by 2030 under the Climate and Equitable Jobs Act, Pub. Act 102-0662, but EPA's inventory locked to "early 2021" means none of those reductions appear in the baseline. In December 2024, EPA reclassified eight areas to Serious nonattainment with a 2027 attainment deadline, 89 Fed. Reg. 101,901, rendering the 2023 analytical year obsolete—four years before the governing deadline. 91 Fed. Reg. at 4031. The result: upwind states face enforceable budgets premised on a modeling year that assumes downwind sources were already controlled. They were not.

EPA should update the analytical year for Phase 2 to reflect the governing 2027 attainment deadline, credit all adopted-but-not-yet-effective downwind controls in the modeling inventory, and treat reliability extensions that keep high-emission downwind sources operating as functional modifications to the attainment timeline.

7. IPM Pulls EPA Beyond Its Statutory Lane, and EPA Should Abandon the Tool.

The Integrated Planning Model is a resource-planning tool, and EPA is using it to do resource planning. IPM, developed by ICF in 1987, projects least-cost capacity expansion, dispatch, and retirement decisions—functions that belong to FERC, ISOs/RTOs, and state public utility commissions. When EPA uses IPM to set legally binding emission budgets, it is doing resource planning without the statutory authority, institutional expertise, or market accountability to do it well. This is not a problem unique to the Good Neighbor Plan. EPA has relied on IPM-based generation-shifting projections across multiple rulemakings—the Clean Power Plan, the Carbon Pollution Standards, and every major transport rule from CAIR through the Good Neighbor Plan—and the pattern is consistent: IPM projects fleet restructuring that does not materialize, producing emission budgets disconnected from what the actual grid can deliver.

This rule illustrates why. IPM modeled 32 coal units totaling 9.7 GW as retired despite no announced retirement plans, and 42 additional units totaling 14.9 GW as idled. Cichanowicz 2022 Report, at 45-46. IPM projected cross-RTO transfers

between SPP and ERCOT that were physically impossible—ERCOT operates as a separate interconnection with only approximately 820 MW of DC ties. *Id.* at 52-53. EPA's own Engineering Analytics team estimated 26 percent more NOx reduction potential from SCR retrofits than IPM projected, and five states faced allowance deficits requiring emission rates the Cichanowicz Report characterized as essentially unachievable. *Id.* at 47, 62-64. EPA's own peer review acknowledged that IPM diverges from real-world behavior. No independent validation by GAO, the National Academies, or the Science Advisory Board has ever been conducted.

The legal framework reaches the same conclusion. The major questions doctrine in *West Virginia v. EPA*, 597 U.S. 697 (2022), is a principle of general interpretive force. When transport budgets can only be met through generation shifting, the practical effect is identical to mandating it—regardless of statutory label. IPM projections are not neutral market forecasts; they are policy choices embedded in compliance-cost assumptions. The ERCOT/SPP evidence proves this: the projected transfers were physically impossible, meaning IPM was manufacturing a compliance pathway, not predicting market behavior. *See* ERCOT Comments, EPA-HQ-OAR-2021-0668-0434.

EPA should abandon IPM-based generation shifting for emission budget-setting across all programs. Unit-level engineering analysis is the appropriate basis for within-source controls. If EPA needs fleet projections, it should rely on the entities Congress charged with grid planning—FERC, NERC, and the ISOs/RTOs—not its own resource-planning model. Under *EME Homer City*, EPA "cannot require a State to reduce its output of pollution by more than is necessary to achieve attainment in every downwind State." 572 U.S. at 521. A budget methodology built on a model that systematically under-allocates allowances by assuming impossible retirements and transfers the grid cannot execute does not reflect what is necessary.

8. EPA Should Formalize FERC Consultation on Grid Reliability on New Rules.

EPA's environmental regulations inevitably affect grid reliability when they drive capacity reductions or retirement decisions, and the reliability stakes are higher than they have ever been. NERC's 2025 Long-Term Reliability Assessment projects over 105 GW in anticipated retirements alongside a 224 GW increase in aggregated summer peak demand—a 69% increase over the prior year's projection. MISO escalates to "High" risk beginning in 2028. NERC 2025 LTRA (Jan. 2026), at 8-9, 42, 44. These are not speculative concerns; they are the consensus projections of the entity Congress designated to assess grid reliability.
Grid reliability is FERC's statutory domain, not EPA's. The Federal Power Act Section 215, 16 U.S.C. § 824o, vests reliability authority in FERC through the

Electric Reliability Organization framework. FERC certifies NERC as the ERO, approves mandatory Reliability Standards, and enforces them with penalties up to $1 million per day. EPA has no comparable reliability mandate, no reliability expertise, and no enforcement authority over grid operations. When EPA's emission budgets produce reliability consequences, the agency with actual grid expertise must be consulted.

The Good Neighbor Plan demonstrated what happens when EPA proceeds without that consultation. The rule contained no reliability safety valve and no formal FERC consultation despite worsening reliability conditions. Four major ISOs serving more than 151 million Americans filed joint comments warning of specific, quantified reliability consequences. Joint ISO/RTO Comments, EPA-HQ-OAR-2021-0668-0413 (June 21, 2022), at 1 n.2, 4. ERCOT identified 10,800 MW of generation at risk of retirement and projected a ninefold increase in firm load-shed probability—from 4.5% to 40%—during the summer peak window. ERCOT Comments, EPA-HQ-OAR-2021-0668-0434 (June 21, 2022), at 1, 4-5. EPA proceeded anyway. Prior rulemakings had included at least minimal reliability coordination mechanisms, *see* 80 Fed. Reg. 64662, 64877–79 (Oct. 23, 2015); the Good Neighbor Plan abandoned even those. The D.C. Circuit has separately recognized that EPA's unilateral reliability determinations are legally vulnerable. *See Delaware Dep't of Natural Res. & Envtl. Control v. EPA*, 785 F.3d 1 (D.C. Cir. 2015).

EPA should adopt internal rules and procedures requiring formal FERC consultation before promulgating any rule that affects dispatch, unit economics, retirements, or emission budgets for the power sector. This is not a request for EPA to cede its environmental authority. It is a request that EPA exercise that authority with the input of the agency Congress charged with grid reliability.

Conclusion

Prime Mover Institute supports EPA's proposal to approve the good neighbor SIPs submitted by Alabama, Arizona, Kentucky, Minnesota, Mississippi, Nevada, New Mexico, and Tennessee, and urges EPA to finalize those approvals promptly. The proposed rule correctly defers to the modeling each state relied upon and applies a 1-ppb contribution threshold consistent with EPA's own guidance and recent appellate precedent.

Prime Mover Institute appreciates the opportunity to comment on this important rulemaking and is available to provide additional technical or analytical support as EPA develops its Phase 2 action.