

# PM<sub>2.5</sub> NAAQS Updates and Challenges

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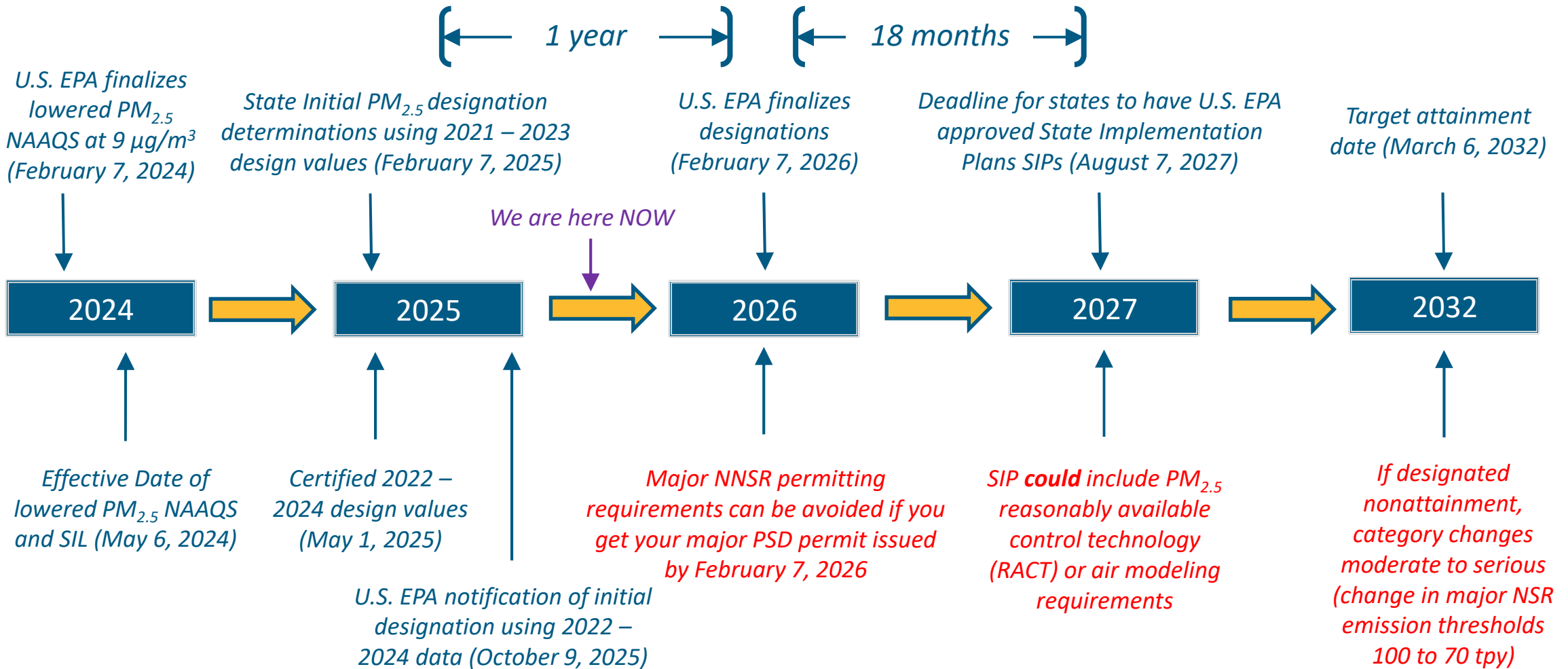


# Agenda

- ❑ National Ambient Air Quality Standard (NAAQS) background and timeline
- ❑ Review of potential nonattainment areas and designation process/timing
- ❑ Air quality modeling impacts
- ❑ Overview and timing of nonattainment new source review (NNSR) permitting process
- ❑ Exceptional / atypical Events
- ❑ What happens next?



# PM<sub>2.5</sub> NAAQS Timeline



\*Develop Compliance Approach. Consider Capital Expenditures (e.g., control equipment, DAHS), Turnarounds, and Air Permitting Requirements. Develop Calendar and Key Milestones.



# PM<sub>2.5</sub> NAAQS Timeline - 2025

- ❑ October 9, 2025 - U.S. EPA notifies states concerning any intended modifications to their recommendations (120-day Letter)
- ❑ ~October 15, 2025 – U.S. EPA publishes notice of availability of state recommendations and the intended modifications (if any, initiations 30-day comment period)
- ❑ ~November 15, 2025 – End of 30-day public comment period.
- ❑ ~December 15, 2025 – States submit additional information, if any, to respond to the U.S. EPA’s modification of recommended designations.
- ❑ February 7, 2026 - U.S. EPA promulgates final 2024 PM<sub>2.5</sub> NAAQS area designations.





# Current PM<sub>2.5</sub> Litigation

- *Commonwealth of Kentucky et al. v. EPA et al.* (Sixth Circuit Court of Appeals)
  - Petition claimed U.S. EPA acted in a manner contrary to law by improperly undertaking a discretionary, non-statutory reconsideration of the PM<sub>2.5</sub> NAAQS, rather than the statutorily-mandated review under the Clean Air Act (i.e., five-year review).
  - Et al. include 24 other states.
  - In July 2025 the Supreme Court declined to hear U.S. EPA's appeal.
  - Currently the case is being held in abeyance.





# U.S. EPA Activity

- On March 12<sup>th</sup>, U.S. EPA administrator Zeldin announced that U.S. EPA would revisit the Annual PM<sub>2.5</sub> NAAQS, amongst many other regulatory reviews
- Many possible outcomes:
  - Revision of the value of the NAAQS based on renewed scientific review
  - Revocation of the rule based on finding that the previous off-cycle review and revision was not legal
  - Perhaps most likely: judicial stay of revision until next on-cycle review, which was scheduled summer of 2025.
- However, word from U.S. EPA upper management through ALL4's industrial association work in recent weeks is that U.S. EPA was advised by the DOJ that they need to let the litigation play out and cannot do a regulation concurrently.
- The litigation could take another year to play out at its current pace.





# So Where Does this Leave Us?

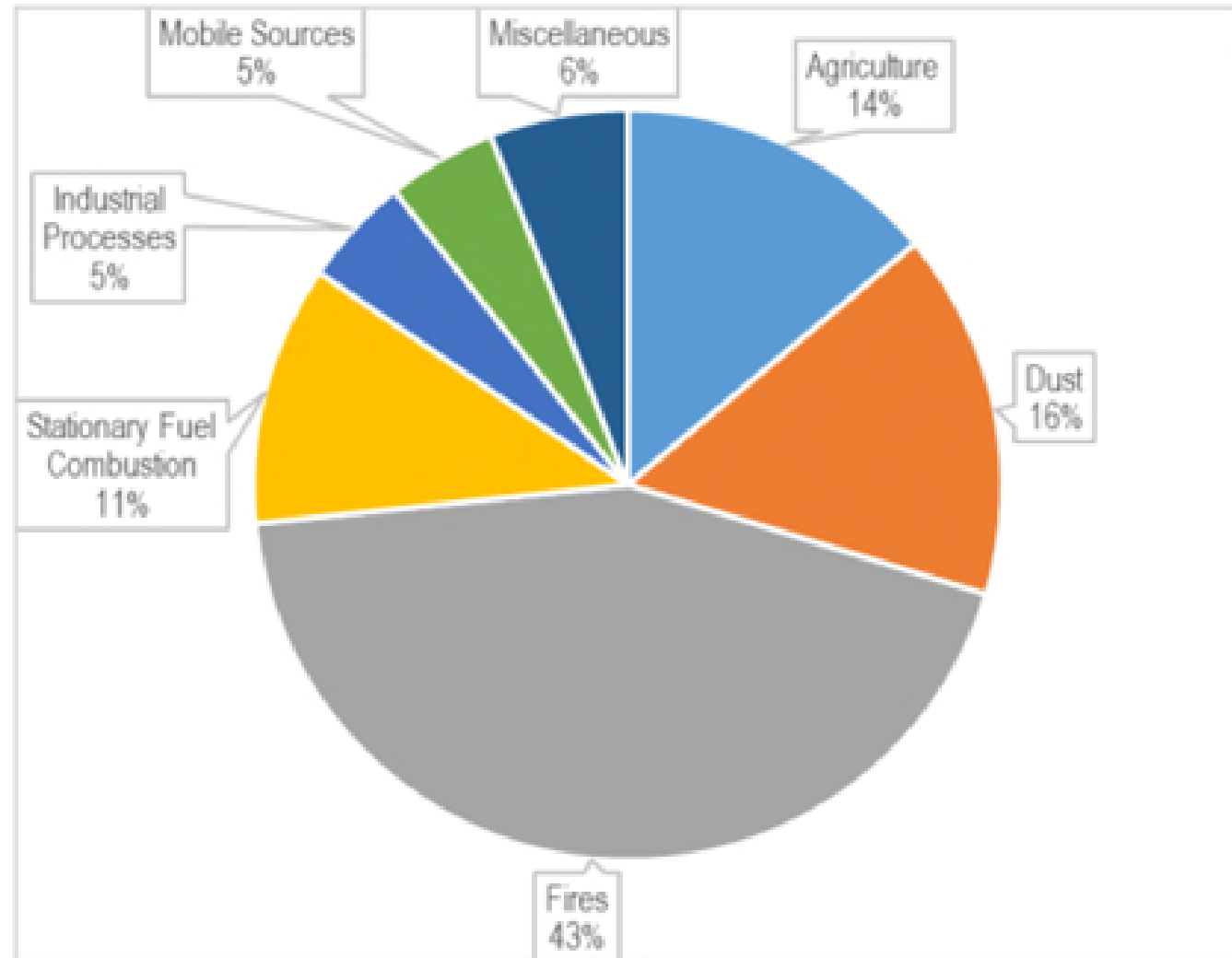
- U.S. EPA most likely won't hit their October 2025 implementation deadlines which may delay the finalization of PM<sub>2.5</sub> nonattainment areas.
- The start of the normal 5-year NAAQS review cycle for PM<sub>2.5</sub> is past due and would include new scientific studies.
- ALL4 is working with industrial associations to update modeling guidance and regulations (e.g., Appendix W) to remove conservatism from air quality modeling demonstrations.



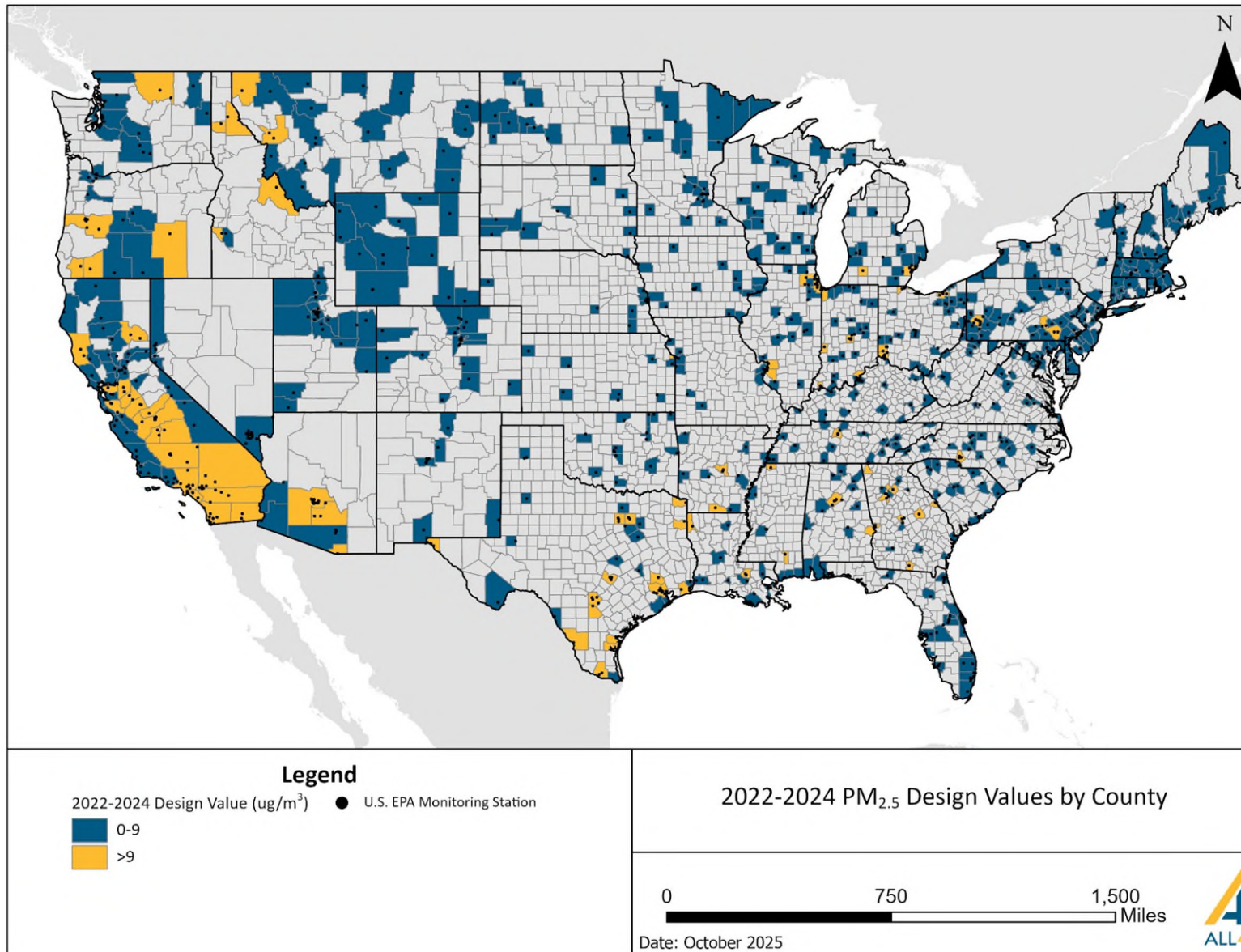
# PM<sub>2.5</sub> Emissions Sources

Percent contribution of primary PM<sub>2.5</sub> National Emissions by source sectors, 2017 NEI Data

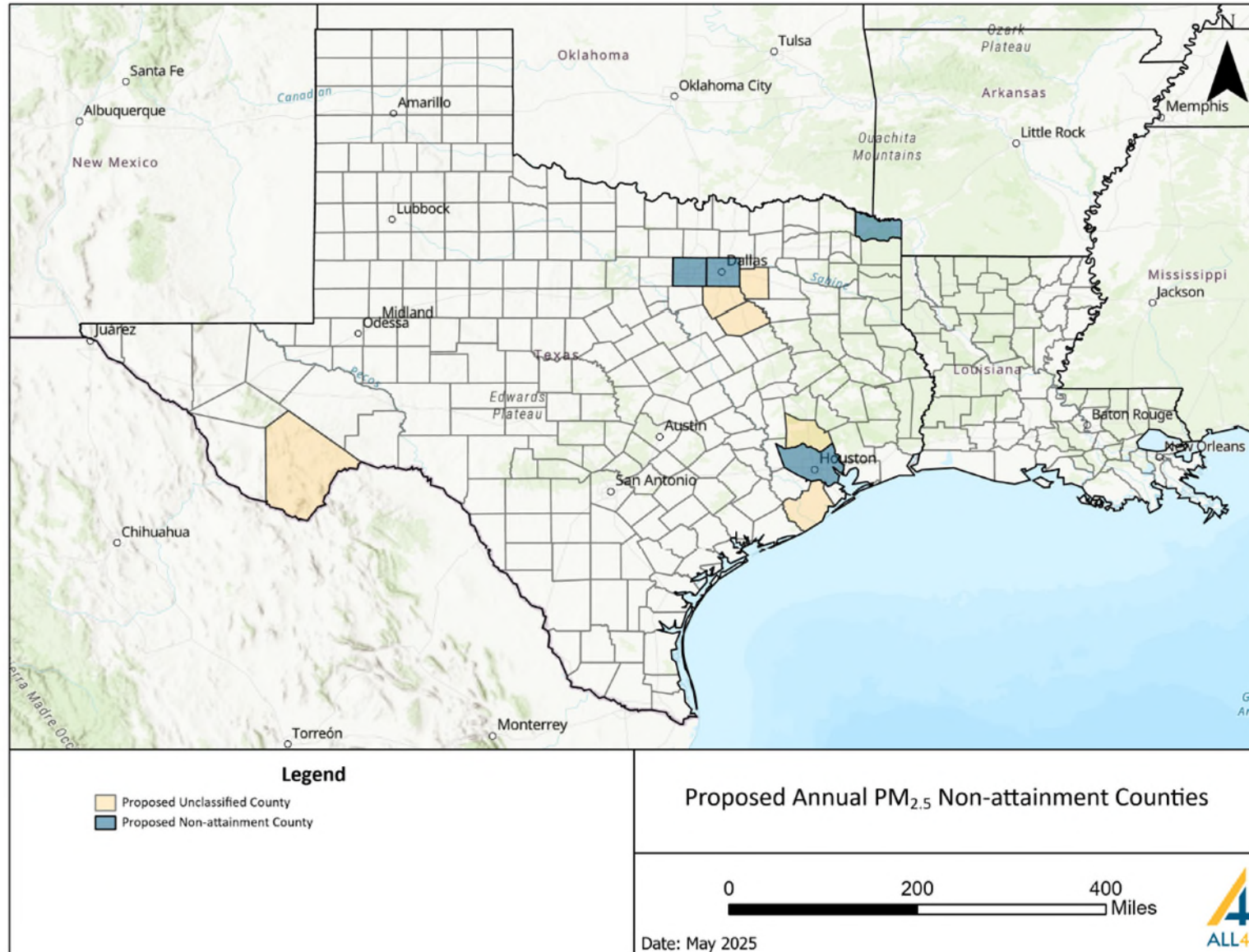
Fires, dust and agriculture generated about 73% of all PM<sub>2.5</sub> emissions



# Potential PM<sub>2.5</sub> Nonattainment Areas



# Potential PM<sub>2.5</sub> Nonattainment Areas



# PM<sub>2.5</sub> Design Values (9 μg/m<sup>3</sup> NAAQS)

State Name	County Name	CBSA Name	Local Site Name	2020-2022 Annual Design Value (μg/m <sup>3</sup> ) [1,2]	2021-2023 Annual Design Value (μg/m <sup>3</sup> ) [1,2]	2022-2024 Annual Design Value (μg/m <sup>3</sup> ) [1,2]
Louisiana	Caddo	Shreveport-Bossier Cit	Shreveport / Calumet	9.6	9.6	9.7
Louisiana	Calcasieu	Lake Charles, LA	Vinton	7.4	7.6	7.7
Louisiana	East Baton Rouge	Baton Rouge, LA	Capitol	8.5	8.9	9.0
Louisiana	Iberville	Baton Rouge, LA	Geismar	7.7	7.9	8.3
Louisiana	Jefferson	New Orleans-Metairie,	Kenner	7.2	7.7	7.9
Louisiana	Jefferson	New Orleans-Metairie,	Marrero	7.6	7.6	7.8
Louisiana	Lafayette	Lafayette, LA	Lafayette / Usqs	7.9	7.9	8.1
Louisiana	Orleans	New Orleans-Metairie,	I-610	7.8	7.8	7.7
Louisiana	Ouachita	Monroe, LA	Monroe / Airport	7.5	7.8	7.9
Louisiana	Rapides	Alexandria, LA	Alexandria	7.4	7.9	8.2
Louisiana	St. Bernard	New Orleans-Metairie,	Chalmette Vista	7.8	8.2	8.4
Louisiana	Tangipahoa	Hammond, LA	Hammond	7.5	7.7	8.2
Louisiana	Terrebonne	Houma-Thibodaux, LA	Houma	7.2	7.9	8.3
Louisiana	West Baton Rouge	Baton Rouge, LA	Port Allen	8.8	9.1	9.1



# LA & TX Proposed PM<sub>2.5</sub> Designations

- ❑ LDEQ proposed PM<sub>2.5</sub> attainment
  - Caddo (9.6) Parish – Monitor Location Change
  - West Baton Rouge (9.1) Parish – Exceptional Event Determinations
- ❑ TCEQ proposed PM<sub>2.5</sub> nonattainment areas
  - Bowie, Dallas, Harris, and Tarrant Counties
- ❑ TCEQ proposed PM<sub>2.5</sub> attainment areas based on exceptional event determinations (i.e., wildfires and international transport)
  - Cameron (10.9), Harrison (9.5), Hidalgo (9.6), Kleberg (9.9), Travis (9.6), and Webb (9.7) Counties
- ❑ TCEQ proposed PM<sub>2.5</sub> unclassifiable areas based on incomplete datasets
  - Brazoria, Brewster, Ellis, Kaufman, Montgomery, and Navarro Counties
  - Could be complete when adding in 2024 data



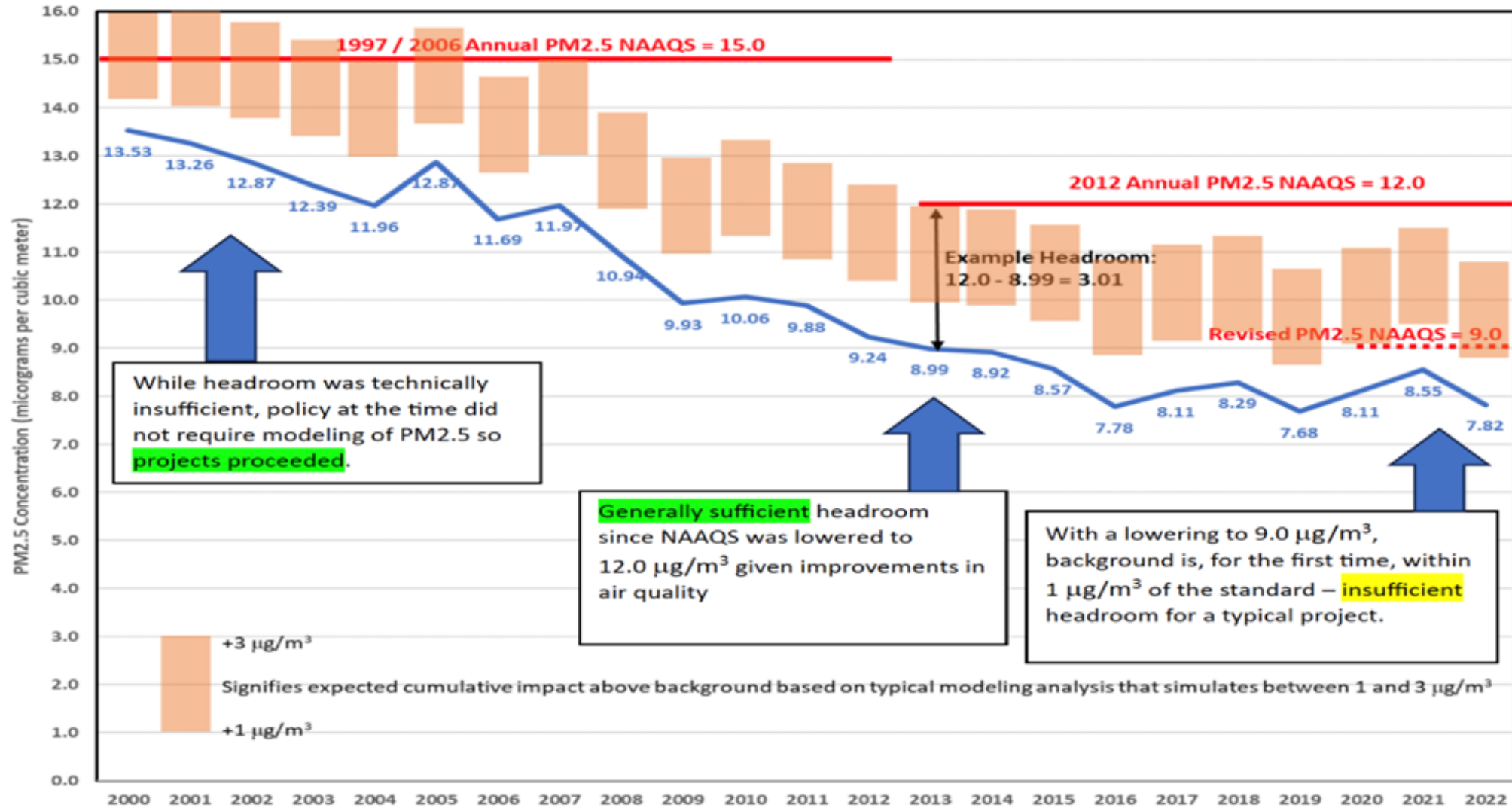


# NAAQS Modeling Implications

- ❑ Texas has minor NSR modeling requirements for non-PSD permitting
- ❑ In Louisiana, NAAQS modeling demonstration required when PSD is triggered for Primary pollutants or Secondary pollutants
- ❑ U.S. EPA also revised the Significant Impact Levels (SILs) for PM<sub>2.5</sub> used as de minimis values in modeling: Revised to 0.13 µg/m<sup>3</sup> from 0.2 µg/m<sup>3</sup>
- ❑ Biggest impact will be the reduced “headroom” when conducting NAAQS air quality modeling demonstrations with background data, because modeled impacts are added to background for comparison to the NAAQS
- ❑ Most states do not have complete PM<sub>2.5</sub> inventories for modeling purposes

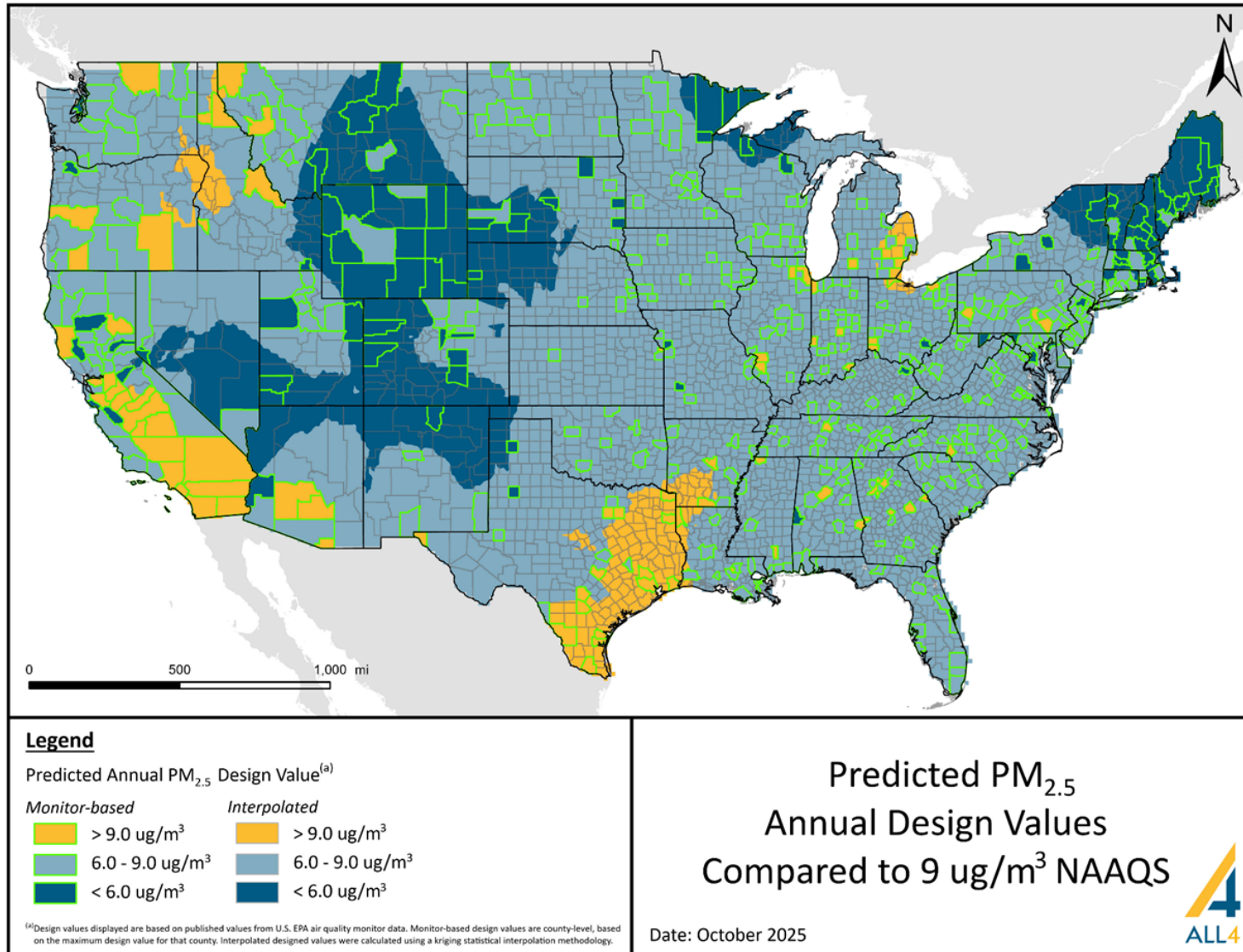


# Why is this important now?



U.S. EPA, Particulate Matter Trends (<https://www.epa.gov/air-trends/particulate-matter-pm25-trends>)

# PM<sub>2.5</sub> Headroom with 9 μg/m<sup>3</sup> NAAQS





# Exceptional Events

- ❑ For PM<sub>2.5</sub> designation, states have evaluated “Exceptional Events”
- ❑ Exceptional Events are naturally occurring phenomena
- ❑ Five categories of Exceptional Events noted in 40 CFR Part 50.1
  - Fireworks displays
  - Prescribed fires
  - Wildfires
  - High wind dust events
  - Stratospheric intrusions
- ❑ Per U.S. EPA guidance, Exceptional Events may be considered for exclusion for designations only if they have “Regulatory Significance”.



# Nonattainment Area Requirements

## □ Nonattainment NSR Thresholds:

NAAQS	Precursors	Non-attainment Classification	Major Source Threshold (tpy)	Significant Emissions Rate (tpy)
Ozone	VOC/NO <sub>x</sub>	Marginal	100	40
Ozone	VOC/NO <sub>x</sub>	Moderate	100	40
Ozone	VOC/NO <sub>x</sub>	Serious	50	5*/25
Ozone	VOC/NO <sub>x</sub>	Severe	25	5*/25
Ozone	VOC/NO <sub>x</sub>	Extreme	10	Any increase
<b>PM<sub>2.5</sub></b>	<b>Direct</b>	<b>Moderate</b>	<b>100</b>	<b>10</b>
<b>PM<sub>2.5</sub></b>	<b>Direct</b>	<b>Serious</b>	<b>70</b>	<b>10</b>
<b>PM<sub>2.5</sub></b>	<b>SO<sub>2</sub>/NO<sub>x</sub>/VOC/NH<sub>3</sub></b>	<b>Moderate</b>	<b>100</b>	<b>40</b>
<b>PM<sub>2.5</sub></b>	<b>SO<sub>2</sub>/NO<sub>x</sub>/VOC/NH<sub>3</sub></b>	<b>Serious</b>	<b>100</b>	<b>40</b>

\* TCEQ netting threshold.



# Nonattainment NSR Permitting

- ❑ Nonattainment new source review (NNSR) permitting includes additional/different requirements than PSD
  - Purchasing Emission Reduction Credits for emissions increases
  - Implementation of Lowest Achievable Emissions Rate (LAER) instead of Best Available Control Technology (BACT) (removes economic consideration)
- ❑ Emission Reduction Credits (ERCs)
  - Purchase Emission Reduction Credits 1:1.15 (Moderate) or 1:1.2 (Serious) in the same nonattainment area.
  - Some states may not have established PM<sub>2.5</sub> ERC Registries setup.
  - In the interim, seek and purchase credits from shutdown of sources from other owners.
- ❑ Air quality modeling requirements are removed as part of the NNSR permitting



# Conclusions

- There is some uncertainty about if and when the lowered  $9 \mu\text{g}/\text{m}^3$  annual  $\text{PM}_{2.5}$  NAAQS might be rolled back to  $12 \mu\text{g}/\text{m}^3$ . For now, it is in place, and we have to plan for it to remain in place until we hear otherwise.
- This means that major and minor air permit applications (depending on what state you are located in) will need to continue to be modeled against the lowered  $\text{PM}_{2.5}$  NAAQS.
- Reminder that modeling is triggered for projects that are subject to major PSD permitting for Direct  $\text{PM}_{2.5}$  or  $\text{SO}_2$  and  $\text{NO}_x$  which are  $\text{PM}_{2.5}$  precursor pollutants.
- Given that we have just passed the October 9, 2025 expected final U.S. EPA designation determination date we should hear something soon on if U.S. EPA will reschedule or delay indefinitely until the litigation plays out.
- This may allow more time for NNSR permitting requirements to still be avoided if you get your permit issued before final designations are made (which was going to be by February 7, 2026).
- This also allows more time to refine  $\text{PM}_{2.5}$  emissions rates and review strategies for generating ERCs.



# Questions?

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