

# MANE-VU Regional Haze Planning Update



Presented by David Foerter at AAPCA  
November 14, 2018

# Overview

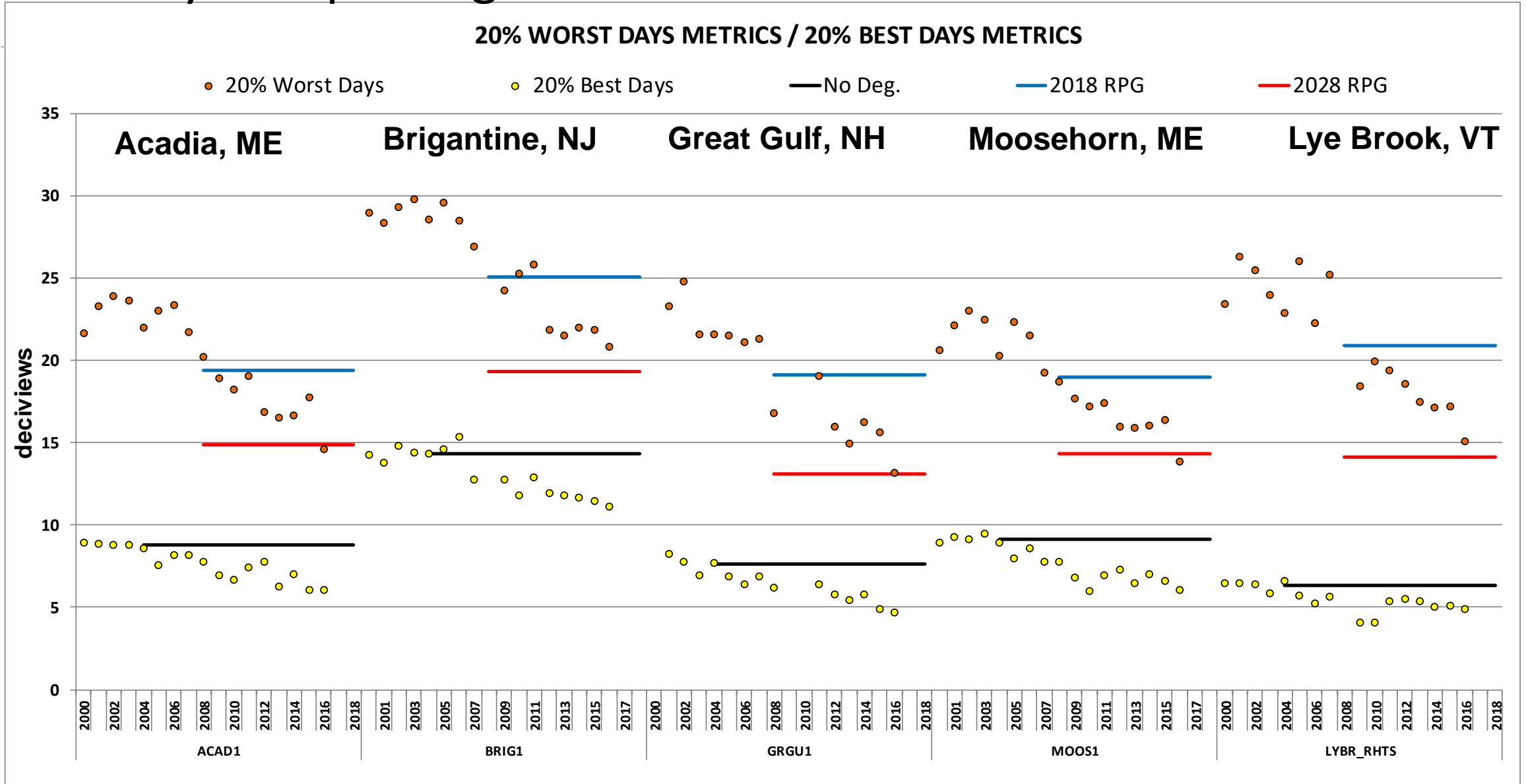
---

1. Regional Haze SIPs - 2<sup>nd</sup> Planning Period Schedule
2. Visibility Report - Monitoring Data
3. EI Trends Report
4. Consultation/MANE-VU Ask
5. Modeling
6. SIP Writing

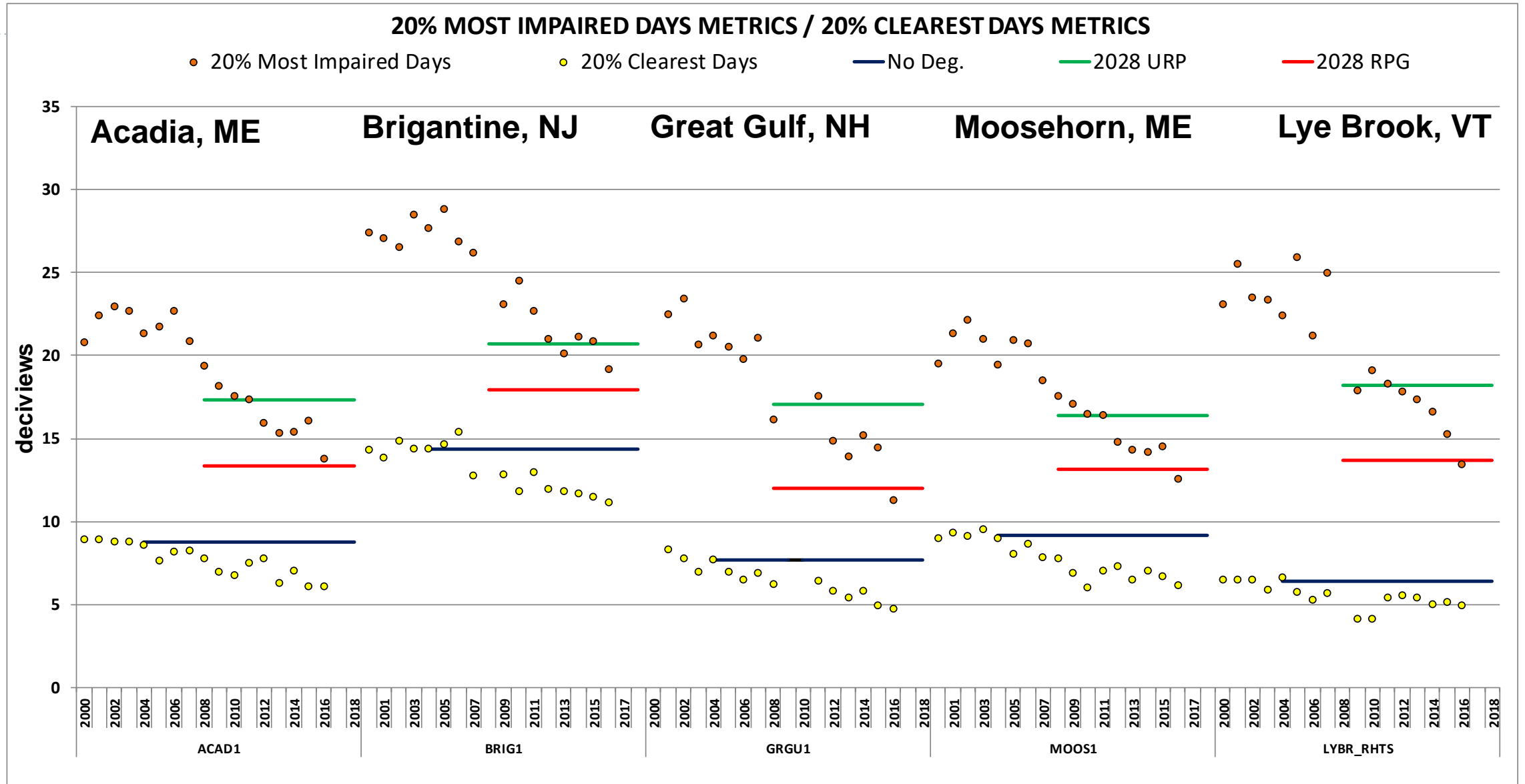
# Regional Haze SIP 2<sup>nd</sup> Planning Period – Schedule

<b>IMPROVE Data Analysis</b>	<ul style="list-style-type: none"> <li>✓ Decisions on Methods</li> <li>✓ 1<sup>st</sup> and 2<sup>nd</sup> Planning Period Calculations, QA, and TSD</li> </ul>
<b>Inventory Development &amp; Analysis</b>	<ul style="list-style-type: none"> <li>✓ 2011/2028 Alpha 2 &amp; TSD</li> <li>✓ Emissions Trends Analysis</li> </ul>
<b>Modeling</b>	<ul style="list-style-type: none"> <li>✓ 2011 Base Case Modeling</li> <li>✓ 2028 Base Case Modeling</li> <li>✓ 2028 Control Case Modeling</li> <li>✓ Document Modeling Platform and Results (<i>Except 2028 Modeling</i>)</li> </ul>
<b>Four-Factor Analysis/Contribution Assessment</b>	<ul style="list-style-type: none"> <li>✓ Qc/d</li> <li>✓ CALPUFF Assessment</li> <li>✓ Back Trajectory &amp; IMPROVE Data Analysis</li> <li>✓ 4-Factor Data Collection</li> <li>✓ HEDD Analysis</li> <li>✓ Winter EGU NOx Control</li> <li>✓ Synthesize Assessments</li> </ul>
<b>Updating RPGs</b>	<ul style="list-style-type: none"> <li>✓ Draft RPGs and Document</li> </ul>
<b>Consultation</b>	<ul style="list-style-type: none"> <li>✓ Establish Consultation Process</li> <li>✓ Intra-RPO Consultation</li> <li>✓ Inter-RPO Consultation</li> </ul>
<b>SIP Submission</b>	<ul style="list-style-type: none"> <li>• SIP Submission (<i>Before 2019</i>)</li> <li>• Rule Adoption</li> </ul>

# Visibility is Improving - Current Levels are Below 2018 RPGs

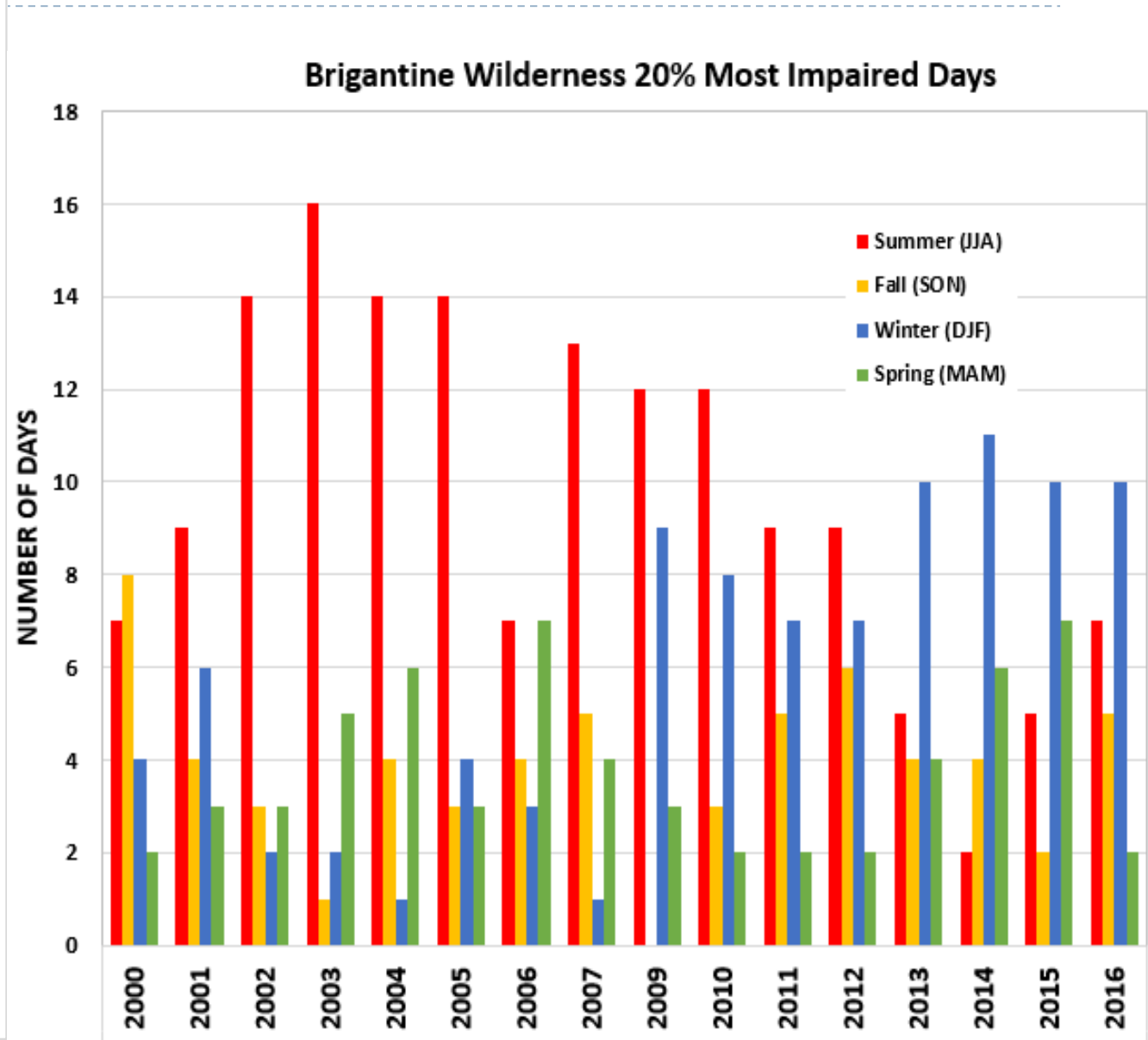
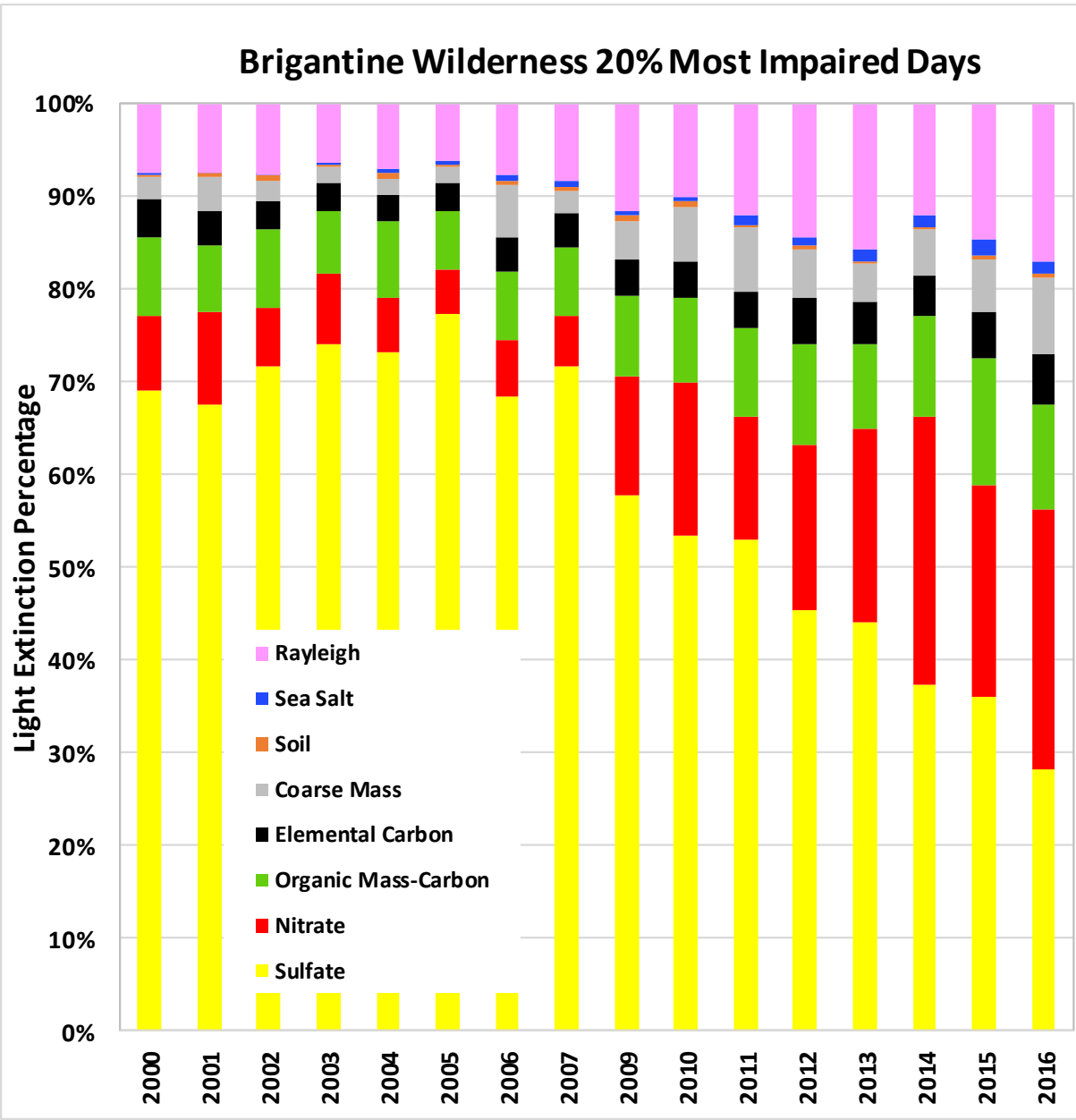


# Visibility is Improving - Current Levels are Near 2028 RPGs

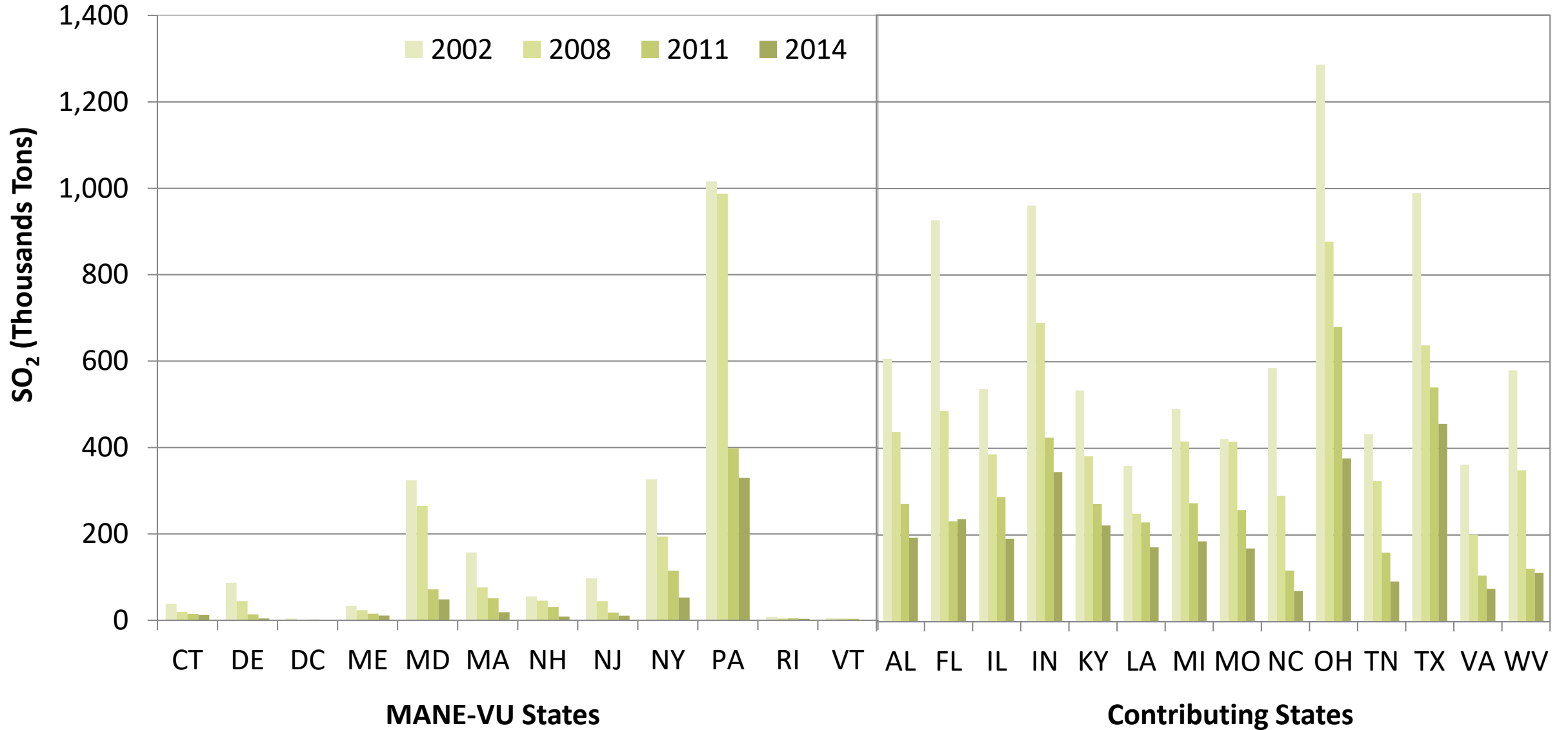


Progress at Monitored Class I States in MANE-VU using IMPROVE RH III Algorithm

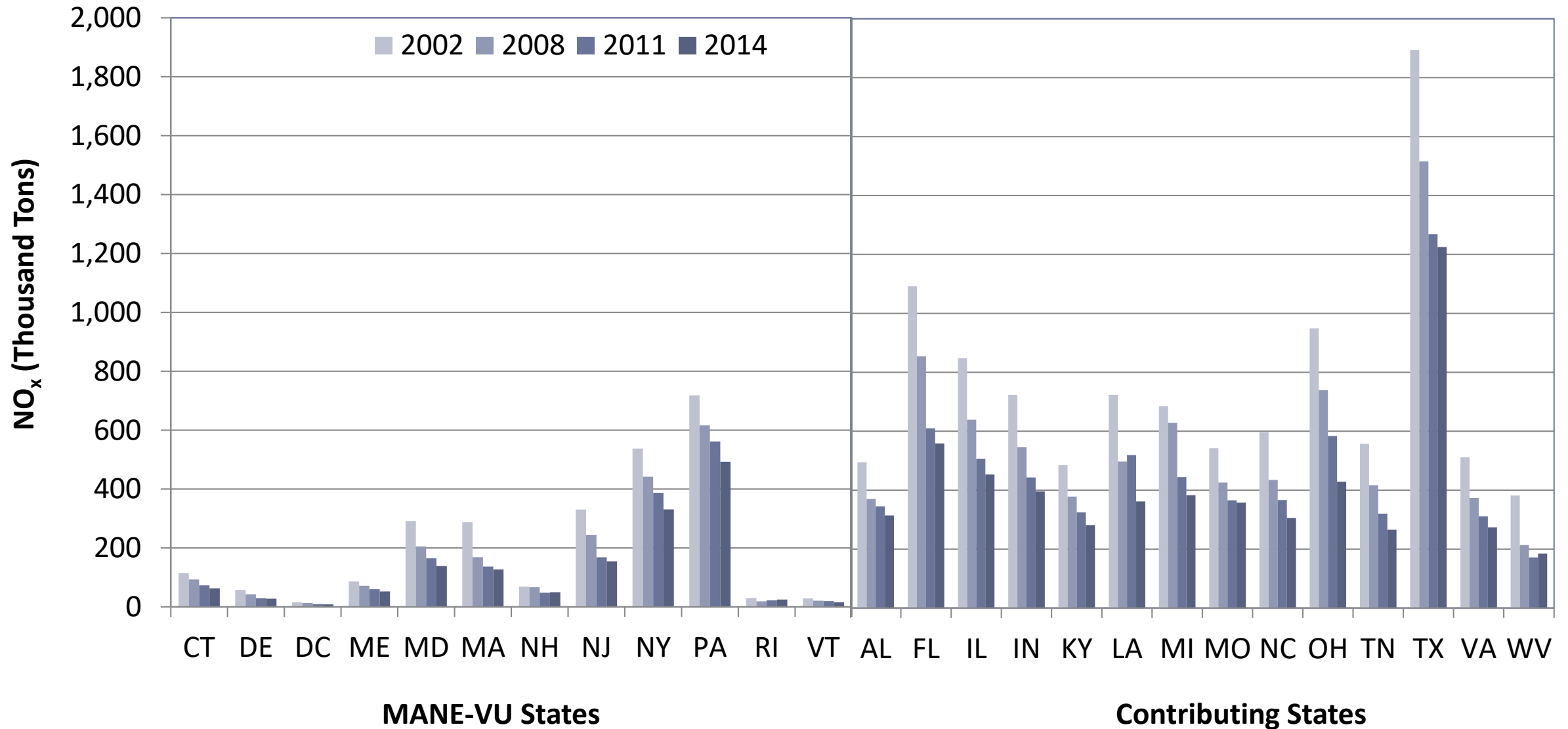
# Winter Nitrates Contribution Increasing



# Annual SO<sub>2</sub> Emissions from NEI, 2002-14



# Annual NO<sub>x</sub> Emissions from NEI, 2002-14





# MANE-VU “Ask”

Signed August 25, 2017

## MANE-VU States

- Ensure effective use of installed controls on EGUs ( $\geq 25$  MW) year-round
- 4-factor analysis for most important sources ( $> 3 \text{Mm}^{-1}$  extinction)
- Complete 2007 low sulfur fuel oil rule
- Update permits and/or rules to reflect already achieved rates for  $\text{SO}_2$ ,  $\text{NO}_x$ , and  $\text{PM}_{2.5}$
- Strive to meet particular  $\text{NO}_x$  emissions standards or perform 4-factor analysis on HEDD units
- Increase energy efficiency and implement CHP or other DG

## Upwind States

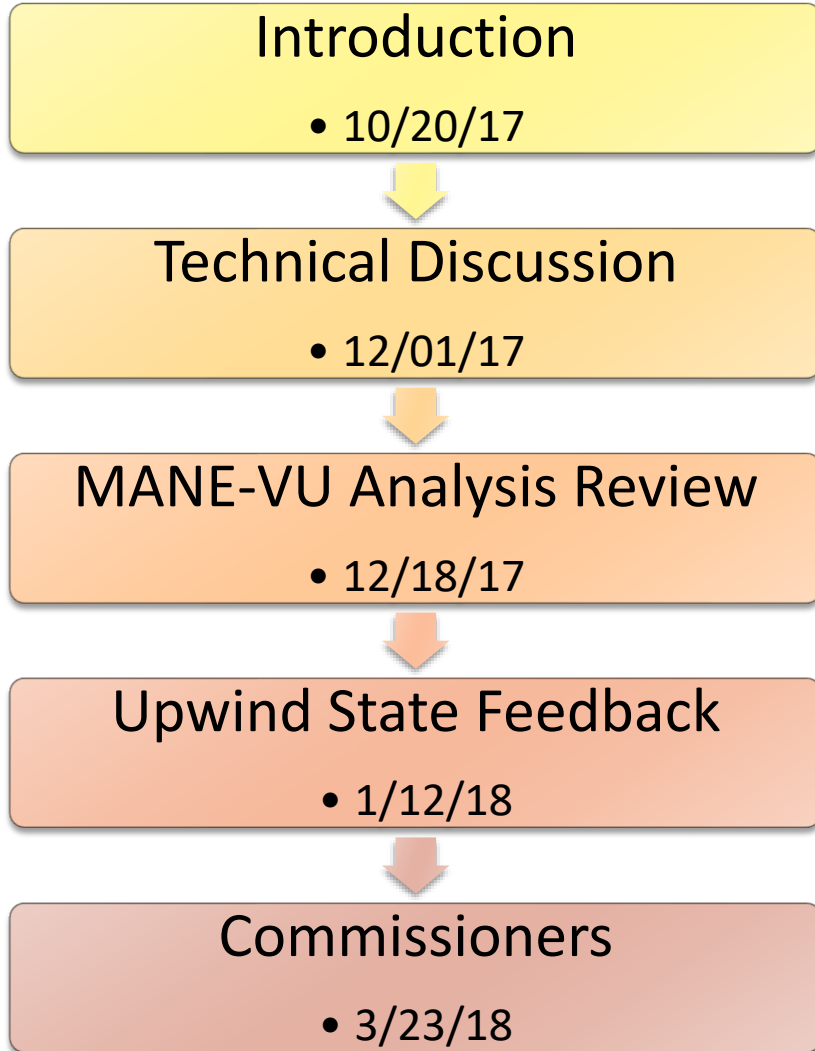
- Ensure effective use of installed controls on EGUs ( $\geq 25$  MW) year-round
- 4-factor analysis for most important sources ( $> 3 \text{Mm}^{-1}$  extinction)
- Complete 2007 low sulfur fuel oil rule
- Update permits and/or rules to reflect already achieved rates for  $\text{SO}_2$ ,  $\text{NO}_x$ , and  $\text{PM}_{2.5}$
- Increase energy efficiency and implement CHP or other DG

## FLMs / EPA

- FLMs consult with MANE-VU Class I States when scheduling prescribed burns
- EPA develop measures that will further reduce emissions from heavy-duty onroad vehicles
- EPA ensure that Class I Area state “Asks” are addressed in “contributing” state SIPs prior to approval

# MANE-VU Inter-RPO Consultation

---



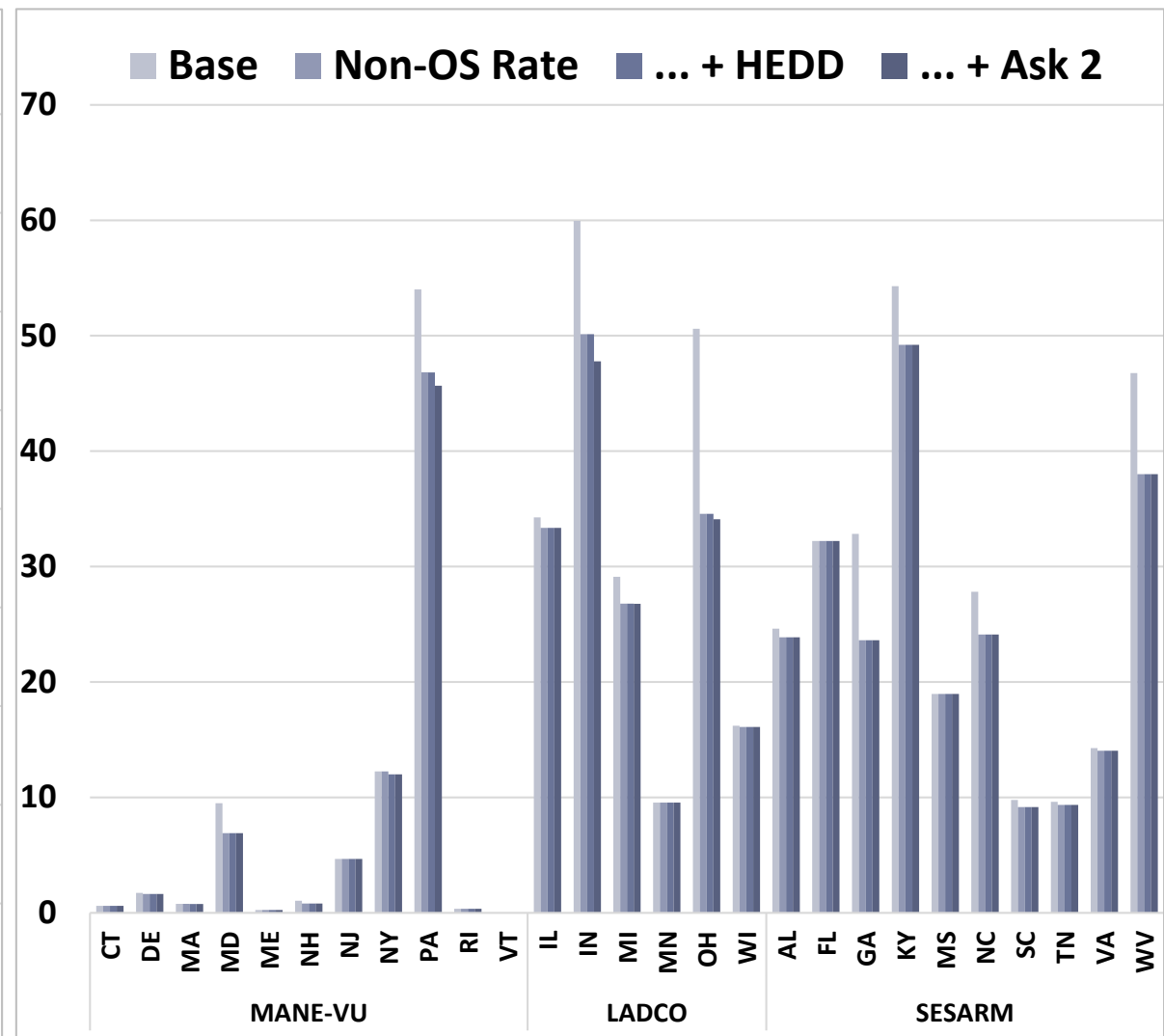
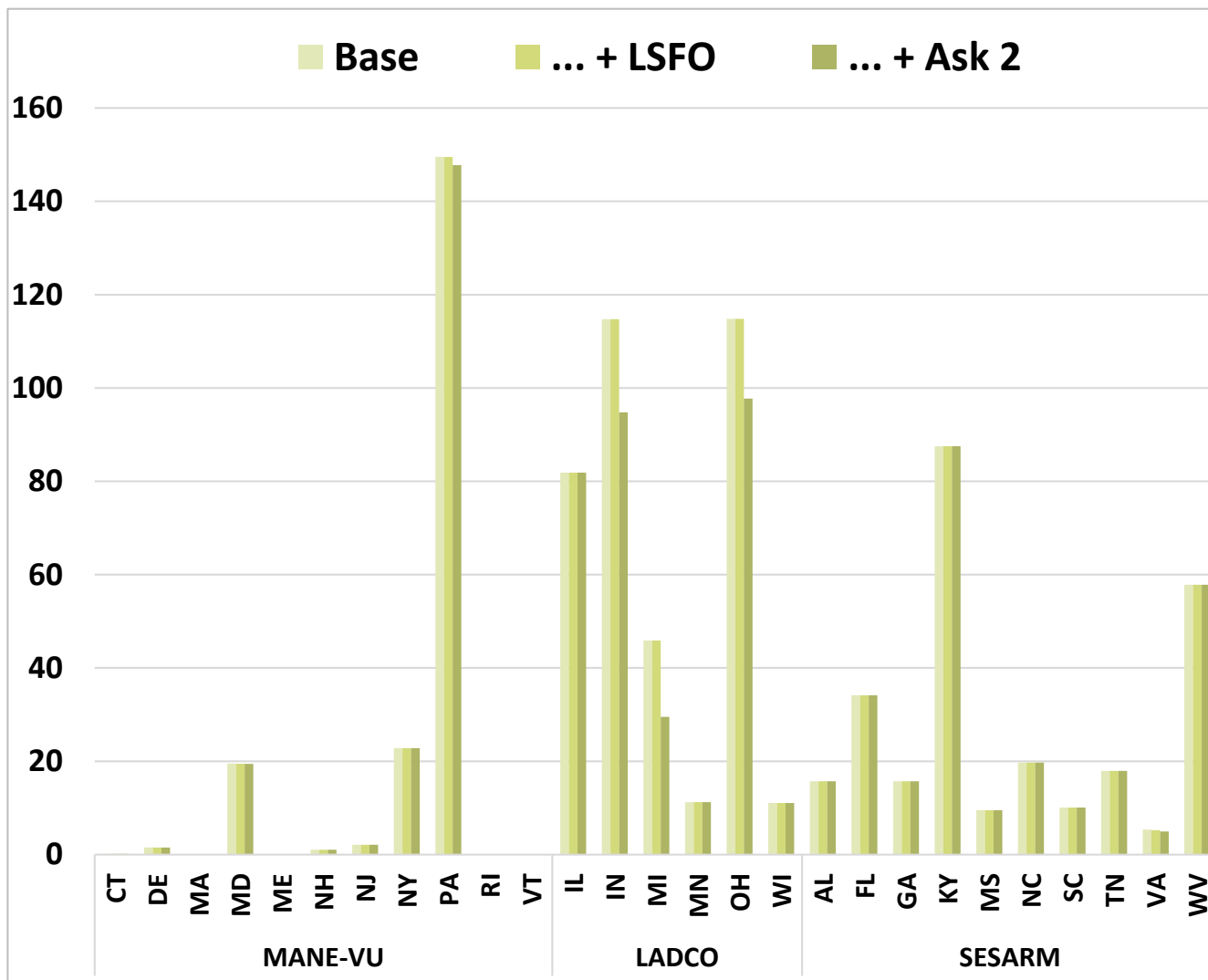
- ▶ Between MANE-VU and contributing states, as identified using weighted contribution analysis
  - Five Webinars between 10/20/17 and 3/23/18
- ▶ Consultation Report
  - Available at:  
[https://otcair.org/MANEVU/Upload/Publication/Correspondence/MANE-VU\\_RH\\_ConsultationReport\\_Appendices\\_ThankYouLetters\\_08302018.pdf](https://otcair.org/MANEVU/Upload/Publication/Correspondence/MANE-VU_RH_ConsultationReport_Appendices_ThankYouLetters_08302018.pdf)
- ▶ Response to Upwind States

# Changes in Annual Emissions (ERTAC) On Implementing MV Ask

Thousands Tons

SO<sub>2</sub>

NO<sub>x</sub>

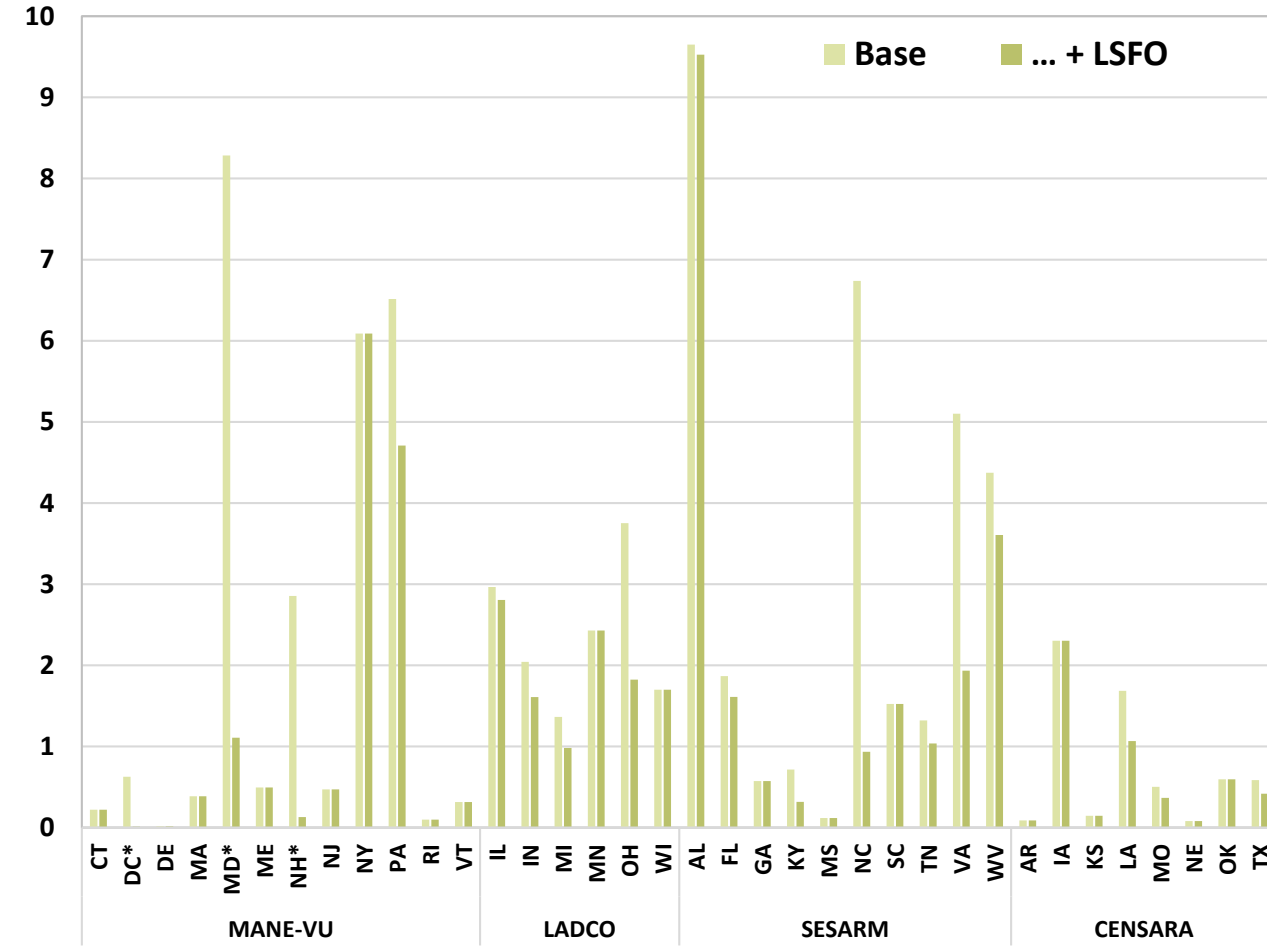
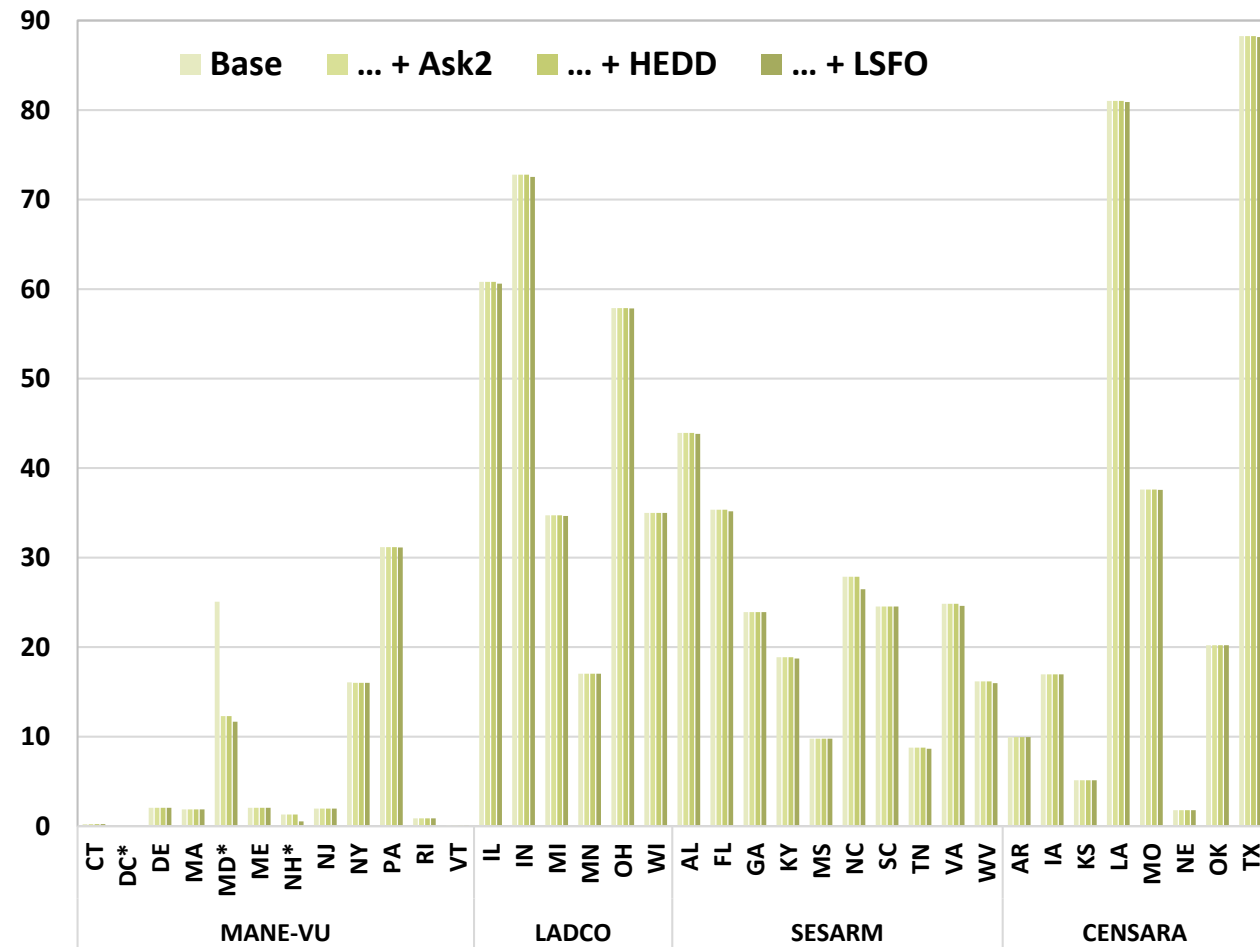


# Changes in Annual SO<sub>2</sub> Emissions (EMF) On Implementing MV Ask

Thousands Tons

Point Sources

NonPoint Sources



\* Note: Several States in MANE-VU have implemented some or all of the LSFO rule, but do not include it in their FY projections

# SIP Writing Status

---

- ▶ States in various stages of SIP writing/4-factor analysis
- ▶ States with robust SIP drafts sharing them with others as templates
- ▶ A listing of MANE-VU haze planning documents has been provided as an internal resource to MANE-VU States

<https://otcair.org/manevu/Document.asp?fview=Reports>

# In Summary

---

- ▶ 2<sup>nd</sup> Planning Period Regional Haze SIP work almost complete
- ▶ Have documented visibility and inventory trends
- ▶ The “Ask” is final for the 2<sup>nd</sup> Planning Period
- ▶ Both Intra- and Inter-RPO consultations are done and documentation finished
- ▶ Inventory development for base case and control case modeling is completed and modeling TSD finalized and posted after public review/comment.
- ▶ States working on SIPs