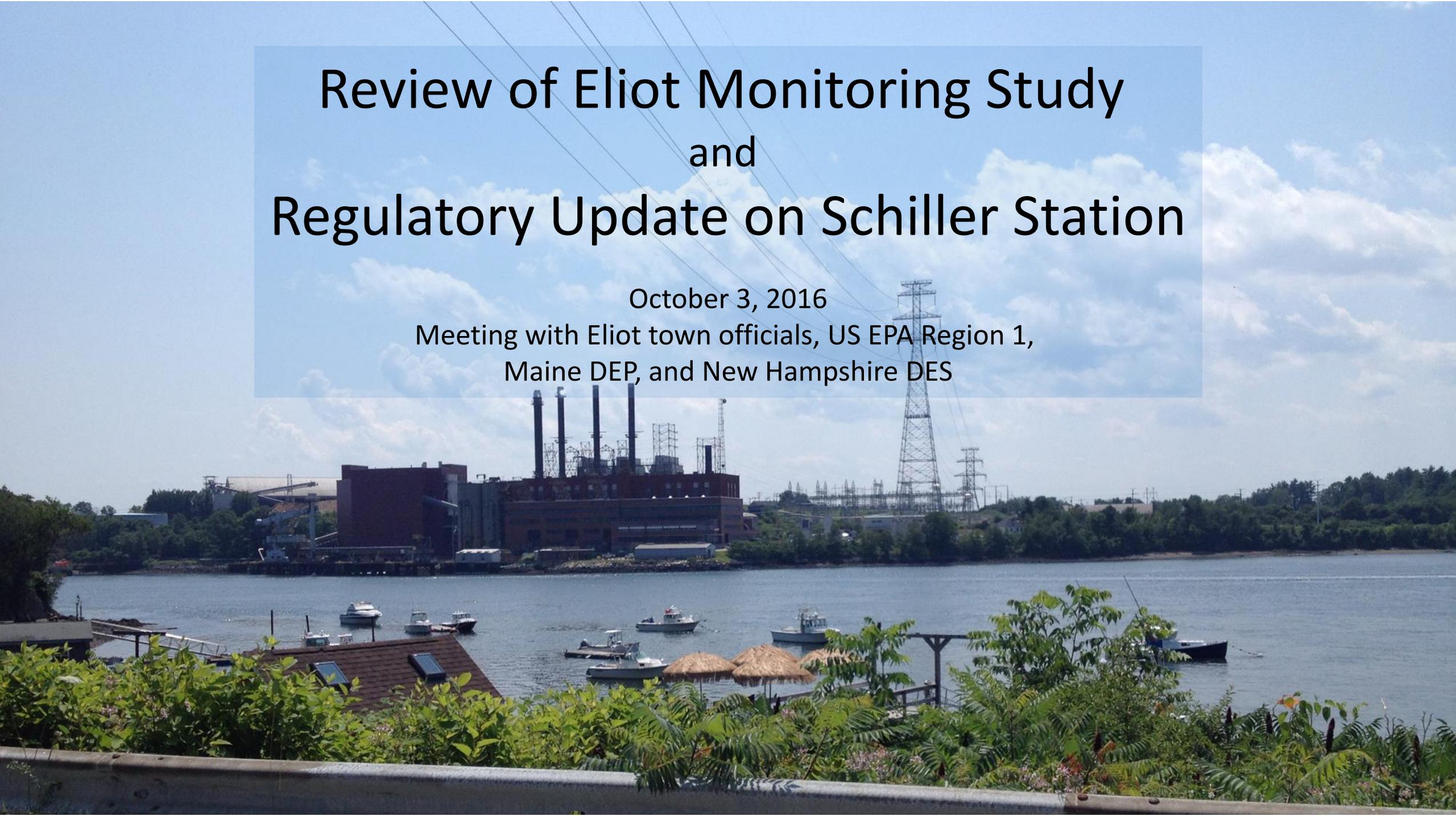


Review of Eliot Monitoring Study and Regulatory Update on Schiller Station

October 3, 2016

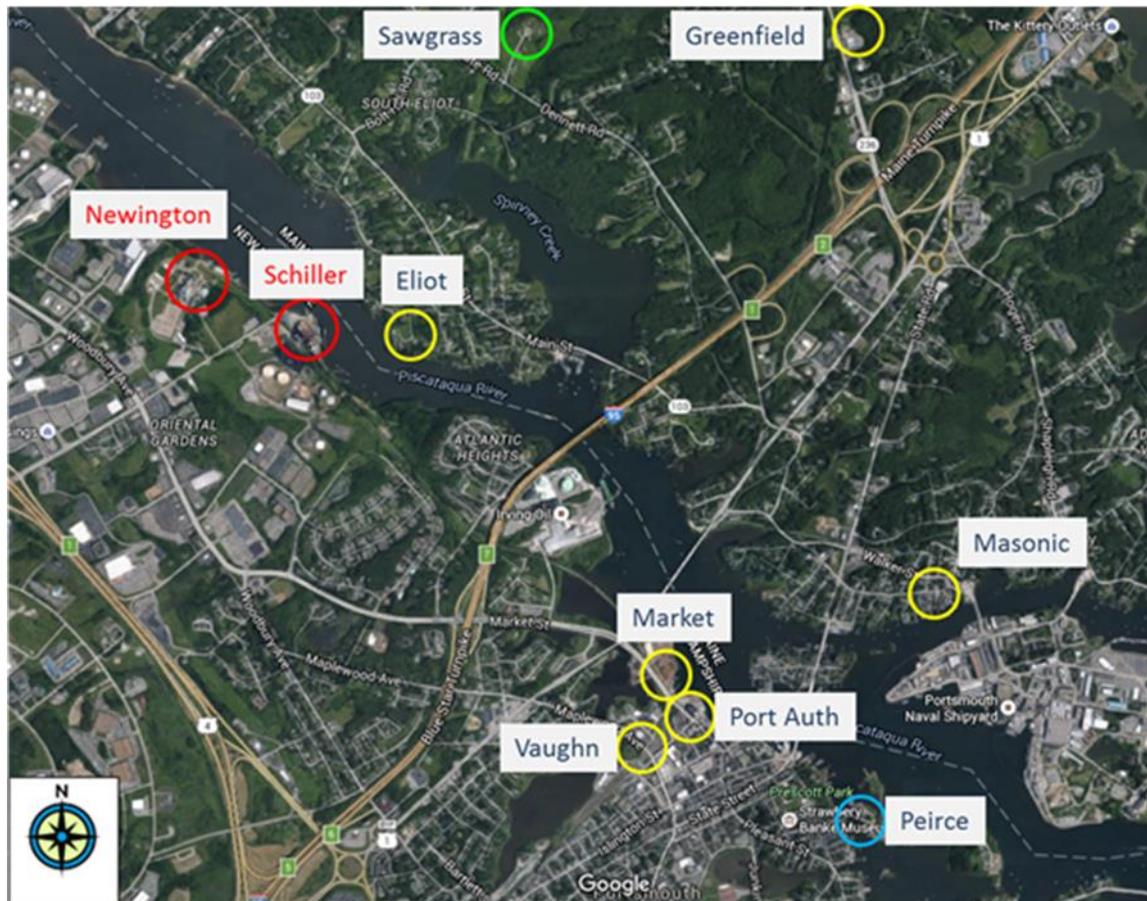
Meeting with Eliot town officials, US EPA Region 1,
Maine DEP, and New Hampshire DES



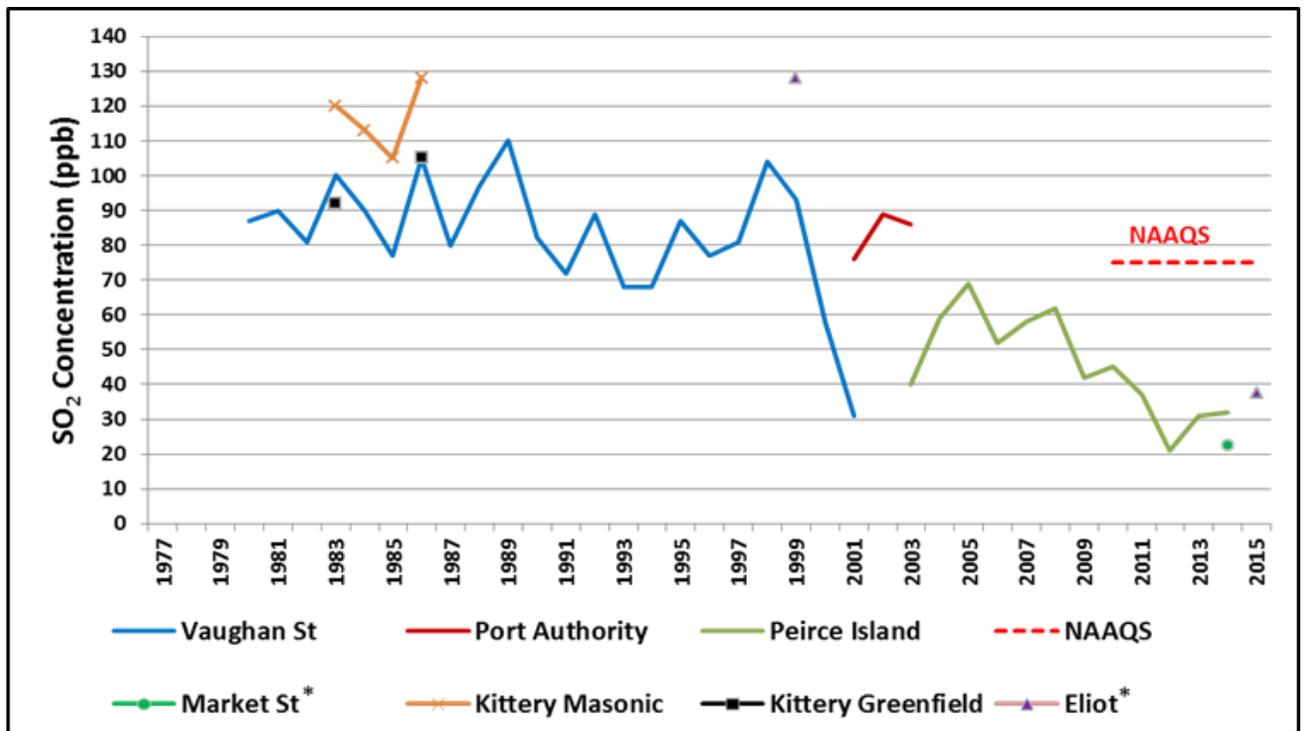
Agenda

- Review of Eliot SO₂ monitoring study (late Oct 2014 – April 2016)
- Schiller Station's efforts to comply with EPA's Mercury and Air Toxics Standards
- Recent SO₂ emissions trends from Schiller Station and Newington Station
- Sierra Club title V petition
- Amendments to the Schiller Station title V operating permit
- Summary

Historical SO₂ Monitoring Data in the Portsmouth/Eliot Area



Annual 99th Percentile 1-Hour SO₂ Concentrations - Portsmouth Area

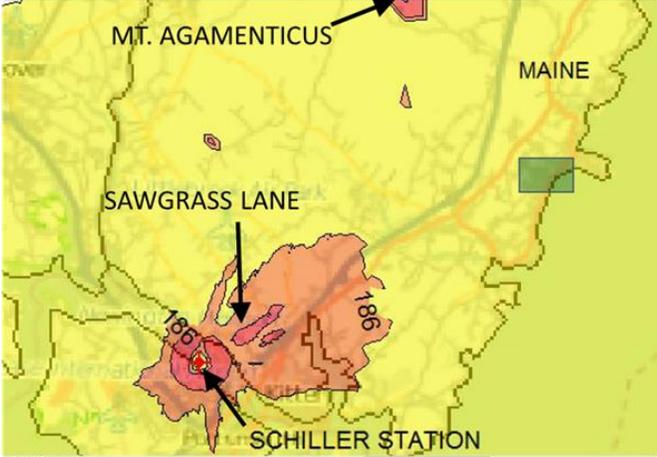
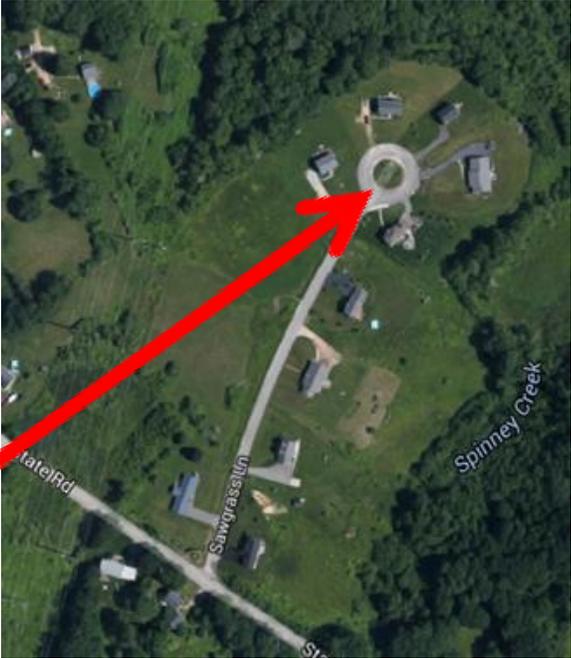


* Represents maximum concentration for partial year rather than 99th percentile.

Siting of the Monitor



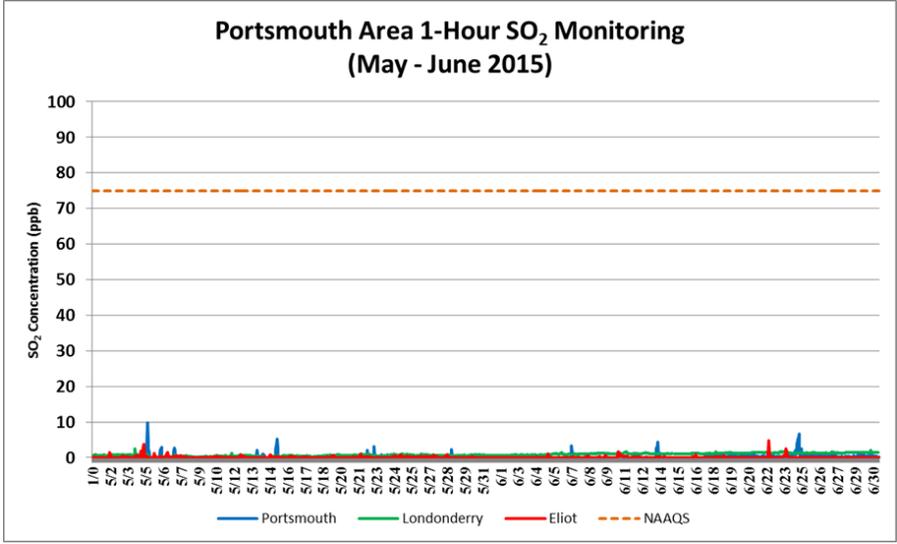
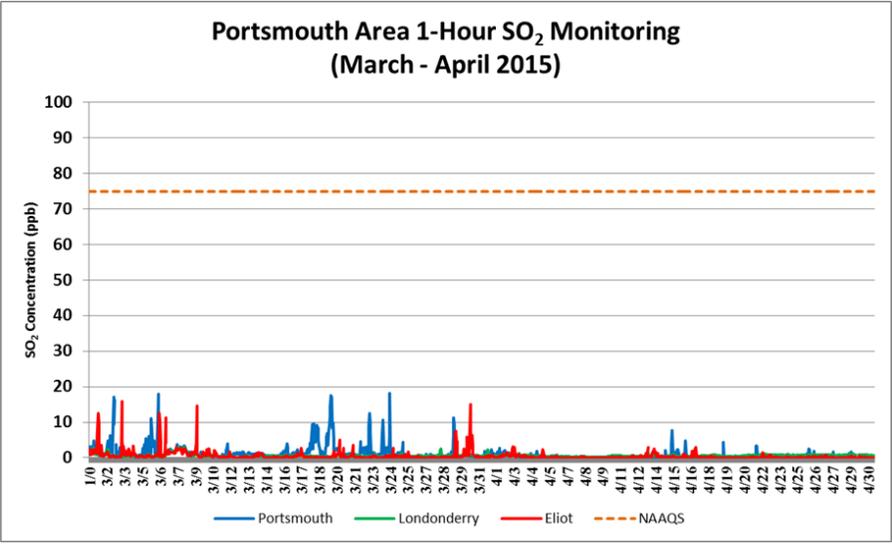
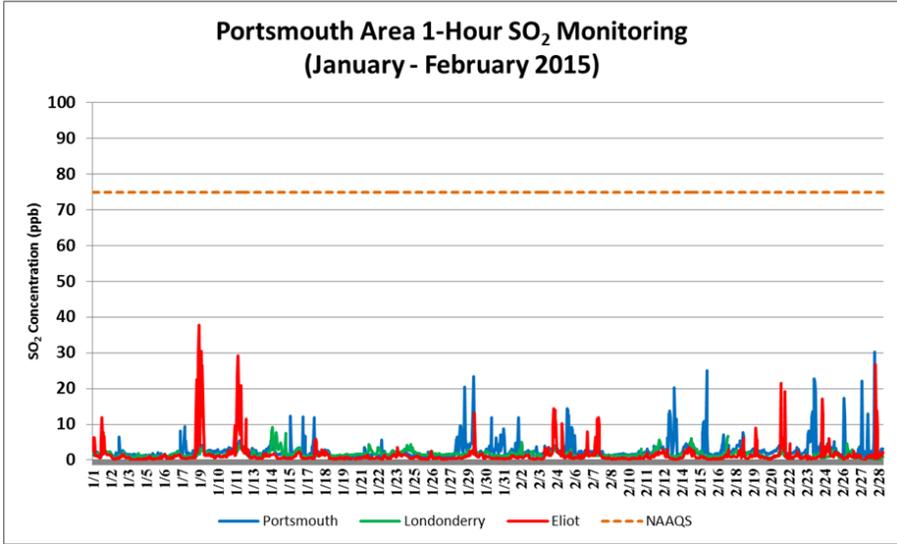
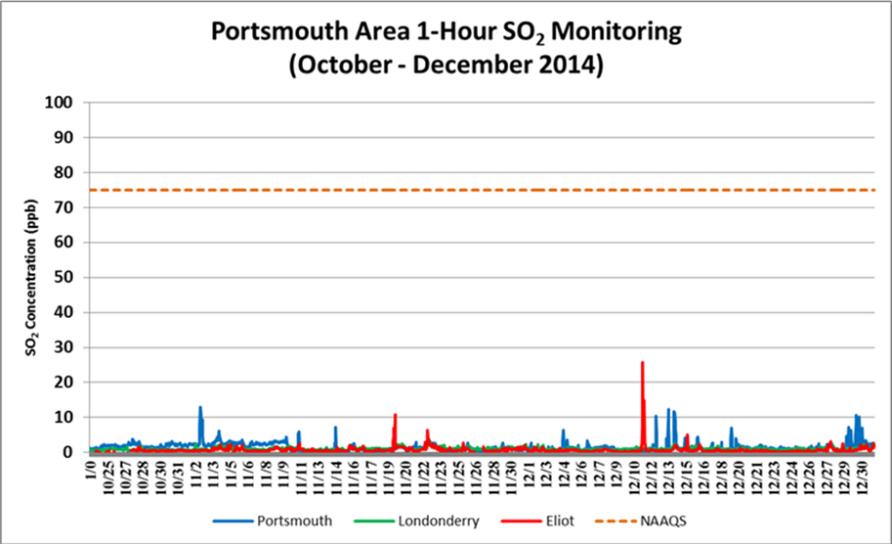
Sawgrass Lane SO₂ monitoring shelter



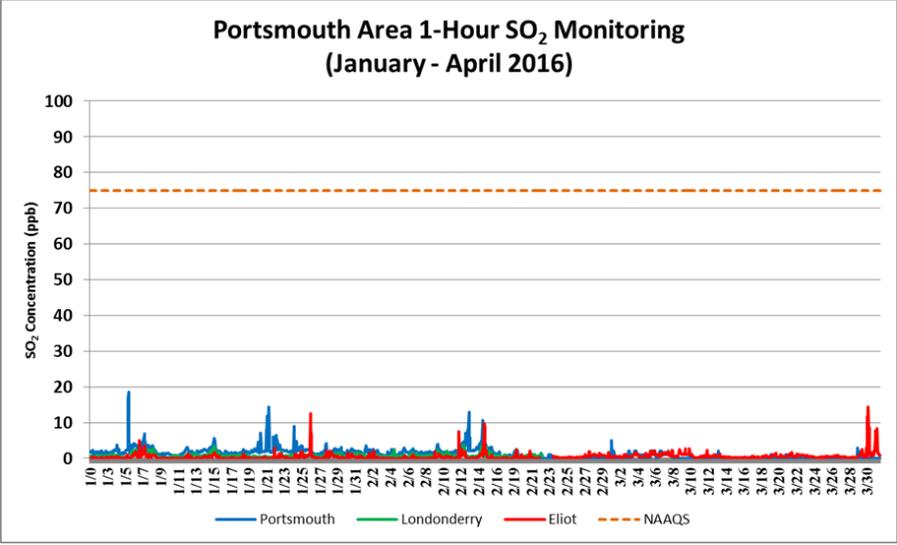
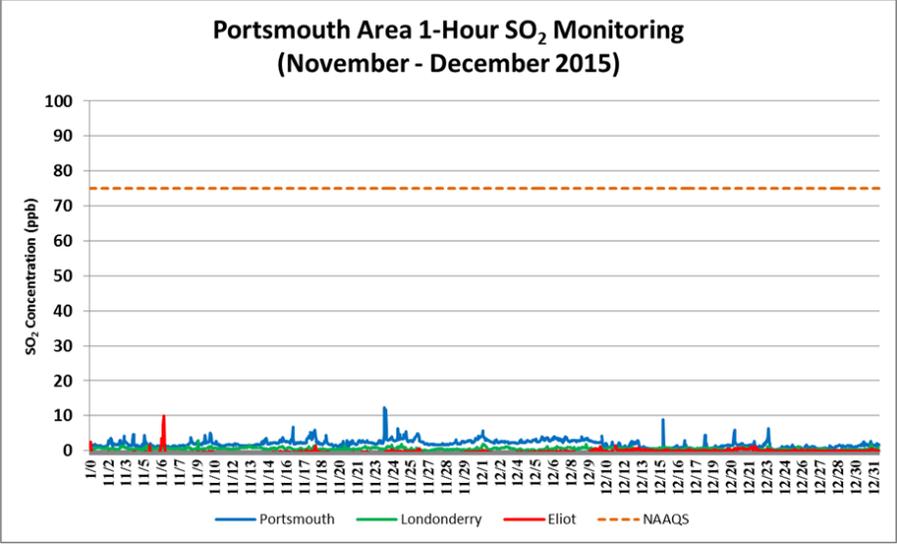
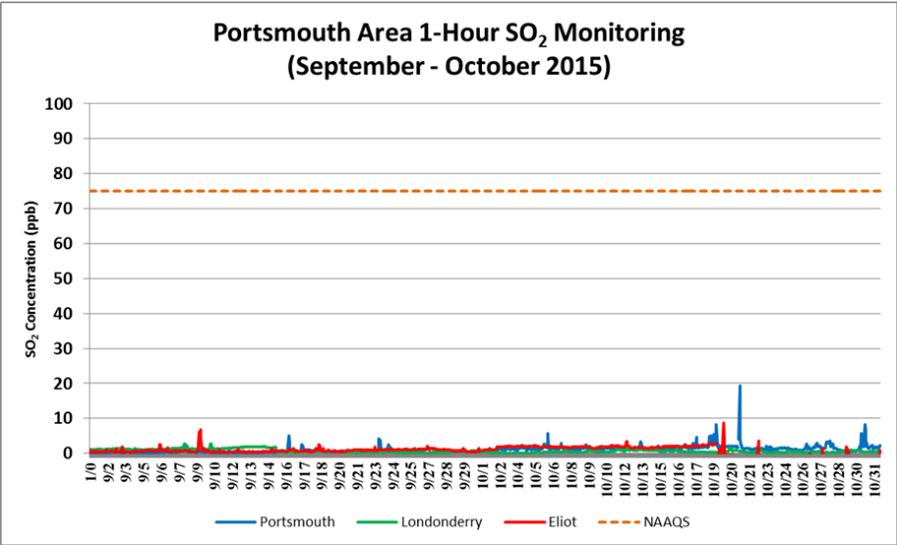
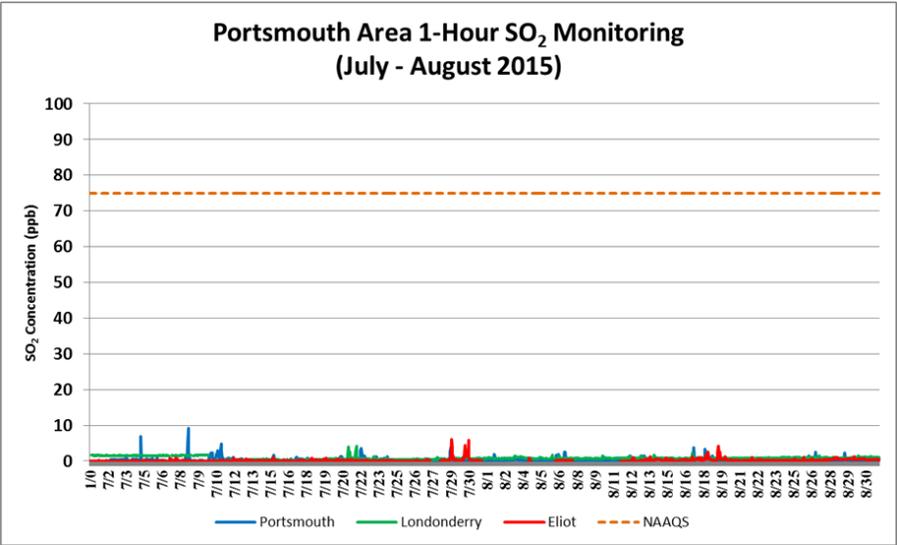
1 HOUR AVERAGE SO₂ CONCENTRATIONS (UG PER CUBIC METER)

2013 results from dispersion modeling conducted by Sierra Club for Schiller Station

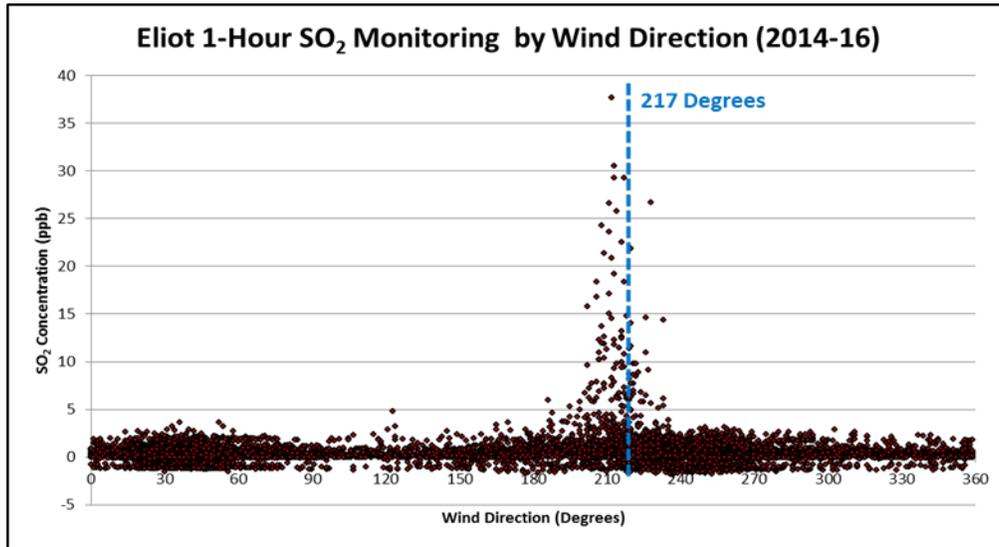
Observations from Sawgrass and Other Nearby SO₂ Monitors



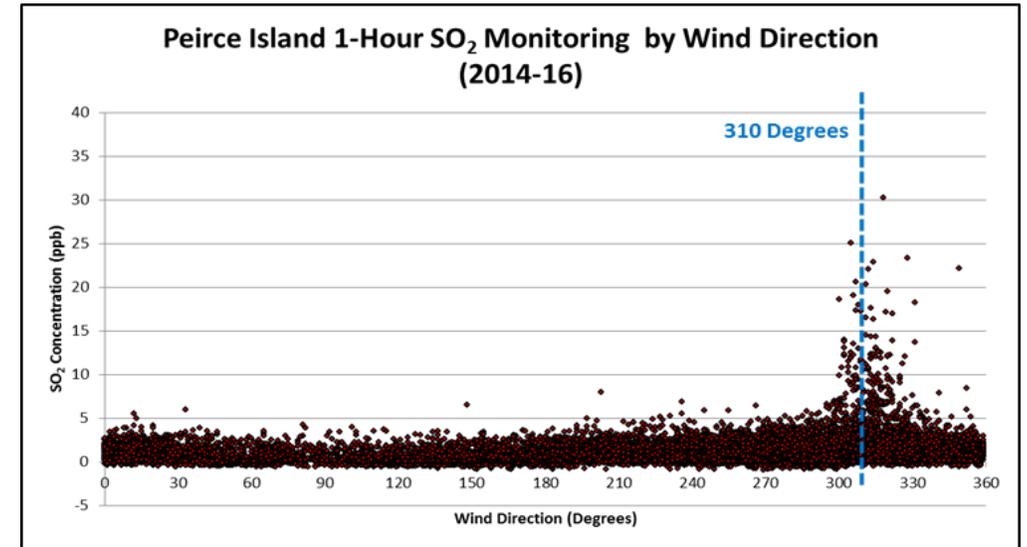
Observations from Sawgrass and Other Nearby SO₂ Monitors



Observations Compared with Wind Direction

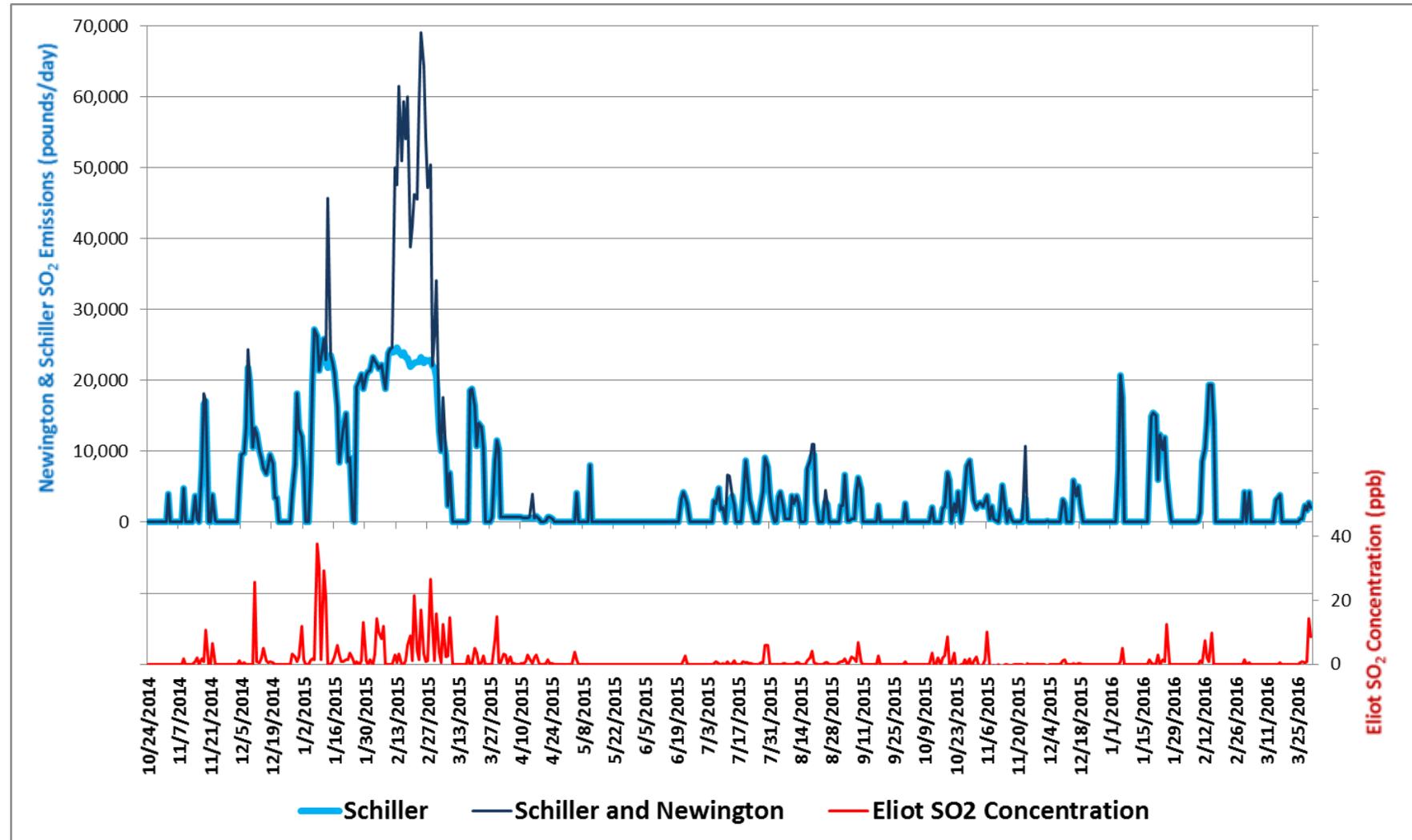


217 degrees is the direction from Sawgrass to Schiller.
The Sawgrass monitor is 1.1 miles from Schiller.



310 degrees is the direction from Peirce Island to Schiller/
Newington. The Peirce Island monitor is approx. 2.4 miles
from Schiller, and approx. 2.8 miles from Newington.

Observations Compared with Power Plant Emissions



Daily SO₂ Emissions at Schiller and Newington on Days with Wind Direction of 217 degrees +/- 45 degrees and Resulting Sawgrass SO₂ Monitor Observations – October 24, 2014 - April 1, 2016

Eliot SO₂ Monitoring Study

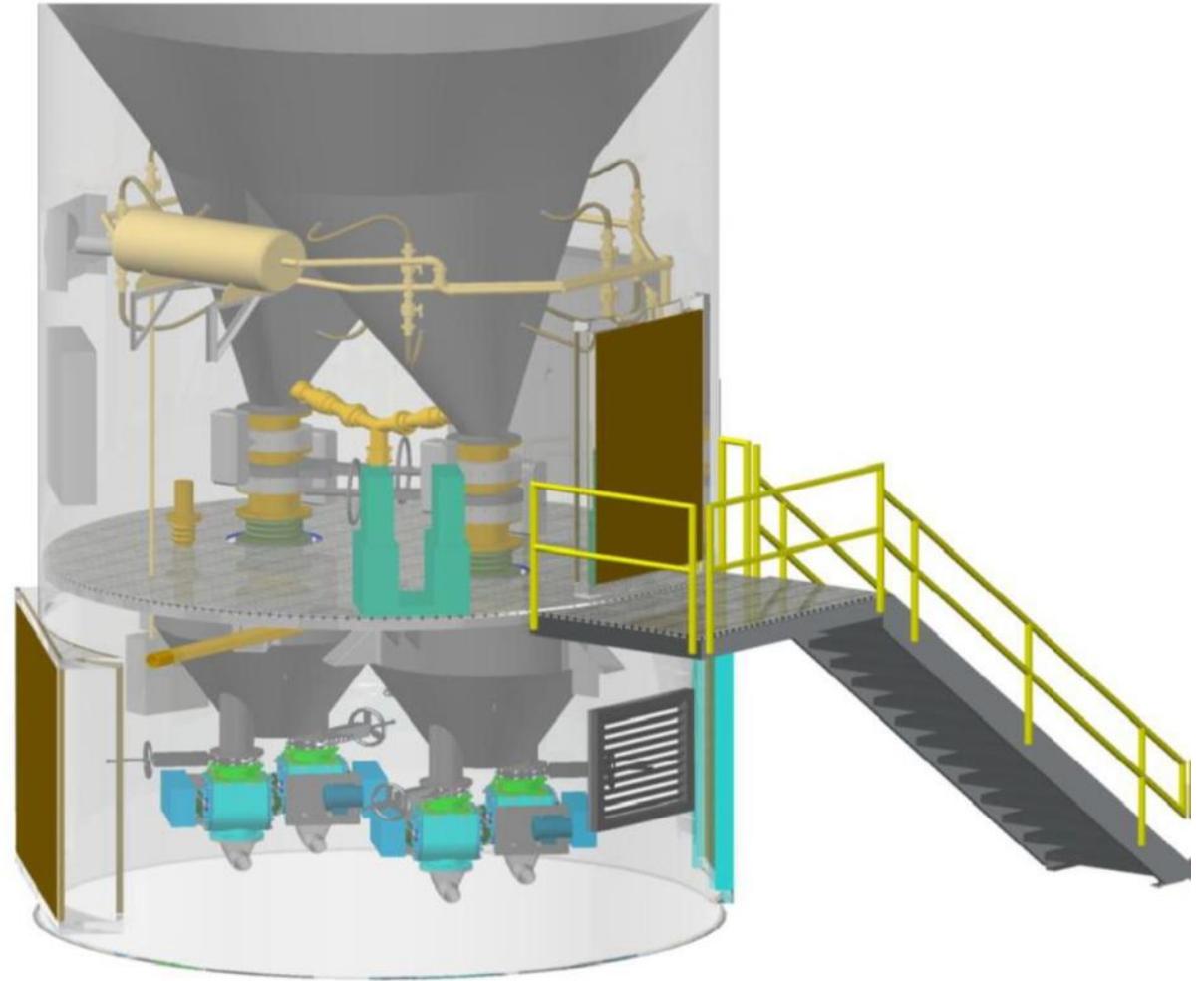
- Conclusions

- The maximum 1-hour SO₂ concentration measured at the Sawgrass SO₂ Monitor was 37.7 ppb, recorded on January 8, 2015.
- The Sawgrass SO₂ Monitor was influenced by emissions at Schiller Station.
- Newington Station appears to have only a minor impact on SO₂ concentrations at the Sawgrass SO₂ Monitor and Peirce Island monitors, most likely due to the taller stack and superior plume rise.
- Concentrations remained low throughout the study period and no observation exceeded the 75 ppb 1-hour SO₂ NAAQS.

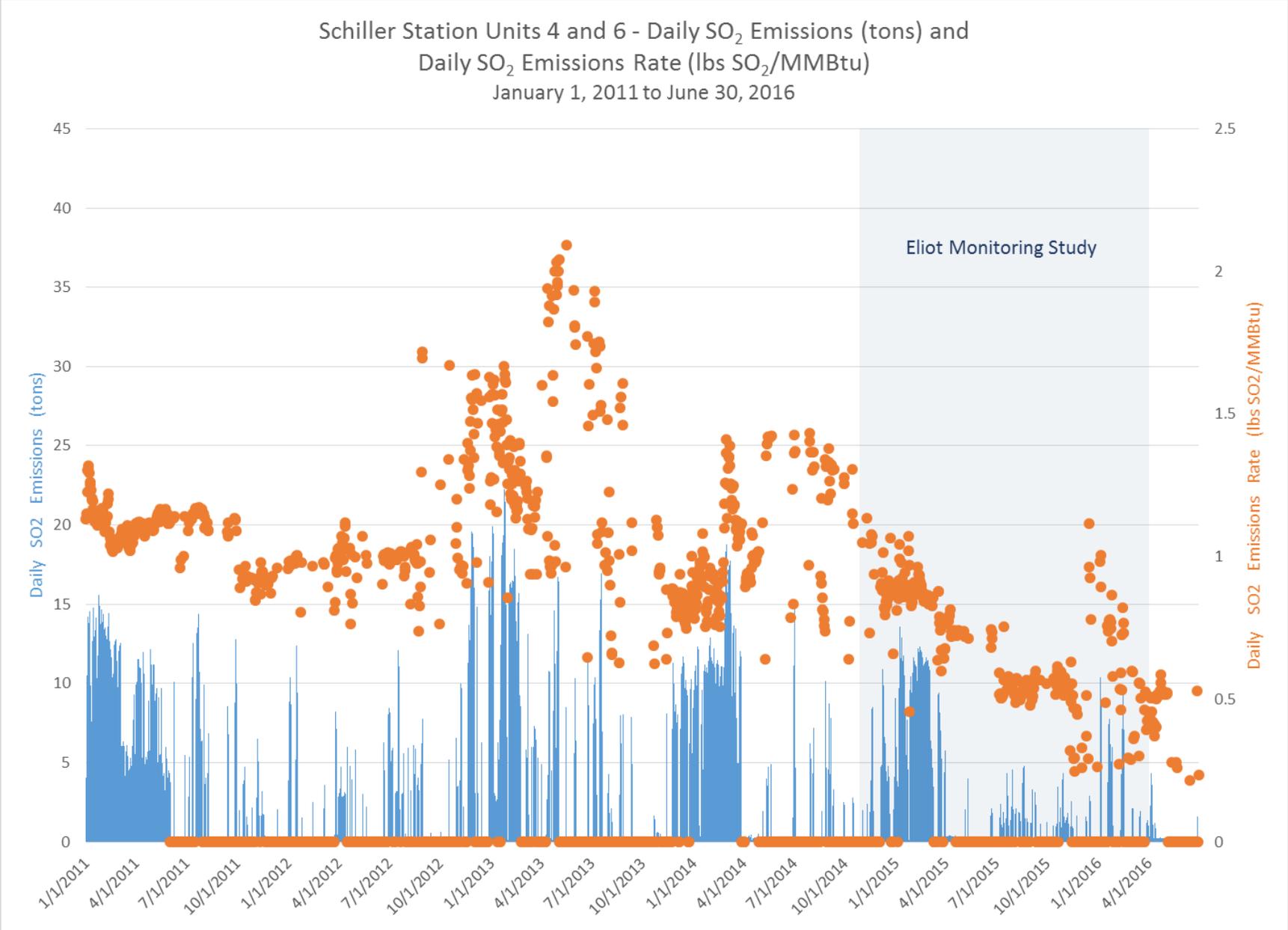
EPA's Mercury and Air Toxics Standards (MATS)

- Schiller Station is required to comply with EPA's MATS Rule starting on April 16, 2016.
- Compliance test data provided to EPA and NH DES in March 2016 demonstrated compliance with mercury, hydrogen chloride, and particulate matter emission limits.
- An activated carbon and dry sorbent injection system was installed at Schiller Station to meet the mercury and hydrogen chloride emission limits.
 - Controlling for hydrogen chloride has co-benefits in reducing SO₂ emissions.

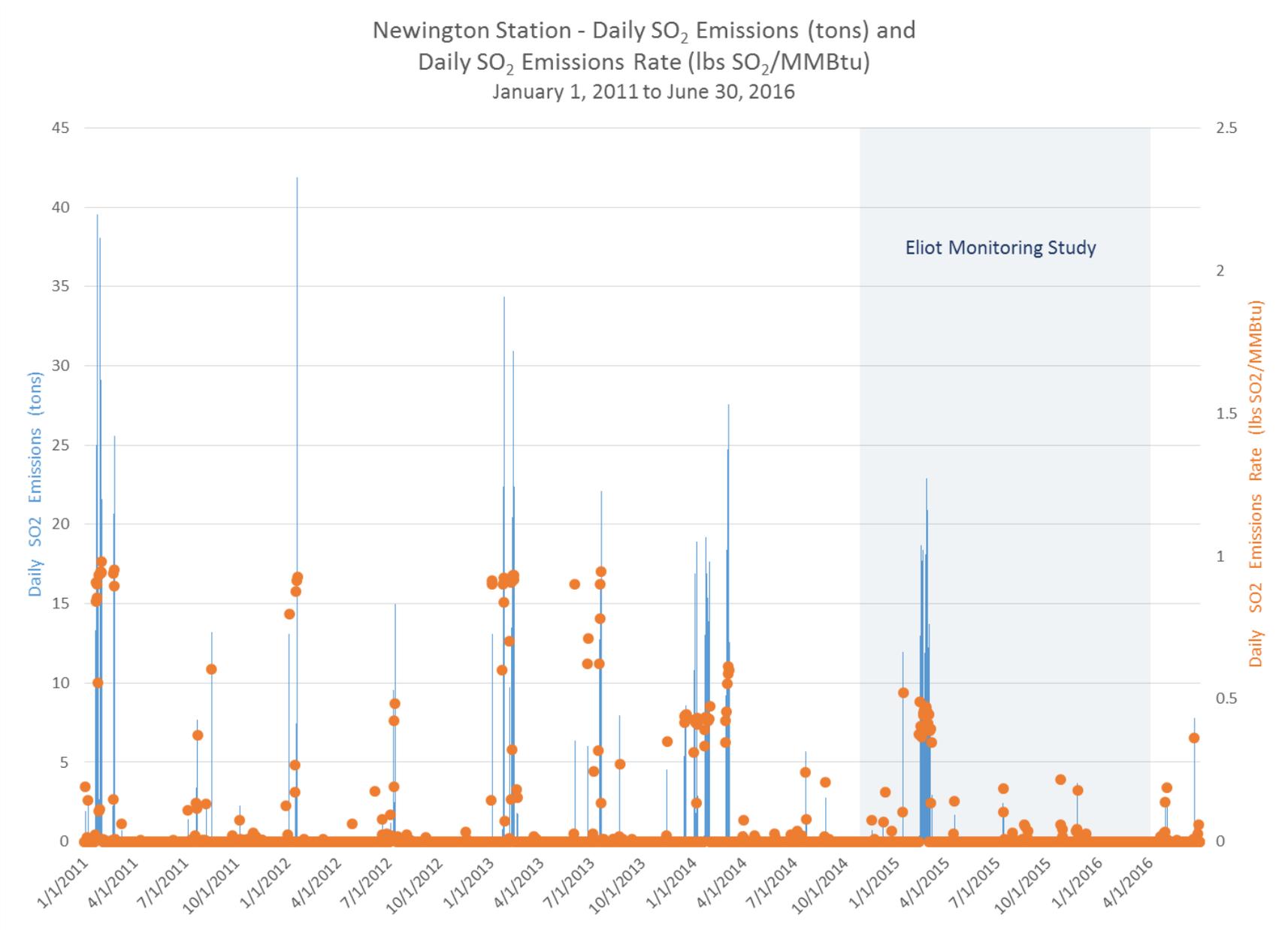
Dry Sorbent Injection System



SO₂ Emission Trends at Schiller Station



SO₂ Emission Trends at Newington Station



Sierra Club Title V Petition & EPA Response

- In July 2014, Sierra Club filed a petition with EPA on the Schiller Station title V operating permit issued by NH DES.
 - Sierra Club claimed the title V permit was deficient in its stringency of emission limits for SO₂, PM_{2.5}, condensable PM, and contained inadequate monitoring to ensure compliance with PM emission limits.
- In July 2015, EPA responded to the Sierra Club title V petition. In its order, EPA granted the Sierra Club's claim concerning the Schiller Station SO₂ emission limit, finding the permit record did not adequately support the emission limit. EPA denied all other claims.
- In response to EPA's title V petition order, New Hampshire DES was required to reevaluate how it assessed the SO₂ emission limits at Schiller Station.

New Hampshire DES Petition Response

- In October 2015, New Hampshire DES provided EPA with a schedule to address the title V petition order.
- The process outlined by New Hampshire DES required Eversource to conduct air quality modeling of Schiller Station and Newington Station.
 - In January 2016, New Hampshire DES stated that, in addition to its response to the title V petition order, the modeling exercise would also serve to inform the designations process for the 1-hr SO₂ NAAQS, i.e., EPA's Data Requirements Rule.
- EPA and New Hampshire DES provided comments to Eversource at several steps during the modeling process.

Schiller Station Title V Operating Permit

- In September 2016, Eversource formally requested an amendment to its title V permit, seeking a more stringent SO₂ emission limit.
 - Eversource requested a limit of 0.83 lbs SO₂/MMBtu on a calendar day basis. The current limit is 2.4 lbs SO₂/MMBtu on a calendar day basis.
- New Hampshire DES intends to incorporate the more stringent emission limit in a forthcoming title V permit amendment.
 - The permit amendment will undergo public notice and a 30-day public comment period.

Summary

- The Eliot monitoring study conducted at Sawgrass Lane observed low concentrations of SO₂ during the study period (late October 2014 – April 2016).
- Pollution controls were installed at Schiller Station for purposes of complying with EPA's MATS Rule. The pollution controls have a co-benefit of reducing SO₂ emissions.
- EPA partially granted a Sierra Club title V petition concerning Schiller Station. The resulting EPA title V petition order required NH DES to reevaluate how it set the SO₂ emission limits at Schiller Station.
- Eversource formally requested a more stringent SO₂ emission limit in its title V permit, which will address EPA's title V petition order and serve to inform the designation of the area for the 1-hr SO₂ NAAQS under EPA's Data Requirements Rule.