

#101



Clean Air Project

Merrimack Station

November 8, 2010

Environmental Protection Agency-Region 1



**Public Service
of New Hampshire**

The Northeast Utilities System

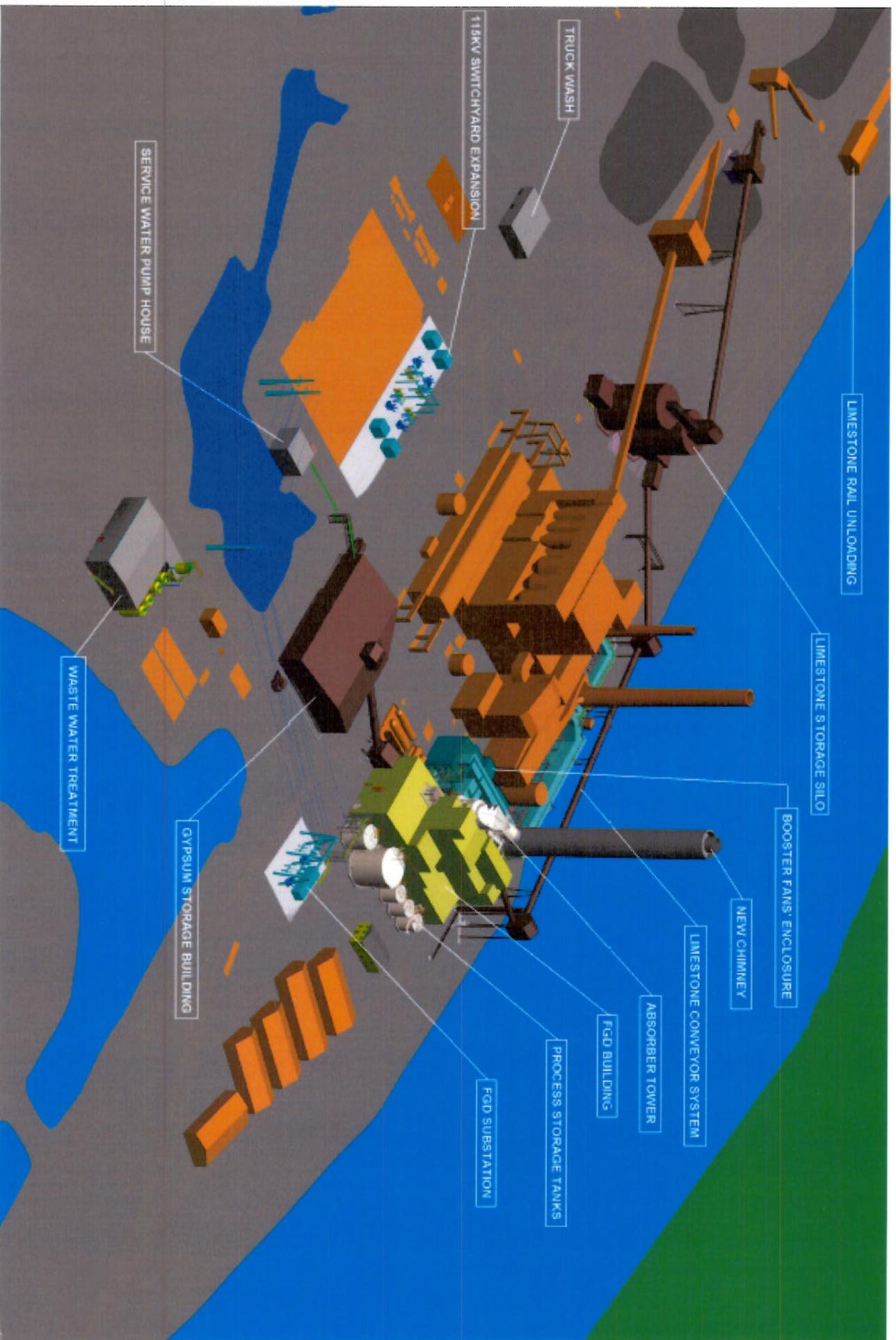
Presentation Outline

- Project Overview and Update
 - The Clean Air Project
 - The Technology
 - Project Status
 - Schedule
 - Key Benefits
- Discussion

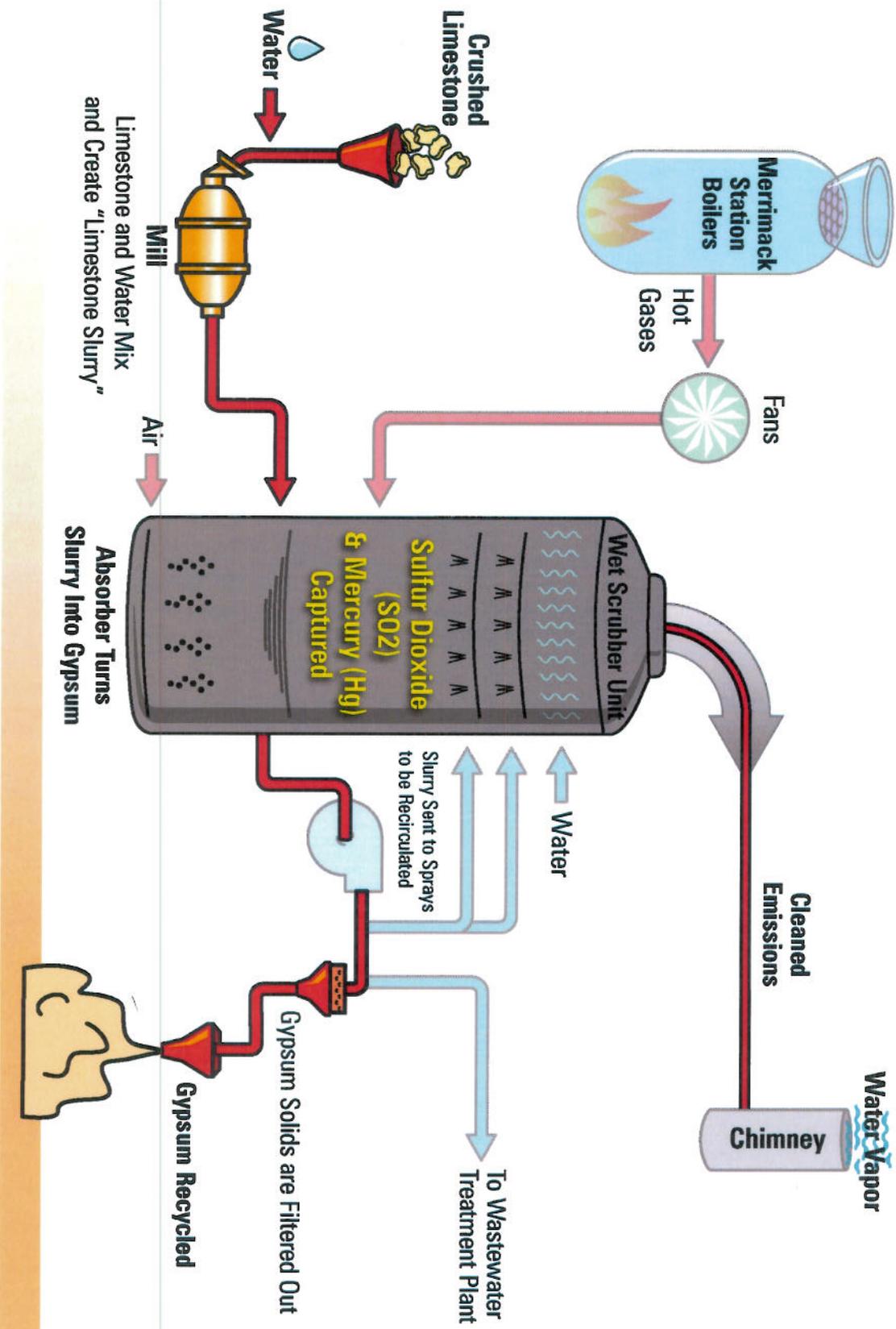
The Clean Air Project

- The installation of a specialized emissions reduction technology system at PSNH's Merrimack Station in Bow to reduce mercury and sulfur dioxide emissions.
- This emissions reduction technology is mandated by State law (RSA:125-O:11-18). The law requires PSNH to install and operate wet flue gas desulfurization technology at Merrimack Station to capture 80% of its mercury emissions from its coal plants by July 1, 2013.
- The Clean Air Project will supplement more than \$50 million in previous investments at Merrimack Station to reduce particulate emissions and nitrogen oxides.

Merrimack Station: 2012

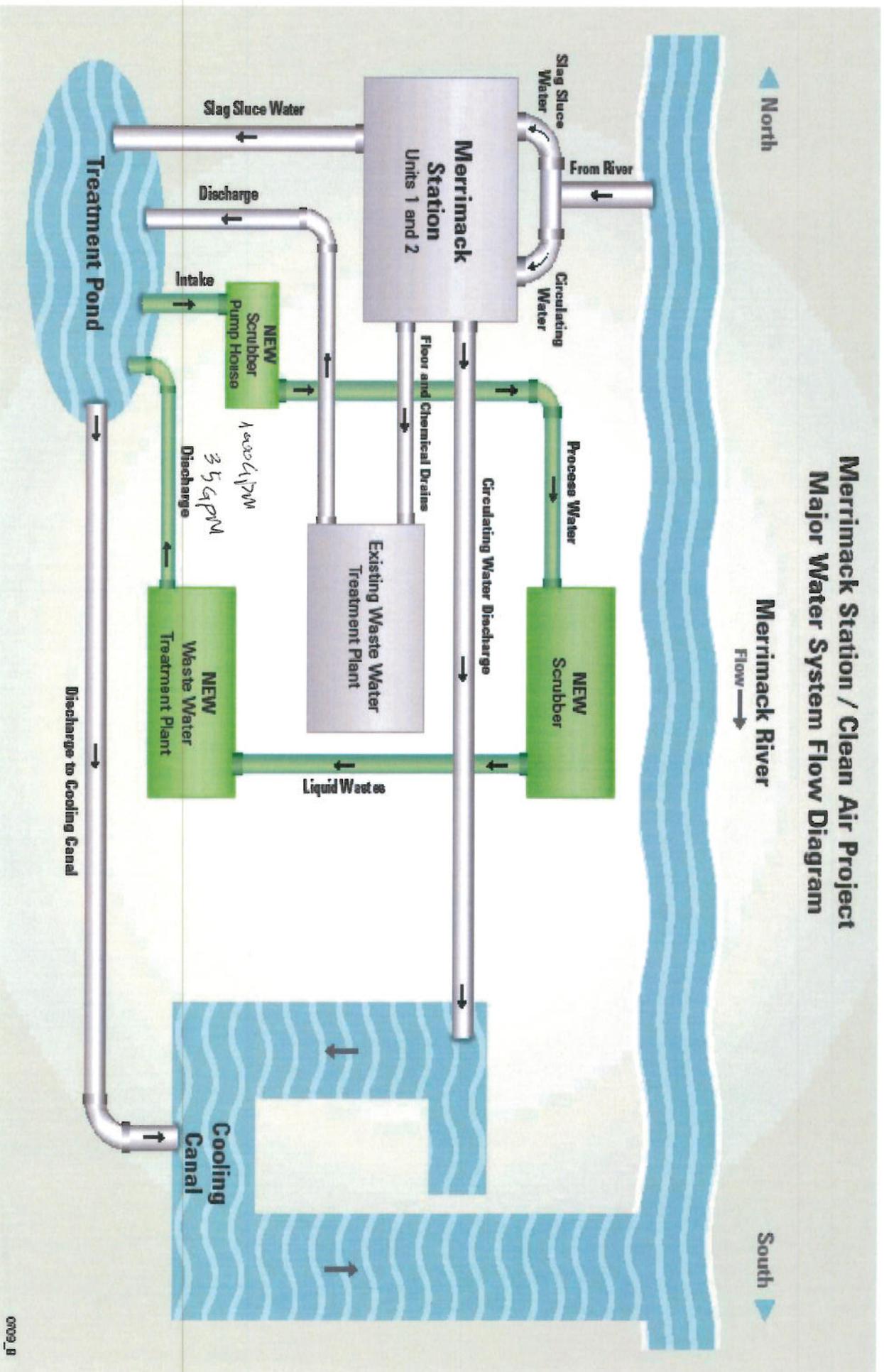


How the Wet Flue Gas Desulfurization Technology Works

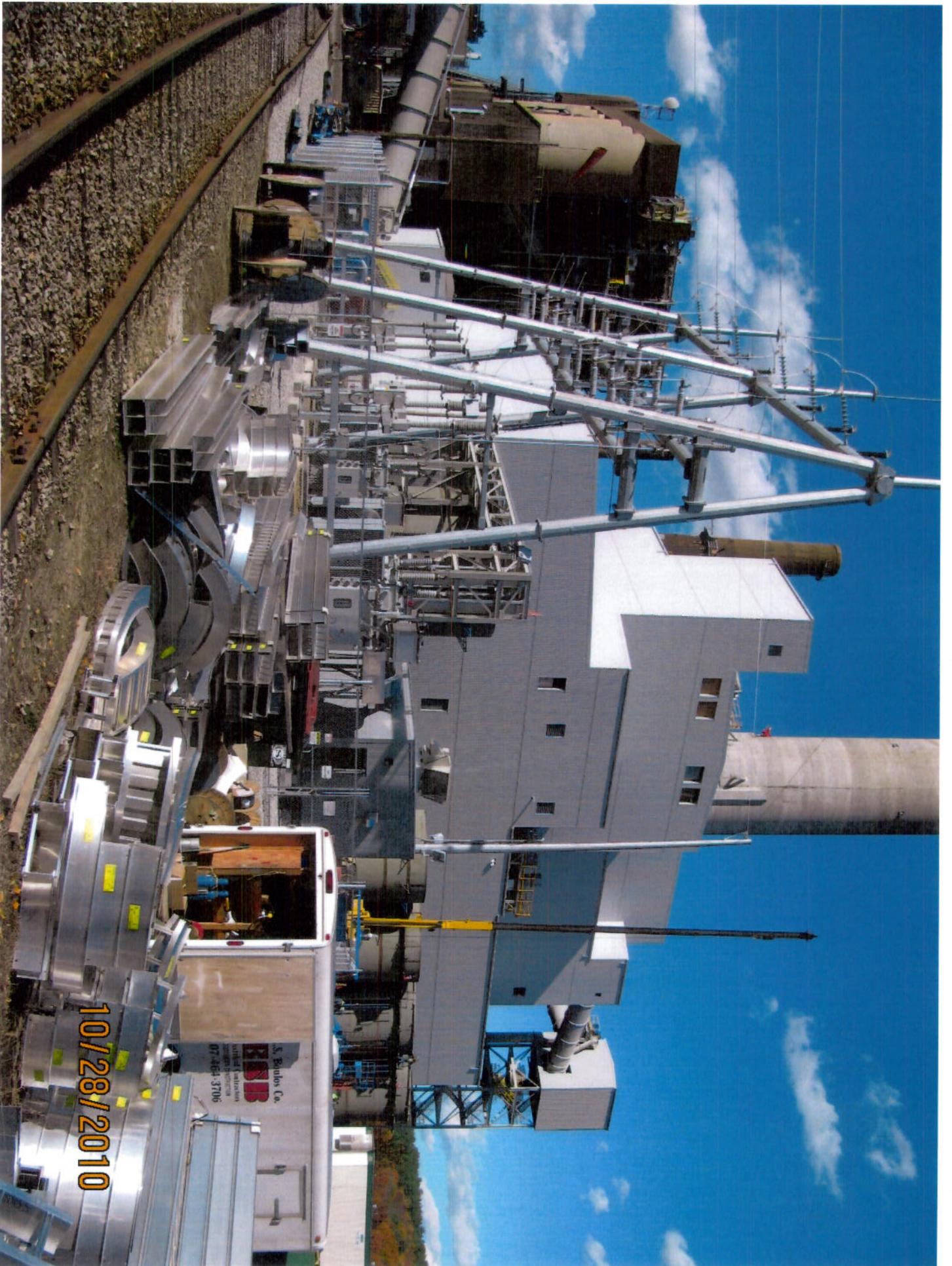


Make Up and Discharge Water Flow

Merrimack Station / Clean Air Project
Major Water System Flow Diagram

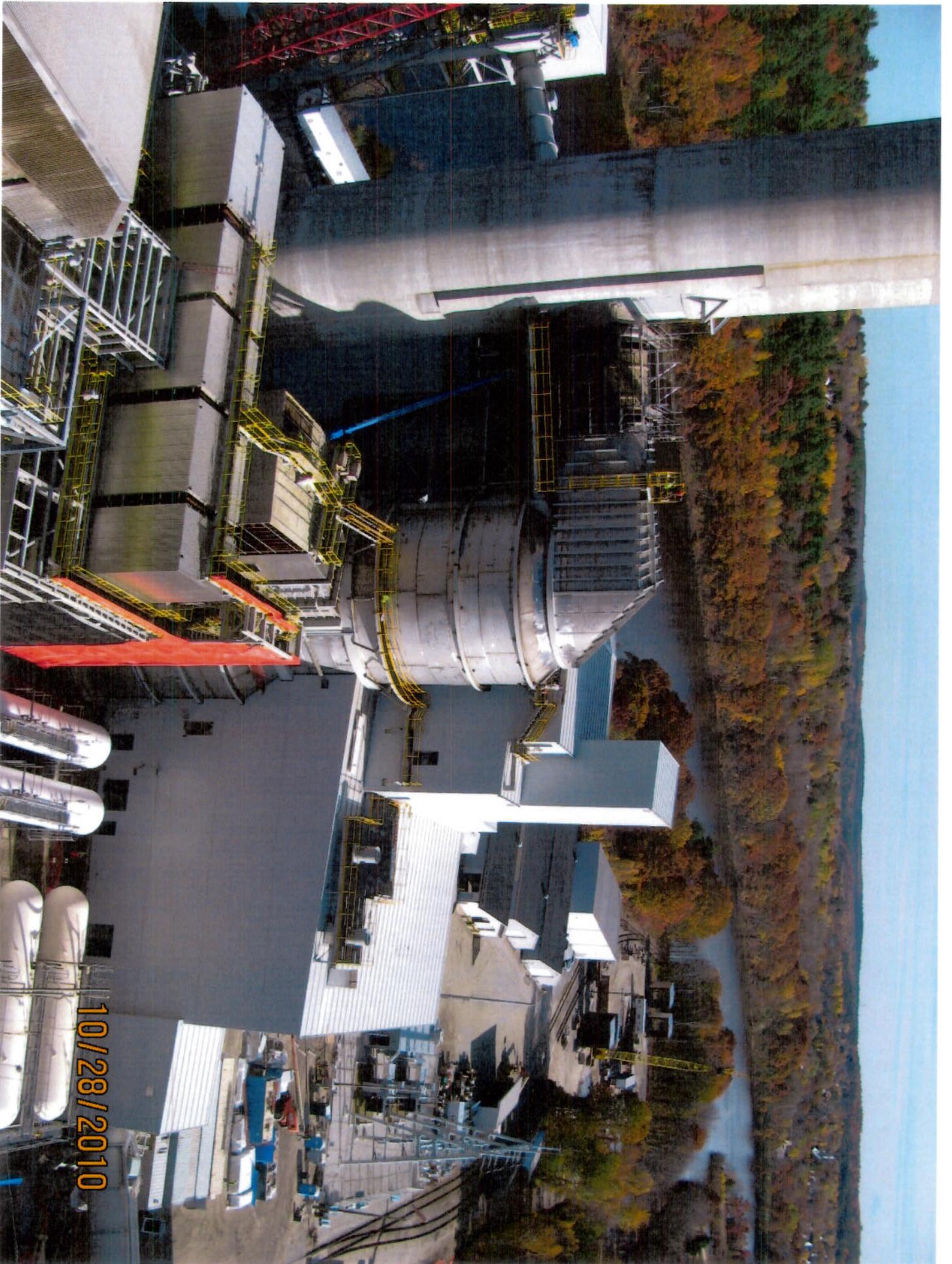






10/28/2010

S. Paulos Co.
Industrial Maintenance
707-461-3706



10/28/2010



11/03/2010



11/03/2010



11/05/2010

Schedule

Merrimack Station Clean Air Project

Project	2006	2007	2008	2009	2010	2011	2012
NH Mercury Reduction Act	▲						
Preliminary Engineering	■■■■■	■■■■■					
Program Manager Hired		▲					
Detailed Engineering		■■■■■	■■■■■	■■■■■	■■■■■		
Major Contracts Awarded			■■■				
Major Permitting		■■■■■	■■■■■	■■■■■	■■■■■		
Preliminary Site Preparation			■■■■■	■■■■■	■■■■■		
Major Construction				■■■■■	■■■■■	■■■■■	■■■■■
Testing & Commissioning						■■■■■	■■■■■
FGD Tie-In and Initial Operation						24/7 2nd Shift START	▲
Testing Complete – Substantial Completion							▲



Key Environmental Benefits

- Cleaner air and water-
 - Over 200 pounds of mercury (>80%) removed from the air emissions
 - ~30,000 tons of SO₂ (>90%) removed from the air emissions
 - Wastewater discharge in full compliance with state water quality standards
 - Daily wastewater discharge reduced nearly one million gallons (~20%) with the use of recycled wastewater
 - Compliance with the Northeast Regional Mercury TMDL
 - Mercury loading equal to or less than current discharge
- After the Clean Air Project is complete, Merrimack Station will be among the cleanest coal plants in the U.S. employing FGD, SCR and ESP technologies.

Other Key Benefits

- A continued economic and reliable generation source for PSNH customers
- Continued fuel diversity in the New England regulated generation portfolio
- Providing an average of approximately 300 construction jobs for the three-year construction period (currently 480 people are on-site)

The legislature determined it is in the public interest to expedite construction and operation of the scrubber project and provided incentives for early completion.



Perspective Sketch

Merrimack Station Clean Air Project

Bow, New Hampshire



**Public Service
of New Hampshire**
The Northeast Utilities System

TFM
Design
Landscape Architects

DISCUSSION