



Longview Power

1375 Fort Martin Road
Maidsville, WV 26541



Project Description:

SEI was contracted by Longview Power to expand the existing fabric filter on Longview's Unit 1 700 MW boiler. The existing fabric filter was experiencing high pressure drops and short bag life and was impacting the plant's ability to operate at full capacity. SEI's solution was to add six (6) new fabric filter compartments in parallel with the existing twelve (12) compartments.

In addition to the new fabric filter compartments, SEI was contracted to replace all of the existing bags and cages. Construction of the new compartments could be performed with the unit operating, with only a tie-in outage required. The existing bags and cages would be replaced during this outage.

Project Schedule:

Engineering release: December 2014
Full contract award: February 2015
Field Construction: April-October 2015
System operation: November 2015





Scope of Work:

Flow modeling: CFD and physical model studies of the new and existing fabric filters and ductwork.

Pulse jet fabric filter: Six (6) new fabric filter compartments with lift-off top door bag access. New bags and cages for the existing fabric filter compartments.

Ductwork and dampers: Inlet and outlet duct and compartment isolation dampers for the new fabric filters.

Structural and access: Support structure for new fabric filter compartments and duct. Penthouse and hopper weather enclosures. Access stairs, ladders and platforms.

Electrical equipment, instrumentation and controls: Instrumentation, MCC, switchgear, DCS equipment and DCS programming.

Field construction: Soil testing, pilings, foundations, mechanical construction, field insulation, field wiring and field piping.

Field service: Start-up, commissioning and operator training.



Design, Sizing and Performance:

	Unit of Measure	Original Equipment	New Equipment	Combined
Flue Gas Volume	acfm	2,403,199		2,403,199
Flue Gas Temperature	°F	325		325
Particulate Loading	gr/acf	6.71		6.71
Fabric Filter Compartments		12	6	18
Bags per Compartment		1,440	1,216	Varies
Total Number of Bags		17,280	7,296	24,576
Total Cloth area	ft ²	590,352	249,260	839,612
Air to cloth ratio				
Gross	ft/min	4.07		2.86
Net (1 Exist Compt)	ft/min	4.44		3.04
Net (1 New Compt)	ft/min	NA		3.01
Required Performance				
Filterable PM	lb/MMbtu			0.02
Differential Pressure	in W.C.	8-10		<6

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