

CASE STUDY

Alimak rack & pinion elevators for power plant FGD systems

An Alimak SE-H rack and pinion elevator was installed to provide vertical access for frequent upkeep and maintenance of a flue gas desulfurization system at a power plant near New Haven, WA, USA. The large capacity elevator ensures the plant can stay on top of the maintenance, without the need for a crane.

The AEP Mountaineer Power Plant is a coal-fired, 1300 megawatt generating facility located near New Haven, West Virginia. To achieve this output of electricity AEP Mountaineer burns an average of 9,000 tons to 12,000 tons of coal a day. AEP has added to this plant state of the art emission control equipment. One piece of this system is a flue gas desulfurization (FGD) system. FGD systems, commonly known as “scrubbers”, will help keep the plant in compliance with environmental regulations by reducing the sulfur dioxide emissions.

The FGD building is running constantly and it requires frequent upkeep and maintenance. The plant decided they needed a large capacity elevator to stay on top of the maintenance, without the need for a crane. AEP Mountaineer chose an Alimak SE-H 2700 rack and pinion elevator with a 2,700 kg capacity (near 6000 lb). By installing a large permanent elevator on the FGD building they can get personnel plus their heavy tools, large equipment and specialized parts to the top of the FGD building at any moment.



The large capacity Alimak rack and pinion elevator ensures easy access to the scrubber at any moment.

ELEVATOR DETAILS

Location:	AEP Mountaineer Station New Haven, WV, USA
Application:	Flue Gas Desulfurization System
Elevator type:	Rack and pinion
Elevator model:	Alimak SE-H 2700 FC
Capacity:	2,700 kg (5,950 lbs)
Elevator car size: (W x L)	1.56 m x 3.38 m (5' - 1 3/8" x 11' - 1 1/8")
Elevator car height:	2.35 m (7' - 8 1/2")
Speed:	42 m (140 ft)
Lifting height:	80 m
No of landings	5

This may minimize unplanned outages if the scrubber goes down because they can start repair work instantly.

Alimak rack & pinion elevators can be placed in environments where traditional traction elevators cannot, for several reasons:

- Alimak elevator can be installed onto the existing structure in a number of places because it requires no hoist way or machine room
- It is vertically self-supporting and imposes only relatively small tie-in loads on the existing structure
- The elevator can be installed inside or outside, with or without a below grade pit
- Alimak's rugged, industrial grade elevators
- come in many sizes and capacities and can be tailored to fit in nearly any situation