

Mist Elimination Increases Filter life And Lowers Pressure Drop

Challenges Facing the Power Generation Industry

With rising energy costs and shortages around the world, the Power and Process industries continue to seek innovative solutions to these problems. The demand for energy worldwide continues to rise faster than generating capacity, and the deregulation of the electric power industry has created a demand for products that will make power producers more efficient.



Installation of Clark Air Systems project using Munters DH2100 Mist Eliminators with filter bank and vessel to extend the life of the filters and reduce pressure loss. PCS Nitrogen Trinidad

Modern Gas Turbine Air houses have made great strides towards improving the quality of air introduced into the turbine, but even those modern plant designs may suffer from fouling due to ingestion of dust, dirt, liquid and salt air unless proper Mist Elimination techniques are implemented.

Atlantic LNG in Point Fortin Trinidad has 4 Gas Turbine trains with a total of 27 gas turbines. The gas turbines are used to compress the natural gas from a gas to a liquid state and stored. The plant was experiencing down grades in power and frequent filter changes in their air houses. Munters Corporation in conjunction with Clark Air System of New York were called in to look at the present air houses with installed hoods for protection. After a full inspection of all units it was determined the best way to extend the filter life would be to remove the hoods and install a Munters Mist Elimination System to reduce the amount of dirt,

dust and liquid reaching the filters. Atlantic LNG selected Train 1 as their first installation, with 6 turbines this train was the closest to the ocean and experiencing the greatest amount of dust, dirt and ocean spray. After a trial period on Train 1 it was determined that the mist eliminators were increasing filter life by more than two times according to Kerry Moody process owner at the Atlantic LNG facility in Point Fortin Trinidad.



Installation of Munters DH2100 Mist Eliminators with Framework to extend the life of the filters and reduce pressure loss. Atlantic LNG Trinidad

The Munters Solution

Because large amounts of air are required to operate Gas Turbines the power output and fuel consumption of a gas turbine generator are highly dependant upon gas flow and quality air drawn into the combustion chamber. With cleaner air there will be less fouling of the filters and loss of combustion air. Lower pressure also results which improves output and saves money says Kerry Moodie. It was determined that a complete framed mist elimination system would be provided and Munters manufactured the equipment in Ft Myers FL shipped framing components to Trinidad where local contractors assembled and welded the parts into full face units that were installed on the bolt holes for the hoods under the direction of Clark Air Systems and Munters Corporation.

Since this installation Munters has worked with various OEM's in the industry and other end users such as Progress Energy in Florida and Eco Electric in Puerto Rico.

The Benefits

- **Increased Power Output**
By increasing filter life higher outputs over time are achieved.
- **Reduced Pressure Drop**
The removal of the hoods and installation of the Munters mist eliminators resulted in a 0.3” reduction and extended the time between required filter changes
- **Lower maintenance**
With the reduction in filter changes per year maintenance costs related to the filter changes and the cost of filters is reduced.