

## Protecting Conveyors in Thermal Power Plants

How one plant avoided a potential disaster through the use of proximity detection.

Thermal power plants convert heat energy to electricity usually by burning fossil fuels to produce steam. These types of power plants often rely on a conveyor systems to transport coal, biomass and/or ash from an unloading area to a designated storage site. Depending on the size of the power plant one or multiple conveyor systems may be used.

Recently, a thermal power plant located in the United States found that one of their conveyor rollers, unbeknown to them, had seized, immediately creating friction and heat due to the belt traveling over the locked conveyor roller. Fortunately, a Protectowire Linear Heat Detector was installed in proximity of the conveyor belt and quickly detected the heat from the locked roller. As a result of the early detection and deluge system activation, there was no damage to the conveyor. Due to the recent Covid-19 health concerns, many power plants have new restrictions in place to reduce the amount of unnecessary personnel on site at these power plants. As stated by the Principal Engineer "this small belt fire would have been a major event to try and handle right now. This event is just the latest great example of why we trust and rely on your products to keep our plants protected."

The key to this type of system is installing the Protectowire Linear Heat Detector in close proximity to any type of conveyor. Protectowire Control Equipment independently or in conjunction with other control equipment can initiate an alarm, sprinklers or other extinguishing systems and shut down the conveyor. Our digital alarm point location meter pinpoints the location of any overheat condition. On belt type conveyors, Protectowire Linear Heat Detector can be ceiling, sprinkler/deluge pipe mounted, or installed on either side of the belt on or above the idler arms. Type XCR or CTI-X Detectors can withstand abrasive coal dust, moisture and the corrosive atmosphere found in this type of environment.

Conveyor fires are typically caused by friction due to belt slippage, bearing problems, static electricity, welding operations adjacent to the conveyor or spontaneous combustion. Given the rapid spread of a fire on a moving conveyor, a Protectowire FireSystem designed for fast response can mean the difference between a controlled fire situation and a major disaster.

### Questions?

If you have further questions please visit [protectowire.com](https://protectowire.com) or call **781-826-3878**.