

Debunking Apprehension To Operate/Install Steam Turbine Driven Boiler Feedwater Pumps.



Employers and operators alike are sometimes hesitant to operate existing, or install new steam turbine driven boiler feedwater pumps due to some mis-guided apprehensions and lack of concrete knowledge as to why they can be viable options to electric motor driven feedwater pumps.

One explanation for not operating/installing steam turbine driven boiler feedwater pumps is if the boiler trips, there'll be no steam to operate the pump and supply water to the boiler, to restart the boiler. If your plant has in-house operators that stay in the plant and/or within the control room, and the main boiler trips for any reason, the operator will be readily available to reset the boiler before it runs out of steam & the steam turbine driven pump won't shut down. If the boiler trips on low water or most any other reason, the pump will still run, the makeup water valve on the boiler will supply water to the boiler, the operator will have enough water in the boiler to start the boiler again and create the low pressure steam required to start/operate the steam turbine driven feedwater pump

If the boiler operator has other duties throughout the facility such as in a hospital or college and they're not readily available to restart the boiler if it trips, your plant pressure controllers & digital drives can compensate for the loss. Many plants have lead/lag feedwater pumps controlled by feedwater pressure controllers. If the feedwater pressure gets too low, other lag/standby pumps could be calibrated to start as needed. If the steam turbine driven pump shuts down because the plant completely loses steam pressure, an electrical/motor driven feedwater pump on lag can take-over. When the boiler operator resumes steam pressure in the plant the steam turbine driven pump can resume as the lead feedwater pump.

Another option to keep uninterrupted steam pressure to a steam turbine driven boiler feedwater pump if the main boiler trips, is to have a second boiler online, low-fire, as a buffer. Very seldom will both boilers trip at the same time negating fuel supply or electrical supply interference to the plant. Operating a lag/back-up boiler at all times can be a proactive approach to anticipate load swings in your plant along with a way to prevent steam turbine driven boiler feedwater pumps from becoming non-operational due to lack of steam to the turbine.

Often the "fear" of operating/installing steam turbine driven boiler feedwater pumps in a boiler plant is they are rumored to "leak steam/water often". The key to keeping pumps or boiler accessories operating correctly & efficiently is proper and regular preventative maintenance. Stocking a supply of seals and replacement parts for your feedwater pumps & having them on hand for regular preventative maintenance is crucial for safe & efficient plant operation.

Hopefully this article eases the apprehension to operate/install steam turbine driven boiler feedwater pumps in boiler plants. The most significant advantage of operating/installing steam turbine driven boiler feedwater pumps is the drastic reduction of electricity costs to operate electrical motor driven feedwater pumps.

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