

Acid Plant Furnace Optimization



Sulfuric Acid Recovery Furnace

- ▶ A newly installed, custom two-fluid atomizer more efficiently injects liquids into the furnace, lowering furnace temperatures and natural gas use.
- ▶ Excess low-pressure steam in close proximity to the furnace preheats incoming air and reduces natural gas use in firing the air preheater.
- ▶ Additional steam stripping of the spent acid residue before it is fed into the furnace decreases water load and natural gas use.
- ▶ Reduced excess oxygen decreases the amount of incoming air that must be heated.
- ▶ Automatic temperature controls reduce temperature oscillations and inefficient use of energy.

Benefits

- ▶ Saves over \$3 million per year in electrical and natural gas costs.
- ▶ Makes productive use of low-pressure excess steam.
- ▶ Controls furnace temperatures more closely.



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