*GPM-Eliminator™ Pump Success Story*

# Pipe Sizing Critical for Submersible Pump Applications


## SUMMARY

Custom-engineered GPM-Eliminator extended shaft pump provides solution for metal wash sump.


## THE CUSTOMER

Eastern US Power Generation Plant

## THE CHALLENGE

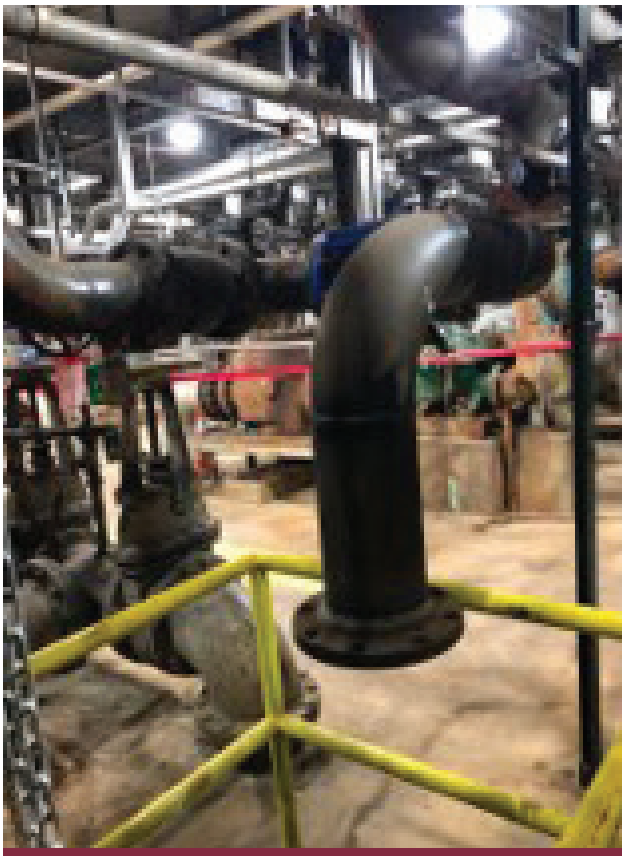
Submersible slurry (aka sump) pumps often discharge downstream into common headers or larger piping systems. While this design has its benefits - such as saving space in the plant - there are drawbacks to consider. This power generation plant had four (4) different sump pump discharge lines joining together in a common header at various angles, including several varying pipe sizes. The result of this system was ultimately causing pump performance issues by interrupting flow rates, having solids settle in the horizontal lines and slurry flowing back and packing in the vertical runs. These factors all contributed to the pumps not operating at an optimal spot on the curve, and eventually failing prematurely.

## HOW GPM HELPED

At GPM, our focus goes well beyond repairing the pump and delivering it back to the customer. We work to find the root issue, which can often be traced back to system design flaws, or piping changes that happen over time. After completing a comprehensive system walk-through with the GPM team, several discharge piping changes were made. Modifications included reducing the number of elbows, combining sumps, and introducing makeup water at the end of a run cycle. GPM also ran new discharge piping to ensure the correct line velocity was achieved.

## THE RESULTS

It is common to point the finger at the pump when a system goes down, but GPM proved again that by working in the trenches alongside our customer, we can work together to solve the root issue. We found here the issue was a piping system, not the pump. After the recommended changes were implemented, the plant has dramatically increased its MTBF. GPM also worked with plant maintenance and operation personnel to educate them on pipe system troubleshooting best-practices.



Sump Pump Discharge Piping