



## Case study: Grindex pumps solves dewatering and slurry issues at Coal Fired Power Plants

**In Coal Fired Power Plants you will find quite a few sumps that require dewatering or slurry handling submersible pumps. Grindex has numerous pump types that are proven solutions for these applications.**



### **Condensate pit**

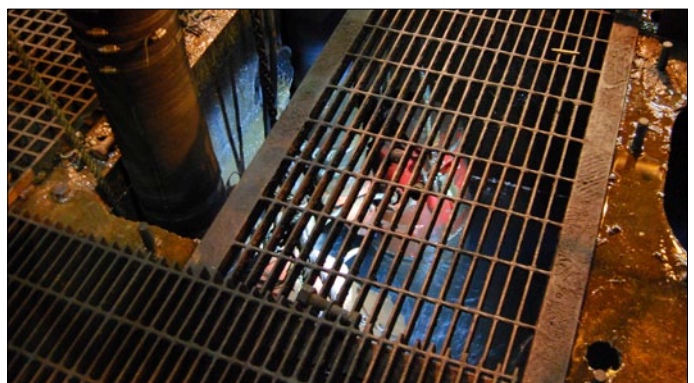
The pit serves as a collection point for various drain tiles around the power plant. Being a low point of the plant, debris and abrasive solids often end up in the pit along the water. This requires a solution of pumping water mixed with solids.



The Condensate pit

### **The Grindex Solution:**

A mid-sized dewatering pump (16HP) is suspended about 12" off the sump floor. A mid-sized sludge pump (20HP) sits on the sump floor and pumps the settled debris and solids. Being an alternating duplex system controlled by level regulators, it empties the sump automatically when needed. Once the water/debris leaves the sump it ends up in a slag pit where it is pumped out of the plant.



Under the grid: A mid-sized sludge pump (left) and a mid-sized dewatering pump (right)

### Coal yard lift station

The lift station receives water and coal fines from the car dumper sump and from nearby coal tunnels. As the coal slurry is very abrasive, a pump with high wear resistance is required.



The Coal yard with the lift station

### The Grindex Solution:

The Bravo 40 pump (20HP) was selected due to the hard metal material which offers superior wear resistance. Once pumped out of the lift station, the coal slurry is pumped to ground level right next to the coal pile.



Inside the lift station: A Bravo 40 slurry pump

### Gas purification – Wet scrubber system

In the scrubber system, sprayed water is removing the solids from the smoke. As the fluid then holds a pH of 14, it's very corrosive and needs neutralization. In this process, acid with pH 3 is mixed with the fluid and pumped between two neutralization pools. An aluminum Master dewatering pump (13HP) was used but suffered heavily from corrosion and lasted only some 4 months before it was all worn out.



The two neutralization pools

### The Grindex Solution:

The dewatering pump Master INOX (13HP) was installed. Being made of 316 stainless steel, this pump can operate in applications that would destroy aluminum pumps in matter of weeks or even days. After being operating for 3 months, it is still as good as new.



After 3 months, the aluminum pump (left) have corroded heavily, while the INOX pump (right) is doing just fine.