

## Challenge

### Goals

- Maintain lime slurry suspension to ensure proper functioning of the Wet FGD scrubber
- Increase MTBR of agitators to >6 months
- Reduce the frequency of tank draining and subsequent FGD shutdown

### FMEA\*

Highly abrasive slurry was resulting in severe erosion and metal loss in stainless steel agitators.

\*Failure Mode Effects Analysis



Severely abraded stainless steel agitators

## Solution

### Preparation

- Weld repair damaged blades with 308 SS wire
- Dynamically balance blade after repair
- Steam clean at 100bar (1400 psi)
- Verify surface free of soluble salts
- Grit blast to Sa 2.5 with 3 mil (75 µm) profile

### Application

1. Apply 4-5 mm of **ARC BX2\*** to leading edges and 3-4 mm of **ARC BX2\*** to blade faces
2. Dynamically balance blades after cure

\*ARC BX2 is the "Bulk" package size of ARC 897



Applying ARC BX2\* being applied to the agitator

## Results

### Inspection

ARC ceramic coatings exceeded the previous 6-month MTBR.

### Breakdown of Costs

- New blade: \$ 2,500
- Down time drain and clean tank: \$50,000
- **ARC Repair Cost (materials & labor) - \$ 3,500**

**Estimated Cost Avoidance (6 months) \$49,000**

Client implemented ARC solution to all agitators. ARC touch ups during planned maintenance cycle.

\$=USD



Completed agitator installed in tank