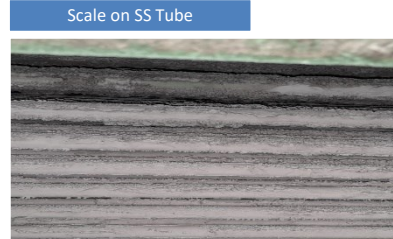


Topic: Ice Tube Industries by Hafiz

98Oils Product	GREENEX R&S F1 and CSD
Application	Flushing and treatment CT
Customer	MURA KRISTAL ES, Semarang
Fluid/ Existing	Filtered water
Machine	PATKOL ECF 1250 Evaporative Condenser
Water Capacity	8000 L
Customer Requirement	Soften scale on stainless steel tube Safe to equipment (no corrosion)

Issue/Problems :

- Water in Semarang area has high calcium. It could make scale easy to form.
- The age of EC (Evaporative Condenser) is more than 10 years. There are many layers of scale. User have tried using other product (including acid), but failed.



Solution:

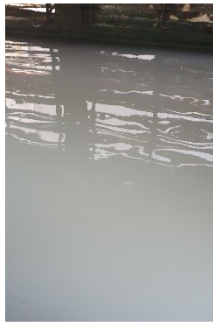
- 1) Using **Greenex R&S F1** 80 L = 1% from 8000 liter water of basin, circulated it for 1 week. Add @40 liters in day 1 and 4th.
- 2) Use **Greenex CSD** 4 L/week (8000:2000 or 500 ppm), to prevent scale formation after flushing and soften the rest of scale in sistem.



Work Process :



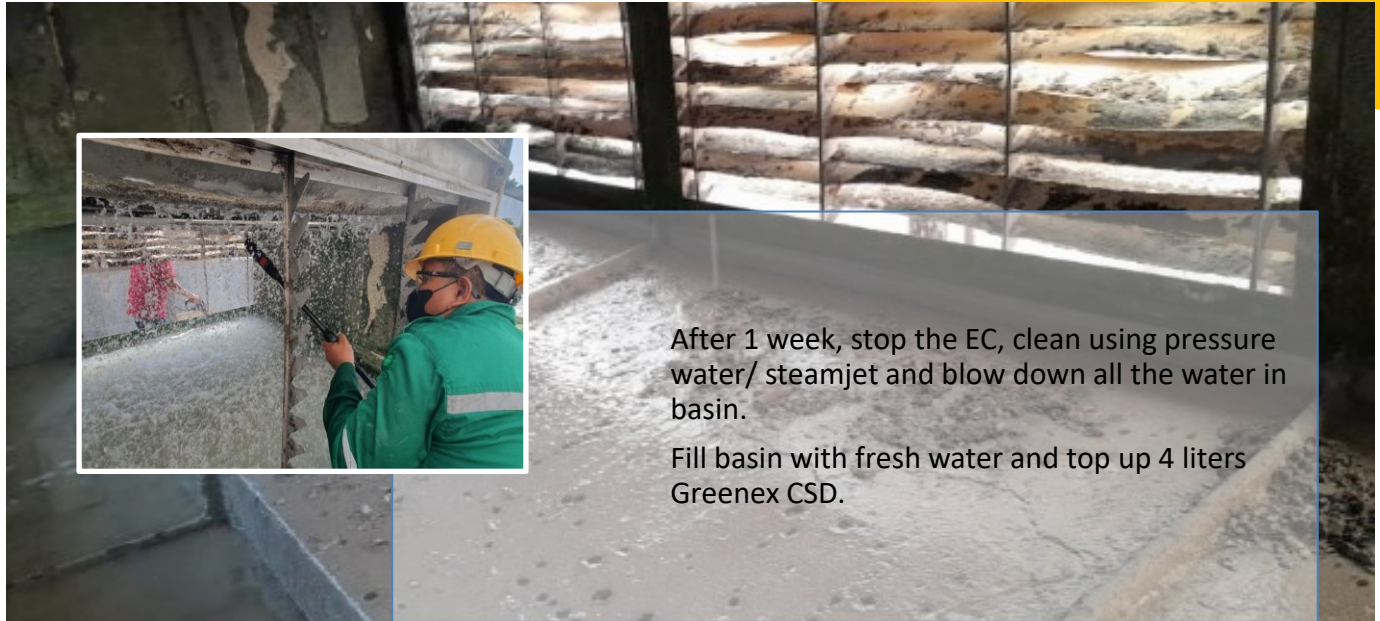
1st day. Stop automatic blowdown. Add 2 pails of Greenex R&S F1 to EC.
Water condition still clean.



2nd day. Water become murky. This is reaction between Greenex R&S F1 and calcium scale.



4th day, we add 40 liters (2 pails) Greenex R&S F1.
Some scale on the tube start to breakdown.



Result :

Before	After

1. Greenex R&S F1 has ability to clean old scale (more than 10 years) and safe to equipment (no corrosion) compare with other chemical.
2. There is still some scale in the EC.
Because old calcium scale formation is in layer upon layer. This flushing process using Greenex R&S F1 is the first step. After this, we add Greenex CSD weekly to prevent new scale formation and also soften the old scale.
Customer is very happy because he can see the stainless-steel tube without scale in most area and also no corrosion at all (no risk for ammonia leaking).