

**Topic: Cooling Tower Treatment by Hafiz**

980Oils Products	Greenex R&S F1 and Greenex CSD
Applications	Flushing and Water Treatment
Customer /Location	Organon Pharma Indonesia, Pandaan
Lube/Fluids Existing	Kurita M-Towerclean S-570
Process/Machines	Cooling Tower for AHU in production lines
Tank Capacity	12000 liters
Customer Requirements	Less consumption of feeder water. Using only one type of chemical.

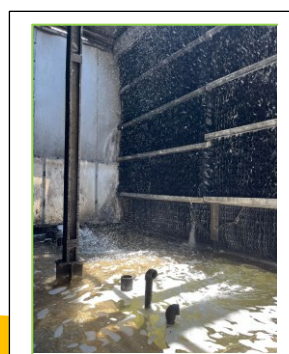
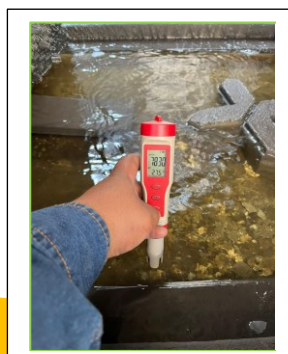
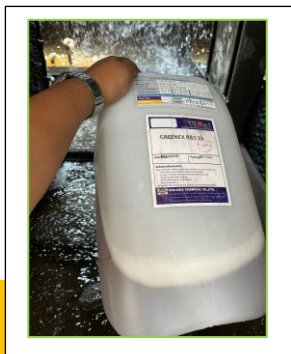
**Issue/Problems :**

- Using Kurita, they blowdown every day (conductivity up to 800 from 200  $\mu$ S)
- Many scales on filler of cooling tower.



**Solutions :**

- 1) Flushing CT using Greenex R&S F1 to clean up the scale from filler. Using 6 pails Greenex R&S F1 to circulate for 2 weeks (add 3 pails/ week) during flushing process. There is no need to shut down the production machine or in this case AHU line.
- 2) After 2 weeks blow down everything, fill with fresh water and add Greenex CSD 6 liters/ week.
- 3) Using Greenex conductivity parameter standard at 3500  $\mu$ S, it can maintain longer water cycle time.



## Summary :

- Compare with using Kurita after we flushing using Greenex R&S F1, filler is very clean and customer very happy.
- Since November 2023, using Greenex CSD to CT treatment using less feeder water (before blowdown almost every day compare once a week now. And possible to reduce it more in the near future).
- Cost reduction more than 20%.
- Greenex CSD will be implemented at other CT chiller line from next month.
- Customer want to add optional microorganism water sample check.

**COST COMPARISON GREENEX vs KURITA**

PERUSAHAAN : PT. ORGANON PHARMA INDONESIA  
 ALAMAT : Jawa Timur  
 PIC : Bpk. Anang  
 LINE : Cooling Tower line

SUBYEK	KETERANGAN	KOMPARASI	
		Kurita	Greenex
VOLUME TANGKI AIR	(LITER)	12000	12000
BLOW DOWN	(LITER/BULAN)	-	-
JENIS CHEMICAL	(TIPE)	1	1
TIPE CHEMICAL	(KIBULAN)	8 STD	CSD
KONSUMSI CHEMICAL	(KIBULAN)	100	24
JUMLAH TOTAL CHEMICAL	(KIBULAN)	100	24
LAIN LAIN			
APLIKASI DOSING PUMP		DIHARUSKAN	TIDAK
TIPE AIR SE TELAH PROSES		LIMBAH B3 (phospate)	BIODEGRADABLE
BIANKA CHEMICAL	(Rp/KG)		
COST CHEMICAL (BULAN)	(Rp)	0	0
TOTAL COST (TAHUN)	(Rp)		
SAVING COST (Greenex vs Kurita)	(Rp/tahun)	22.056.000	
	Percentage (%)	24.25%	

pemakaian Greenex CSD 500ppm/m3/minggu      12000 liter : 2000 = 6 liter per minggu

