

HP AquaOKare

Comprehensive Water Treatment Chemical Package for BCW Systems

Background

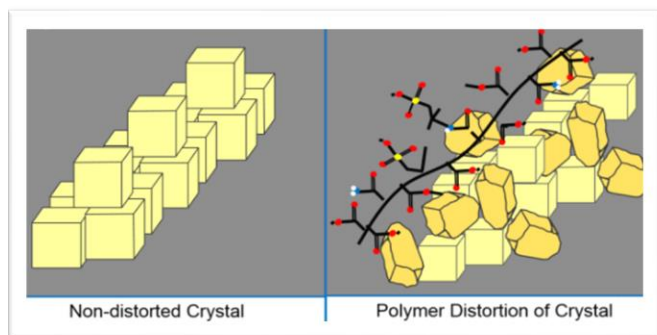
- ❖ Mineral scale deposit is very common and persisting problem faced in Industrial water systems
- ❖ Scaling is due to super-saturation of scale precursors when subjected to vast transformations of temperature and pressure and deposit on equipment surface
- ❖ Scale inhibitors can disperse the insoluble inorganic salts; prevent scale deposition on the metal surface, which also slows down the corrosion rate



Representative picture of Industrial cooling water towers

Development of HP AquaOKare

- ❖ Conventional chemical treatments use strong acid-based formulations which may affect unit health and cause ecological implications
- ❖ Recent developments are based on polymers
- ❖ HPGRDC developed formulation consists of patented, novel multi-functional polymeric additive with 3D coordinating sites leading to more crystal growth distortion and better chelation with scale precursors

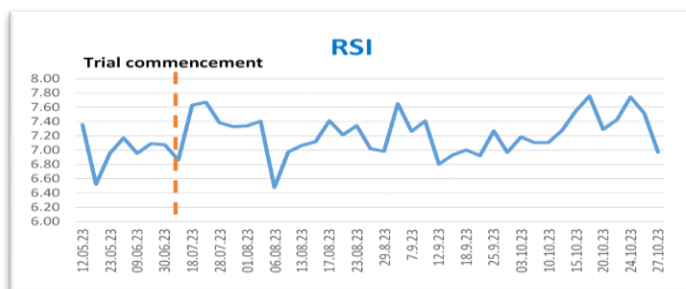
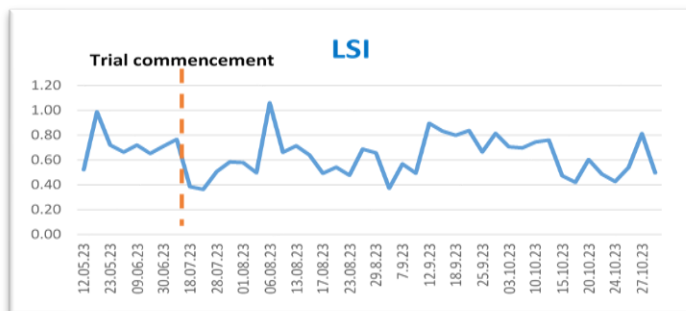


HPGRDC has developed comprehensive chemical treatment package “HP AquaOkare” comprising of 5 chemicals:

- ❖ Antiscalant & Dispersant
- ❖ Dealkalizer
- ❖ Chelator & Corrosion inhibitor
- ❖ Biocide (oxidizing)
- ❖ Biocide (non-oxidizing)

Field trials

- ❖ Field trials were successfully conducted at HPGRDC (flow rate: 500 m³/h, TDS: > 1000) for 1 year
- ❖ Field trials were also successfully conducted in BCW units at HPCL Visakh Refinery during Jul-Nov’ 2023
- ❖ LSI (Langelier Saturation Index), RSI (Ryznar Stability Index), TDS and Calcium hardness were closely monitored during the trial period



- ❖ During the trial period LSI and RSI values are in the acceptable range indicating the formulation efficacy to mitigate the scale formation and corrosion tendency
- ❖ Based on the field results, it is clearly evident that HP AquaOKare has demonstrated superior performance compared to commercial chemical both on dosage and cost-effectiveness and received Performance certificate from HPCL VR
- ❖ The product is handed over to HPCL DS for continuous supply & marketing