Corrosion in cooling towers can be a serious operational issue, leading to decreased efficiency and even equipment failures when the corrosion is uncontrolled or the treatment, ineffective. Most industrial operations use traditional orthophosphate, polyphosphates or other phosphorous-containing water treatment programs to control corrosion in towers. But, new emerging regulatory guidelines are changing how you can protect your cooling water system by restricting the amount of phosphorous in your chemical treatment programs, amid concerns of the potential impact of phosphorous on surface water and the environment.

As a proactive response to help you efficiently transition through these changes and address the operational challenges they present, Baker Hughes has developed the LIFESHIELD™ NP non-phosphorous corrosion inhibition program. The improved corrosion mitigation strategies of the LIFESHIELD technology offer you two advantages—you can meet the stringent environmental regulations—and also manage the problems of highly corrosive water systems by increasing operational flexibility and improving equipment reliability and performance.

Increase flexibility
Traditional phosphate-based corrosion programs require precise control to create a balance with other cooling system factors like temperature and pH levels and decrease the risk of fouling and corrosion. The more efficient LIFESHIELD NP corrosion inhibitor offers operators increased flexibility to perform in a variety of stressed cooling water conditions, including:
- High chloride environments (>1,000 ppm)
- Zero to medium water hardness levels
- A broad range of pH levels
- Temperatures in excess of 150°F (66°C)

Applications
- Cooling water systems with:
  - Diverse cooling water compositions
  - High chloride conditions
  - Wide range of pH conditions
  - High iron levels
  - High biocide levels
  - High bulk water temperatures

Features and benefits
- Contains zero phosphorous
  - Meets HSE and legal regulations
  - Reduces fouling downstream
  - Protects waterways from harsh pollutants
- Mitigates corrosion
  - Reduces equipment failures
  - Improves asset reliability and efficiency
- Treats zero-hardness water
  - Eliminates additional chemical components
- Manages corrosion in neutral or alkaline cooling systems
  - Reduces additional chemical costs
  - Improves safety conditions
- Enables water re-use
  - Lowers water costs
  - Saves energy consumption and costs
- Offers fast, accurate analysis with either a handheld or online sensor
Improve reliability

LIFESHIELD inhibitor’s non-phosphorous-based chemistry helps you enhance operational efficiency by reducing the threat of corrosion-influenced equipment failure and fouling due to scale formation.

Each LIFESHIELD corrosion inhibition program includes ongoing monitoring of treatment and dosage rates to track trends and analyze performance. The program can also be combined with a Baker Hughes VIVID™ smart controller for automated online monitoring, which can help improve water system efficiencies and costs.

To learn how you can increase your cooling water system performance while meeting new regulatory standards, contact your Baker Hughes representative or visit BakerHughes.com/LIFESHIELD.