# CASE HISTORY

Power Generation

## RECORDED BENEFITS

- Elimination of discharge non-compliances, both BOD and nitrite
- Swift and efficient elimination of cooling tower nitrifying bacterial population
- Facilitated transition from nitrification to traditional treatment program
- 90% reduction in chemical consumption
- Elimination of fill fouling

# Power Plant Improves Discharge Compliance in Gray Water System

## Biosperse™ Biopenetrant

### Customer Challenge

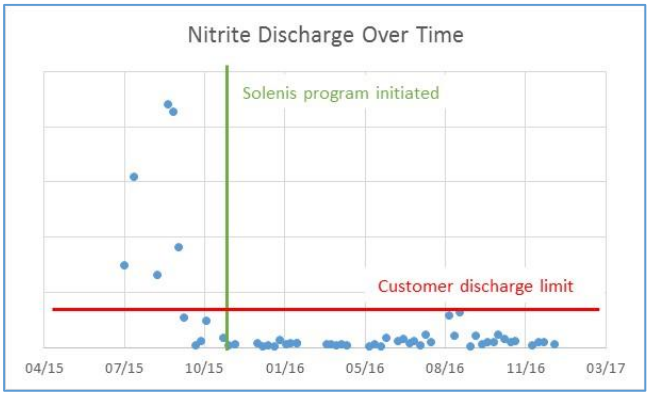
A West Coast combined cycle power generation facility was operating their evaporative cooling towers under nitrification due to Title 22 gray water make up supply. Despite biocide dosing, microbiological fouling was occurring on the cooling tower fill, and nitrification resulted in persistent Biological Oxygen Demand (BOD) and nitrite violations of their discharge permit.

### Recommended Solution

As a best practice for microbiological control, Solenis recommended a new biopenetrant in addition to the current biocide program. The biopenetrant removes biofilm from surfaces and disperses it into the bulk water, thereby rendering the biofilm and sessile bacteria more susceptible to biocidal actions. Solenis' Biosperse programs are dosed in a specific manner to allow customers to operate their assets under variable and stressed water conditions while reducing the risks of biofilm, fouling, microbiologically-influenced corrosion, and effluent compliance risks. As a result, the addition of a biopenetrant improved microbiological control without using higher levels of biocide, resulting in a lower impact on the environment and savings from reduced chemical consumption.

### Results Achieved

Since using the Biosperse biopenetrant chemistry, this facility has had no nitrification nor BOD exceedances. In addition, the customer has noted improved cooling tower cleanliness. The utility's corporate water systems specialist proclaimed the cooling tower fill was the cleanest he had ever seen, a strong testimony to the program's efficacy.




*Nitrite discharge compliance was regularly and reliably recorded after initiation of Biosperse biopenetrant program.*

All statements, information and data presented herein are believed to be accurate and reliable, but are not to be taken as a guarantee, an express warranty, or an implied warranty of merchantability or fitness for a particular purpose, or representation, express or implied, for which Solenis and its affiliates and subsidiaries assume legal responsibility. ™Trademark, Solenis or its subsidiaries, registered in various countries. *Trademark owned by a third party. ©2017 Solenis.