

COOLING HORIZON SOLUTIONS RESULT IN SUSTAINABILITY AND COST SAVINGS FOR NIPPON GASES

CASE STUDY | Oil & Gas | Chemical Solutions and Monitoring



| The client's needs

At start of the 2022, Nippon Gases asked Veolia to **help them reduce water consumption** in one of their sites in Italy. Their cooling tower was presented with a free pH and the chemical treatment was carried out with GenGard GN8070, GenGard GN8301 and sodium hypochlorite. This combination, however, led to an undesirably low number of Cycles of Concentration (COC), directly contributing to an increased demand for make-up water. Nippon Gases also needed to **reduce Phosphate in their discharge** to comply with the restrictive regulatory standards and also because it was causing alga proliferation.

| The solution

To address this client's concerns, the treatment program has been updated to incorporate the latest technologies. The phosphorus and zinc free E.C.O.Film* EF2796 has replaced the GenGard GN8070, GenGard GN8301 and sodium hypochlorite. To support this transition, the TrueSense* *Ready, Set, GO* has been installed to monitor and control chemical parameters and dosing pump operations. Additionally, data acquisition and transfer to the existing automated Distributed Control System (DCS) have been configured to ensure seamless integration and real-time monitoring and enable proactive management of the cooling tower water chemistry.

| The results

Thanks to the new program, **the number of cycles has been increased from 1.9 to 4** allowing for much less make up water to be consumed for the cooling tower optimal operation and less energy as well resulting in 26.4 MWh saved by year and significant reduction in CO₂eq emissions.

The anticorrosion features of our innovative patented Phosphate free technology E.C.O.Film* has allowed to optimise the treatment performance while maintaining the specification standards of the corrosion rate of metallurgy, hence ensuring longevity and integrity of the cooling tower infrastructure.

After only one year, this E.C.O.Film* based new program has also helped reduce P in the discharge by 750 kg meaning 380 tons less wet algae and improved Health & Safety and environmental impact.

*trademark of Veolia; may be registered in one or more countries.



Italy

| The client

Nippon Gases, part of Nippon Sanso Holdings Corporation, is the fourth-largest industrial gas company in Europe, specialising in industrial and medical gases distribution. The company is present in more than 13 countries and 195 working plants, including this one in Italy.

Key Figures

A client since 2022

€110,796
TCO savings
/year

7.5 tons
of CO₂ eq /year

138,433 m³
of water saved per year

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