

# Nalco Water Managed Operations for Manufacturing

Stability for What Matters Most



# Pressures Are Mounting

Manufacturers face rising costs, water constraints and skilled labor shortages, all while performance, reliability and compliance expectations increase. As resources tighten, small changes in water and wastewater performance can create significant operational and compliance risk, making visibility and control essential.

## Defined Scope, Disciplined Execution, Measurable Performance



Managed Operations from Nalco Water is a defined, end-to-end service that integrates water expertise directly into plant operations to operate, maintain and help improve in-scope systems.



With clear plans, routines, accountability and deep digital insight, the program drives reliable performance while allowing site teams to stay focused on production priorities.



More than simply replacing headcount, Managed Operations embeds trained water experts into daily operations and keeps teams aligned through shared visibility and disciplined execution.



## Critical Systems Management

Managed Operations programs are tailored to site needs and may include operation, maintenance and optimization for critical manufacturing systems such as:

- **Wastewater and Effluent Systems:** On-site operation and oversight to help maintain stable performance, regulatory compliance, solids handling and cost control, with digital visibility into early indicators of system upset
- **Water Recycling and Reuse:** Identification and execution of recovery, reuse and recycle opportunities, informed by system data and operating conditions
- **Pretreatment and Reverse Osmosis Systems:** Operation and maintenance of pretreatment and RO systems to help ensure consistent water quality while protecting membrane assets
- **Process Variability and Root Cause Analysis:** Data-informed expert analysis to identify water-, process- and quality-related contributors to variation, including defect drivers, enabling faster and more informed decisions



## ✦ How Implementation Works

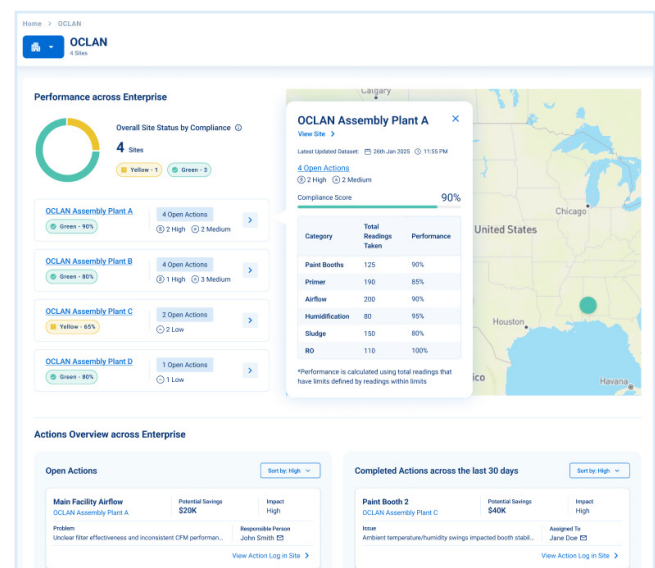
- Define and agree on the scope, service levels and performance measures
- Establish safety, operating routines and maintenance plans aligned to site requirements
- Set up monitoring, testing protocols and performance tracking to support ongoing improvement



## Connected Insights Across Managed Operations

Nalco Water Managed Operations is delivered through a connected digital ecosystem that provides visibility and insights across critical systems. By bringing together system data, analytics and decision support, this approach helps teams operate more proactively and consistently as part of daily execution.

- Action-oriented visualization that highlights developing system conditions
- Performance trending and analytics to support faster diagnosis and issue resolution
- Automated alerts aligned to established operating routines and thresholds
- Ongoing system monitoring supported by the Ecolab Global Intelligence Center
- Aligned operational signals across sites, teams and interconnected systems





## Expert Support Where It Matters Most

Each custom Managed Operations program is built around a clearly defined scope that aligns responsibilities, priorities and performance expectations, and may include:

### **On-Site Operations Support**

Daily operation of water and wastewater systems by trained Nalco Water technicians, supported by digital visibility to maintain stable performance and consistent execution.

### **Program Management**

Dedicated program oversight to coordinate activities, align priorities, and keep performance tracking and improvement efforts on course using shared digital insights.

### **Water and Process Treatment Chemistry**

Chemistry programs designed to support system performance, protect assets and manage operating costs.

### **Equipment Operation and Care**

Operation and routine care of critical equipment such as pumps, valves, mixers and filtration systems, supported by condition data and performance monitoring.

### **Consumables Management**

Management of filters, media and other consumables to support continuity of operation and reduce supply risk.

### **Testing and Monitoring**

Routine sampling, testing and monitoring combined with digital tracking to verify system performance and identify early signs of drift.

### **Digital Monitoring and Alerts**

Continuous digital visibility with alerts, trends and action tracking to help teams focus on the issues that matter most.

### **Performance Reporting and Reviews**

Regular reporting, trend analysis and performance reviews using shared dashboards to enable informed decision making and continuous improvement.

### **Root Cause Analysis and Troubleshooting**

Structured problem diagnosis that brings operating data, historical trends and Nalco Water's specialized expertise together to reveal underlying causes of recurring issues.

### **Continuous Improvement Projects**

Identification and execution of improvement initiatives informed by digital insights to support efficiency, reliability and total cost of ownership goals.

### **Safety and Compliance Support**

Defined procedures, documentation and monitoring enabled through connected systems, records and shared visibility.





# Impact: Managed Operations in Action



## Case Study 1: On-Site Deployment Reduces Total Cost of Operations

| Customer Challenge                                                                                                                                                                                                       | Our Solution                                                                                                                                                                                                                                                                                       | Customer Benefit                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A can manufacturer needed a knowledgeable supplier with the expertise to assume on-site operation of its reverse osmosis water and wastewater systems, to optimize performance and help meet permit limits at two sites. | Nalco Water deployed on-site teams to manage and support operation of the reverse osmosis and wastewater systems. The teams optimized the wastewater treatment programs, including implementing improved chemistry and establishing preventive maintenance programs to support system reliability. | Nalco Water eliminated ineffective chemistry and optimized wastewater treatment operations, reducing the customer's total cost of operation while improving production reliability, reducing water use and waste, and enhancing environmental performance. |



## Case Study 2: Embedded Expertise Frees Resources, Improves Efficiency

| Customer Challenge                                                                                                                                                                                                              | Our Solution                                                                                     | Customer Benefit                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| An automotive manufacturer needed a supplier that could provide the knowledge, expertise and on-site operation of its water and wastewater system to meet current requirements, so its resources could focus on core processes. | Nalco Water deployed a team to oversee the manufacturer's water, process and wastewater systems. | Nalco Water management of the chemical, operational and mechanical components provides optimum water use, efficient cost controls and reliable water quality and quantity for production and discharge. |

# A Model Built for Daily Execution

Nalco Water Managed Operations brings people, routines and connected insight together to support consistent execution and sustained performance.



**Running:** On-site specialists integrated with plant teams to support day-to-day operations



**Sustaining:** Standardized routines that promote consistency and discipline in daily execution



**Improving:** Connected operational insight that helps teams identify issues earlier and make better decisions



**Maintaining:** Clear ownership and performance visibility that help improvements hold over time

## Managed Operations for Manufacturing Performance

Manufacturers choose Nalco Water Managed Operations for embedded expertise, disciplined execution and connected insight that help stabilize critical systems, reduce risk and sustain performance over time.

- More than 30 years of operational experience
- Proven applicability across manufacturing environments
- Global scale and experience

[ecolab.com/nalco-water](https://ecolab.com/nalco-water)

Ecolab, Nalco Water and the logos are Trademarks of Ecolab USA Inc.  
©2026 Ecolab USA Inc. All Rights Reserved 06/26 B-1666