

Leverage operator training for more efficient water analysis



Industry-specific and application-specific training modules prepare end users to learn about everyday interactions and actual circumstances in which they will use specific equipment.

Measurement made easy

Interactive training that enables users to engage with the program actively and receive feedback in real time

Overview

Fine-tuning for best performance at water treatment plants (WTPs) and wastewater treatment plants (WWTPs) requires versatile and accurate instrumentation to monitor and respond to changing conditions. Getting the most out of those meters, gauges, and analyzers requires knowledgeable operators. That is why instrumentation decisions should be made not only on feature-rich technologies and quality performance, but also on the documented support and training that will enable staff to maximize the value of the investment.

Consider both technical and practical aspects

Instruments and analyzers used to optimize performance in WTP and WWTP applications need to respond to normal variations of input flows entering a facility, as well as the most extreme process demands possible.

Across both of those applications, the most frequently used measurement and analysis equipment typically includes flow measurement, temperature measurement, and continuous water analyzers for a variety of chemistries.

To keep those applications operating at peak efficiency, training should cover practical as well as technical aspects of operation:

- **Satisfy plant-specific needs** – consult instrument sales representatives or visit supplier websites to learn about training and support opportunities available to designers and operators of new plant systems or currently installed equipment. Those services should cover the depth of product and application information needed to fine-tune WTP or WWTP operating efficiency and maximize value from the equipment investment.
- **Keep pace with personnel changes** – training is one area where mapping out the full range of available options in advance of a new equipment decision can pay dividends in the long run. Leverage supplier relationships and training resources to ensure continuity in the ability to run all routine plant functions and to deal with exceptional occurrences.

Between an aging workforce and a tendency for higher turnover among younger employees, it is not always realistic to depend upon complete transfer of operational knowledge internally.

Reach employees at their level

Interactive training formats can include classroom instruction, onsite or at a manufacturer's location, or e-Learning that enables users to engage with the program actively and receive feedback in real time.

Training should cover product operation, at a minimum, but is even more valuable when it also addresses applications where WTP/WWTP personnel regularly interact with instruments. Look for versatile training formats that meet staff needs with the depth and relevance of training for their specific responsibilities:

- **Classroom training** – in the case of new installations or inexperienced operators, it can be worth the trip to a manufacturer's location to gain the most in-depth, hands-on experience at a facility that is well equipped to demonstrate both routine operations and exceptional conditions.
- **Online e-Learning** – professionally developed online training materials can be quite good in terms of exposing water plant operators to operating principles, specific instrumentation functionality, and examples of use in related applications. End-of-course test modules that confirm how well trainees absorb the lessons instill management's confidence in the trainees' ability to react appropriately in the field.

One particular advantage of such a format is that all plant personnel who take it are exposed to the same message. That can result in more consistent operation across all shifts and days of the week. Also, e-learning that is available through mobile platforms, such as tablets or smartphones, enables users to review training demonstrations right at the source of a problem.

- **Onsite training** – personalized training conducted at an end-user facility adds the element of allowing operators to interact with equipment in the actual environment they experience daily.
- **Video Training** – live videos demonstrating operating principles, calibration, and troubleshooting can be invaluable to end users in remote locations (Figure 1). Training videos that are broken into distinct modules make it easy for a user to focus on a specific topic of interest. Observing step-by-step instructions helps users troubleshoot problems without disrupting their process and can eliminate the need to take an instrument off-line and send it in for repair, unless there is a major problem.
- **By-the-book training** – documentation, available in printed or electronic format, is a good training and reference tool for introducing new employees to equipment performance before they have occasion to receive one-on-one training. It is also useful for refreshing operator familiarity with exceptional occurrences.

Cover all the bases

Each aspect of plant operations has different needs, from a variety of flow meters to task-specific analyzers for turbidity, conductivity, level, pH, redox, phosphate or ammonia.

Suppliers that offer a wide range of instrumentation, along with consistently delivered training support, make it easier for plant operators to become familiar with common interfaces and troubleshooting techniques. Regardless of which training format is ultimately chosen, ensure that it addresses:

- User understanding of the technologies used to treat water for domestic, commercial, or industrial use.
- Awareness of key analytical measurements needed to monitor and control each water treatment process.
- Detailed knowledge on how to use, maintain, and troubleshoot application-specific instrumentation and processes.
- Familiarity with analytical results and the role they play in optimum water quality and performance economics.
- Recommendations on what spare parts and tools to purchase.
- The skills to perform onsite diagnosis before returning an instrument to the factory for repair or to complete minor repairs onsite, safely and effectively.

Finally, do not fall into the trap of thinking that training is a one-time thing at the time of initial purchase or installation of a new piece of instrumentation. Evaluate it as an ongoing resource for keeping WTPs and WWTPs in compliance and operating at maximum efficiency, even after initial instrument installation and training.

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