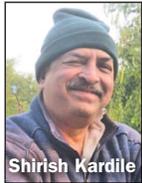


From the Board

An Alert Operator Saves the Day!



Shirish Kardile

Attention to detail is important, as any experienced water or wastewater treatment plant operator knows. Consider a situation that occurred at the turn of the century—

a special occasion in December 1999 for a commissioning team from a prestigious Indian company. India's largest seawater reverse osmosis (RO) plant at the time was getting readied for inauguration. It was a biting cold day in the coastal city of Bhavnagar in Gujarat, where the RO plant was installed. The plant's owner asked the team to put the RO units online between 9 a.m. and 9:30 a.m., as it was an "auspicious time," according to the plant's managers.

All the precommissioning checks had been completed the preceding week. The plant's permeate capacity was 450 m³/hr (150 m³/hr × 3 streams). The plant's treatment system included tube settling tanks, a two-stage media filtration system, cartridge filters, the RO units, an energy recovery turbine/turbo charger, and various dosing systems.

At 9 a.m., all the units were put into operation except for the RO trains. After media filtration, a silt density index

reading was less than 3. The plan to switch on the high-pressure RO feed pumps was on track, and a small crowd of owners, relatives, plant managers, and workers had gathered to witness and celebrate the occasion.

The commissioning team's leader was waiting for the residual chlorine online indicator to report nil so the RO units could be commissioned. During pretreatment, a 5–10 mg/L dose of chlorine was administered, and the membrane manufacturer required nil chlorine content in the feed water. Dechlorination after filtration was being done with a sodium metabisulphite (SMBS) solution, and two tanks of the chemical were onsite—one working and one standby.

At 9:10 a.m., the team leader became slightly anxious, as the residual chlorine still wasn't reporting nil. He went to the SMBS tanks and checked the solution level and dosing pump. Soon the anxiety started showing on the commissioning team's faces. The crowd was waiting in anticipation, and the pressure became palpable by 9:20.

A supervisor in charge of dosing systems reported late. Unaware of the situation, he joined the crowd to celebrate but quickly picked up on the

mood. With one look at the team leader waiting at the chlorine indicator, he rushed to the SMBS tanks and within a minute gave a thumbs-up sign. Nobody understood the gesture, except the team leader.

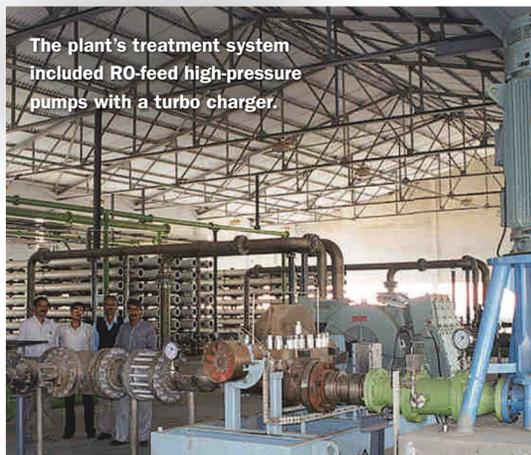
At 9:25, the team leader shouted frantically to start the RO feed pumps. Within a minute, the permeate started gushing into the storage tank. The team leader ran to the sampling tap, collected a glass of water, raised it dramatically to the audience, and drank. Next in line, the owner, who drank another glassful, raised the glass to the cheers of the crowd. With plenty of clapping, handshaking, and hugging, the inauguration was completed within the auspicious window.

Later, the supervisor revealed that someone in the morning must have accidentally started the pump from the SMBS tank, which contained only water. He soon realized it and opened the outlet valve of the standby tank, into which he'd filled the SMBS solution the previous night.

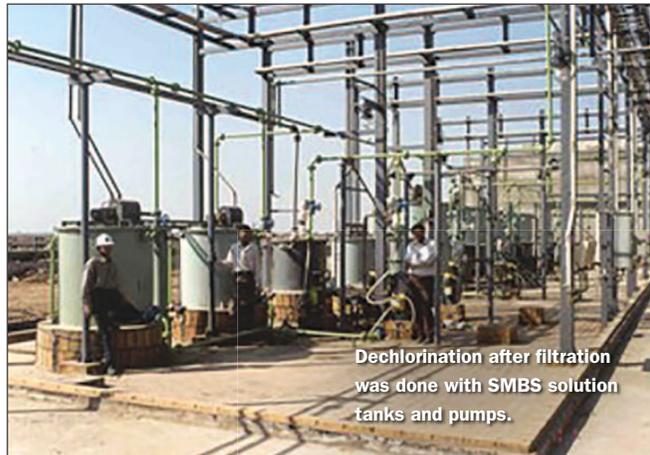
The simple lesson here for all operators is that details matter! Indeed, sometimes they can make the difference between success and failure.

—Shirish Kardile,

AWWA India Strategic Board Chair



The plant's treatment system included RO-feed high-pressure pumps with a turbo charger.



Dechlorination after filtration was done with SMBS solution tanks and pumps.

PHOTOGRAPHS: SHIRISH KARDILE