

## ***New Chemical Processing Plant Benefits From Comprehensive, Collaborative Training***

Optimal Equipment Operation Will Improve Pump System Availability and Reliability

**The Challenge:** More than 300 operators, engineers and maintenance personnel needed training at a large chemical processing plant in Saudi Arabia. The plant was constructed with more than 1000 pumps, and was scheduled for startup in late 2015 or early 2016.

**The Solution:** Flowserve provided on-site training tailored specifically to the plant's operations. The goal was to equip the plant's personnel with the knowledge needed to assure pump systems were installed and operated correctly in order to maximize efficiencies during the plant's startup.

Flowserve is capable of simultaneously training hundreds of people, organizing their sessions quickly, and being flexible enough with their processes to meet any customer's needs. This was never more apparent than with this large chemical processing plant in Saudi Arabia.

The customer contacted Flowserve at the end of 2014, and the first training sessions were organized in February 2015 and continued throughout the year. However, there was one potential challenge: After the training schedules were approved, and several months into their implementation, Flowserve learned they had to schedule training sessions around the Islamic holy month of Ramadan (June 17 – July 17). Many of the plant's employees were scheduled for time off during this period, but the customer wanted training to continue nonetheless. This was a quick turnaround for Flowserve, who had to prepare training materials for these sessions with only one week's notice. What's more, Flowserve had to schedule these sessions around time-off schedules of the plant's personnel, making the task even more difficult.

Despite these challenges, Flowserve prepared its materials accordingly and successfully implemented a training schedule that accommodated the customer's need. In fact, trainees commented to Flowserve trainers that the material presented to them was "well-organized and some of the best material they had received" since they began their numerous training processes at this new plant.

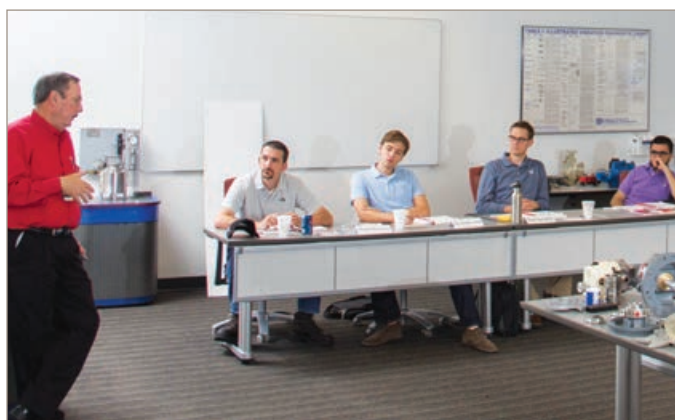
Flowserve also received great cooperation from the customer's internal training team. One Flowserve trainer said that the customer's team was "well-organized and efficient from the first day of training" and always displayed a "professional attitude," adding that it was "rare to find so efficient and collaborative a team."



### Customer Feedback

Creating a positive, collaborative relationship with customers is important to Flowserve. The company strives to be seen as more than just a supplier of great equipment, but also as a supplier of competency and knowledge. According to feedback received by the customer, Flowserve has accomplished just that.

“Flowserve was very accommodating. They altered the training timelines to more adequately fit our schedules. These included adjusting a six-day program to allow us to complete the course within a five-day window. During Ramadan, when our schedule was tightened, the training was adjusted to be completed within the work schedule. Flowserve was always checking to ensure that what was being delivered was what was expected. The operations and maintenance are relevant to the equipment we installed, and the trainings in coordination with the field subject matter experts have led to a better understanding of the equipment’s requirements and functionality.”



### The Results



While training at the chemical processing plant in Saudi Arabia is expected to continue into 2016, proper review and preparation of the pumps prior to the plant’s successful startup, combined with their correct operation by plant personnel afterward, should lead to more cost-effective plant performance when it goes live.

With optimally installed and operated equipment, the resultant lower “mean time between failures” will result in increased pump system availability and reliability. In addition, the potential for leakage and unplanned failures will decrease, which helps reduce any potential safety hazards and unexpected costs.

Since this is a new plant, correctly performing operations upon startup is a tremendous advantage to the customer. With proper training, Flowserve is able to reduce several different risks and potential damages upon startup.

Bulletin FSG-SS-029 (E) January 2016.

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