Pump systems and training: a new and better normal


Harry Rosen

In response to lockdown and the associated rise in remote communication and webinar solutions, Harry Rosen – UNIDO International Pump Expert, founder of pump monitoring service company, TAS Online, and of 2KG Training – discusses the emerging 'new and better normal' for training pumping specialists in South Africa.

2KG Training's traditional pumps and other industrial training offerings have long been based on seminars presented by experts, where a formal training course is organised at a conference hotel and a well-known specialist/expert is flown in to deliver that course. "In most cases it involves all the participants travelling to a hotel for a few days, and an expert is flown in, often from overseas, to deliver the course. The course material is prepared and packaged in books and the seminar is largely topic centred," says Rosen.

This model is obviously a non-starter at present, with conference and hotel venues being closed and travel being restricted, particularly for overseas visitors coming into South Africa. "We at 2KG Training have, therefore, had to rethink how we do training, with several very positive consequences," he adds.

The simplest alternative is to transform the seminar model into a webinar, which can be remotely delivered. "We believe, however, that the pre-recorded webinar is simply too rigid and inefficient with respect to experiential learning. Key to the expert model is that participants have direct access to a highly experienced professional who can offer direct advice about the problems people are experiencing on their plants.

"So, at the very least, the expert trainer delivering the webinar must be presenting live online, and two-way communication must be in place to enable participants to interact directly with the trainer," Rosen argues.

By using a live online trainer, the expert can be based anywhere in the world, while still being able to present an interactive course, where training can be stopped at any stage of the presentation for questions, just as if at a traditional seminar.

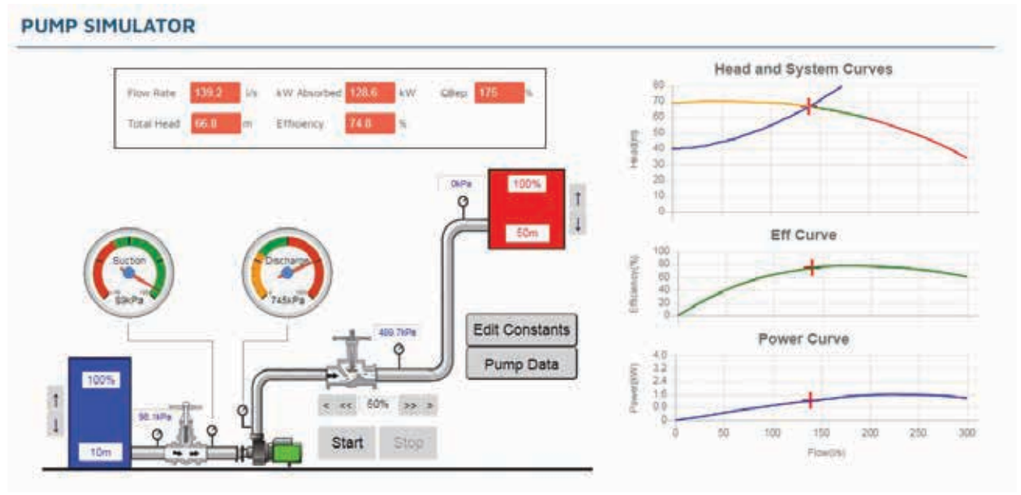
This live online approach comes with advantages.

First, a number of add-ons can be included if the online educational platform is well chosen. Reference links can be accessed immediately, via screen sharing or by individual participants, for example, and the presenter can make catch up modules or information pertinent to an enquiry instantly visible and permanently available to those in attendance.

The course material can be distributed beforehand for people to pre-prepare, and the whole experience can be recorded so participants can go back at any time after the event to check up on something they may have missed. "We can also include online tests, which can be taken multiple times to ensure ultimate success for each candidate," says Rosen.

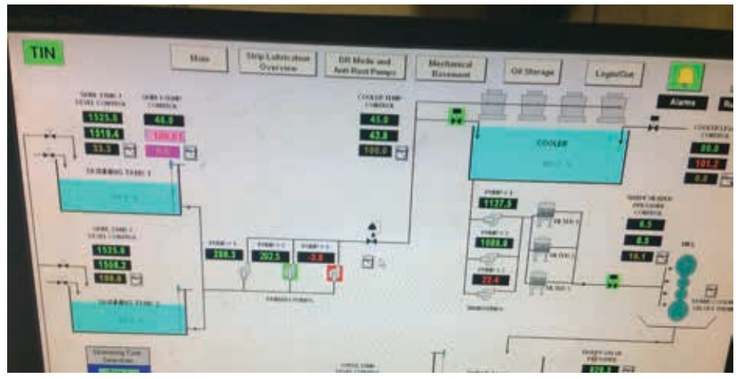
In addition, he continues, much traditional industry-based training has been certificate of attendance-based. There is often little to prove to the company paying for the training how its staff has benefitted. "They may have come to a hotel for a pleasant four day stay and been given presentation notes and a nice, informative book to take back to the office, but this often proves nothing in terms of new learning and competence," he says.

"For a while, now, we have been proposing to our key clients that such courses be more interactive and much more closely tied to real requirement at the workplace. The training 'course' is simply one small part of a much bigger experience. We not only assess what participants have learned during the course, but we also validate and raise their levels of competence, usually via a highly relevant on-site project conducted in the months following a course," he explains.



Online tools allow delegates to simulate the operation of a pump on a test rig. This can be used to demonstrate start-up and stop procedures, pump operation under different operating conditions and the importance of gauges in improving the efficiency and reliability of a pump.

After a course, participants are sent back to their plants with a self-identified assignment to do. For this, they get support and resources online and they can upload the report online when they have completed the assignment – at their own pace in manageable chunks. "Most important is that the assignment/project is work related and of direct benefit to the company's plant performance," Rosen suggests.



Accessing information remotely is all part of the modern plant's infrastructure. SCADA or DCS systems can be accessed from home or during online training.

During the course, participants will be guided to identify areas of improvement that relate to pump assessment type work, future work that can be readily identified and specifically customised. "Ideally, this enables long-term efficiency improvement projects to be specified, costed and implemented as a direct consequence of the initial training and part and parcel of a course's competence outcomes," Rosen tells *MechChem Africa*.

"We have long been taking course participants through how systems at their plants should be functioning: from a pump performance and energy efficiency point of view, to pump maintenance requirements: identifying why pumps fail, the processes for removing a pump from a system, and so forth. This is not based on theory from a plant in a country far away, but on real systems using existing pumps at local plants.

"Live online course delivery enables this approach to be further strengthened. Instead of having to have 40 people in each class, of which five are active, 10 to 15 interested and 15 to 20 people really not getting much benefit, we can cover the lower course costs more easily and present more focused courses with fewer trainees.

"People from a refinery no longer need to listen to course content about slurry pumps, or vice versa. We can present a specialist course on pumping for a coal mining application, for example, still delivered by a high calibre global specialist but without the need to cover the travel costs of bringing the expert to South Africa or his or her sustenance costs for the duration of the stay.

"For us, this used to mean we had to have a minimum of 35 delegates to break even. Post COVID-19, this will dramatically reduce," Rosen assures. "We foresee smaller groups of ten or so people focusing on more specific content: bearing or mechanical seals failing prematurely, for example, or ways of optimising specific energy for a pumping system. During the course, participants will be equipped to go back to their workplace to collect data and compile a project report. Based on that, we can assess exactly how much they understand – about pressure, flow, pump curves, etc – and give a verifiable competence certificate.

More relevantly, if these reports are adopted for action at respective plants, pump performance, energy and electricity savings and maintenance improvements can be achieved, helping to justify and finance the costs of ongoing training.

2KG Training recently signed a partnership agreement with the American Society of Mechanical Engineers (ASME) to present the hugely popular standards and codes training courses via an online environment, including the ASME B31.3 Process Piping Design Code course.

In addition to providing training from the top accredited trainers worldwide, ASME will also give 2KG Training access to its online training portal. Based on the leading online training environment, Docebo, this portal utilises Zoom for its online classrooms, but also offers several additional tools for delivery of education and training course materials.

"Inside the ASME/Docebo platform, we will be able to create a rich classroom environment for technical training. Not a downgraded pumps or valves seminar, but a more instructive, better presented, more personalised one, where we can incorporate a wide variety of richer resource materials and hands on activities.

"Coupled with the link to post course competence assignments, we feel the approach is likely to lift training quality to a new level, where every participant's work competence can be measurably raised, improving the performance and efficiency of the plants they work at and the competitiveness of their industries," Rosen concludes. ❑