Local implementation of global best-practice training model

SKF and its subsidiary, Lincoln Lubricants, are currently expanding and broadening their training programmes in preparation for a 2020 move into new premises in Jet Park. *MechChem Africa* talks to global Centre of Excellence manager for SKF Training Solutions, David Reed, and Gail Taylor, sub-Saharan Africa's SKF training solutions business development manager.

SKF began to offer training services in South Africa in 2009 when the new SKF Solution Factory was established. "Training is not new to us, but we are on a continuous improvement drive. When we move into our new premises next year and are fully integrated with Lincoln Lubricants, we will be able to jointly offer an extended and comprehensive range of courses," begins Gail Taylor, SKF's training solutions business development manager for sub-Saharan Africa.

"Many people are not aware of the world-class training courses SKF offers for local industry, from bearing installation and lubrication courses all the way through to vibration analysis and the recently-added fundamentals of condition monitoring courses," she adds.

"Globally, we strive to help customers understand the basics of their own machinery," continues David Reed, who heads up the SKF Global Centre of Excellence for SKF Training Solutions. "The entry-level introduction to condition monitoring course, for example, is ideal for those who do not have any experience in the discipline, which is now an important vehicle for improving equipment life and reliability. This course presents the background knowledge necessary before getting into the practical detail of the different analysis technologies used to keep track of equipment conditions," he adds.

Reed says that SKF has developed a range of different training programmes to help people get the best possible value from their rotating equipment. "First, bearings and seals need to be properly installed in rotating equipment; but lubrication, maintenance and instrumentation products are also needed to keep installed bearings and seals healthy and to protect against damage and unscheduled breakdowns.

"SKF offers hand-held monitors and online systems that enable us to tap into and continuously monitor the condition of rotating machines in operation. By monitoring the health of installed bearings, a host of other problems can be picked up: misalignment and imbalance issues; looseness of bolts; under or over lubrication; as well as overloading or overspeed in operation," he explains.

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In addition to teaching operators about how to monitor and analyse a bearing's condition, SKF courses advise on how to apply instrumentation to best suit particular applications. "Pumps, fans and compressors are all different, for example. We have application and industry specific courses to help people look after the specific machines they employ," Reed continues.

Also offered are maintenance consultancy services for individual customer sites. "Failure modes, affects analysis and spare parts optimisation can help to minimise breakdown risks and maximise reliability. These services can be performed by SKF staff, but ideally, we can train maintenance managers to continuously seek optimisation opportunities. SKF is always willing to adapt its global services to suit local needs because we understand that every site is different and that capability and expertise vary considerably," he tells *MechChem Africa*.

Site or plant specific courses will often start with a training needs analysis to determine the broad level of available skills and to identify gaps. "We typically use a customised self-assessment we have developed using questions from our benchmarked global database. Relevant questions that relate to the equipment onsite are chosen and the responses compared to previously recorded similar experiences. We can then quickly establish a best fit training programme that we know has led to success in the past," Reed explains, adding that a skills auditing specialists can also talk to site personnel to collect this data.

"Our service goes beyond training and into mentoring and coaching after the training has ended. This helps plant managers to get the very best end results from training investments. Following a bearing installation course, for example, one of our applications engineers can oversee the first few bearing replacements on the site to make sure that the learning is being applied correctly," he says.

In preparation for its 2020 move into new premises in Jet Park, SKF South Africa is currently developing a new training centre facility. "With a similar footprint, our new premises will have significantly higher warehouse stacking space and more office space. The training facility will include Lincoln Lubricants' courses, which will create an opportunity to significantly expand and modernise," says Taylor. "Integration with Lincoln Lubricants brings a heavy emphasis on the practical side of training with respect to bearing care and lubrication," she adds.

"We are facing a skills deficit in South Africa, but at the same time localisation initiatives demand that we stop importing skills. With these new premises, we are demonstrating our long-term commitment to localisation and skills training, which are fundamental to SKFs global offering.

"When installing a bearings installation procedures are needed to keep contamination out, while proper lubrication is essential to ensure the bearing survives. For training we use our own engineers who have real experience, rather than theoretical lecturers. By sharing their experiences of how real and unexpected situations were dealt with, knowledge transfer is made more concrete and permanent," Taylor suggests.

"Globally, SKF has always done training this way, the idea being to ensure that every course is 100% real and relevant. We have always relied on our own experienced subject matter experts.

"This is also true for vibration analysis and condition monitoring courses, where we will often take trainees onto a site to do the monitoring before bringing the data back for analysis. This approach creates knowledge and experience at the same time," adds Reed.

SKF training, he says, is not specific to SKF products. "A vibration monitoring course, for example, deals with how to use any vibration monitoring solution to best effect, enabling candidates to use any instrument brand to track the health of any bearing brand," he assures. "We strive to pass on the skills to collect information and to do a machine health analysis and neither the equipment used nor the bearings installed need be from SKF for this be usefully applied on the plants where technicians are employed," he adds.

"In addition, because we used skilled engineers to do the training, if customers need a plant-specific maintenance course, we can accommodate them – and we regularly go across the border to do these courses, to Zimbabwe, Zambia, Kenya or anywhere in sub-Saharan Africa," continues Taylor. "SKF South Africa has been chosen as the training hub for Southern Africa and, as well as customer training, we take responsibility for training internal SKF employees from across the region. All junior engineers and customer service personnel can benefit from ongoing upskilling initiatives," she adds.

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David Reed, who studied materials engineering before gathering 22 years of experience in reliability and total productive maintenance (TPM) programmes on customer sites, says that core course materials are developed by a network of SKF professionals, who are encouraged to make the content as modern and usable as possible. "Every course is vetted by our global Centre of Excellence and, here in South Africa, we have course accreditation from the British Institute for NDT (BINDT) and from the Southern African Institute of Mechanical Engineers (SAIMechE).

"SKF is dedicated to helping customers improve the performance of their rotating equipment. To even begin to achieve this, the equipment must be installed correctly, lubricated and maintained correctly. We must also be ready to learn from failures that may occur, via root cause failure analyses, for example.

"Using training to enable operators to better understand these needs, it becomes possible to continuously improve rotating equipment performance while maximising plant productivity and minimising the total cost of ownership of our customers' assets," Reed concludes. ❑