

'ASME AWARD GOES TO INTERNET-BASED MSC IN PIPELINE INTEGRITY MANAGEMENT'

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ASME award goes to internet-based MSc in pipeline integrity management

ENERGY SERVICES COMPANY Penspen recently won the prestigious Global Pipeline Award from the American Society of Mechanical Engineers for its internet-based Masters degree course in Pipeline Integrity Management, run in partnership with Northumbria University in the UK. The *Journal of Pipeline Engineering's* sister publication, *Pipelines International*, caught up with Penspen's Dr Phil Hopkins and Michelle Unger to discuss the online course.

The American Society of Mechanical Engineers (ASME) judged and presented the award at the International Pipeline Conference and Exposition in Calgary, Canada, where over 1,500 delegates meet every two years. The award "recognises outstanding innovations and technological advances in the field of pipeline transportation". Penspen was one of five companies short-listed for the prize.

On receipt of the award, Penspen's Technical Director Dr Phil Hopkins said "This prestigious award is highly competitive, and has previously been won by the likes of Petrobras and PetroChina. I am delighted we have won it, and I was proud to accept the award on behalf of Penspen, in particular for Michelle Unger and her Learning Team in the Newcastle office, who designed and deliver the MSc. I'd also like to acknowledge the Penspen staff who are tutors on the MSc. They've all worked hard, and thoroughly deserve this recognition."

Pipelines International discussed the award-winning Masters, and the importance of pipeline industry training, with Dr Hopkins and Ms Unger.

Why is 'continued learning' within the industry so important?

There is a recognised shortage of skilled engineers in the industry – we have been talking about this problem for a long time – but not enough has been done about it. Many of the current experts are soon retiring, leaving an incredibly big gap of knowledge in our industry. The need for knowledge transfer is at its peak as we struggle to bridge this gap with newly qualified engineers.

A modern approach, like online distance learning, attempts to engage a new generation using a modern delivery mode in line with their own interests – online learning, virtual communities, professional networking. A programme like this also allows employees to deepen their knowledge as they achieve their degree, and are ready to prove their competencies.

Can you explain the distance-learning programme that you have developed with the Northumbria University, UK?

It is a Masters Programme in Pipeline Integrity Management at Northumbria University, UK, delivered via the internet. Students can also opt to take the shorter postgraduate Certificate or Diploma. The students do not have to attend the university, and can do all the studying at home,

at work, or when they travel. They can work on their PC, tablet, or smart phone. This is 'flexible learning', which will become a key part of the future of education.

Can you tell us more about this 'flexible learning'?

Flexible learning means that students are offered a choice of where, how, and when to get their education. It means they don't attend standard campus-based lectures, which are delivered at set times according to an academic timetable set by the university. The arrangement means that a student is allowed to adapt the timetable to suit their work/personal commitments. Students can access virtual lectures using technology to provide remote or online study.

What makes this programme 'different'?

Many 'distance learning' programmes are simply paper copies or PDFs of classes, either sent to a student through the post, or for download from the internet. Providers will call this 'e-learning', but it is a poor model. Our programme is delivered online, and our materials were developed specifically for the internet, and cannot be downloaded: students study while online. Students access the materials during the university semesters, and the materials



Penspen's Technical Director, Dr Phil Hopkins (left) and Michelle Unger, Head of Penspen's Learning Services.

are withdrawn at the end of the semesters – it's very much like attending a class.

Also, this was the first academic partnership developed with a non-academic institution (i.e. Penspen) for Northumbria University. The validation of an academic programme delivered by the industry had not been done before.

This makes the programme different from others available, as all the tutors are expert engineers working in the pipeline industry. We have world-renowned engineers producing the materials, dealing with student queries, and setting the exams.

What topics does the MSc contain and how is it presented?

There are many topics covered ranging from pipeline design to inspection, from corrosion to geo-technics, and from risk assessment to defect assessment.

The topics are delivered in Classes, which have a full commentary, supported by quizzes to help student learn.

Why did you choose to work with Northumbria University?

We approached a small group of local universities with our idea of flexible learning at Masters level. In June, 2010, Northumbria expressed interest in the idea, as it allowed the University to offer something innovative to the oil and gas industry, using a different and up-to-date delivery mode. The University, in particular the Northumbria University Engineering Business Development Manager, were very helpful, fast, and business-like, which meant we could have the programme approved in record time for an academic institution.

How was the syllabus of the MSc course developed? Was it based on a current syllabus or did you and the University start afresh?

The syllabus of the MSc was developed based on Penspen's existing, well-known courses, which are currently offered in collaboration with Clarion Technical Conferences and Tiratsoo Technical. These courses cover and develop the competencies required for asset management in the pipeline industry.

Pipelines International has heard that these materials are unique in our industry as they are both 'double' quality assured and accredited?

Yes. All modules and classes on this course had to pass a very thorough ISO 9001 quality-assurance process in Penspen, the University's assurance procedure, then the academic accreditation procedure.

Do you see any conflict with the MSc in pipeline engineering offered by Newcastle University, or is the distance-learning MSc comparable with the full-time one?

No, we have not experienced any conflicts. They are complementary learning methods. We were and are very much involved with the MSc in Pipeline Engineering at Newcastle University. This programme covers a broader number of topics in pipeline engineering, and is a campus-based (residential) programme. The Northumbria University course is focussed on pipeline-integrity management and is totally completed by distance learning.

The courses have very different target audiences, and a different focus. Students who want/can afford the time to attend a campus-based programme, will likely choose Newcastle University. Northumbria

University's degree presents an option for professionals already in full-time employment who wish to continue their study. Both courses are excellent.

Is the process involved with distance learning proving satisfactory for students?

Yes - students who opt for distance-learning education know (or soon find out) what is involved. This means good use of their own time, and a disciplined way of managing their workload.

Students appreciate the flexibility of the programme, and work out their own study plan based on our recommendation. They create a virtual community and are very active in discussion boards, and virtual meetings that we organise for them. Some students experience some difficulty at the start, particularly when they are new to distance learning, but they soon adapt to the new delivery mode, and succeed. The tutors and administration staff are always available to answer questions.

What has been the pipeline industry's response to this development?

We have had a good response from the start from some major companies.

We think, however, we could see more involvement from the bigger companies (the oil and gas majors) to support learning initiatives like this. This is a very well-structured way of demonstrating staff competencies, as it is fully examined and accredited - companies could satisfy many of their competency requirements with initiatives like this.

Because an MSc may not suit everyone's ambitions or needs, are there plans to develop a lesser qualification, such as a BSc, in the subject?

Correct. The part-time MSc takes three years to complete. This means some students are not

prepared to take on such a long commitment. We do offer three different exit points during the programme that lead to a qualification. Students can choose to leave the course:

- After the first year, with a Postgraduate Certificate in Pipeline Integrity Management;
- After the second year, with a Postgraduate Diploma in Pipeline Integrity Management; and,
- With an MSc if the full three years are completed.

We have considered developing some undergraduate courses (BEng, BSc), and will probably do that in the future, but we will need financial industry support to do so. We're optimistic that the bigger companies in our industry will eventually start to contribute to these initiatives. To date, their absence has been disappointing.

Could these major companies learn from Penspen's philosophy for involvement in such university education programmes?

Penspen staff have always been involved with universities; for example, guest lecturers, or external examiners of higher degrees. We decided many years ago to start supporting academic courses to ensure universities produced the number and type of graduate engineer we wanted. We have also a commitment - via our Corporate Social Responsibility - to educate and encourage learning in our industry. We take this responsibility seriously, and invest heavily in it.

For more information on Penspen's training services visit www.penspen.com/capabilities/services/training-education/
