

## Press release

### Queen's Awards for Enterprise



#### **OMS Pipe Checker™ technology wins UK recognition from the Pipe Line Industries Guild and Her Majesty the Queen**

Optical Metrology Services (OMS) have provided their clients with solutions to significant problems over the past year and have received two prestigious awards in the process. Tools developed by the Company have provided a cost effective means of measuring the geometry of many thousands of large Gas and Oil pipes firstly to ensure that pipes met their manufacturer's specification and secondly to assist welders when welding the pipes together. The Company's proprietary analysis software has further provided the means to fit up pipes to the critical tolerances required for fatigue sensitive pipes (generally 0.5 mm or less).

Measuring pipes after they have been manufactured might seem pointless. Surely, knowing the pipes are within the manufacturer's tolerances means they are the right size and shape in the first place? However, with large pipes the delivered pipe is often not within the client's specification and for smaller fatigue sensitive pipes the fit up requirements are so exacting that managing the competing demands of minimising pipe movements, achieving a HiLo mismatch of less than 0.5 mm while maintaining pipe wall specified criteria is usually a big challenge.

Why a mismatch as small as 0.5 mm? Because a larger gap could lead to an imperfect weld and the eventual fatigue failure of a subsea riser which would lead to an ecological disaster and a high economic cost of down time before a repair or a replacement could be effected. Typically pipes do not meet the

required tolerances without additional work such as matching the pipes together at specific rotation angles or counterboring them to specific sizes.

The Queen's Award for Enterprise was awarded to OMS in the Innovation category. These awards are the most prestigious UK awards for business performance. There were 683 entrants for the award (260 successful) of which only 40 out of the 260 were awarded in this category. These awards have been dubbed by the UK's Independent Newspaper as "Corporate Knighthoods". Receiving the award involved a presentation day in London attended by the Duke of York where the red carpet was literally laid out. In addition three members of the Company attended a reception at Buckingham Palace where they met HM the Queen and other members of the Royal Family. OMS are entitled to use the Queens award logo and to fly a Queens award flag from their premises.

The award recognises the quality of OMS's work to develop a unique, highly accurate, Laser dimensional measurement system and to operate a service with this tool for the benefit of the oil and gas industry. As pipelines get laid deeper the match between pipes in the critically sensitive sections has to be as small as 0.5 mm or less. OMS has always met this challenge on their client's projects. The OMS Pipe Checker tool takes over 2000 measurements in less than 20 seconds providing engineers with immediate visualisation and knowledge about their pipes in this critical area. It enables them to make decisions whether to counterbore or end match their pipelines.

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## OMS Paper

### Round pipes - an engineer's pipe dream!

The exaggerated graph to the right illustrates the shape of pipes that OMS typically has to work with. The outside of the pipe in this case is not circular and the inside of the pipe is offset from the centre of the outside of the pipe. The service offered by OMS is both time and cost effective and ensures that welds can meet the exacting specifications to prolong the fatigue life of pipes thus preventing potentially damaging ecological effects were there to be a failure at a joint in a pipeline during its service life.

In addition to the Queens award OMS also won the UK's Pipeline Industries Guild 2007 Award for "Land Based Technology" was for the application of the OMS Manual Pipe Checker™ tool (dimensional measurement tool) UK wide on National Grid pipeline projects. Up until the development of the Manual Pipe Checker™ it was difficult to accurately measure the dimensions of manufactured pipe as it was delivered to the client. Heavy "Go - NoGo" gauges were typically used which only told the operator if the pipe diameter was smaller than the smallest permissible diameter. Now it is possible to get the desired degree of accuracy and detail necessary to verify that the supplied pipe meets its required specifications, and to provide a detailed knowledge of the difficulties that will be faced in the welding together of that pipe.

The OMS Manual Pipe Checker tool and proprietary software provides the measurement of 360 points around the circumference of a pipe in order to quickly and comprehensively check the diameter of the pipe and provide maximum, minimum and average values. In 2006 National Grid purchased 9 of these tools from OMS for use on projects throughout the UK. National Grid have been able to use the information supplied by the tool to discuss the quality of the pipe delivered with both the welders and the pipe suppliers to improve cost efficiencies. National Grid have estimated that use of the tool has resulted in saving in excess of £4,000,000 (£4m) per UK project. To this extent OMS tools have now become part of the standard inspection programme.

#### Pipe Checker™ Services and Tools

Dr Tim Clarke established OMS in 2004. They are now leading the market in highly accurate laser based dimensional measurement solutions.

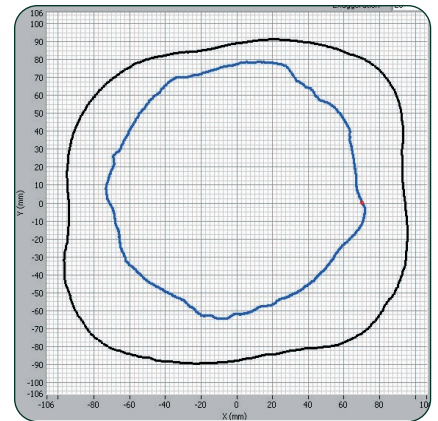
The Company's excellent reputation has been established through significant research and undertaking projects in this specialist field. Services include:

- Measuring Steel Catenary Risers and other similar pipelines where the Hi-Lo tolerance mismatch must be less than 0.5 mm. to ensure that the dynamic stresses in the pipes do not cause failure during the lifetime of the structure.
- Guaranteeing that the pipes that are about to be welded will meet the specification prior to being inserted into the welding process.
- Sorting of pipes into size categories and groups to determine counter-bore settings to avoid compromising wall - thickness criteria.
- Bending trial ovality measurements to assess the geometric deformation of pipes during a simulated reeling process.
- General dimensional inspection of pipes or similar structures.

OMS has also recently designed new tools for measuring the Hi-Lo fit in gaps between pipes (Hi-Lo Open Gap and Closed Gap tools) and a tool (Bevel Tool) for checking the machined bevel geometry (nib-thickness and angle of bevel).

Recent clients include: Shell, Chevron, National Grid, Technip SURF, Acergy, Petrology, Serimax, Pipeline Technique, Tenaris, V&M Tubes, Bayou, Sumitomo, The Welding Institute, BP and Sandvik.

Projects have included measurement of: UOE, Seamless, Concrete, Cast Iron and Graphite pipes.



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