



24 May 2006

NDT Inspection & Testing Provides Thorough Shut-Down Health Check For Heating Cylinders At Bridgewater Paper

NDT Inspection & Testing has recently completed its latest annual shutdown inspection of large diameter, heating cylinders at the Ellesmere Port complex of the Bridgewater Paper Company. The inspection is carried out within a 36 hour shut-down window and employs a number of ndt techniques to assess the condition and functionality of these vital production assets.

Bridgewater Paper is a company within the Canadian multi-national Abtibi Consolidated Inc. and produces newsprint at its Ellesmere Port site, predominantly from recycled paper. In operation, the used paper is shredded and mixed with water and then re-pulped, ensuring that all foreign bodies, such as staples, plastics and other contaminants, are removed. It is then de-inked before passing to the paper making machine where the web is created on the forming wire. Once the web is established, it is then necessary to remove the entrained water. Some water is removed by natural drainage and by rollers in the press section but the most significant percentage is removed in the dryer section, where heated cylinders evaporate the moisture to less than 10%, before the sheet is calendered or "ironed" to its final thickness in the calendar stack.

The 14 cylinders in the dryer section are each around 25feet in length and 5feet in diameter and are steam-filled to provide the necessary evaporative heat. As a result, they are subject to internal corrosion because of the wet steam, as well as possible cracking caused by the thermal stresses.

To ensure that the cylinders continue to function without disrupting production and also for safety reasons, they are comprehensively inspected during every annual shut-down. For the past three years this vital task has been carried out by NDT Inspection & Testing, using a range of relevant inspection techniques.

Specifically, magnetic particle inspection is applied to both inside and outside cylinder surfaces to detect any surface breaking cracks, while ultrasonic time of flight diffraction allows comprehensive volumetric inspection. At the same time, conventional ultrasonic inspection is used to monitor cylinder wall thickness to check for any corrosion. Advanced electro-magnetic techniques have also been used in the past to corroborate ultrasonic findings.

As the cylinders are technically classed as pressure vessels, it also necessary for any inspection procedures to be assessed and validated by an authorised third party. This year, the inspection procedures were first audited by Zurich Risk Services at NDT Inspection & Testing's Queensferry base and then successfully re-audited on-site.

NDT Inspecting & Testing is one of the UK's largest dedicated inspection service providers and believes in working closely with customers to understand and address their needs in a reliable, quality-compliant and cost efficient fashion by using the most appropriate technology to best effect. Its field services division offers a wide range of conventional inspection technology, including site radiography, supported by specialist techniques such as TOFD, remote field eddy current inspection, remote visual tube inspection and IRIS ultrasonic testing. The company also provides dedicated and qualified radiographic testing services to the aerospace sector and carries both Nadcap and UKAS accreditation at each of its three strategically located sites in the UK.

