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NON-DESTRUCTIVE TESTING AT THE POWER PLANT

IN PORT-OF-SPAIN, TRINIDAD that a 5MHz, 9.5mm diameter straight beam transducer produced satisfactory results. Krishna Rampersad cracks at the thread roots of steam turbine bolts and studs. The

The reliability of turbine-generator systems has major impact on the availability of power stations. The costs of unavailability are high. Non-Destructive examination (NDE) techniques offer an opportunity to improve plant availability by anticipating future component failures. This study examines the four steam turbine generators at the Port-of-Spain (POS) power plant of the Trinidad and Tobago Electricity Commission (T&TEC) which are over twenty years old. Their continued operation will be dependent upon timely inspections and assessments. and the lower magnetising current required. Both methods are

A general overview of the common NDE techniques used at the power plant is presented together with the findings of a detailed literature search of the different inspection techniques applicable to steam turbines.

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The author wishes to express sincere gratitude to
From the ultrasonic tests, it was noted that a 5MHz, 9.5mm diameter straight beam transducer produced satisfactory results for detecting cracks at the thread roots of steam turbine bolts and studs. The data obtained were used in writing a procedure for "The Ultrasonic Inspection of Steam Turbine Cylinder Studs and Bolts In-Situ".

support in providing the necessary guidance and assistance.
From the magnetic particle tests, it was noted that of the two practical methods for inspecting steam turbine blades assembled on the rotor, i.e. wrapping a coil around the rotor body and looping a coil over a number of blades in one row, the latter method was more effective in terms of the uniformity of the magnetic flux induced in the blades and the lower magnetising current required. Both methods are applicable and a procedure for "The Magnetic Particle Inspection of Steam Turbine Blades" has been documented incorporating the data obtained.