

[54] **APPARATUS FOR ULTRASONIC EXAMINATION OF BWR SHROUD ACCESS COVER PLATE RETAINING WELDS**

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[58] Field of Search ..... 73/621, 623; 376/249

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

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[57] **ABSTRACT**

An apparatus and process for the remote inspection for stress corrosion cracking of welded shut boiling water reactor shroud access cover plates is disclosed. The apparatus consists of a streamline housing having a top side with lugs for the attachment of lowering lines on either end of the housing. Medially of the streamline housing and projecting downwardly from the bottom of the streamline housing, there is provided a central rotating pedestal with a rubber base. The rotating pedestal and rubber base enable the entire housing to rest on and rotate relative to the pedestal and rubber base. A first motor interior of the housing rotates the housing at a bevel gear rigidly mounted to the central pedestal. A second motor rotates a threaded shaft driving a ball screw with an attached mount for an ultrasound transducer. The mount and transducer responsive to rotation of the ball screw traverse along the elongate dimension of the housing over an opening through the bottom of the housing. A focused ultrasound transducer passes above the metal to be inspected. This ultrasound transducer focuses the sound through the water at an oblique angle to and from the metal of the hatch cover plate for an ultrasonic examination for stress corrosion cracking.

1 Claim, 4 Drawing Sheets

