

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

[75] Inventors: **David L. Richardson**, Los Gatos; **Jack P. Clark**; **Balasubramanian S. Kowdley**, both of San Jose; **Peter M. Patterson**, Livermore; **Richard W. Perry**; **Thurman D. Smith**, both of San Jose, all of Calif.

[73] Assignee: **General Electric Company**, San Jose, Calif.

[21] Appl. No.: 293,158

[22] Filed: Jan. 3, 1989

[51] Int. Cl.⁵ G21C 17/00

[52] U.S. Cl. 376/249

[58] Field of Search 376/249, 252, 245, 260; 73/621

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,117,733	10/1978	Gugel	376/249
4,169,758	10/1979	Blackstone et al.	376/249
4,290,309	9/1981	Charlebois et al.	73/621
4,474,064	10/1984	Naruse et al.	376/249
4,642,215	2/1987	Klinvex et al.	376/249
4,826,650	5/1989	Richardson et al.	376/249

Primary Examiner—Daniel D. Wasil

Attorney, Agent, or Firm—Robert R. Schroeder

[57] **ABSTRACT**

In operation, the device is lowered with paired lines attached to both housing lugs but suspended under tension only from one line to one lug so that the streamline housing is vertically disposed. With the housing vertically disposed during lowering, obstacles can be avoided such as the guide rod for the steam separator and dryer as well as the feedwater and core spray spargers. When lowered to the vicinity of the ledge and cover plate to be inspected, the slack line is fished around any obstacle and thereafter placed under tension. The streamline housing is then lowered using both lines in a horizontal position so as to expose downwardly the pedestal and rubber foot. Lowering is completed with remote camera assistance. Sample sweeps with the ultrasound transducer of spaced apart sections of the cover plate weld are used for precise centering of the pedestal and rubber base with respect to the center of the cover plate. Repeatedly logging a longitudinal excursion of the ultrasound detector with indexed rotation of the housing permits scanning entirely around the weld of the cover plate. This enables remote ultrasound survey of the weld of the cover plate for stress corrosion cracking.

6 Claims, 4 Drawing Sheets

