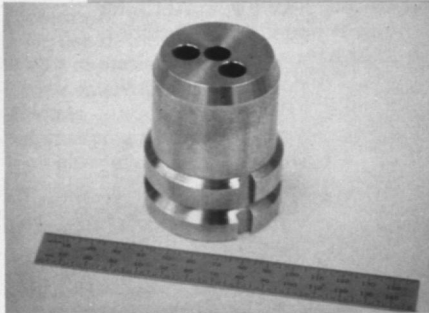
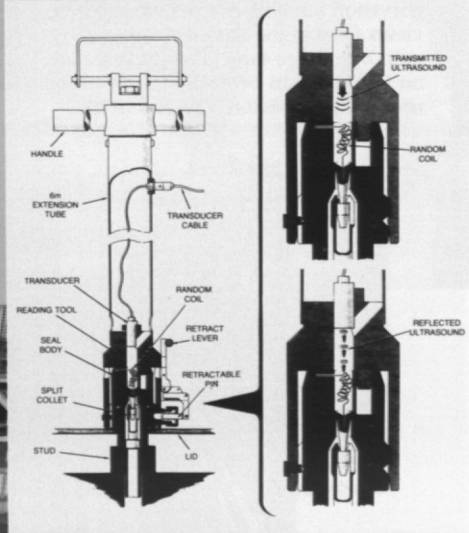


## Figure 7 Equipment Developed Under the Canadian Safeguards Support Program

Canadian Safeguards Support Program

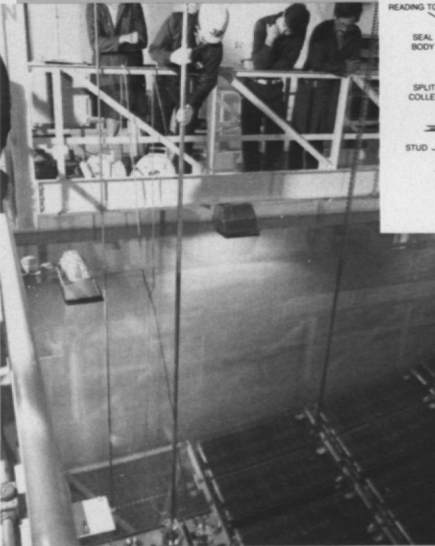


A



D

Canadian Safeguards Support Program



B

### Under Seal: Sealing System for the Containment of Spent Fuel

The safeguards schemes for spent CANDU fuel call for the stacks of fuel in spent fuel bays to be sealed with devices which can be applied and, if possible, checked *in situ*, under water. The Support Program developed a seal that uses high frequency sound waves (ultrasound) to determine whether the integrity of the seal has been breached (A). These seals are installed using a long rod (B) and can be routinely checked by inspectors using a special Seal Pattern Reader (C). Each seal contains a wire coil. When an ultrasonic wave is sent to the seal, the



AECL

C

coil creates a unique reflection pattern which is destroyed if the seal is tampered with or removed (D). The seal has been accepted for routine use by the IAEA, making this the first application of an underwater *in situ* verifiable seal anywhere in the world.