JRC CANDU Sealing System (JCSS)

Seal:
- Ultrasonic bolt seal designed to comply with CANDU requirements
- Patented by JRC
- Stainless steel bolt particularly resistant to harsh environment conditions
- Maintain identity while broken

Analysis software:
- Read identity signature and integrity status
- Manage signature database
- Upgraded for each particular application

Handling Tools:
- Used to remotely handle the seals and the reading head underwater

Reading Head:
- Actuation of the ultrasonic transducer
- Low tech motor radiation resistant
- Conical shape to align seal with axis of rotation of transducer
- Stainless steel
- Waterproof

Implementation:
- More than 600 JCR CANDU Seals were delivered to the IAEA and DG ENER (EURATOM Safeguards)
- Seals are used in Romania, Cernavoda, by DG ENER and by the IAEA in Pakistan, Karachi Nuclear Power Plant (KANUPP) and in Canada, Darlington

Acquisition system:
- Off the shelf USB ultrasonic box
- Assembled in a box with motor control
- Industrial Toughbook

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