



# **APPLICATION TO AMEND CRL LICENCE TO PERMIT NRU OPERATION TO JULY 31, 2006**

**Canadian Nuclear Safety Commission Hearing  
Paul J. Fehrenbach  
2005 October 18**



**AECL**  
Atomic Energy  
of Canada Limited

**EACL**  
Énergie atomique  
du Canada limitée



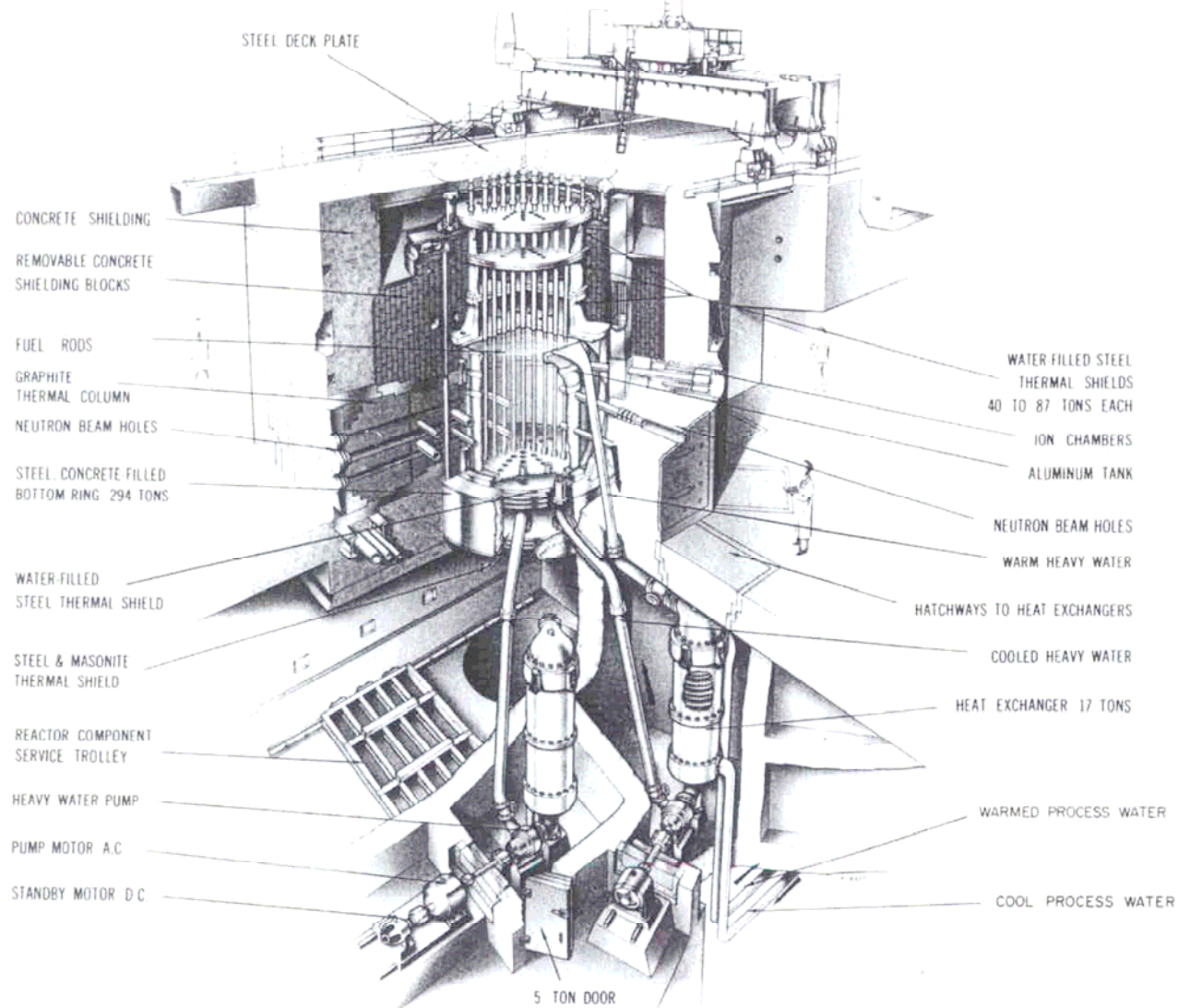
# Purpose

- **To amend licence condition requiring NRU shutdown**
  - From 2005 December 31
  - To 2006 July 31
- **Request for longer-term operation at a hearing (before 2006 July 31)**



# NRU

J-ROD FLASK  
Similar but larger flask is  
used for fuel rod removal





## **Basis for 7-Month Extension**

- **Sound condition of the facility**
- **Good record of safe operation**
- **Safety improvements**
  - Engineered safety features
  - NRU Improvement Initiative
- **Progress on support for longer-term operation**



# Condition of Facility

- **Comprehensive Aging Assessments**
  - Inspection and/or assessment of critical systems complete
  - Excellent prognosis for next 10-20 years of operation
  - Ongoing inspection, maintenance and replacement to support fitness for service



# Record of Safe Operation

- **Worker doses well below limits**
- **Environmental releases small fraction of limits**
- **Good worker safety record**
- **Reportable events trending down**
  - Increase during 2004 being addressed



# **Safety Improvements – Engineered Safety Features**

- **Safety upgrades**
  - **Qualified Emergency Response Centre (1996)**
  - **Second Trip System (1997)**
  - **Liquid Confinement/Vented Confinement (1999)**
  - **Main Pump Flood Protection (2000)**
  - **Qualified Emergency Water Supply (2002)**
  - **New Emergency Core Cooling System (2005)**
  - **Emergency Power Supply (2005)**



# **Safety Improvements – NRU Improvement Initiative**

- **Progress on short-term activities**
  - **Housekeeping/fire protection**
  - **Industry methods to prevent events**
    - **Reactor restart policy**
    - **Operational Decision Review Panel**
    - **Daily reactor operations meeting**
    - **Three-way communications**
  - **Additional resources**
  - **Power plant visits**





# Longer-Term Operation

- **Review against modern standards**
  - IAEA Guide NS-G-2.10
  - Gaps being addressed
  - Severe accident assessment
- **Safety upgrades**
- **Aging Management Program**
- **NRU Improvement Initiative**
  - Processes, people
  - Prevention of events due to human performance errors



# Conclusion

- **7-month extension supported by**
  - **Sound condition of the facility**
  - **Record of operation**
  - **Implemented safety improvements**
  - **Continuous improvement**
    - **Good progress on activities to support longer-term operation**



 **AECL**  
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The main logo is centered on the page. It features a large, stylized blue 'A' on the left, which is composed of thick, overlapping lines. To the right of the 'A' is a small circle with a dot inside, and a short horizontal line segment. To the right of this symbol, the letters 'AECL' are stacked above 'EACL' in a bold, serif, blue font.