



NRU Reactor at Chalk River Laboratories



Significant Development Report Update on NRU Reactor

CMD 08-M4
January 9, 2008

Directorate of Nuclear Cycle
and Facilities Regulation



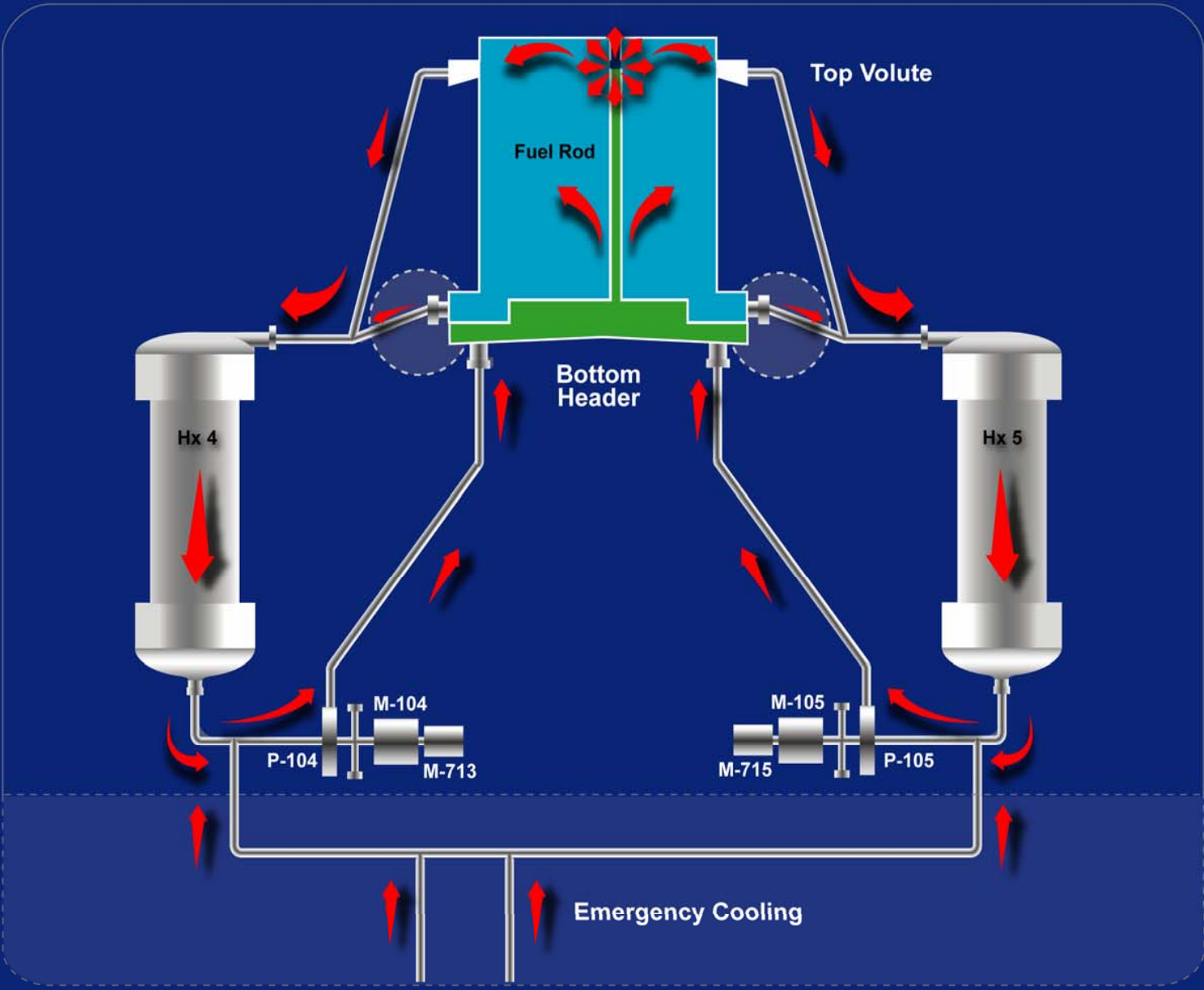
Outline of Presentation



- Safety Issue
- Existing Power Supply and Emergency Power Supply (EPS)
- Update since December 6, 2007

NRU REACTOR VESSEL

- Emergency Cooling Water Flow System
- ↑ Water Flow Direction
- ☼ Cool Warm Exchange
- Water Cooling Vessel
- Bottom Header





Emergency Power Supply



DC Motor Starter For MHWP #5



MHWP #4





Existing Power Supply



Diesel Generators



Emergency Power Supply



Diesel Generators



Existing Power Supply



Class I Battery Banks

Emergency Power Supply



Class I Battery Banks



Update since Dec. 6 SDR



DATE	EVENT
Dec. 7, 2007	AECL informed CNSC of its intention to pursue operation of the reactor with only one pump connected to the EPS.
Dec. 8 & 9, 2007	CNSC staff worked with AECL to confirm the scope of the outstanding information in order to complete the new one pump safety case. AECL indicated that the required information could be submitted to the CNSC by close of business on December 13, 2007.



Update since Dec. 6 SDR (cont'd)



DATE	EVENT
Dec. 11, 2007	CNSC received a copy of a Directive effective December 10, 2007, titled: <i>Directive to the Nuclear Safety Commission Regarding the Health of Canadians</i> by the Governor in Council.
Dec. 11, 2007	CNSC was informed that draft legislation was being readied for introduction in the House later that same day.
Dec. 12, 2007	Royal Assent was given to Bill C-38 - <i>An Act to permit the resumption and continuation of operation of the National Research Universal Reactor at Chalk River.</i>
Dec. 16, 2007	NRU Reactor started up at 03:44 a.m.
Dec. 20 & 23, 2007	Two small seismic events occurred in the Chalk River region – no impact on the reactor.



Update since Dec. 6 SDR (cont'd)



DATE	EVENT
Dec. 21, 2007	Weekly executive level meetings between CNSC and AECL commence.
Dec. 22, 2007	Daily updates from NRU staff to CNSC commence over the holiday period.
Dec. 23, 2007	Reactor tripped and poisoned out due to faulty relay coil.
Dec. 24, 2007	Reactor returned to full power operation.
Jan. 6, 2008	4.5 day maintenance outage commenced – work on connecting MHWP #4 to EPS continued.



Path Forward from Jan. 9



DATE	EVENT
Jan. 9, 2008	<ul style="list-style-type: none">• SDR update to Commission;• Daily updates from NRU continue; and• Weekly executive meetings continue.
Jan. 9-15, 2008	CNSC review of one pump safety case to be finalized.
Jan. 9 – April 10, 2008	AECL connection of MHWP #4 to EPS continues.
Jan. 9 – April 10, 2008	Development of contingency plans for non-success of MHWP #4 connection to EPS – path forward to be finalized.