



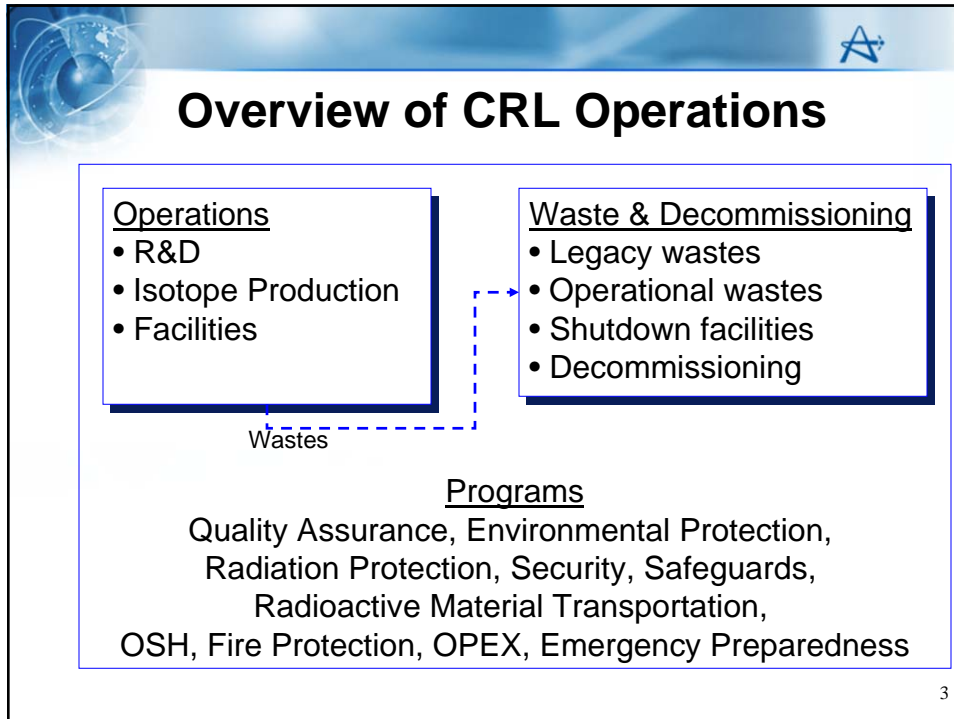
Chalk River Laboratories Site Licence Renewal Hearing Day 1 2006 April 26



Outline

- **Presentation will cover**
 - Performance during the current licence period
 - Major activities for the proposed licence period
- **Supports application for 63 month licence renewal**

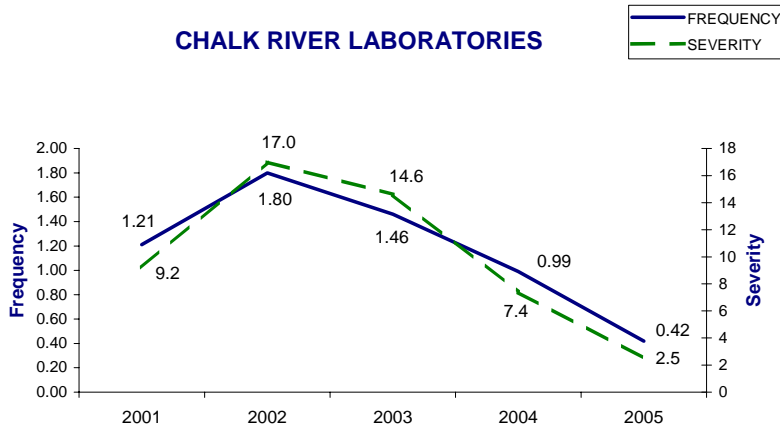
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-
- Performance During Current Licence Period**
- **Worker safety**
 - Conventional and radiation
 - **Operational safety**
 - **Impact on public and environment**
 - **Public consultation/information**
 - **Decommissioning and waste management**
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Worker Safety – Lost Time Accidents

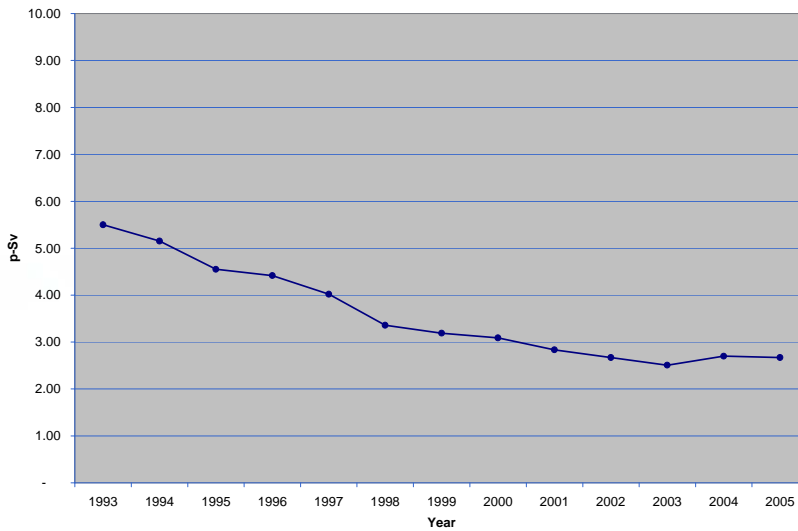
CHALK RIVER LABORATORIES




Frequency = Number of Recordable Lost Time Injuries (RLTI) per 200,000 person-hours exposure
 Severity = Number of work days lost as a result of RLTI per 200,000 person-hours of exposure

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Worker Safety – Collective Dose



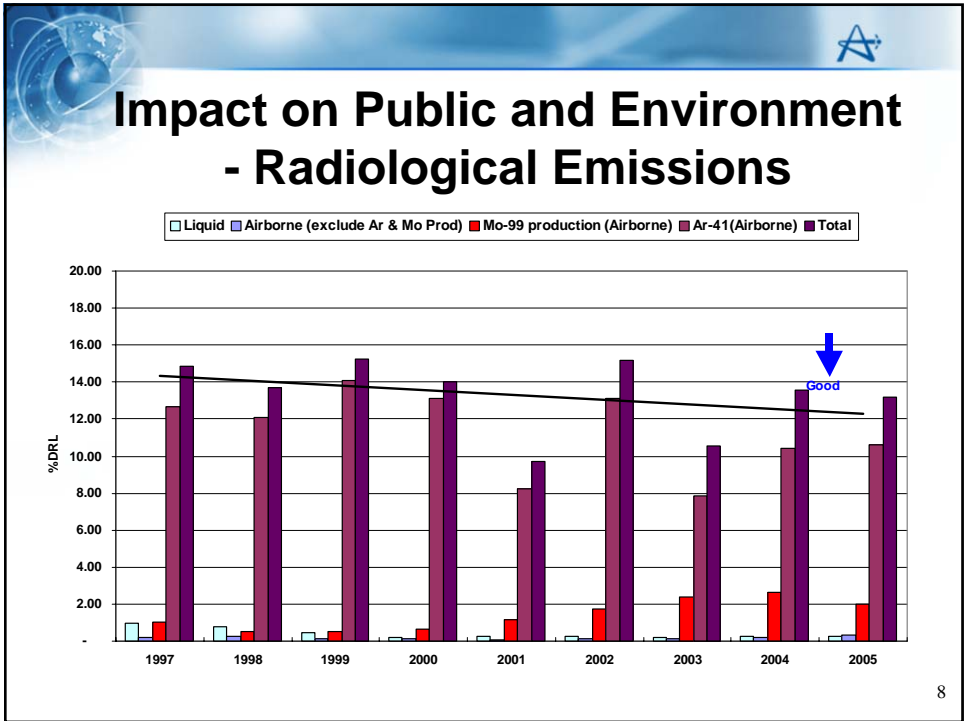
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Operational Safety

- Drive towards industry best practices
 - Peer reviews
 - Industry visits
- Safety culture
 - Human performance program
- NRU Improvement Initiative
- Daily operations teleconference
 - NRU, NFFF, DIF
- Maintenance
- Fire Protection
- Increased reporting (within AECL, and to external regulatory agencies)

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Impact on Public and Environment

- **Managed system for environmental protection**
- **ISO-14001:2004 registration**
- **Independent survey by Laval University**
- **Environmental data management system - emLine**



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Environment – Groundwater Plumes

- **NRU plume**
- **Mitigation measures**
 - **Upgrades to Waste Treatment Centre**
 - **Three groundwater treatment facilities**
 - **Impermeable covers**
 - **Removal from service of Building 240 - Tank 1**
 - **Draining NRX bay**
 - **Projects to address plumes from tank leaks or fuel storage facilities**
- **Extensive monitoring**



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Public Consultation/Information

- **Implemented recommendations from 2003 site licence renewal**
- **Implemented recommendations from NRU EA hearing**
- **Strengthened public consultation program**
 - Stakeholder briefings
 - Tours
 - Public consultation on specific projects
 - Deep River Science Academy



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Decommissioning


- **Submitted**
 - Revised Comprehensive Preliminary Decommissioning Plan (CPDP)
 - Cost Basis Document in support of the nuclear legacy liability
 - Updated Public Consultation Framework
- **5 Year Operational Implementation Plan for the CRL Site (Decommissioning Plan)**
- **Environmental Assessments and work plans for a variety of decommissioning and waste management projects**
- **Progressed physical decommissioning of the CRL site**

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Building 107 - South End







Before After

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Building 107 - Lab 26





Before After



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Waste Management

- **10-Year Waste Management Plan**
- **Adequate waste storage**
- **Projects**
 - Liquid Waste Transfer and Storage
 - SMAGS (Shielded Modular Above Ground Storage)
 - Fuel Packaging and Storage
 - Waste Analysis Facility
 - New Dry Storage Facility for High Level Wastes
 - Further Upgrades to the Waste Treatment Centre
 - Sewage Sludge Landfill
 - Removal of legacy waste burials
 - Additional Groundwater Treatment Facility
 - New Site Landfill
 - Geological Disposal Facility


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Summary of Performance During Current Licence Period

- **Meet CNSC requirements in most areas**
 - Action plans to resolve outstanding items
 - Working towards exceeding CNSC requirements
- **Operation has been safe**
- **Significant improvements in many areas**

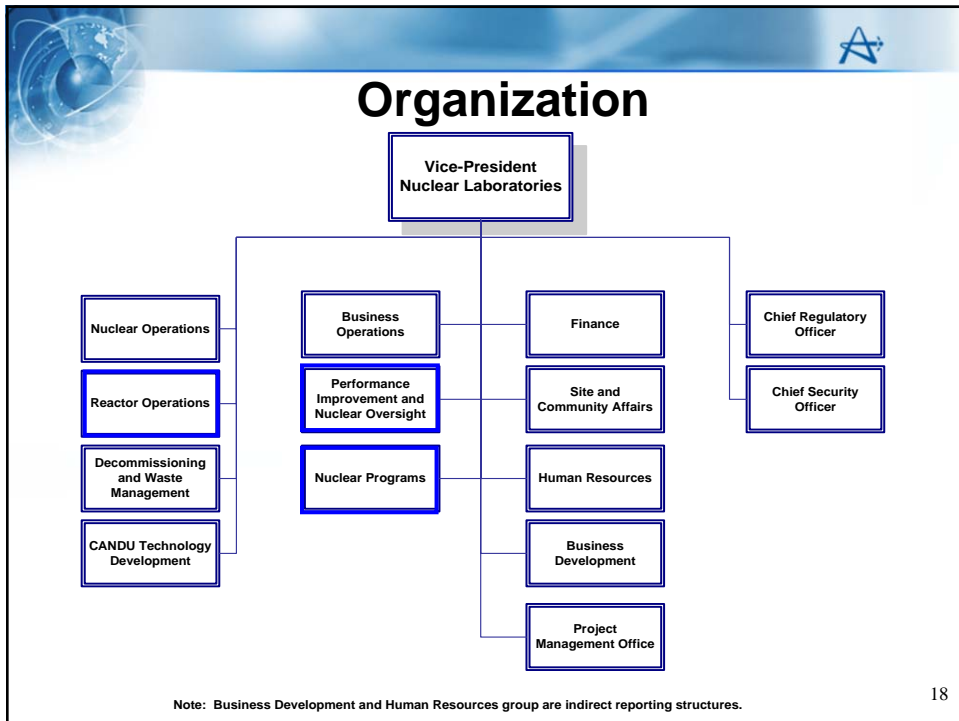
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Major Activities During Proposed Licence Period

- Organization
- Operational safety
- Radiation Protection
- Public consultation
- NRU
- Environment
- Decommissioning Plan
- Dedicated Isotope Facilities

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Operational Safety

- Industry best practices across the site
- Safety culture
- Human performance
- Performance assurance
- Fire Protection
- Criticality safety
- Resources
- Work management



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Radiation Protection

- Current program meets CNSC requirements
- Can do better by benefiting from industry benchmarking
- Initiative in the proposed licence period to identify gaps and make improvements



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Public Consultation

- **Environmental Stewardship Council**
- **Expanded external web site**
- **Community newsletter**
- **Consultations on specific projects**



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NRU

- **Licence condition met to demonstrate upgrades fully operational**
- **NRU is safe to operate for the proposed licence period and beyond**
- **Will meet CNSC's criteria for continued operation of NRU**
 - **Will meet short-term criteria prior to Day 2 hearing**
 - **Recent submissions and meetings to address CNSC staff issues**



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Environment

- **Proposed licence conditions**
 - Many are currently planned activities in line with AECL's Environmental Plan
- **NRU groundwater plume**
 - Plan submitted per CNSC staff request
 - Plan being progressed
- **Storm water management**

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Five Year Plan - Operational Implementation (Decommissioning)

- **First 5 Years of a 70-year plan**
- **Optimized (accelerated) approach**
 - to be subjected to public input
- **Large program development**
 - enabling facilities
- **5-Year Plan will be updated regularly**
- **Structured to allow ready monitoring of progress**
- **Articulates important strategic elements, e.g., disposal strategy**

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Five Year Plan - Operational Implementation (Decommissioning) - continued

- **Public Consultation Program**
- **CRL Enabling Facilities**
 - Waste Analysis Facility
 - Waste Characterization Facility
 - Waste Conditioning Facility
 - Geological Disposal Facility
 - Waste Incinerator
 - Liquid Waste Transfer and Storage
 - Fuel Processing and Storage
 - New Groundwater Treatment Facility
 - Upgrades to Shielded Facilities
- **CRL Structures and Facilities**
 - Licence Listed Facilities
 - Radiochemical Laboratories
 - Low Hazard and Non-Contaminated Structures
 - Stacks and Tanks
 - Affected Lands
 - Waste Management Areas

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Dedicated Isotope Facilities

- **DIF Operations to move to Nuclear Laboratories**
 - Report to General Manager – Reactor Operations
- **When DIF is in production mode**
 - NRU to focus on R&D and production of Co-60, Ir-192 and C-14
 - NFFF to stop production of targets but will continue to produce NRU and DIF driver fuel
 - Mo-99 Production Facility to cease isotope production
 - WMA “G” operational to receive NPF waste
 - No further high-level waste in FISST or tile holes

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Conclusions

- **Safe performance that meets CNSC requirements in most areas**
 - Action plans to address outstanding items
 - Working towards exceeding CNSC requirements
- **Significant improvements in key areas and are committed to continuous improvement**
- **Meet CNSC guidelines for the proposed licence period**

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