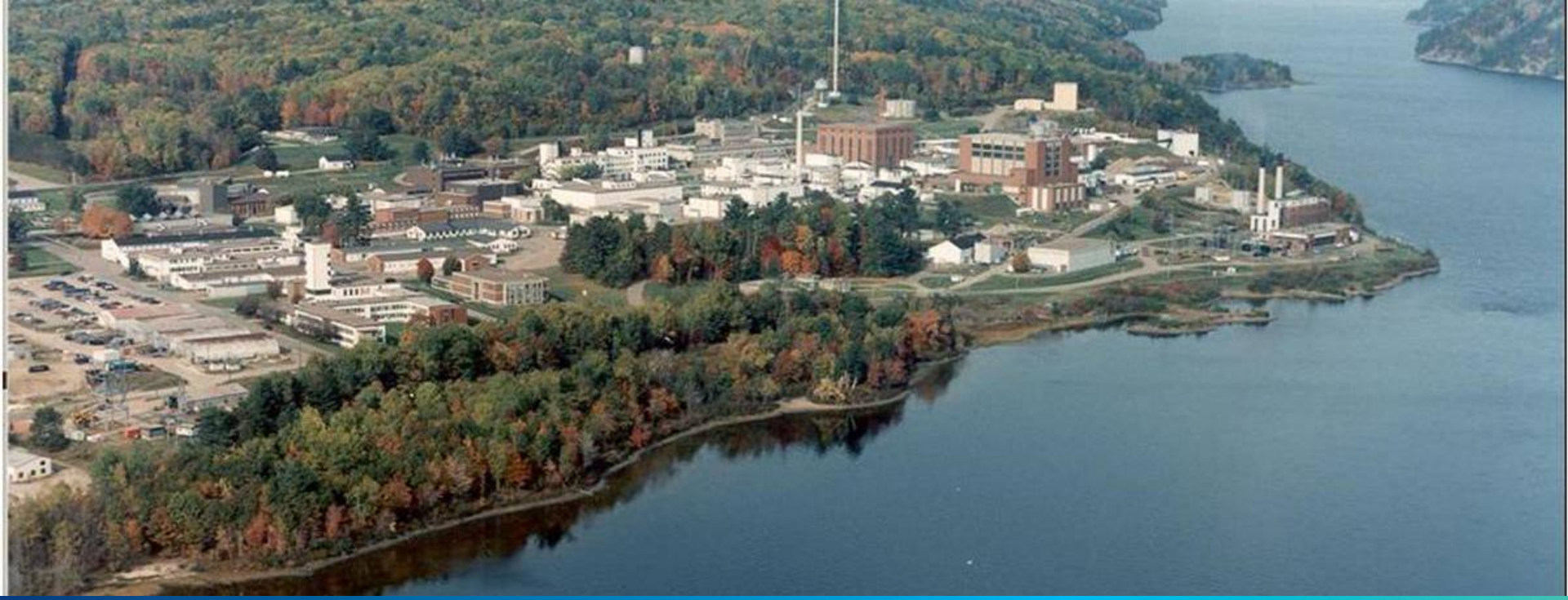


PREDEC 2016 Conference

The Turnover Process at Chalk River Labs from Operations to Decommissioning

2016 February 16-18

The Turnover Process

Chalk River Laboratories

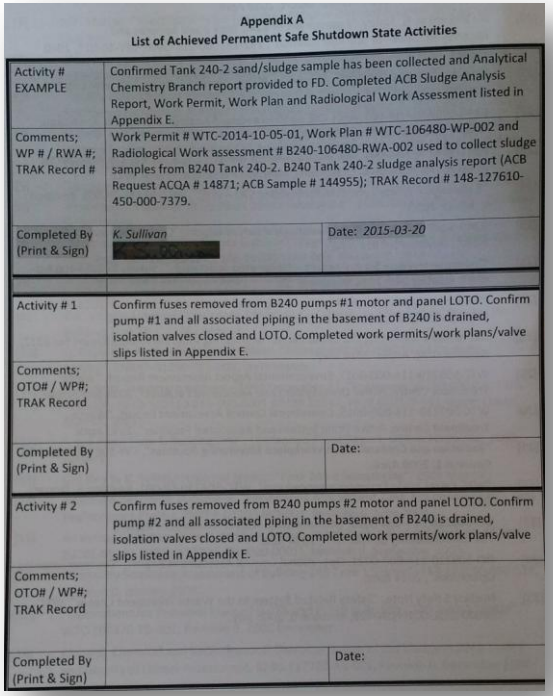
- 200 facilities (2 million square feet)
- New Government Owned/Contractor Operated (GoCo) organization (focus to accelerate the Decommissioning of legacy facilities)
- Turnovers need to be documented and managed to ensure Health, Safety, Security and Environmental (HSSE) risks are identified, eliminated or effectively controlled
- Canadian Nuclear Laboratories (CNL) follows the Canadian Nuclear Safety Commission (CNSC) Regulatory Guide G-219 – Decommissioning Planning for Licensed Activities and CSA standard N294-09 Decommissioning of Facilities Containing Nuclear Substances

Safe Shutdown

Permanent Safe Shutdown State Plan

- Declare a facility “redundant”
- Develop a permanent safe shut down state plan (PSSSP).

  This document would include:
  - Scope
  - Description of facility(history, purpose)
  - Current status (services, maintenance)
  - Permanent safe shutdown activities performed
  - Known Deficiencies
  - Radiological and contamination levels
  - Records (template in the Appendix)



Appendix A
List of Achieved Permanent Safe Shutdown State Activities

Activity # EXAMPLE	Confirmed Tank 240-2 sand/sludge sample has been collected and Analytical Chemistry Branch report provided to FD. Completed ACB Sludge Analysis Report, Work Permit, Work Plan and Radiological Work Assessment listed in Appendix E.	
Comments; WP # / RWA #; TRAK Record #	Work Permit # WTC-2014-10-05-01, Work Plan # WTC-106480-WP-002 and Radiological Work assessment # B240-106480-RWA-002 used to collect sludge samples from B240 Tank 240-2. B240 Tank 240-2 sludge analysis report (ACB Request ACQA # 14871; ACB Sample # 144955); TRAK Record # 148-127610-450-000-7379.	
Completed By (Print & Sign)	K. Sullivan [redacted]	Date: 2015-03-20
Activity # 1	Confirm fuses removed from B240 pumps #1 motor and panel LOTO. Confirm pump #1 and all associated piping in the basement of B240 is drained, isolation valves closed and LOTO. Completed work permits/work plans/valve slips listed in Appendix E.	
Comments; OTO# / WP#; TRAK Record		
Completed By (Print & Sign)		Date:
Activity # 2	Confirm fuses removed from B240 pumps #2 motor and panel LOTO. Confirm pump #2 and all associated piping in the basement of B240 is drained, isolation valves closed and LOTO. Completed work permits/work plans/valve slips listed in Appendix E.	
Comments; OTO# / WP#; TRAK Record		
Completed By (Print & Sign)		Date:

License Amendments

Transferring Nuclear Facilities from an Operating State to a Storage-with-Surveillance (SWS) or Decommissioning State

- CNL – operates under a Site Licence and License Condition Handbook
  - *identify programs that must be implemented and maintained*
  - *contains a table of radioactive release limits*
- *The CRL Handbook provides compliance verification criteria for conditions set out in the licence*
  - *compliance criteria for each licence condition*
  - *appropriate delegation of authority to CNSC staff*
  - *reference to licensee documentation & codes and standards*
  - *reference to CNSC regulatory documents*
  - *specific commitments made by the licensee*

Canadian Nuclear Laboratories

Matrix Organization – Composed of various business lines

At CRL, CNL remains the licensee, regardless of the facility state (construction, commissioning, operations, decommissioning)

Storage-with-Surveillance (SWS)

- SWS - a period which the remaining structures, equipment, contaminated materials and site are kept in a safe condition under care and maintenance.
- The SWS Plan provides the following information:
  - purpose and scope of the plan
  - facility description and operating history, including any failures or known significant incidents
  - all functional remaining services and systems
  - the required monitoring, surveillance and testing activities required
  - existing building hazards including radiological, chemical, industrial and criticality control

CNL Internal Transfer - Operations to Decommissioning

CNL Transfer document & Transfer Certificate are prepared.

This turnover document typically includes:

- Introduction and Purpose
- Facility Boundaries
- Known Deficiencies
- Facility Status
- Shutdown Status
- Hazards
- System / Equipment
- Drawings / Maps / Records
- Significant Environmental Aspects
- Inventory of Nuclear Materials
- Fire & Building Code Violations / Deficiencies
- Safety Related Systems List
- Regulatory Commitments
- Governing Documents
- Documentation and Records
- Interfaces

Detailed Decommissioning Plan (DDP)

The DDP should include the following elements:

- Brief description & history including incidents or accidents
- Statement about final radiological, physical and chemical end-state
- Description of any specific requirements/controls
- Remain gaps or uncertainties
- Decommissioning strategy & work packages
- Schedule, cost estimate and financial guarantee
- Description of the waste management plan
- Assessment of the potential environmental effects
- Information on the supporting programs (QA,ER,RP,EP,HR,OSH)
- List of federal and provincial regulatory agencies involved
- Final radiation survey requirements and listing of records and retention periods

KEY LESSONS LEARNED

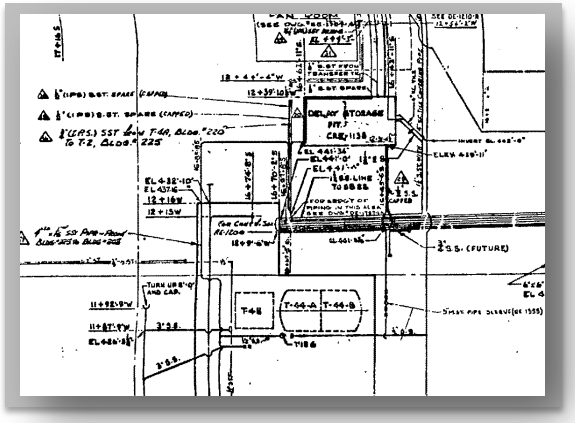
- The CRL site has operated for more than 70 years, during the time facilities have been modified, cleaned up and re-used to support various missions over that time frame. Some of the facilities ceased operations in the 50’s and remain in Storage-with-Surveillance (SWS) today. Some of the historical data to support today’s decommissioning goal is either lost or there is no record available.

KEY LESSONS LEARNED

Numerous issues that have affected configuration management

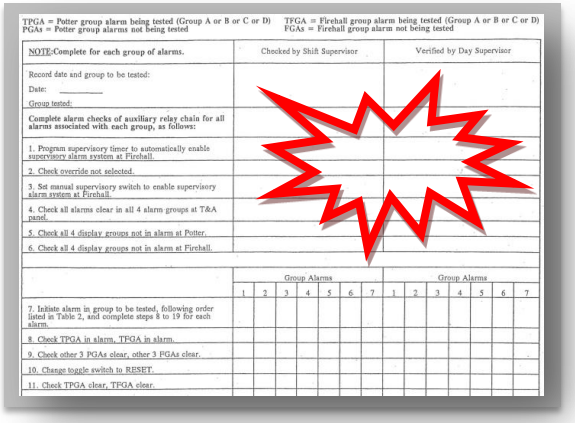
Loss of Historical records

Fire Destroys records facility in 1950’s



Quality of records

Poor quality scans and originals

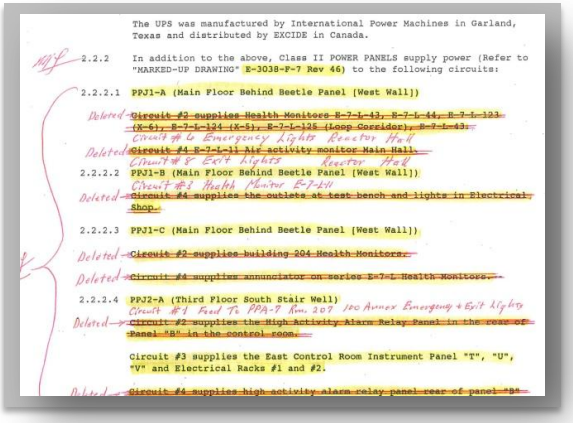


Completion of records

Record Copy – Missing signature & sign-off

KEY LESSONS LEARNED

Numerous issues that have affected configuration management



The UPS was manufactured by International Power Machines in Garland, Texas and distributed by EXCIDE in Canada.

2.2.2 In addition to the above, Class II POWER PANELS supply power (Refer to "MARKED-UP DRAWING" E-3038-F-7 Rev 46) to the following circuits:

2.2.2.1 PPJ1-A (Main Floor Behind Beetle Panel (West Wall))

Deleted ~~Circuit #2 supplies Health Monitors E-7-L-43, E-7-L-44, E-7-L-123 (N-61, E-7-L-124 (X-5), E-7-L-125 (Loop Corridor), E-7-L-43.~~

Circuit #6 Emergency Lights Reactor Hall

Deleted ~~Circuit #4 E-7-L-11 Air activity monitor Main Hall.~~

Circuit #8 Exit lights Reactor Hall

2.2.2.2 PPJ1-B (Main Floor Behind Beetle Panel (West Wall))

Circuit #5 Health Monitor E-7-L-11

Deleted ~~Circuit #4 supplies the outlets at test bench and lights in Electrical Shop.~~

2.2.2.3 PPJ1-C (Main Floor Behind Beetle Panel (West Wall))

Deleted ~~Circuit #2 supplies building 204 Health Monitors.~~

Deleted ~~Circuit #4 supplies annunciator on series E-7-L Health Monitors.~~

2.2.2.4 PPJ2-A (Third Floor South Stair Well)

Circuit #1 Feed To PPA-7 Rm. 207 100 Annex Emergency + Exit lights

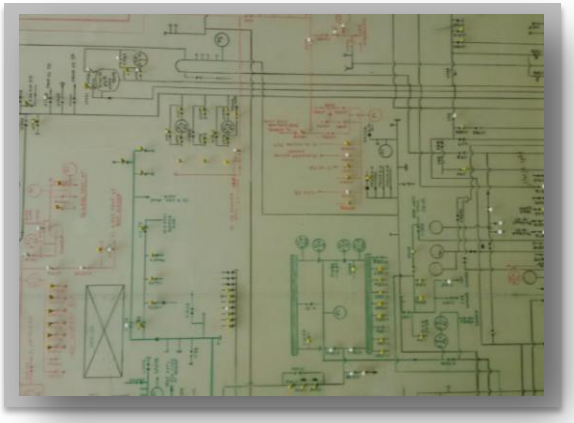
Deleted ~~Circuit #2 supplies the High Activity Alarm Relay Panel in the rear of Panel "B" in the control room.~~

Circuit #3 supplies the East Control Room Instrument Panel "T", "U", "V" and Electrical Racks #1 and #2.

Deleted ~~Circuit #4 supplies high activity alarm relay panel rear of panel "B"~~

Verification

Information provided on the record is critical



Configuration

Physical plant configuration does not always match paper configuration

Turn Over State

In the past, the liability was turned over in an “as-is” state

KEY MESSAGE

Knowledge Management

Proper Shutdown & Turnover

Incorporate Lessons Learned

Thank you. Merci.

Questions?

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