Current Tritium Activities at Chalk River Laboratories

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Outline

• New Tritium Facility at Chalk River
• Facility Features
• Lessons Learned
  • Building
  • Facility equipment
Need for a New Tritium Facility at CRL
Building 215 at CRL - Start of Project
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TF Project - Building Time Lapse
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Tritium Facility Features

- Building Layout – same footprint, more space
- Inert Atmosphere Glove Boxes
  - Tritium Dispensing
  - Experimental Studies
- Air Purged Glove Boxes
  - Maintenance tasks
  - Experimental Studies
- Fumehoods
  - Gas Standards Preparation
  - Experimental Studies
Design Features - Building Services
Design Features - Building
Lessons Learned - Building
Lessons Learned - Equipment

Inert Atmosphere Glove Box (IAGB) & Tritium Handling Apparatus (THA)

Improvements Include:

- HMI
- Glass Windows (fire safety)
- 3 vessel loading ability
- Hoist
- Immobilized Tritium Container (ITC) isolated from box
Lessons Learned - Equipment

Gas Standards Preparation System
Tritium Areas of Interest

- Commercial tritium dispensing
- Production of tritium gas standards
- Safe handling of tritium (elemental, water)
- Tritium immobilization as hydrides
- Tritium powered energy devices
Tritium Areas of Interest

• Catalytic tritium separation
• Tritium permeation
• Tritium effects on materials
• Tritium decontamination
• He-3 extraction and purification
Thank You. Merci

Questions?

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