



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

# Leveraging a Culture of Continuous Improvement at the CNSC

Canadian Public Sector Quality Association /  
Canadian Public Sector Excellence Network

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Canadian Nuclear Safety Commission



[nuclearsafety.gc.ca](http://nuclearsafety.gc.ca)

# Agenda



- Overview of CNSC
- Table Exercise
- CNSC Journey
- CNSC Harmonized Plan
- Behind the Scenes
- Leveraging our Culture of Continuous Improvement

# Canadian Nuclear Safety Commission



- Established May 2000, under the *Nuclear Safety and Control Act* (NSCA)
- Replaced the AECB, established in 1946, *Atomic Energy Control Act*
- Exclusive jurisdiction over all nuclear related matters in Canada

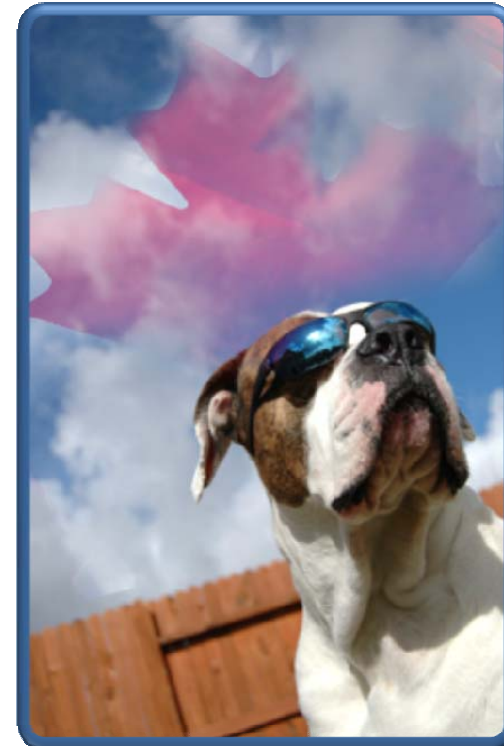


**Canada's independent nuclear regulator –  
over 65 years of experience**

# CNSC Mission



- To regulate the use of nuclear energy and materials so that the **health, safety and security** of Canadians and the **environment** are protected
- To implement Canada's **international commitments** on the peaceful use of nuclear energy; and
- To disseminate objective scientific, technical and regulatory **information to the public.**



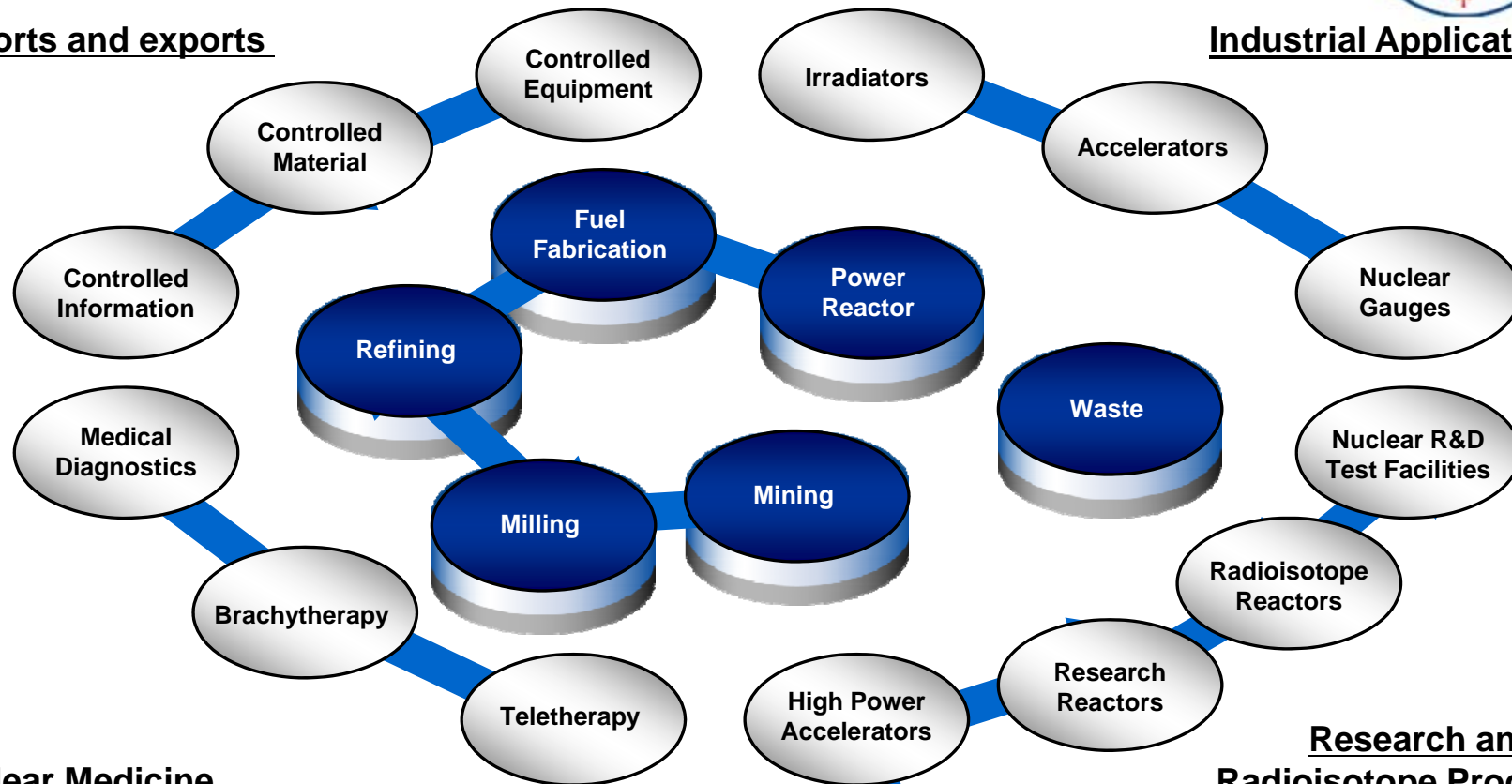
**We are Canada's nuclear watchdog and we will not compromise safety**

# CNSC Regulates All Nuclear-Related Facilities and Activities



## Imports and exports

## Industrial Applications



## Nuclear Medicine

## Research and Radioisotope Production Facilities

**...From Cradle To Grave**

# Independent Commission



- Quasi-judicial administrative tribunal
- Commission members are independent
- Commission hearings are public and Webcast
- Decision can only be reviewed by Federal Court



**Transparent, science-based decision-making**

# CNSC Regulatory Fundamentals

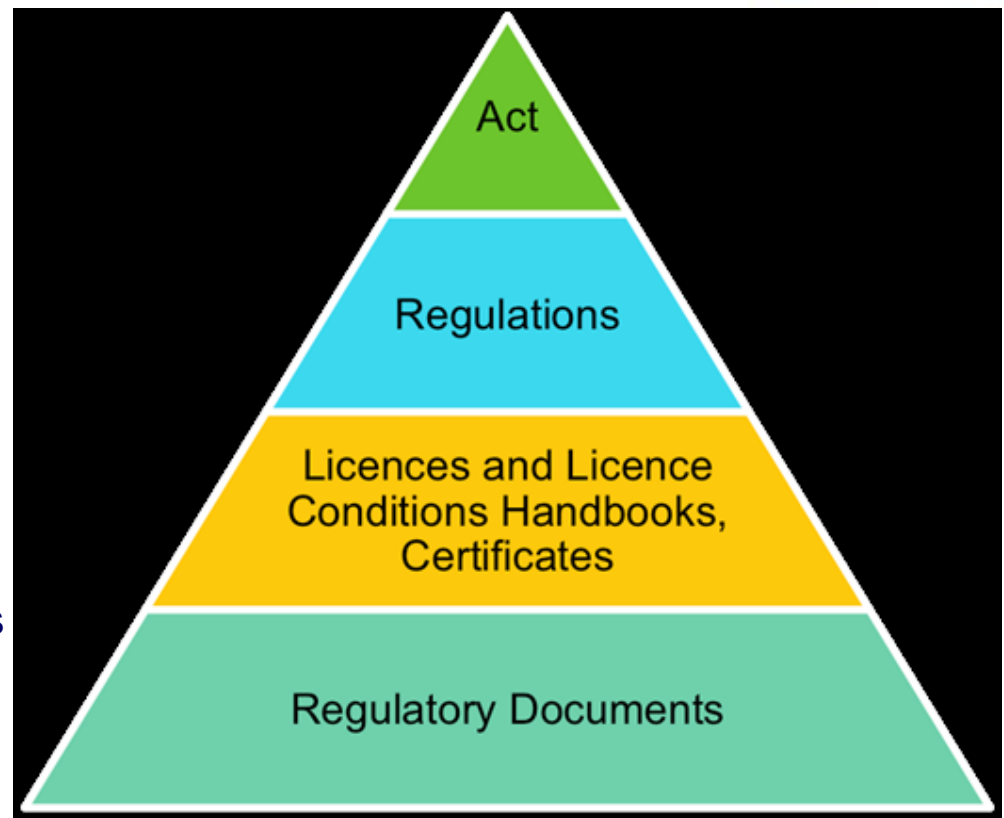


- Nuclear-related activities can only be conducted by persons or organizations that are **licensed** by the CNSC
- A person or organization must apply to the CNSC to obtain a **licence**
- Applicants must demonstrate that they meet the requirements set out in the CNSC's regulatory framework
- Once a **licence** is obtained, the CNSC assures that activities are conducted safely and **licensing** conditions are upheld, through processes of verifying, enforcing and reporting

# CNSC's Regulatory Framework

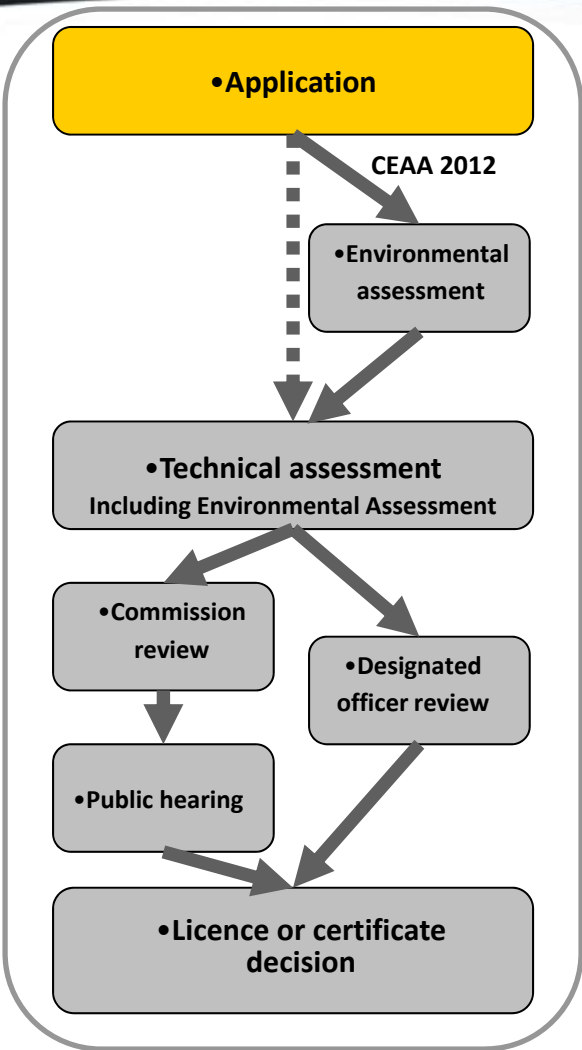


- *Nuclear Safety and Control Act*
  - enabling legislation
- Regulations
  - high-level and generally applicable requirements
- Licences and licence conditions handbooks, Certifications, orders
  - facility- and/or activity-specific requirements
- Regulatory documents
  - additional information that provides clarity of expectations

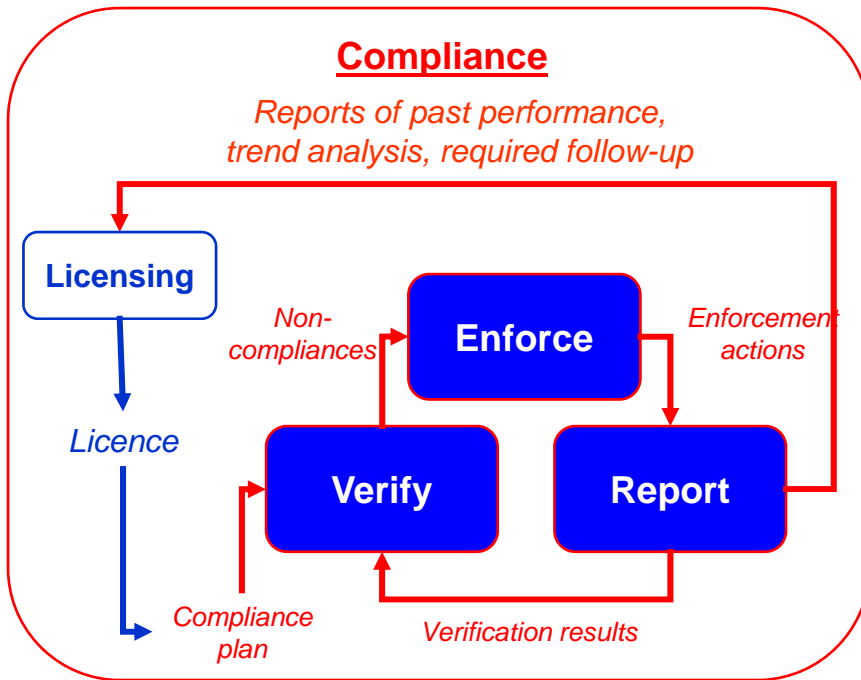




# Overview of Licensing Process



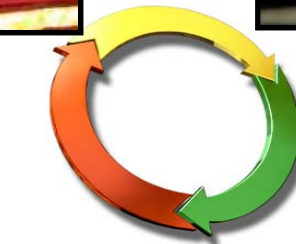
# Overview of Compliance Process



Verify



Enforce



Report

# *To learn more about nuclear safety ...*



- [www.nuclearsafety.gc.ca](http://www.nuclearsafety.gc.ca)
- CNSC 101
  - Presentations
  - Videos
  - Information Sessions
- facebook
- YouTube

# *Leveraging a Culture of Continuous Improvement at the Canadian Nuclear Safety Commission ...*



- Before we go any further ... audience demographics

# *Leveraging a Culture of Continuous Improvement at the Canadian Nuclear Safety Commission ...*



## Table Exercise ...15 minutes

- Culture of Continuous Improvement
  - What does it look like?
  - What organizational enablers are in place?
  - What tools/mechanisms are in place?
  - What challenges/barriers are present?

# Historical Context



- Beginning in the early to mid-2000's:
  - A. Primary mechanisms for improvements included:
    - Audits & Evaluations
    - 3<sup>rd</sup>-party Reviews, including consultants
    - Internal reviews and self-assessments
    - In all cases, we
      - Identified improvement opportunities
      - Determined appropriate management responses
      - Implemented improvements

# *Historical Context*



## **B.** Pursuing Organizational Excellence

- Management System Excellence Frameworks under consideration
  - Canada Awards for Excellence (Public Sector)
  - Management Accountability Framework (MAF)
  - IAEA safety standard GS-R-1

# Historical Context



- Everything was working quite well
  - ✓ We were fixing what needed fixing
  - ✓ We were meeting our mandated responsibilities
  - ✓ We were helping keep Canadians and the Environment safe
- However, there was still room for improvement
  - Recurring findings in our Audits / Evaluations / Reviews
  - Challenges in implementation of improvements and sustainability



# Change Management 101: Need for Change Catalyst



- Experts refer to a need for a strong catalyst (“burning platform”) for driving sustainable organizational change
  - Status quo no longer an option
- Organizational change will be sustainable when:
  - change is experienced at the personal level
  - “doing the same thing” is no longer acceptable
  - reverting back to “the old ways” is not permitted
- A true catalyst will present itself

# Change Catalyst : #1



1. National Research Universal (NRU) reactor, November 2007
  - Unplanned extended outage
  - Impacted global supply of medical isotopes
  - Act of Parliament authorized resumption of NRU reactor operation
  - *Directive to the Canadian Nuclear Safety Commission Regarding the Health of Canadians*
- CNSC and AECL commissioned independent review (Talisman International LLC) to:
  - Examine performance of CNSC and AECL
  - Identify underlying causes of the unplanned outage
  - Make recommendations for improvement

# Change Catalyst: #2



2. International Atomic Energy Agency (IAEA) peer review
  - Integrated Regulatory Review Service (IRRS) scheduled for 2009
    - Request for the peer review submitted 2005
    - Initial self-assessment (2006)
    - Additional self-assessment (2008)

# Clarity in Our Path Forward



- Path forward had to demonstrate that all recommendations noted in the *Talisman Report* would be:
  - Addressed quickly
  - Fixed once and for all
- Needed a robust and evergreen improvement mechanism to:
  - Keep track of all that needed to be fixed
  - Ensure what needed fixing first was in fact addressed first
  - Ensure all improvements were carried through to implementation
- Harmonized Plan (of Improvement Initiatives) issued November 2008
  - Collaboration
  - Priority setting
  - Accountability

# *Ensuring the Harmonized Plan was Robust & Evergreen*



- Established strong governance structure
- Defined HP-eligibility
- Established priority-setting criteria

# Harmonized Plan – *Priority Setting Criteria*



## — Strategic Importance —

**5X** Value provided

**5X** Strategic fit

## — Do-ability —

**1X** Time to implement

**1X** Draw on staff resources

**1X** Draw on \$ resources

**1X** IT solution \$\$\$

**3X** Project team resources

**1X** Project risk

## — Likelihood of Implementation —

**1X** Barriers to success

**1X** Synergies with other HP initiatives

**3X** Depth and breadth of change  
(Confidence on ability to implement)

# *Ensuring the Harmonized Plan was Robust & Evergreen*



- Established project management methodology
- Established project reporting mechanisms
- Standardized templates for process documentation
- Assigned organizational unit to HP Secretariat role
- Documented the HP Approach

# *Ensuring the Harmonized Plan was Robust & Evergreen*



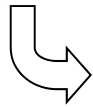
- Assigned organizational unit for HP support
- Documented the HP Approach
- Released initial Harmonized Plan document (Nov 2008)



# Harmonized Plan – The “Approach”



**Idea**



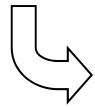
**Socialized**



**Buy-in**



**Tentatively  
Approved**



**Scoped**



**Approved**



**Prioritized**



**Executed**



**Implemented**

# *Where are We Today... 5+ Years and Running*



- Our catalysts driving organizational change have been fully addressed
- The residual ...a culture of Continuous Improvement

# *Behind the Scenes ... Getting HP to Where It Is Today*



- Leveraged the commitment to the CNSC corporate priority areas
  - “Core +4Cs”
    - Core operations
    - Continuous improvement
    - Clarity of requirements
    - Capacity for action
    - Communication

# *Behind the Scenes ... Getting HP to Where It Is Today*



- Allowed flexibility in the intake process
- We knew we had a robust approach and it would take some time to fully appreciate the value in working within the Harmonized Plan

# *Behind the Scenes ... Getting HP to Where It Is Today*



- Addressed improvement initiatives being conducted outside of HP
- Selective in assigning HP leads and resources
- Allowed flexibility in setting of target dates and in assigning responsibilities

# *Behind the Scenes ... Getting HP to Where It Is Today*



- Leveraged the demand for increased clarity in roles and responsibilities
- Leveraged CNSC's commitment to be recognized as an Employer of Choice

# *So, why is this such a big deal ...?*



- We have experienced our share of “false starts” for major improvement programs
- Each time we positioned ourselves for success:
  - Confirmed what needed to be fixed
  - Involved staff and management
  - Set priorities
  - Secured management agreement
  - Sought assistance from external experts /consultants
- Now that we have a successful continuous improvement mechanism ... we are making the most of it

# Leveraging our Culture of Continuous Improvement



Harmonized Plan is THE corporate improvement plan

- Primary means for investing in and improving upon how we manage ourselves as Canada's nuclear regulator (a.k.a. our management system)
  - We agree on what needs to be fixed and systematically go about fixing it
  - Conversations centered around the improvements and what it takes to complete and implement each improvement
- At the end of the day, we are always able to describe a good story – and the story gets better each and every day



# *Selected Harmonized Plan Improvements to date*



- Regulatory Information Bank IT system
- Conduct Inspection process
- Inspector Training Qualification Program
- Safety and Control Area Framework
- Commission Member Document process
- Resolving Differences of Professional Opinion process
- How to Select Regulatory Instruments process



# Questions ?