



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire



# DISPELLING THE MYTHS

## CANADIAN NUCLEAR SAFETY IN PRACTICE

**Michael Binder**

President, Canadian Nuclear Safety Commission  
Nuclear Power in Society - Finding the Balance  
October 26, 2009 - Ottawa, Ontario

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

# Canada's Nuclear Watchdog

To protect the *health, safety* and *security* of persons and the *environment*; and to respect Canada's *international commitments* on the peaceful use of nuclear energy.

*Our Mission Is Clear*



# *Canadian Nuclear Safety Commission*

- Established May 2000 under the *Nuclear Safety and Control Act*
- Replaced the Atomic Energy Control Board of the 1946 *Atomic Energy Control Act*

*Canada's Independent  
Nuclear Regulator - 63  
Years Of Experience*



# *... A Federal Responsibility*

**CNSC regulates all nuclear facilities and activities in Canada including:**

- Nuclear power plants
- Uranium mines and mills
- Uranium fuel fabricators and processing
- Nuclear substance processing
- Industrial and medical applications of nuclear substances, such as nuclear medicine and cancer treatment centers
- Research and educational facilities
- Import/export of nuclear and dual-use substances, equipment and technology
- Waste management facilities

# *... A Federal Responsibility*

# *The Commission*

- Quasi-judicial administrative tribunal
- Commissioners are independent
- Commission hearings are public and Webcast
- Supported by a Secretariat and independent legal services



*Transparent Decision-making*

# *Scientific, Technical, Professional Staff*

## Responsible for:

- Implementing decisions of the Commission
- Licensing and verifying compliance
- Environmental assessments
- Regulatory guidance
- Engaging public and Aboriginal groups



## *Science-based Organization*

# *Working To Achieve Our Vision...*

- Commitment to ongoing improvements
- Clarity of requirements
- Capacity for action
- Communications



*...To Be The Best Nuclear Regulator  
In The World*

Myth

**NUCLEAR POWER IS  
UNSAFE**



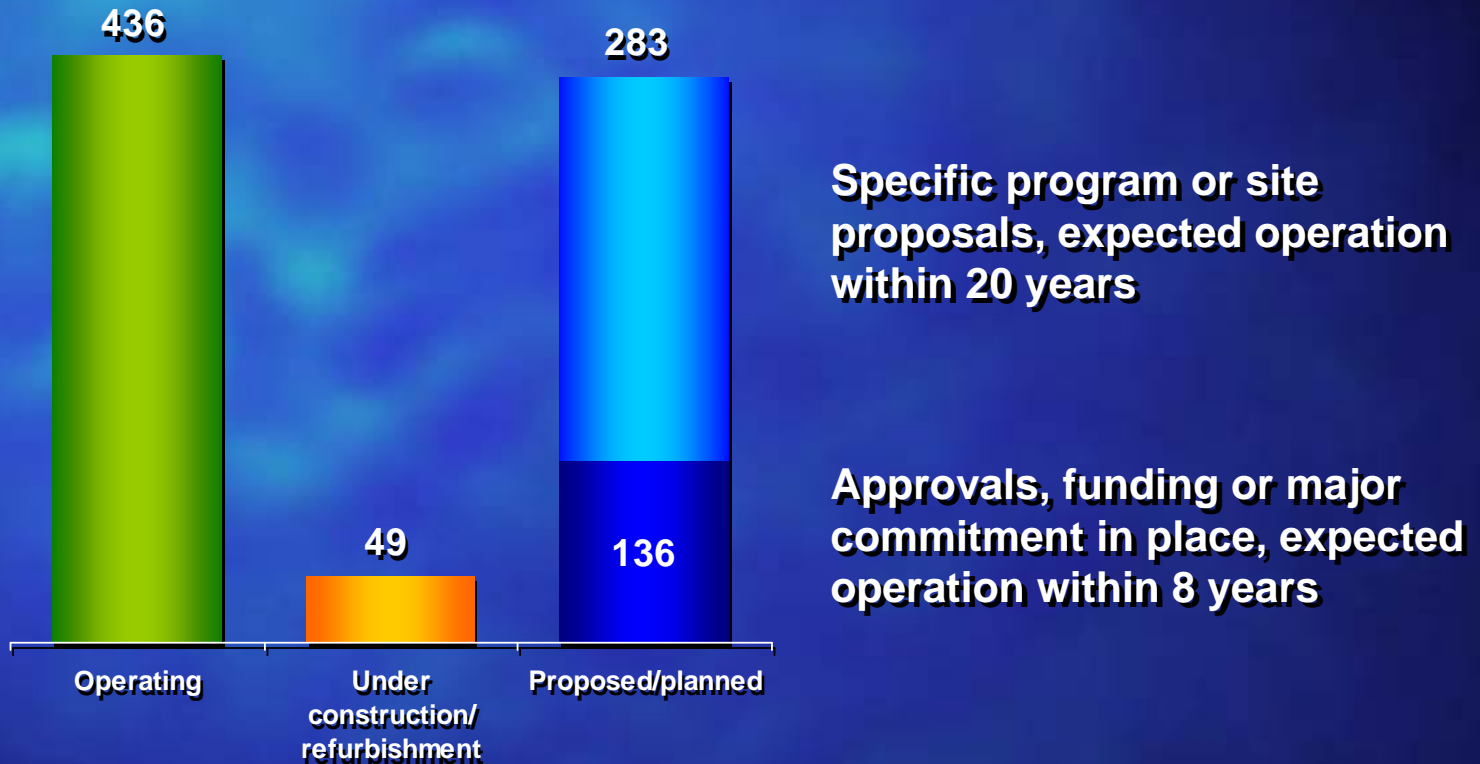
# *Reality: No Licence From Us Unless Safe*

- Nuclear industry is the most heavily regulated industry in Canada
- CANDU design has operated safely for decades
- 50% of Ontario's Electricity

***Stringent Oversight, Strong Safety Culture!***

# *Nuclear Is Already Part Of The Mix...*

World Nuclear Power Reactors 2009



Source: World Nuclear Association, *World Nuclear Power Reactors 2008-2009 & Uranium Requirements*, 1 August 2009

## *...Around The World*

Myth

URANIUM MINING IS UNSAFE

# *Reality: Safest Mining Operations*

Uranium mining more rigorously regulated than any other type of mining in Canada:

- Site Selection
- Environmental Assessment
- Licencing
- Compliance
- Decommissioning

Canada's 4 licensed uranium mines in Saskatchewan supplying 25% of the world's supply

## *Need To Overcome Fear Mongering*



Myth

**NUCLEAR IS BAD FOR THE  
ENVIRONMENT**

# *Reality: Environment Is Protected*

- Stringent licence conditions
- International Standards and ALARA (As Low As Reasonably Achievable) rigorously applied
- Compliance inspections and reporting
- Legacy Clean-up, Port Hope, other mines/sites

## *Proactive Disclosure*



Myth

ANY RADIATION IS  
TOO MUCH RADIATION

# *Reality: It's Part Of Everyday Life*

- A Million Medical Isotope Procedures Annually in Canada
- Canadians receive more than half of their life time radiation dose from natural sources
- No credible evidence of health concerns from existing operators
- Use ICRP, WHO, HC and health guidelines





Myth

**THE NUCLEAR INDUSTRY  
IS A SECURITY RISK**

# *Reality: Climb The Fence And Find Out!*

- In Canada, nuclear material is used only for peaceful purposes
- Major nuclear facilities are the most protected critical energy infrastructure in Canada
- Nuclear material is accounted for and secure
- Canada's a world leader in sealed source tracking

*Safe Technologies  
Effectively Safeguarded*

# Myth

**NO ONE KNOWS WHAT TO  
DO WITH NUCLEAR WASTE**

# *Reality: It's Managed And Contained...*

- Existing radioactive waste is regulated for safety today
  - 45 years worth of used nuclear fuel = 6 hockey rinks up to the boards
- Preparing for tomorrow's waste
  - Deep Geological Repository, Adaptive Phased Management
  - Plans and \$ for future are in place
  - Reprocessing - available option

*...From Cradle To Grave.*



# Myth

**NUCLEAR IS TOO EXPENSIVE,  
AND CAN BE REPLACED BY  
WIND AND SOLAR POWER**

# *Reality: Can GHG Targets Be Met Without Nuclear?*

- Countries rethinking their energy mixes
- Who doesn't like wind and solar? But they require intensive land use and can be intermittent
- Nuclear is low emissions form of electricity; good baseload, but intensive capital investment
- Costs comparisons dicey business

*Not Our Decision To Make...*

Myth

CANADIANS UNDERSTAND  
NUCLEAR

# *Reality: Level Of Ignorance - Breathtaking*

- Issues are complex
- Views are polarized
  - NGO's anti-nuclear
  - Industry promotes
  - Media - neutral and balanced??
- Outreach/Social-licence required

*Need To Get The Nuclear Story Out*





*Reality...*

**...we will not  
compromise  
safety...**

***...It's In Our DNA!***





# REALITY CHECK

[NUCLEARSAFETY.GC.CA](http://NUCLEARSAFETY.GC.CA)