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CNSC / IAEA Experience during a Major National Exercise (Unified Response)

Luc Sigouin, Christopher Cole
Canadian Nuclear Safety Commission

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Presentation Outline

- CNSC Role During a Nuclear Emergency
- Exercise Unified Response (ExUR)
- Linkage to IAEA and other TSOs during the exercise
- TSO Experience and Lessons Learned
- Path Forward

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CNSC Role During a Nuclear Emergency

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Overall Response to a Nuclear Emergency

- **Licensees**
  - Onsite emergency response

- **Provincial & Municipal governments**
  - Offsite actions
  - Protective actions within their borders

- **Federal Government**
  - Provides support to province for offsite response
  - Through the Federal Nuclear Emergency Plan

CNSC Emergency Operations Mandate

1. CNSC maintains regulatory oversight of nuclear emergency activities of the licensee.
   a. Monitor the response of the licensee
   b. Evaluate response actions

2. The CNSC participates in Canada's whole-of-government response.
   a. Provide technical advice and regulatory approval when required
   b. Inform the government and the public on its assessment of the situation

Where the CNSC Fits In

Government Operations Centre
- *Technical Assessment Group*
- *CSNC – On Site Conditions*

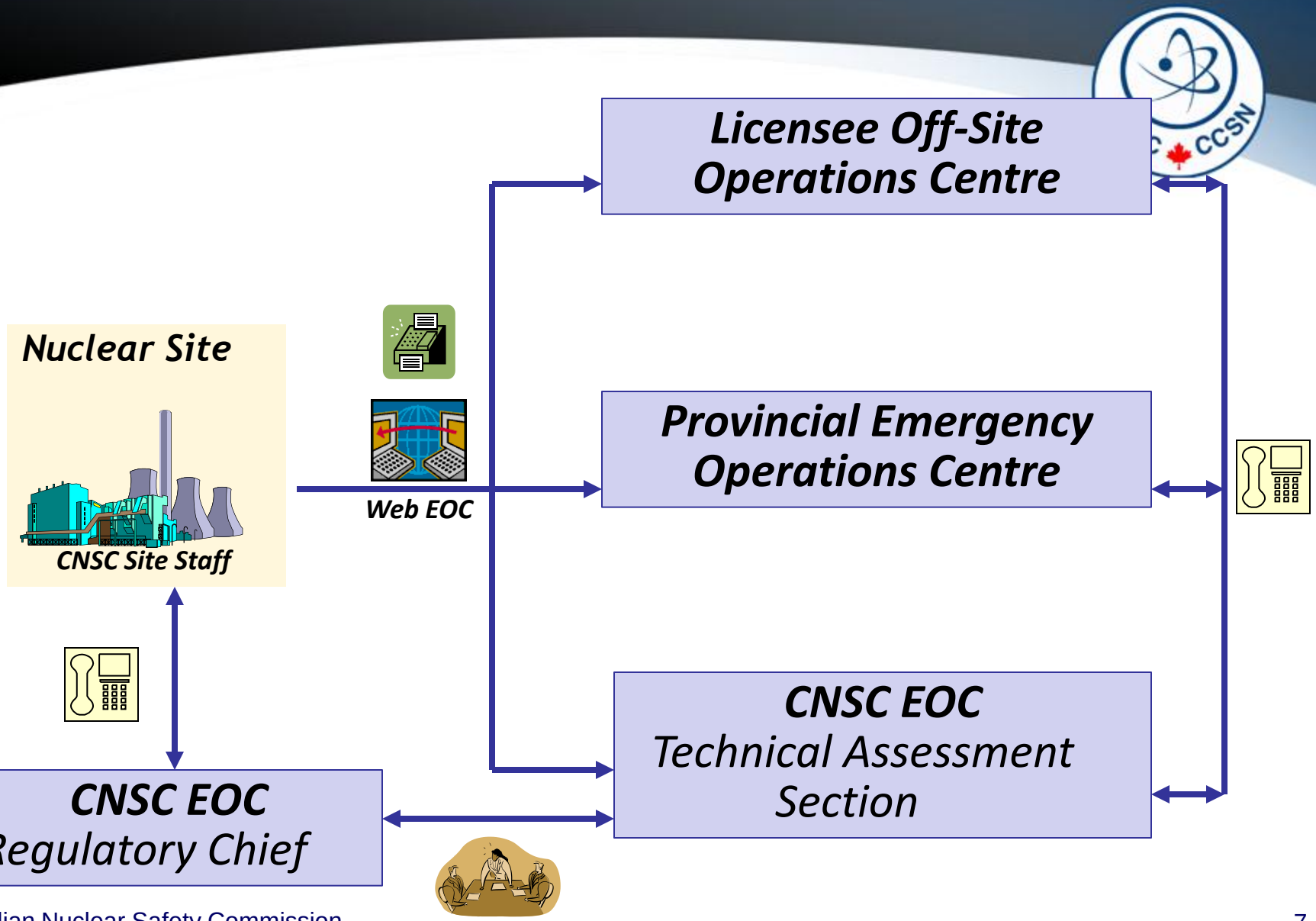
COG-GOC

CNSC EOC

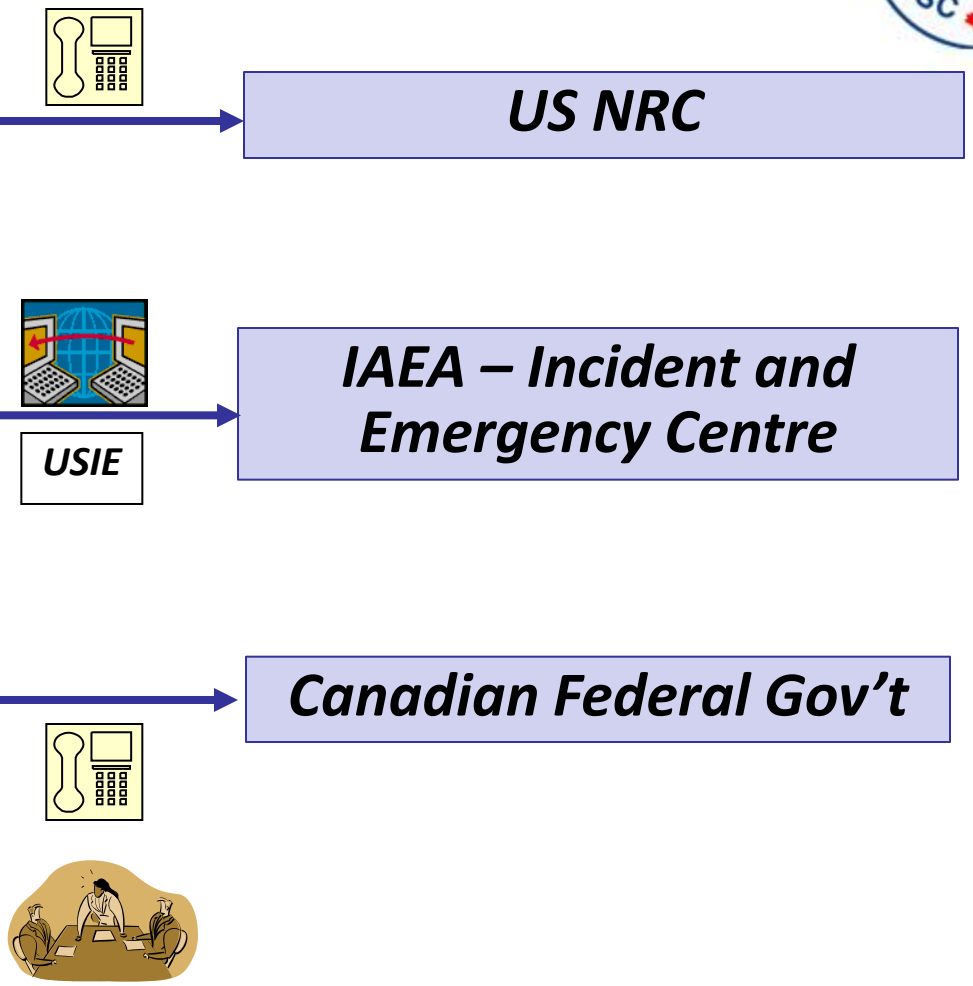
Licensee

Provincial Operations Centre
- *Municipalities*
- *Licensee*
- *CNSC has two seats*

Information Flow – Plant Parameter Data



Information Flow – Federal and International

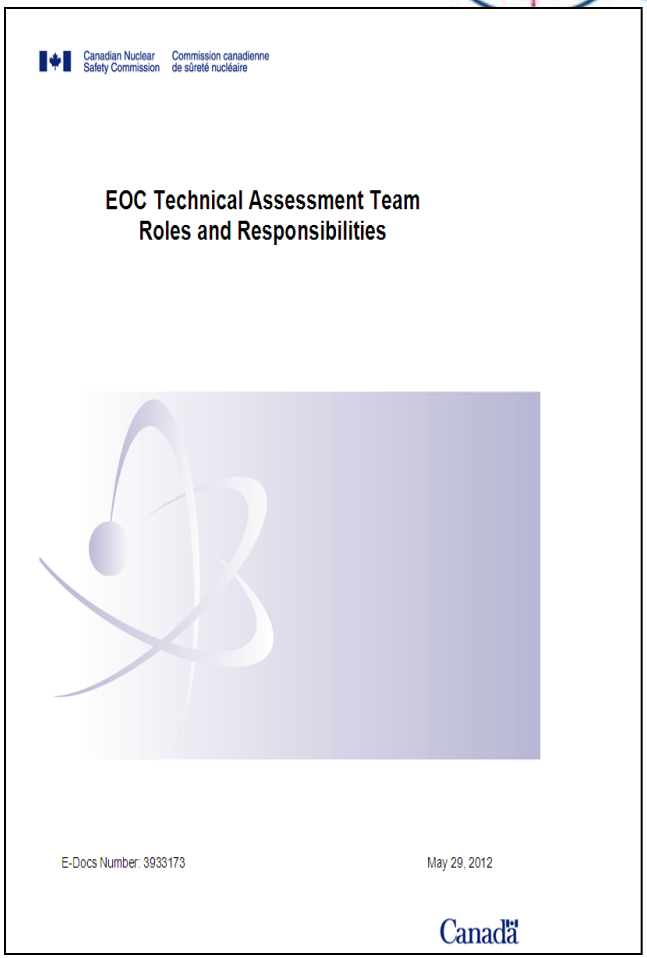


TSO Roles and Responsibilities

EOC TSO provide information and advice on:

CNSC
- Accident progression
- Source term calculation

Health Canada
- Radioactive Dispersion
- Site and public dose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EOC Technical Assessment Team
Roles and Responsibilities

E-Docs Number: 3933173

May 29, 2012

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Exercise Unified Response

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ExUR Objective

Reassessment of nuclear emergency response and preparedness in Canada in light of Fukushima

Test and enhance the preparedness of the utility (OPG), government and non-government agencies and communities to respond to a nuclear emergency.

…walking the talk

ExUR Numbers

1st Fukushima-related, large scale, interagency Nuclear Emergency Exercise in North America
3 Day exercise
36 Hours of exercise play
54 Government Agencies
200 Staff from OPG
1000 Personnel from local, provincial and federal bodies

ExUR Scenario

Day 1

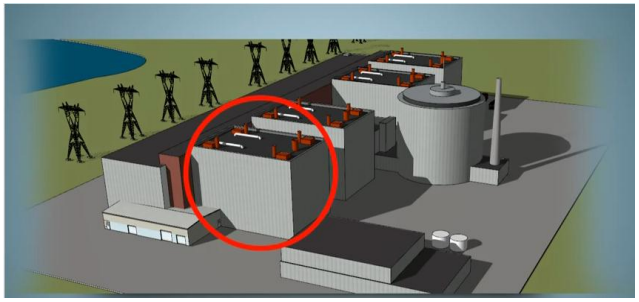
- Small Break LOCA in Unit 2 at Darlington Nuclear Generating Station
- Tornado initiated SBO on all 4 units

Day 2

- Accident progressed into a Severe Accident
- Overnight release for 2 hours

Day 3

- Offsite response



ExUR First ConvEx-2e

- ConvEx-2e is a new designation for Member State national exercises

- ConvEx-2e exercise allow the IAEA to practice
  - assessment and prognosis of a scenario
  - public communication of the results

- ExUR was the first ConvEx-2e

- A technical support team from the Cernavoda Nuclear Power Plant (Romania) also participated and provided technical assessment support to the IAEA

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TSO Experience and Lessons Learned

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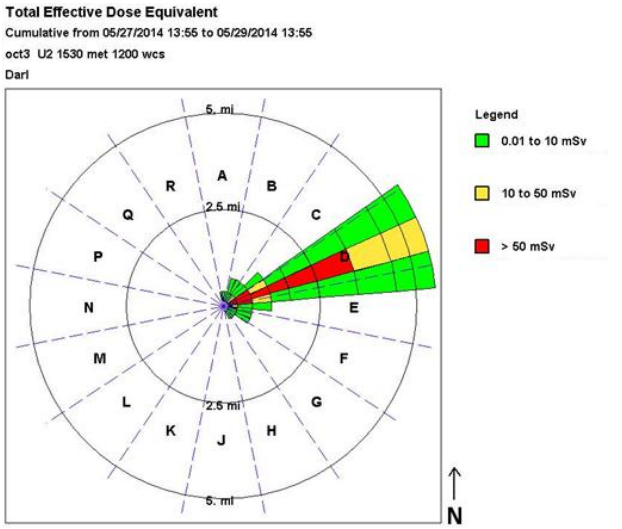
CNSC TSO

- Achievements
  - 9 Plant diagnostic and prognostic evaluations
  - Mandate to support the federal technical response was met
  - Exercised technical communications with
    - US NRC
    - IAEA
    - Province of Ontario
    - OPG's Offsite Operations Centre



…TSO considered "functional"

IAEA and US NRC TSOs

IAEA IEC was notified of incident through USIE system
IEC stood up their technical team and provided a third party assessment of the accident via Romanian NPP Operator
Technical discussions between IAEA IEC and CNSC TSO took place over 2 days of exercise.

Communication was established with the US NRC over the 3 day exercise
Technical information was exchanged with NRC experts in CANDU technology
US NRC conducted a parallel RASCAL dispersion calculation with CNSC to compare results

…technical exchanges succesful

CNSC IAEA information Exchange

- Data Transfer between CNSC and IAEA
  - Initial information transmitted based on USIE protocols
- Data Applicability
  - Supplemental information subsequently provided in the form of a technical summary
- Plant Information and Drawings
  - Recognized that static information should be provided to IAEA prior to an exercise or emergency

…information is the key to success

CNSC & IAEA Path Forward

- US NRC and IAEA
  - Need to develop specific external stakeholder report templates
  - Find out what your neighbour needs to know and then be prepared to get them the information
  - Include the IAEA IEC and neighbouring countries in as many exercises as possible

…practice, practice, practice

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Concluding Remarks

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Summary

- Exercise Unified Response
  - was the first ConvEx-2e
  - highlighted requirement for prompt, accurate and concise information flow
  - provided an opportunity to exercise with multiple international players

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Thank you!

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