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**Presentation from the  
Office of the Fire Marshal and  
Emergency Management**

**Présentation du Bureau du  
commissaire des incendies et de la  
gestion des situations d'urgence**

**Emergency Management in Ontario**

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**Gestion des urgences en Ontario**

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**Update on Emergency Management in  
Ontario and the Provincial Nuclear  
Emergency Response Plan (PNERP)**

**Mise à jour sur la gestion des urgences en  
Ontario et le Plan provincial d'intervention  
en cas d'urgence nucléaire (PPIUN)**

Commission Meeting

Réunion de la Commission

**April 4, 2018**

**Le 4 avril 2018**

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Ministry of Community Safety and Correctional Services

# Emergency Management in Ontario

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PRESENTED TO: CANADIAN NUCLEAR SAFETY COMMISSION

DATE: APRIL 4, 2018

# Purpose

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- Provide an overview of emergency management in Ontario
- Review the Ministry of Community Safety and Correctional Services (MCSCS) Emergency Management Action Plan
- Provide context to offsite nuclear emergency response in Ontario
- Review the development of the approved 2017 Provincial Nuclear Emergency Response Plan (PNERP) Master Plan
- Highlight some of the more significant improvements
- Review next steps for nuclear emergency planning in Ontario

# Emergency Management in Ontario

# Emergency Management (EM) Overview

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- *The Emergency Management and Civil Protection Act (EMCPA)* establishes the province's framework for managing emergencies – defining the authority and responsibilities of provincial ministries, municipalities and specific individuals (e.g., Commissioner of Emergency Management)
- The Office of the Fire Marshal and Emergency Management (OFMEM) is responsible for monitoring, coordinating and assisting in the development and implementation of emergency management programs
- All municipalities and provincial ministries must meet a legislated standard of emergency management (e.g., conducting hazard and risk assessments for their areas of responsibility, developing programs and plans to address those risks, and conducting annual training exercises)
- All provincial ministries are required to develop continuity of operations plans that ensure critical government services are available during emergencies
- In addition, 13 provincial ministries are also responsible for the formulation of emergency plans for specific types of emergencies assigned by Order in Council (OIC) 1157/2009 (see Appendix A)

# Drivers of change in EM

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- Climate change is causing severe weather events to occur more frequently
- New technologies are creating opportunities to increase efficiency/effectiveness of EM programs
- Increasing focus on vulnerable populations and resiliency
  - Best practices are moving towards more humanitarian, client-centred EM and risk communication approaches
  - Need for greater collaboration with First Nations on EM to develop policies and programs that reduce/eliminate gaps
- Increasing focus on relief and early recovery
  - Major disasters require major responses, including complex systems and partnerships to expedite processes that return communities back to pre-emergency activities
  - Greater integration and inclusion of non-traditional responders and functions needed in the relief and recovery process (e.g., social services, not-for-profit and faith-based organizations, etc.)
- Increasing emphasis on accountability and demonstrating “value for money”

# EM Reviews and Reports

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- Auditor General Value for Money Audit on Emergency Management (Dec 2017)
  - 13 recommendations directed at MCSCS focused on gaps in leadership, governance, program, resources and infrastructure
- Emergency Management Review (Ministry commissioned review Aug 2017)
  - 52 recommendations aimed at decision making, service delivery, collaboration and coordination, communications and sustainability
- 2013 Southern Ontario Ice Storm After Action Report
  - 24 'opportunities for improvement' focused on strengthening communications and information, enhancing coordination between Ontario's emergency management community and the province's critical infrastructure sector, updating the Provincial Emergency Response Plan and improving planning for vulnerable populations
- Report of the Elliot Lake Inquiry (2014)
  - 29 recommendations focused on rationalization, organization and integration of emergency response systems
- Report on the Supply Chain Management During Emergency Events (2014)
  - 2 recommendations focused on capacity issues in the province's ability to provide material and financial resources to Ontarians during large scale emergencies



# Emergency Management Action Plan (EMAP)

MCSCS has proposed a comprehensive strategy to respond to various recent EM reviews and audits; it consists of actions in five key areas:

## Strengthen EM Oversight and Governance

- Recruit dedicated Chief of EM position
- Enhance inter-ministerial and multi-level governance frameworks to support decision-making, collaboration and information sharing
- Implement robust performance measurement and evaluation framework

## Modernize EMCPA

- Undertake a comprehensive review of the EMCPA and make changes necessary to modernize Ontario's legislative framework for EM

## Update All Risk Assessments and Response Plans

- Review existing provincial risk assessments and emergency response plans (e.g., Provincial Emergency Response Plan)
- Re-establish province-wide Continuity of Operations Program (COOP) and directly support development of municipal continuity programs

## Enhance EM Program Capacity

- Enhance readiness for large scale emergencies
- Adopt and meet international/national best practices
- Mandate a standardized emergency response approach
- Enter into mutual assistance agreements with neighbouring jurisdictions

## Increase Support to Municipalities and EM Partners

- Enable Provincial Emergency Operations Centre (PEOC) to more quickly deploy resources to supplement local capacity
- Implement EM software to support provincial-municipal information and resource sharing
- Enhance capacity to deploy humanitarian aid
- Implement EM supply chain/logistics program

# Ongoing Initiatives & EM Business Plan

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- Many actions that support the implementation of the EMAP and address other recommendations related to EM are already underway as part of OFMEM's 2017 EM Branch business plan and other initiatives:
  - PNERP Implementing plans and technical study
  - Establishing a Provincial Exercise Strategy and Program aligned to provincial risk assessment
  - Re-establishment of the Incident Management System Steering Committee
  - Development of an on-line HIRA tool and municipal compliance tool
  - Co-chairing multiple FPT/Senior Officials Responsible for Emergency Management (SOREM) working groups
  - Working with the federal government to establish a new improved EM programs for First Nations in Ontario
  - Strengthening relationships with contiguous jurisdictions and the federal government to leverage existing capacity and facilitate effective information sharing during emergencies
  - Strengthening stakeholder relationships through an enhanced communications and engagement strategy, including monthly stakeholder meetings, ONReady Newsletter, and continuing education sessions
  - Collaboration with the NGO Alliance of Ontario to explore opportunities to leverage capacity of NGOs and volunteer organizations to address humanitarian needs during disasters

# Offsite Nuclear Emergency Response in Ontario

# Offsite Emergency Response in Context

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- The *Emergency Management and Civil Protection Act (EMCPA)*:
  - The responsibility to plan for nuclear and radiological emergencies, as well as any emergency that requires the coordination of provincial Emergency Management is assigned to the Ministry of Community Safety and Correctional Services (OFMEM).
- In the event of a nuclear or radiological emergency, the Province of Ontario is responsible for managing the offsite consequences of the emergency by supporting and coordinating the offsite response, and for directing any offsite protective actions required.
- Provincial responsibilities are executed in concert with the efforts of organizations with nuclear emergency responsibilities as set out in PNERP.
- The PNERP was developed pursuant to Section 8 of the *EMCPA* and is approved by the Ontario Cabinet.

# Offsite Emergency Response in Context

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- The PNERP Master Plan describes the general roles and responsibilities for the response to a radiological or nuclear emergency in Ontario. It is applied through detailed implementing plans for each major nuclear facility and for all other types of radiological emergencies.
- All other major organizations (e.g., municipalities, NPPs) involved developed their own plans consistent with the requirements of the PNERP, its implementing plans, and their individual mandates.
- In accordance with the PNERP, a provincial nuclear committee comprised of local, provincial, federal and industry representatives meets twice a year to discuss current issues and ensure coordination in planning and response.
- The provincial response to nuclear and radiological emergencies is coordinated through the PEOC.
- The province, through OFMEM, regularly participates in nuclear drills and exercises.

# PNERP Master Plan Development

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- The PNERP-Master Plan was updated and approved in December 2017 after a public consultation and input from nuclear emergency response organizations
- The Province conducted a public consultation and created an advisory group, comprised of national and international experts to assess comments received and provide recommendations to the Minister
- Feedback and recommendations were incorporated into the new plan; these updates make the plan more transparent and accountable, increase alignment with national and international standards, and enhance emergency planning

# Overview of PNERP Public Consultation and Results

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- PNERP consultation documents were posted to the Regulatory and Environmental Registries from May 15, 2017 to July 28, 2017
- A total of 1568 submissions were received during the consultation period (May 15 – July 28, 2017)
  - 9 municipal and federal government stakeholders
  - 33 organizations
  - 1526 individuals (440 unique comments; 1086 submissions from two separate letter-writing campaigns)
- The PNERP Advisory Group was appointed by the Minister to review all comments and provide recommendations on the incorporation of public feedback in the updated Master Plan
- The PNERP Advisory Group met in Toronto during the week of August 21 – 25 to conduct in-person consultations and deliberations

# Overview of PNERP Advisory Group Report

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- The report contains 15 recommendations, the general themes of which are:
  - Providing more robust justification/clarification of the rationale, principles and assumptions used to create or modify emergency plans
  - Conducting more detailed and definitive technical assessments on which to base future iterations of the PNERP
  - Implementing more formal procedures governing the regular review of the PNERP, including guiding principles for transparency, and public and stakeholder engagement
  - Clearly communicating linkages between the PNERP and other emergency preparedness plans the province has in place (including those that are not under the purview of MCSCS)



# Overview of Disposition of PNERP Advisory Group Report Recommendations

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- Other examples of the result of the Advisory Group report:
  - The Advisory Group found that the assessments used in the Planning Basis Discussion Paper were highly sensitive to radiological source term selection and of limited scope; in some cases, analysis was confined to only a few weather patterns or used modelling methods that may not be appropriate for farther distances from the nuclear generating station
  - Despite these limitations, the Advisory Group found that the existing planning zone sizes are likely appropriate for a) single-unit unmitigated accidents and, b) multi-unit coincident events where some post-Fukushima improvements are credited in the source term calculation
  - They also found that planning zone sizes may require revision if the planning basis includes a multi-unit failure event where none of the post-Fukushima improvements or mitigating actions are credited in the source term calculation

# PNERP Technical Study

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- To assess the potential impacts of weather and topographical features on dose projection modelling to strengthen the Planning Basis
- Will identify any requirement to expand protective measures, planning zone distances and preparedness measures (e.g., KI pre-distribution)
- The Technical Study will be completed by the end of 2018 and OFMEM will at that time propose any options for revisions to the PNERP or Implementing Plans to the Minister

# 2017 PNERP Master Plan Updates

# Commitment to Future Public Consultations

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- OFMEM revised the PNERP Master Plan to include new Administration requirements in Section 1.3
  - 1.3.3 sets out New 5 year plan review cycle
  - 1.3.4 states the purpose of the PNERP review process is to uphold the Province's commitment to transparency and accountability
  - 1.3.5 requires the PNERP review process to include consultations with stakeholders and the public
- Any review of PNERP protective action strategies or modifications to hazard descriptions must involve consultation with Designated Municipalities and impacted Municipalities as they are among the stakeholders referenced in clause 1.3.5

# 2017 PNERP Master Plan Highlights

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- Alignment throughout with Health Canada, CSA-N1600-16 and international standards (IAEA GSR-7)
- Updated descriptions of planning basis accident scenarios, including severe accidents (Chapter 2)
- New Generic Criteria and Operational Intervention Levels to support protective action decision-making (Section 2.2.4)
- New Contingency Planning Zone 10-20 km from reactor facility (Section 2.2.5)
- New concept of operations section describing key emergency response activities for various accident scenarios (Section 3.3)
- Improved ease of use and terminology

# 2017 PNERP Master Plan Highlights

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- New Program Management requirements (Section 3.2.1)
- New requirement to define and document training requirements (Section 3.2.8)
- New requirement to develop and document exercise program requirements (Section 3.2.9)
- New detailed descriptions of emergency phases (Section 5.9) and the transition to recovery phase (Section 6.3.4)
- New section on Management of Radioactive waste in line with national and international guidance (Section 7.14)
- New annex with detailed rationale behind the planning basis including planning zone sizes. (Annex L)

# New Emergency Planning Zones

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- *Automatic Action Zone*: The zone immediately surrounding installation reactor facility in which an increased level of planning and preparedness is undertaken and priority protective actions would be implemented, if necessary. (3km)
- *Detailed Planning Zone*: The zone around installation reactor facility within which detailed planning and preparedness shall be carried out for measures against exposure to a radioactive plume. (10km)
- *Contingency Planning Zone*: The zone around a reactor facility, beyond the Detailed Planning Zone, where contingency planning and arrangements are made in advance, so that during a nuclear emergency, protective actions can be extended beyond the Detailed Planning Zone as required to reduce potential for exposure. (20km)
- *Ingestion Planning Zone*: A larger zone within which it is necessary to plan and prepare measures to prevent ingestion of radioactive material. (50km)

# New Contingency Planning Zone (CPZ)

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- The CPZ is intended to be used as necessary in the event of very low probability, severe accident situations where the area affected could extend beyond the Detailed Planning Zone
- The CPZ does not require the same level or type of detailed arrangements as the Automatic Action Zone or Detailed Planning Zone, in so far as there are no default or pre-planned protective measures associated with the CPZ
- Response activities within the CPZ may occur in the event of a limited and localized radiological release and based on the results received from environmental radiation monitoring activities
- Greater clarity has been set out in Annex C of the PNERP Implementing Plans for Pickering NGS and Bruce NGS



# New Contingency Planning Zone Requirements

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- Requires identification of existing *response* centres that fall within the CPZ and development of a list of possible alternates located outside the CPZ
- Requires Iodine Thyroid Blocking (ITB) requirements consistent with those stipulated for the *Ingestion Planning Zone*
- Requires public awareness and education requirements consistent with *Ingestion Planning Zone* requirements
- **No** requirement for designation of additional emergency *response* centres (e.g., EOCs, EIC, Reception and Evacuation Centres, personal monitoring and decontamination facilities, etc.) beyond those designated for *Detailed Planning Zone*
- **No** additional public alerting and communications requirements beyond those already established for the *Detailed Planning Zone*

# Funding for Additional Planning Costs

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- OFMEM identified funding as an item under Program Management.
  - Section 3.2.1 b) states that Senior Management of stakeholder organizations *should* ensure funding is in place to maintain their emergency preparedness program
- OFMEM revised Master Plan Section 3.2.4 b) to highlight program funding as an example of an inter-organizational issue to be resolved by the NEMCC
- As per Master Plan Annex I, Appendix 13, reactor facilities are required to “assist the Province and the Designated Municipalities in their planning and preparedness for a nuclear emergency.”
- The Province has not allocated any additional funds for Designated Municipalities.

# Protection of Emergency Workers

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- PNERP Master Plan, Annex H has been revised to reflect the adoption of Health Canada, *Canadian Guidelines for Protective Actions during a Nuclear Emergency* (Draft 2016).

# Transportation Management and Evacuation Planning

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- PNERP Master Plan Sections 4.9.1 Unified Transportation Coordination Centre (UTCC) and 7.5 Transportation Management provide focused requirements and responsibilities for evacuation planning and response (e.g., development of site-specific Unified Transportation Management Plans (UTMPs)).
- OFMEM is committed to work with municipal stakeholders in 2018/19 to identify additional host municipalities for developing evacuee housing strategies for incorporation into the next PNERP revision.
- Additional significant progress is now being made. More information in the 'Next Steps'.

# Coordination of Emergency Information and Public Direction

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- Public direction shall be provided through the co-ordinated release of emergency bulletins issued from the PEOC and broadcast through the media and all other mechanisms normally available to provincial authorities.”
- All roles and responsibilities sections (Annex I) for each ministry or agency were revised to include all Ministries shall:
  - “Coordinate the release and content of emergency information for public release with the Provincial Emergency Information Section.”
- A *Joint Information Centre* may be established by the Provincial Chief Information Officer to support media briefings to ensure the public are provided with timely and accurate information on the emergency. The JIC location has not yet been defined

# Potassium Iodide (KI) Pills

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- The new PNERP uses Health Canada and IAEA 50 mSv intervention level and CSA N288.2-14 to support its planning basis
- Maintained pre-distribution within the 10 km Detailed Planning Zone and added availability for anyone who wants it out to 50 km
- The current processes also meets CNSC REGDOC 2.10.1

# Protection and Care of Animals

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- The PNERP has been updated to include the provision of the protection and care of animals (Section 7.13):
  - Is pursuant to Section 7.0.2. (4) of the *EMCPA*, provincial evacuation orders which can include animals under a declared provincial emergency.
  - Is broadly worded to provide for those nuclear communities which are more agricultural in nature
  - Highlights the other stakeholders that can be consulted for assistance (e.g., Ministry of Food and Rural Affairs (OMAFRA))
  - During an emergency the PEOC will provide assistance

# Training and Exercises

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- There is a new requirement for municipalities to document their Emergency Response Organization training plan and exercise program introduced in PNERP Sections 3.2.8 and 3.2.9 to align with CSA N1600 and international standards. The goal is to ensure appropriate training of municipal staff to develop and maintain competency
- Additional requirements for Designated Municipalities in Annex I include:
  - Ensure that all municipal personnel assigned any functions under emergency plans for nuclear emergencies are suitably trained for their tasks
  - Implement and participate in nuclear emergency training and exercises
  - Municipal staff working in the EOC should have an overall knowledge of their emergency plans and PNERP



# Protective Actions

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- Protective actions are measures taken to prevent or reduce both the exposure and ingestion of ionizing radiation to the public and first responders
- Protective actions are decided on and directed by the PEOC Commander for all areas and zones where the doses are expected to meet the protective action levels for sheltering, evacuation, or ingestion controls
- The Provincial Chief Medical Officer of Health (CMOH) makes the decision regarding KI ingestion
- The 2017 PNERP Master Plan introduces 3 phases: early, intermediate and recovery

# Next Steps

# Next Steps – Evacuation Planning

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- In 2018-2019, the Ministry of Transportation (MTO) is updating all traffic control plans and revising them into a Unified Transportation Management Plan which will incorporate all modes of transportation
- Includes consultation with the Nuclear Emergency Management Coordinating Committee (NEMCC) Sub-Committee on Transportation
- In the interim- existing Joint Traffic Control Plans will be utilized

# Next Steps - Recovery Phase Planning

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- A new Provincial Emergency Recovery Plan is planned for development with NEMCC participation and alignment with a new Health Canada and CNSC Framework Document on Recovery.
- The 2017 PNERP Master Plan states “Recovery actions may be described in a separate plan”

# Next Steps – Environmental Radiation and Assurance Monitoring Group (ERAMG)

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- Revision of the ERAMG Plan is in the approval process and will contain a concept of operations for PEOC-based roles and field teams
- The ERMAG Plan aligns with the 2017 PNERP, CSA N1600, and IAEA standards (GSR-7, GSR-2 etc)
- Planning is underway for a workshop and tabletop exercise for 2018 that will test and validate the new concept of operations

# Next Steps- Supporting Plans

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- Supporting plans to the PNERP that are ministry authored, such as the *Radiation Health Response Plan* and *Unified Transportation Management Plans*, are currently being updated to align with the 2017 PNERP.
- Municipal plans will be updated in accordance with the Implementing Plans (IP) once published. Although there is no defined deadline for this, the goal is to have an updated plan one year from IP published date.
- In the interim- existing supporting plans will be utilized and where there is conflict with the 2017 PNERP, the latter will take precedent as much as possible.

# Other Related Initiatives

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- OFMEM is conducting PNERP information sessions for municipal stakeholders
  - Sessions have been held or scheduled in all designated municipalities
- Canada is hosting an Emergency Preparedness Review (EPREV)
  - EPREV is a peer review program of the International Atomic Energy Agency (IAEA).
  - This public review will assess nuclear emergency management in Canada compared to international standards and best practices. The focus will be nuclear generating stations in Ontario and New Brunswick.
- Nuclear Drills and Exercises are ongoing
  - The next full-scale exercise is scheduled for October 2019 (Bruce Power)
- Ongoing updates to the PNERP Implementing Plans.
- Ongoing review and alignment with the 2017 PNERP to all PEOC nuclear procedures, including emergency bulletins