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Lunch, Learn, & Dance  
Wellness Webinars

April 1, 2021

# **Regulatory Bodies and International Agencies**

Followed by Araguacu Latin Dance Company

**Good Science in Plain Language®**



- Audio and video
  - Will be from the presenters only
  - Use computer or telephone (call in)
  - Computer seems to give the best sound quality
- Use the “Chat” feature to enter comments
- Use the “Questions” feature to ask questions
- Posted on webinar page
  - Video, Q&A answers, copy of the slides
- Follow up email will be sent
  - Topics covered, time of attendance
- It may be possible to change your Zoom view if the controls are hiding the closed captioning.



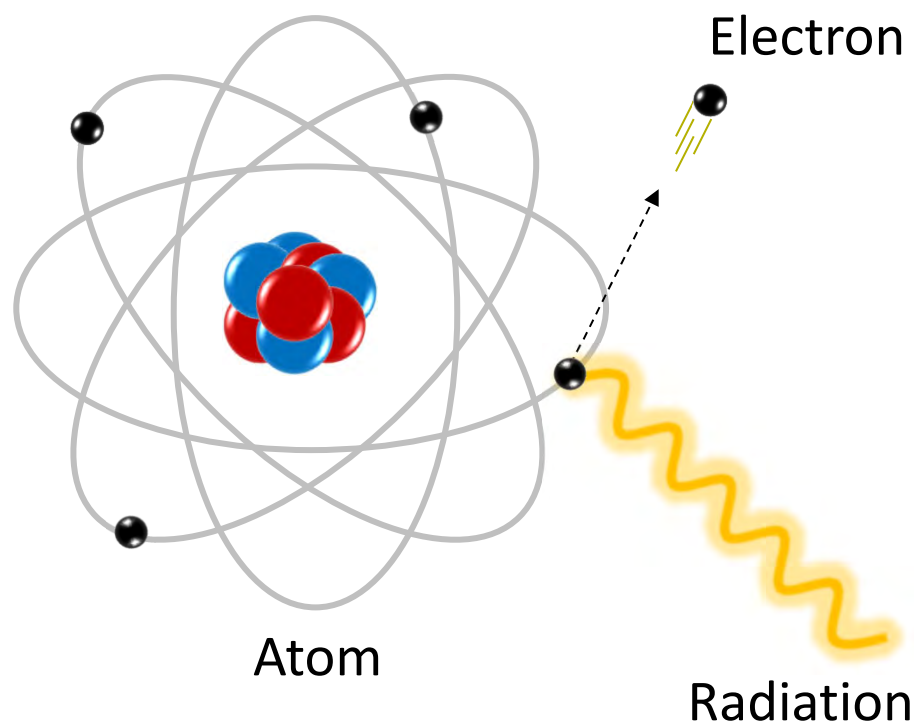
- Regulatory Bodies in Canada
  - Federal jurisdiction
  - Provincial jurisdiction
  - Federal Provincial Territorial Radiation Protection Committee
- CRPA
- RSIC's history and role
- International Agencies
  - UN-related
  - Ionizing Radiation Protection
  - Occupational Groups
  - Nuclear Energy
  - Standards and Units
  - IACRS
  - ICNIRP
- Health Physics Society





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# Regulatory Overview: Canada







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## Federal Legislation

- All aspects of nuclear energy
  - Nuclear Safety and Control Act
  - Nuclear Energy Act
  - Nuclear Fuel Waste Act
  - Nuclear Liability and Compensation Act
- Environmental Protection Act
- Transportation of Dangerous Goods Act
- Radiation Emitting Devices Act





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# Provincial Responsibilities



Alberta



British Columbia



Manitoba



New Brunswick



Newfoundland & Labrador



Northwest Territories



Nova Scotia



Nunavut



Ontario



Prince Edward Island



Quebec



Saskatchewan



Yukon

- Low energy X-ray equipment
- Low energy particle accelerators
- Non-ionizing radiation
  - Laser
  - UV
  - Ultrasound
  - Noise
- Naturally occurring radioactive material (NORM)
  - Except transport, import, export

## CNSC Mandate

### Regulate use of

- Nuclear energy
- Nuclear materials
- Prescribed equipment
- Prescribed information

### To Protect

- Health
- Safety
- Security
- Environment

### To Implement

- International commitments
- Peaceful use
- Nuclear energy

### To Disseminate

- Scientific, technical, and regulatory information
- To public

- Independent tribunal
- Reports through Minister of Natural Resources
  - Reviewable by Federal Court
- 7 appointed members
  - 800 employees
- Transparency



- Federal Crown corporation
- Established 1952
- Contract with Canadian Nuclear Laboratories

## Current Mandate

Enable nuclear  
science and  
technology

Protect the  
environment





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**Health Canada**

- Safety Codes
- Technical Guidelines
- Radon
- Technical Reports

**TAKE ACTION ON RADON**

*Radon is an invisible, radioactive gas that comes from the ground*

Radon is the **2<sup>nd</sup> LEADING CAUSE** of LUNG CANCER

**3000+ PEOPLE/YEAR** die from radon-induced LUNG CANCER

Radon is in ALL buildings

The only way to know how much radon is in your home is to TEST

Radon is easy to TEST and easy to REDUCE

**HOW TO REDUCE RADON IN YOUR HOME**

**HIRING** a certified professional LOWERS RADON BY UP TO **90%**

**INCREASING** home ventilation LOWERS RADON BY **25-50%**

**SEALING** cracks LOWERS RADON BY **13%**

Recent research found that ONLY **29% OF CANADIANS** with high RADON in their home took action to REDUCE it

**TEST and REDUCE RADON** to protect against lung cancer

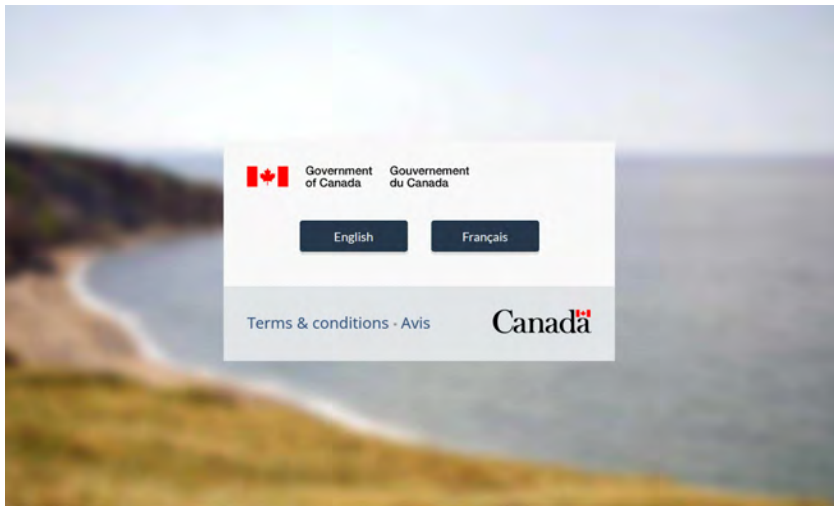
[www.takeactiononradon.ca](http://www.takeactiononradon.ca)

Canada Health Canada Santé Canada



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## Other Federal Government



- Transport Canada
- Department of National Defence
- Global Affairs Canada
- Innovation, Science and Economic Development Canada
- Environment Canada
- Employment and Social Development Canada

# Regulation

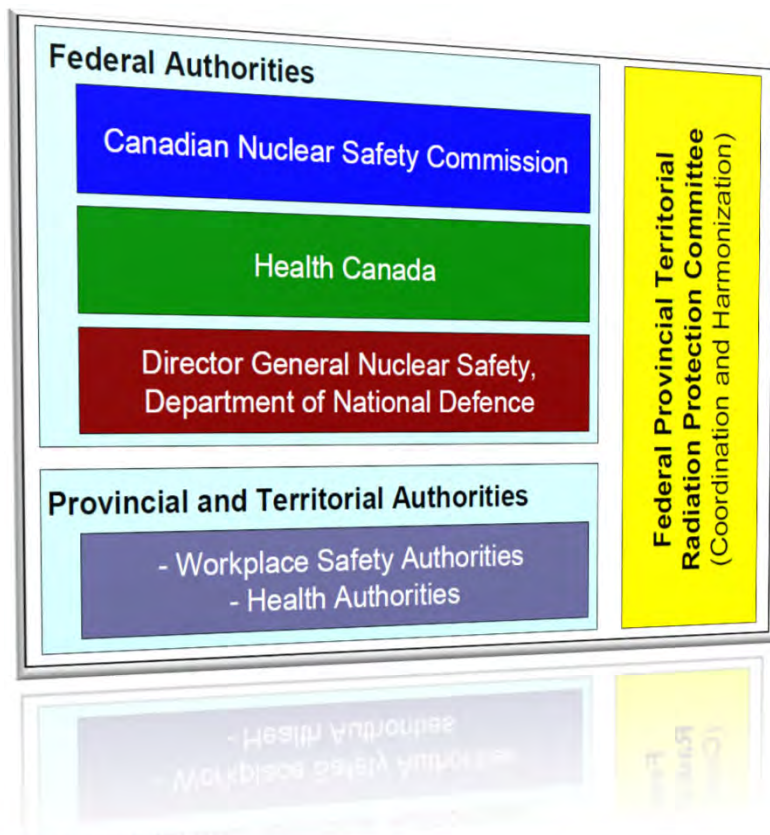
Good Science in Plain Language\*

Province or Territory	Acts and Regulations Addressing Radiation Safety
Alberta	Radiation Protection Act , Radiation Protection Regulations
British Columbia	Workers Compensation Act, Occupational Health and Safety Regulation
Manitoba	The Radiation Protection Act and Regulations
New Brunswick	Radiation listed as a health hazard in general terms in Public Health Act. No specific act or regulations.
Newfoundland and Labrador	Radiation Health and Safety Act and Regulations
Northwest Territories	Safety Act, Occupational Health & Safety regulations, Part 23
Nova Scotia	Medical Imaging and Radiation Therapy Professionals Act mentions radiation safety, but no regulations regarding specifics to date
Nunavut	Safety Act, Occupational Health & Safety regulations, Part 23
Ontario	Occupation Health and Safety Act, Regulation 861 and the Healing Arts Radiation Protection Act, Regulation 543
Prince Edward Island	Occupational Health and Safety Act General Regulations for non-ionizing radiation; otherwise, no regulations
Quebec	Occupational Health and Safety Act and Regulations has basic expectations for dosimetry and protection as a contaminant
Saskatchewan	The Saskatchewan Employment Act Part V, The Radiation Health and Safety Regulations, Occupational Health and Safety Regulations, Health Hazard Regulations
Yukon	Yukon Occupational Health and Safety Act, Radiation Protection Regulations



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# Federal Provincial Territorial Radiation Protection Committee



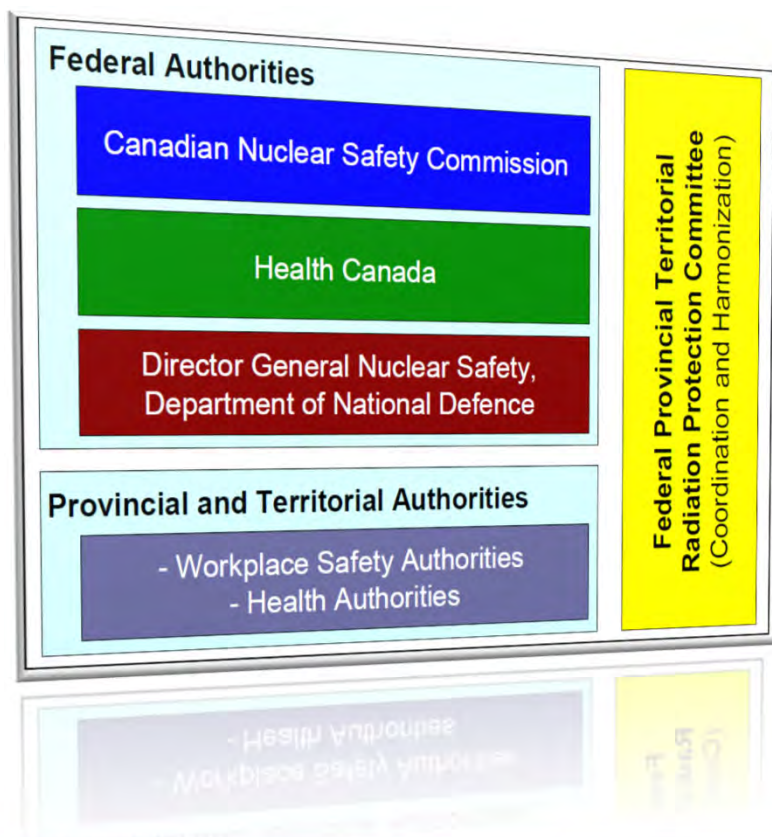
- Formed in 1993
- Independent
- Reports through member departments
- Primary governmental forum
  - Develop, promote, coordinate, and harmonize standards and practices
  - Recognize distinct jurisdictional responsibilities





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# Federal Provincial Territorial Radiation Protection Committee

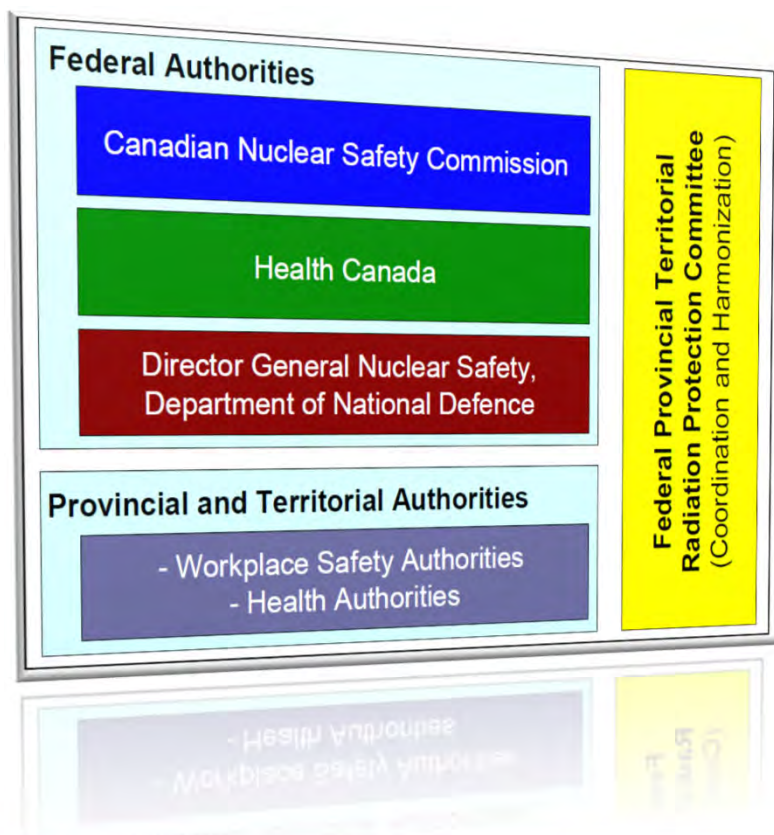


- One delegate from
  - CNSC
  - Department of National Defence
  - Each province and territory
    - Except Ontario
- Two delegates from
  - Health Canada
  - Province of Ontario



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# Federal Provincial Territorial Radiation Protection Committee



- Diagnostic radiology
- Dose limits and workers
- Dosimetry service and records
- Administration, standards, guidelines
- NORM
- Non-ionizing
- Nuclear medicine and radiotherapy
- Nuclear emergency preparedness
- Radiation emitting devices
- Radiation safety and control
- Resources



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# Canadian Radiation Protection Association

## Canadian Radiation Protection Association Association canadienne de radioprotection



**WELCOME**

**BIENVENUE**







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## Our History: Elliot Lake, Ontario

**1953**

Uranium discovered.

**1955**

Elliot Lake settlement established.

**1955 -  
1990**

Elliot Lake produces most of the world's uranium.

**1974**

Elliot Lake miners go on strike over health and safety conditions and high incidence of lung cancer and silicosis.

**1974**

Government appoints a Royal Commission to investigate health and safety in mines (Chaired by Dr. James Ham).



Image by Selflearner1 via Wikimedia Commons





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## Our History: Elliot Lake, Ontario

- Radiation exposure of Elliot Lake miners
  - 221 compensated lung cancer deaths\*
  - \$85M WSIB compensation cost\*
- The Institute was founded in 1980 in response to the Elliot Lake disaster

\*WSIB information provided c. 2002

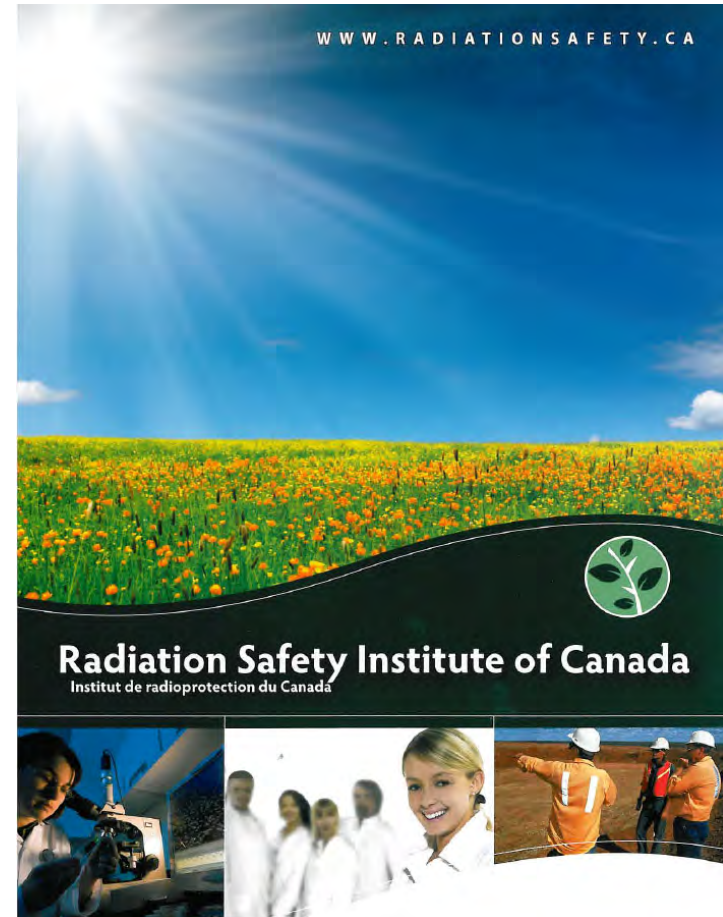




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## Who We Are

- Independent
- Not-for-profit
- Sole concern is **radiation safety**
- “Good Science in Plain Language”®





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# United Nations

United Nations Scientific Committee  
on the Effects of Atomic Radiation

Home

- Home
- About Us
- General Assembly
- Publications
- Frequently asked questions
- Fukushima
- Chernobyl
- Media centre
- Members area
- Links

Search

60 years of service

UN Scientific Committee reports to General Assembly.

Assesses global levels and effects of ionizing radiation.

Provides scientific basis for radiation protection.

SUSTAINABLE DEVELOPMENT GOALS





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**IAEA**

## **IAEA - International Atomic Energy Agency** ✓



## **IAEA - International Atomic Energy Agency** ✓

@iaeaorg

IAEA is the 🌐's centre for cooperation in the #nuclear field, promoting the safe, secure & peaceful use of nuclear technology.

📍 Vienna, Austria 🔗 [iaea.org](http://iaea.org)





## IARC MONOGRAPHS ON THE IDENTIFICATION OF CARCINOGENIC HAZARDS TO HUMANS



### Agents Classified by the IARC Monographs, Volumes 1–129

<b>Group 1</b>	Carcinogenic to humans	121 agents
<b>Group 2A</b>	Probably carcinogenic to humans	89 agents
<b>Group 2B</b>	Possibly carcinogenic to humans	318 agents
<b>Group 3</b>	Not classifiable as to its carcinogenicity to humans	499 agents

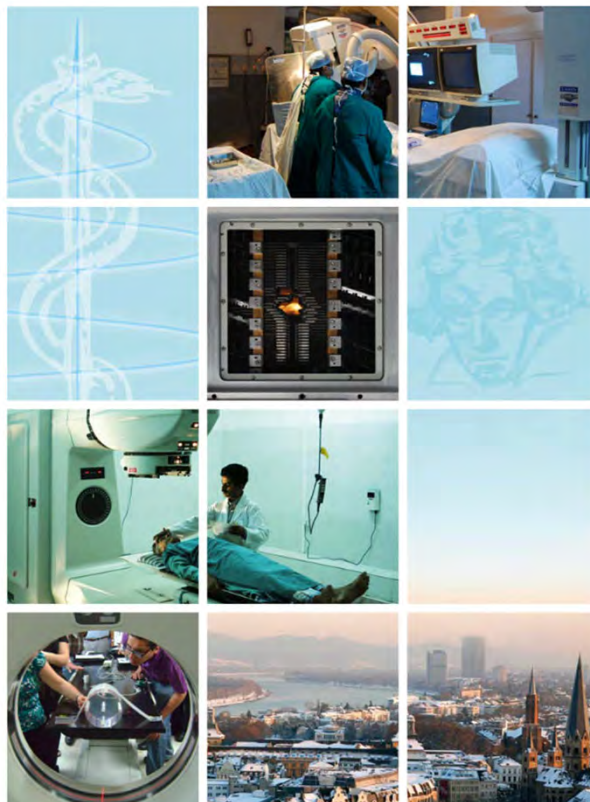
For definitions of these groups, please see the [Preamble](#).



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# BONN Call to Action



## BONN CALL FOR ACTION

10 Actions to Improve Radiation Protection  
in Medicine in the Next Decade



**IAEA**



**World Health  
Organization**

**PAHO**



**Pan American  
Health  
Organization**



**World Health  
Organization**  
REGIONAL OFFICE FOR THE  
Americas



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# Safe Imaging Organizations



**AFROSAFE**<sup>RAD</sup>  
Championing Radiation Safety



**Arab Safe**  
Promoting Radiation Safety



**ASIASAFE**



Canada  
Safe  
Imaging | Imagerie  
Sécuritaire  
Canada



ESR  
**EUROSAFE**  
IMAGING

image  
gently®



**IMAGE WISELY**®  
Radiation Safety in  
Adult Medical Imaging

**JRS**

JAPAN RADIOLOGICAL SOCIETY



**LATIN  
SAFE**





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# UN Associated Groups

- Food and Agriculture Organization of the United Nations (FAO)
- International Labour Organization (ILO)
- International Telecommunications Union (ITU)

The screenshot shows the ILO website with a blue header. The main navigation bar includes links for Home, About the ILO, Newsroom, Meetings and events, Publications, Research, Labour standards, Statistics and databases, and Contact Us. A search bar is located on the right. The page content is titled 'Occupational Safety and Health' and 'Radiation Protection'. It includes a sidebar with links to various areas of work, a main text area describing radiation protection, and a right sidebar with 'Browse resources' and 'Key resources' sections.

**International Labour Organization**  
Advancing social justice, promoting decent work  
ILO is a specialized agency of the United Nations

français | español

Countries Topics Sectors Search ilo.org

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**Occupational Safety and Health**

ILO home > About the ILO > How the ILO works > Departments and offices > Occupational Safety and Health > Areas of work > **Radiation Protection**

News and statements >

Areas of work > {-}

- National OSH Systems and Programmes >
- OSH Management Systems >
- Information and Knowledge Sharing >
- Occupational Health >
- Chemical Safety and the Environment >
- Hazardous Work >
- Radiation Protection**
- Workplace health promotion and well-being >
- Occupational Safety and Health Inspection >

**Radiation Protection**

Radiation describes any process in which energy emitted by one body travels through a medium or through space, ultimately to be absorbed by another body. Radiation can be classified according to the effects it produces on matter, into ionizing and non-ionizing radiations. Ionizing radiation includes cosmic rays, X rays and the radiation from radioactive materials. Non-ionizing radiation includes radiant heat, radio waves, microwaves, terahertz radiation, infrared light, visible light, and ultraviolet light.

The purpose of radiation protection is to provide an appropriate level of protection for humans without unduly limiting the beneficial actions giving rise to radiation exposure. Radiation protection is to prevent the occurrence of harmful deterministic effects and to reduce the probability of occurrence of stochastic effects (e.g. cancer and hereditary effects).

Radiation protection is part of the fields of the ILO's action on the protection of workers against sickness, disease and injury arising out of his employment as mandated by the Organization's constitution. The ILO's programme of

**Browse resources**

by type:

- Presentation (1) >
- Normative instrument (1) >

**Key resources**

Main ILO instruments and publications on radiation protection >

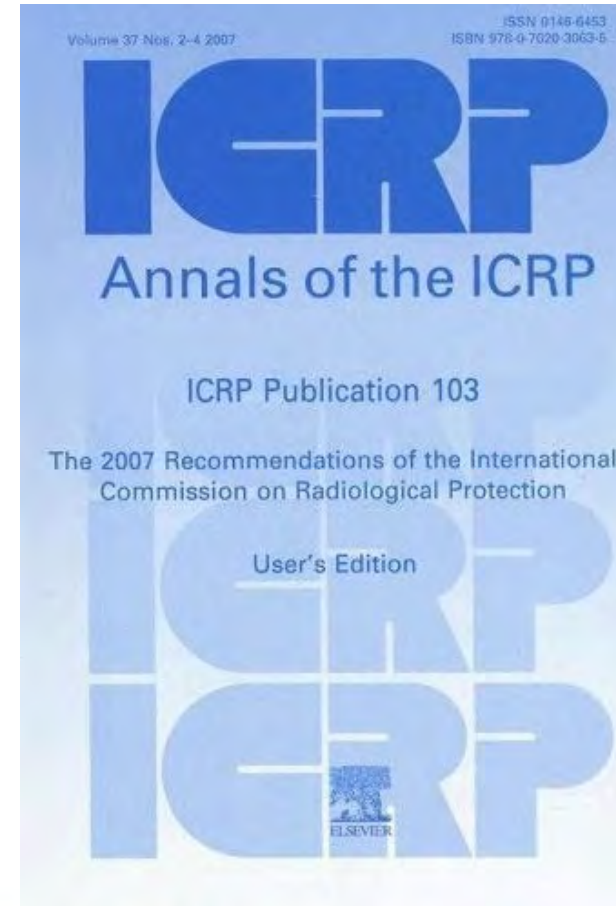


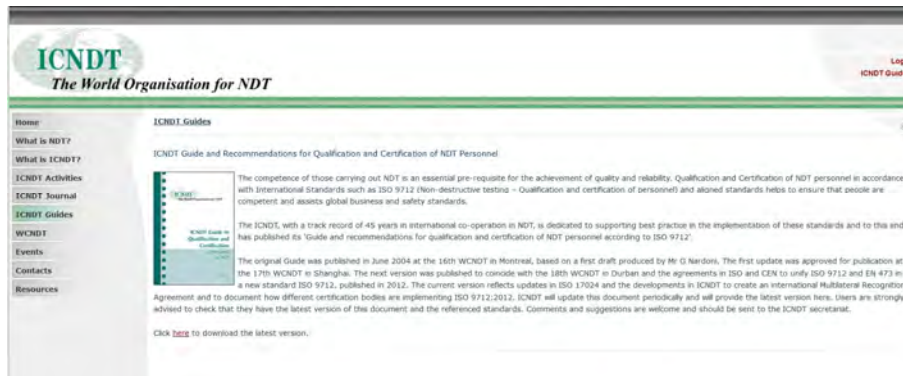


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# Radiation Protection Organizations

- International Commission on Radiological Protection (ICRP)
- International Radiation Protection Association (IRPA)





- International Committee for Non-Destructive Testing (ICNDT)
- International Organization for Medical Physics (IOMP)
- International Society of Radiographers & Radiological Technologists (ISRRT)
- World Nuclear Transport Institute (WNTI)
- Women in Nuclear (WiN)
- World Association of Nuclear Operators (WANO)



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# Nuclear Energy

- OECD Nuclear Energy Agency (NEA)
- World Nuclear Association (WNA)





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# Units and Standards



*Providing guidance for over 90 years to the fields of  
radiation science, radiation medicine and radiation  
protection.*

[HOME](#) [ABOUT ICRU](#) [ORGANIZATION](#) [ACTIVITIES](#) [REPORTS](#) [QUICK LINKS](#) [CONTACT US](#)



[21st Gray Medal Recipients Selected →](#)



[What We Do @ ICRU →](#)

[Latest ICRU Reports →](#)

- International Commission on Radiation Units (ICRU)
- International Electrotechnical Commission (IEC)
- International Organization for Standardization (ISO)





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**IACRS**



**IACRS** INTER-AGENCY COMMITTEE  
ON RADIATION SAFETY

- **Members:**

- European Commission (EC)
- FAO
- IAEA
- ILO
- NEA
- Pan American Health Organization (PAHO)
- UNSCEAR
- WHO

- **Observers**

- ICRU
- ICRP
- IEC
- IRPA
- ISO



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# Non-Ionizing



[ABOUT ICNIRP](#) [ACTIVITIES](#) [CONTACT](#)

[FREQUENCIES](#)

[APPLICATIONS](#)

[PUBLICATIONS](#)

[WORKSHOPS](#)

[CART](#)

## ICNIRP

As an independent non-profit organization, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) provides scientific advice and guidance on the health and environmental effects of non-ionizing radiation (NIR) to protect people and the environment from detrimental NIR exposure.

NIR refers to electromagnetic radiation such as ultraviolet, light, infrared, and radiowaves, and mechanical waves such as infra- and ultrasound. In daily life, common sources of NIR include the sun, household electrical appliances, mobile phones, Wi-Fi, and microwave ovens.

[> READ MORE](#)

Windows Ink Workspace





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# Health Physics Society

THE RADIATION SAFETY JOURNAL

## HEALTH PHYSICS

Articles ▾ Search

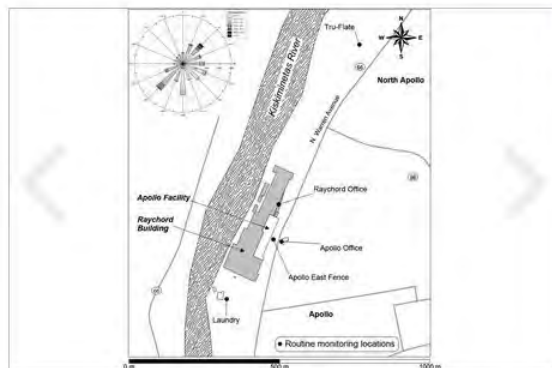


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History ↺

### Analysis of Environmental Data to Support Quantification of Historical Releases from a Former Uranium Processing Facility in...



Analysis of Environmental Data to Support  
Quantification of Historical Releases from a Former  
Uranium Processing Facility in...



Raymond H. Johnson, Jr. (1939–2020)



Melton Chew (1938–2020)

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**NCI Cancer Risk Projection Study for the  
Trinity Nuclear Test**





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# Radiation Safety Institute of Canada

- The Radiation Safety Institute of Canada is an independent, not-for-profit organization specializing in radiation safety.
- For further information on all types of radiation contact us at:

1-800-263-5803

[info@radiationsafety.ca](mailto:info@radiationsafety.ca)

[www.radiationsafety.ca](http://www.radiationsafety.ca)



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