

Principles of Nuclear Safety

Module 12

EMERGENCY PROCEDURES

Slide 1

Types of Emergencies

- First Aid
- Rescue
- Fire/explosion
- Environmental spill
- Breach of Security
- Radiation Emergency
- Common mode incident (earthquake, flood, plane crash, tornado, act of terrorism...)

Slide 2

The Need for Emergency Procedures

- **A condition of the PROL**
 - to have and to drill radiation emergency procedures
 - to obtain AECB approval for any changes
- **Must conform to Provincial Nuclear Emergency Plan**
- **To be followed in event of serious process failure**
 - to minimize risk to workers
 - to regain control of the incident unit
 - to mitigate effect on Public health & property

Slide 3

Types of Emergency Procedures for Nuclear Accidents

- **Abnormal Incidents Manual**
 - followed by ANO to regain control, and stabilize incident unit
- **Radiation emergency procedures**
 - followed by whole site
 - to protect workers responding to incident
 - to mitigate and accommodate impact on public health and property, and on environment
 - to provide information to Federal, Provincial and Municipal response organizations and regulatory bodies, and to the general public via the media

Slide 4

Emergency Response Role of Station

- Declare radiation emergency
- Regain control; place units in safe state
- Notify civil authorities
- Recommend protective actions to Municipality
- On-site and off-site radiation surveys
- Project public dose
- Hourly reports to Provincial Operations Center
- Provide radiation protection to public as req'd

Slide 5

Emergency Response Role of Corporate Office

- Interface with governments
- Media interface at Joint Information Center
- Technical & Resource support to Station

Slide 6

Emergency Response Role of Provincial Government

■ per Emergency Plans Act, 1983

■ Phase 1 Activities:

- declare nuclear emergency, assume sweeping powers
- mobilize emergency response organization
 - Representatives from various Provincial Ministries, Ontario Hydro, and the academic community
- evaluate public safety threat based on dose projection
- issue protective action directives to Municipalities
- issue early venting directives to Ontario Hydro
- manage Joint Information Center--media relations

Slide 7

Phase 2 Provincial Response

- collect and analyze environmental samples
- revoke protective actions as conditions improve
- repatriation of evacuees
- long-term restoration & follow-up

Slide 8

Emergency Response Role of Municipalities

- **Public alerting**
- **Execute protective actions**
 - banning food & water consumption
 - sheltering
 - evacuation
 - distribution of KI pills (thyroid blocking)
- **Traffic control**
- **Operation of Evacuee Centers**
 - provision of food, shelter, essential services

Slide 9

Emergency Response Role of Federal Government

- **AECB directly involved in recovery efforts at
Station**
- **Interfaces via Health & Welfare Department with**
 - other Provinces, should release cross Provincial boundary
 - other nations, should release cross international boundaries
- **Administer damage claims per Nuclear Liability
Act**

Slide 10