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Lens of the Eye
Operational Considerations for Commercial Dosimetry Providers and Dose Registries

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October 31, 2018

YOUR HEALTH AND SAFETY... OUR PRIORITY.

National Dosimetry Services

Established in 1951
NDS is a Division within the Radiation Protection Bureau

Mandate
Provide accurate, reliable and timely dosimetry services to Canadian workers who may be exposed to ionizing radiation at their workplaces.

Client Base
- Business clients in various occupational sectors
  - 12700 groups / 96000 wearers / 608k dosimeters processed
- Emergency responders to radiological/nuclear events

Products
- OSL (WB, extremity)
- TLD (extremity, ring)
- EPDs and emergency response kits

Operate on a cost recovery basis

Operational Considerations

- **Research and Development**
  - Environmental scan
  - Determine technology and shielding required to estimate Hp(0.03)
    - New dosimeter type
    - New dosimeter design
    - Adapt existing dosimeter type
  - Type testing
  - Dose algorithm development and validation
  - Form factor of the dosimeter
  - Possible alternate methods?
    - Estimation based on WB or head & neck extremity dosimeter

Operational Considerations

- **Implementation**
  - Process development
    - Manufacturing
    - Data Acquisition/Analysis/Reporting
  - IT systems updates
    - New service type
    - Wearing schedule
    - Pricing
  - Training and qualification
- **Licencing**
  - S-106 (REGDOC 2.7.2 VII) revision to include reqt's for lens
  - Type testing and uncertainty
  - Independent test (will NRC be ready?)
  - Policies and procedures amended (QMS implications)
  - Time for CNSC review, licence amendment

Operational Considerations

- **Client Experience**
  - Existing client education and awareness activities
    - Communication products (both official languages)
      - Tell the what you are going to do
      - Tell them what you are doing
      - Tell them what you did
    - Active client contact
- **Marketing**

Challenges

- CNSC Requirements
  - Not yet defined
  - Difficult to lean forward
- Significant up front investment
  - R&D
  - Production materials acquisition
  - $$$
  - Resources
- Timelines

The National Dose Registry (NDR)

- **Centralised Database** containing the dose records of ~1 million Canadians monitored for occupational exposures to ionizing radiation
- **Operates within the Radiation Protection Bureau of Health Canada**
- **Main functions:**
  - Assist in regulatory control by notifying regulatory authorities of overexposures within their jurisdiction
  - Evaluate dose trends and statistics to answer requests from regulators and others
  - Provide dose histories to individual workers and organizations
  - Contribute to health research and to the scientific knowledge on risks from occupational exposure to ionizing radiation.
- Dosimetry service providers submit dose data to NDR as per regulatory requirement

NDR's regular operations

- **Receiving / processing dose records (batch files)**
  - Inform Dosimetry Service Providers of rejects
  - Process Dose Change Requests
- **Send High Exposure Notifications**
  - When any dose limit is reached
- **Provide Dose History Summary reports**
  - Regulatory Authorities
  - Employers
  - Individuals
- **Respond to Dose Information Access requests**
  - Statistics, trends, generally de-identified information
- **Provide information to individuals and answer questions**

Readiness of the NDR for Lens of the eye doses

- Each dose submitted to the NDR is identified with a dose type code
  - 0 = Gamma/Beta - Whole Body/Skin
  - 1 = Gamma/Beta – Head
  - 8 = Radon Progeny
  - Etc.

- Codes for lens of the eye already exist in the database:
  - V = Gamma/Beta - Left eye
  - W = Gamma/Beta - Right eye

✓ NDR is thus ready to receive lens of the eye doses

✓ Minor adjustments may be needed depending on CNSC's regulation
  - Example: Only one code used for both eyes

And… DONE!

Thank you / Merci