WG 1 - Near-surface disposal

First Plenary Meeting of HIDRA II
– TM-51533 –

15 January 2016

IAEA
International Atomic Energy Agency

Near Surface Disposal WG Members

- Radosveta Markova-Mihaylova – Bulgaria r.markova@bnra.bg
- Julie Mecke – Canada – julie.mecke@canada.ca
- Amélie de Hoyos – France – amelie.dehoyos@irsn.fr
- Tomofumi Shimizu – Japan – tomofumi.shimizu@jnfl.co.jp
- Grzegorz Kuciel – Poland – kuciel@zuop.pl
- Liubov Startseva – Russia – lstartseva@secnrs.ru
- Aleksei Tkachenko – Russia – radonalex @mail.ru
- Gordon Sibiya – SA – ntando@telkomsa.net
- Nataliia Rybalka – Ukraine – rybalko@hp.snrc.gov.ua
- Richard McLeod – UK – richard.mcleod@sepa.org.uk
- Chris Markley – USA - christopher.markley@nrc.gov

IAEA

Working Group Background & Rationale

- Test whether the methodology identified in the HIDRA report is applicable to a near-surface disposal facility throughout its lifecycle

IAEA

Working Group Objectives (Primary)

- Provide a forum for the exchange of information and best practices
- Provide information for near surface disposal on:
  - The Inadvertent Human Intrusion (IHI) scenarios considered
  - The main decisions and rationale for them
  - Feedback on the HIDRA scenario development methodology
  - Documented and discuss the different measures considered
  - Considerations related to IHI for decision-making in a SC throughout the facility's lifecycle
  - Considerations related to communication and knowledge management

IAEA

Working Group Objectives (Secondary)

- Provide recommendations to WASSC, if applicable
- Tentative: complete summary table of country examples of IHI (TBD)
  - Depends on availability and content of currently available country examples

IAEA

Proposed Scope of Work

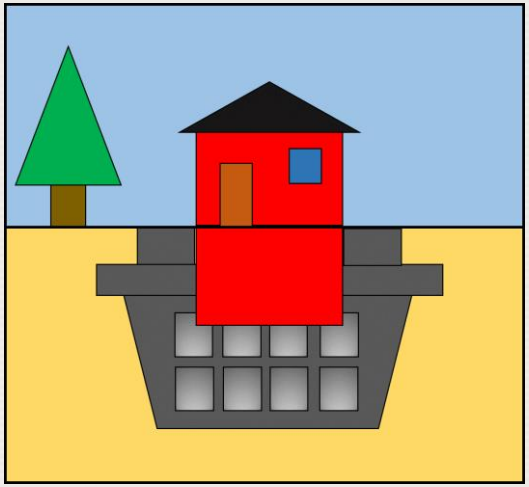
- Application of the HIDRA methodology to near surface disposal
  - Define the regulatory framework
  - Define system(s), intrusion scenario(s), impact(s)
    - Use inputs where available (e.g. PRISMA)
  - Consider: societal, scenarios, measures (iterations)
  - Consider the steps in the facility life cycle

Document the process!

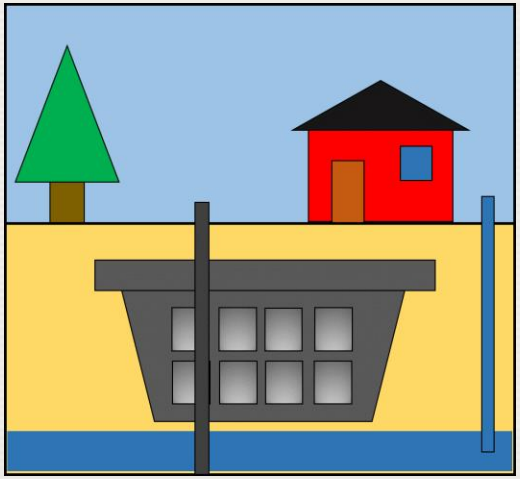
IAEA

Scenarios identified

- Case 1: excavation (residence) into an above-surface disposal facility
  - LLW defined in PRISMA
  - Site characteristics based on PRISMA



- Case 2: drilling into a below surface disposal facility
  - LLW defined in PRISMA, with WG-added longer-lived radionuclides
  - Site characteristics same as previous scenario



IAEA

Scenarios identified, cont.

- IAEA guides and PRISM project provide framework and tool for high-level information needs for scenario development

- HIDRA method provides framework for detailed information needs
  - Inputs from existing sources, where applicable (PRISMA, BIOMASS)
  - Some inputs were not available so they are arbitrarily defined (e.g. WG decided and created a prescriptive regulatory framework for case 1)

IAEA

Project Planning

- 1st plenary:
  - Identified rationale, objectives, scope and preliminary project plan
  - Identified and discussed IHI relevant SC arguments using the PRISM matrix
  - Developed Case 1 facility specific IHI scenario and selected associated potential measures from HIDRA report database → “IHI considerations” box
  - Started to discuss considerations about Case 2

Project Planning

- Before next plenary
  - Inputs to the group report:
    - Drafting introduction → Richard, Amélie
    - Drafting scenario figures and evolution figure → Richard
    - Description of case 1 scenario (residential) → Julie
    - Description of case 2 scenario (drilling) → Julie, Radosveta
  - Draft excel file for case 2 → Amélie
  - Draft measures for case 2 → Radosveta
  - Calculations for case 1? → Chris, Tomofumi, Liubov, Amélie for radon?

IAEA

Project Planning

- 2nd plenary:
  - Assessment of potential case 1 measures (optimization) and further iterations
  - Develop Case 2 facility specific IHI scenario and select potential measures. Use of a non prescriptive regulatory framework.
  - Develop the societal scenario (influence and communication aspects)
  - If possible, assessment of potential case 2 measures

IAEA

First Plenary WG1 Deliverables

- Input for terms of Reference
- Draft outline of inputs from the WG

- Hope to finalize the outline prior to the 2nd plenary?

IAEA

Roles and Responsibilities

- Proactively share information resources with the working group members (all)
- Emphasize role of implementers, regulators, etc. (all)
- Use IAEA's workspace to comment on project outline, work on other materials

IAEA