

Development of a Canadian database of parameter values for modelling doses to non human biota and accompanying recommendations

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INTRODUCTION

Objectives: (1) Develop a Canadian database of parameter values (for environmental media, species and radionuclides) for modeling doses to non-human biota and (2) Develop a national strategy for assessing doses to non-human biota, as well as associated risks.

Government priorities: (1) Providing S&T to support the understanding of the effects of radiation on the environment and (2) To help make future ERAs consistent in Canada, thus making the process easier for the licensees and the regulator.

Federal stakeholder: CNSC, Health Canada and Environment & Climate Change Canada.

PROJECT STATUS

- Tasks performed: Technical Meeting held via teleconference with CNSC and Health Canada, June 17, 2019.
- Collections of literature has begun based on: CNSC guidance, discussions with Canadian experts including FSNT's other project experts, and with CRL ERA performers.
- First collection of 21 full papers/reports; review started.
- Library's literature search provided 204 abstracts; paper selection started.
- Data extraction started.
- Tentative meeting is scheduled for 2019 Sep 20 with experts from CNSC.
- Collected Australian papers and data on parameter values for radionuclides associated with mining.
- Environmental Data Management System (EDMS) demo taken (Figure 2).
- Review of available literature and various environmental assessment documents - ongoing.
- Dissemination of unpublished data – ongoing.
- **Final Output:** A list of datasets with sufficient details.
- **Status:** slightly behind schedule.
- Establishing links with CNSC's experts, and getting their help in collecting Mining and NPP ERAs data in electronic form.
- Waiting for OPG ERA report.

RESULTS

- **Highlights:** Methodology for the whole project is almost finalized.
- US DOE Standard received and discussion started.
- ERICA tool V 1.3 received and discussion started.
- CRL ERA electronic data received and discussion started.
- Various meetings held. • Out of 21 full papers, 15 selected.
- Out of 204 abstracts, 153 were reviewed, 72 abstracts selected.
- Data and summary extracted from 2 papers.

- **Issues and Risks:** It is an open-ended project; amount of data available is currently unknown – this will be determined more definitively by this fiscal year end.
- Decisions around whether to keep the database in the text files or use SQL Server are to be made.

NEXT STEPS

- Output, year-2: sensitivity analyses using models. Write a section on calculating dose to non-human biota for future version of CSA N288.6.
- Output, year-3: quality assurance, removing duplications from data and linking to original sources, and putting final Database in the text files.
- Future follow-up output: database likely to be hosted in MS-SQL Server, and made available to contributors and users