Facilia

ADVANCED TRAINING COURSE ON PREDISPOSAL (SAFRAN) AND DISPOSAL (ECOLEGO) SOFTWARE TOOLS FOR LICENSING AND SAFETY/RISK ASSESSMENTS

Stockholm, Sweden

Workshop Venue: Facilia AB Headquarters, Stockholm, Sweden
Dates: 5 – 16 December 2016
Deadline for Registration: 5 October 2016
Organizing Institution: Facilia AB
Language: English

CONTACT
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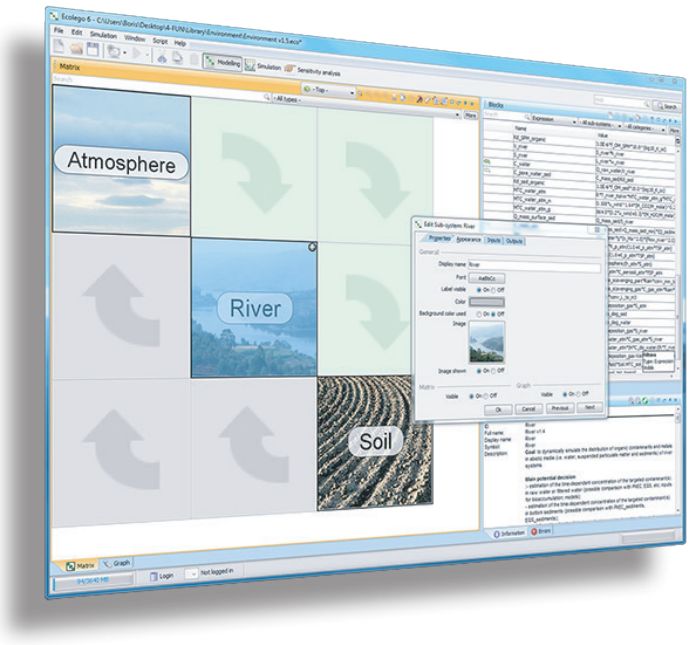
Purpose

The purpose of the workshop is to support international organizations in need of strengthening their existing capacities necessary for the development and review of licensing documentation, specifically focusing on safety and risk assessments. The workshop explores international standards of safety in predisposal radioactive waste management, radioactive waste disposal, as well as safety case development of the two aforementioned topics. IAEA safety assessment methodologies are discussed in detail and applied to use of the SAFRAN and Ecolego software tools. The workshop heavily utilizes exercises and case studies to explore the advanced topics and use of the two software tools and provide essential practice in constructing the participant's own safety assessment.



Scope & Nature

This 10-day workshop will involve presentations, interactive exercises, case studies, and exchange of experiences in the use and application of IAEA standards and best practices on licensing and authorization of waste management facilities and activities, with emphasis on the development and evaluation of the role, documentation, and uses of the safety case and safety assessment.

Background

Every country that uses nuclear technology involving radioactive materials, including mining and milling of radioactive ores generates some quantities of radioactive waste. Such waste needs to be managed through processing to be either stored or disposed, both of which need to be dealt with safely in all countries and the safety needs to be demonstrated as part of the licensing process. There is continuous need to develop and maintain technological capabilities and human resources to ensure compliance with international safety standards for existing or new predisposal waste management and radioactive waste disposal facilities and activities.

The IAEA safety standards give considerable emphasis to the development and review of safety cases both for predisposal and disposal of radioactive waste. The safety case, being the collection of arguments and evidence in support of the safety of a facility or activity, is fundamental to the demonstration of safety and to the licensing process. The safety assessment, an integral part of the safety case, requires specific methodologies and technical inputs which can be aided by use of safety assessment software tools such as the IAEA-developed SAFRAN tool and the Ecolego tool.

EXPERT BIOS

Mr. Broed has a MSc in Nuclear Physics, Stockholm University, Sweden. PhD in nuclear physics in the field of radioecological modeling. Expertise in computer aided modeling, 18 years experience in safety assessment of disposal facilities and development of safety assessment tools.

Mr. Johansson has a MSc in Astrophysics, Stockholm University, Sweden. Certified Java Instructor for Sun Microsystems. 19 years of experience in programming, graphical user interface layout and design. Training and course development in computer programming. He is the main developer of the Ecolego software and has large experience of multiple areas of its application.

Dr. Hofman is principal developer of the SAFRAN software. He has participated as an instructor in numerous SAFRAN training events. He has rich experience in development of software and databases in the fields of environmental modeling and radioactive waste management.

Mr. Visagie is a Professional Natural Scientist and accredited Radiation Protection Specialist with comprehensive knowledge of radiation protection, nuclear safety and licensing, nuclear decommissioning/remediation and radioactive waste management. He has more than 35 year experience in the operation and operational support of nuclear and radiation facilities covering all facility phases from design to decommissioning.

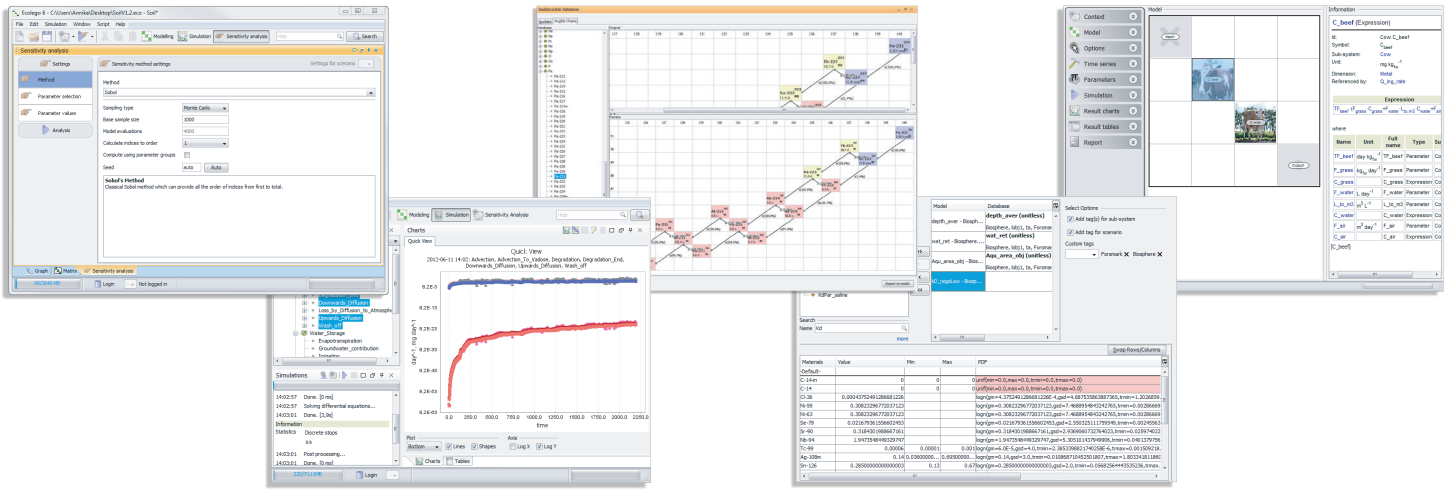
Expected Outputs:

The expected outputs from presentations, exercises, and independent work on case studies are to:

- Be informed of the latest international standards on predisposal, disposal, and safety case development;
- Explore the details of the IAEA methodologies that support conduct of safety and risk assessments;
- Discuss in detail the advanced topics of SAFRAN and Ecolego for mastery of the software tools;
- Utilizing exercises and case studies, develop capacity and confidence in independently developing the participant's own safety/risk assessments.

AT THE END OF THE TRAINING COURSES, THE PARTICIPANTS WILL:

- Be adequately informed about IAEA safety standards that are related to radioactive waste management and disposal;
- Understand the major decision steps associated with the licensing of radioactive waste management and disposal facilities/activities including development and approval of the associated safety case arguments;
- Contribute to continuously improving the safety of their national radioactive waste management programmes;
- Be able to share and to communicate their knowledge about the safety case concept;
- Be able to utilize the IAEA SAFRAN software tool and Ecolego software tool to contribute significantly to the development of the safety assessment;
- Be able to consider the interdependencies amongst the different steps of the radioactive waste management and disposal planning process; and
- Acquire sufficient knowledge to be able to contribute to the development of appropriate strategies and plans (including safety arguments) for national radioactive waste management needs.



WEEK ONE

MONDAY

09:00 - 09:45	Welcome remarks, introductions, workshop objectives, overview of agenda
09:45 - 10:30	IAEA safety requirements for predisposal management of radioactive waste
10:30 - 11:00	Coffee Break
11:00 - 12:30	International safety fundamentals, standards, and guidance on development and review of a safety case
12:30 - 14:00	Lunch Break
14:00 - 15:30	Predisposal safety assessment methodology
15:30 - 16:00	Coffee Break
16:00 - 16:30	Installation of SAFRAN
16:30 - 17:00	Exercise: Familiarization with SAFRAN

TUESDAY

09:00 - 10:30	Advanced topics in SAFRAN
10:30 - 11:00	Coffee Break
11:00 - 12:30	Continue advanced topics in SAFRAN
12:30 - 14:00	Lunch Break
14:00 - 15:30	Advanced exercise in SAFRAN
15:30 - 16:00	Coffee Break
16:00 - 17:00	Continue advanced exercise in SAFRAN

★ *19:00* **Evening social hosted by Facilia**

WEDNESDAY

09:00 - 10:30	Presentation of results and open forum discussion of advanced exercise in SAFRAN
10:30 - 11:00	Coffee Break
11:00 - 11:45	Presentation of case study
11:45 - 12:30	Tasks and objectives of case study
12:30 - 14:00	Lunch Break
14:00 - 15:30	Work on case study
15:30 - 16:00	Coffee Break
16:00 - 17:00	Work on case study

THURSDAY

09:00 - 10:30	Work on case study
10:30 - 11:00	Coffee Break
11:00 - 12:30	Work on case study
12:30 - 14:00	Lunch Break
14:00 - 15:30	Work on case study
15:30 - 16:00	Coffee Break
16:00 - 17:00	Work on case study

FRIDAY

09:00 - 10:30	Presentation of case study results and open forum discussion
10:30 - 11:00	Coffee Break
11:00 - 11:45	Presentation of case study results and open forum discussion
11:45 - 12:30	Discussion of next weeks objectives and programme
	Adjourn

WEEK TWO

MONDAY

09:00 - 09:45	Workshop objectives, overview of agenda
09:45 - 10:30	IAEA safety requirements for disposal of radioactive waste
10:30 - 11:00	Coffee Break
11:00 - 12:30	International safety fundamentals, standards, and guidance on development and review of a safety case for disposal facilities/activities highlighting differences with predisposal
12:30 - 14:00	Lunch Break
14:00 - 15:30	Disposal safety assessment methodology
15:30 - 16:00	Coffee Break
16:00 - 16:30	Installation of Ecolego
16:30 - 17:00	Exercise: Familiarization with Ecolego

TUESDAY

09:00 - 10:30	Advanced topics in Ecolego
10:30 - 11:00	Coffee Break
11:00 - 12:30	Continue advanced topics in Ecolego
12:30 - 14:00	Lunch Break
14:00 - 15:30	Advanced exercise in Ecolego
15:30 - 16:00	Coffee Break
16:00 - 17:00	Continue advanced exercise in Ecolego

WEDNESDAY

09:00 - 10:30	Presentation of results and open forum discussion of advanced exercise in Ecolego
10:30 - 11:00	Coffee Break
11:00 - 11:45	Presentation of case study
11:45 - 12:30	Tasks and objectives of case study
12:30 - 14:00	Lunch Break
14:00 - 15:30	Work on case study
15:30 - 16:00	Coffee Break
16:00 - 17:00	Work on case study

THURSDAY

09:00 - 10:30	Work on case study
10:30 - 11:00	Coffee Break
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12:30 - 14:00	Lunch Break
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15:30 - 16:00	Coffee Break
16:00 - 17:00	Work on case study

FRIDAY

09:00 - 10:30	Presentation of case study results and open forum discussion
10:30 - 11:00	Coffee Break
11:00 - 11:45	Presentation of case study results and open forum discussion
11:45 - 12:30	Workshop summary and closure
	Adjourn

Participation & Qualifications

The training workshop is open for participation by operators, regulators and TSOs from all countries throughout the world.

The participants should be specialists working for operational bodies, regulatory authorities, and technical support organizations who are involved in the organization and implementation of the development and review of the safety case and safety assessment for the safe predisposal management of radioactive waste, establishing conditions of authorization, and compliance assurance programmes. The participants should have previously knowledge, understanding, and use of SAFRAN and/or Ecolego.

Due to the nature of the training workshop, the number of participants will be limited to 16.

NOMINATION PROCEDURE

Nominations for this activity should be submitted to
Eric K. Howell, through e-mail (eric.howell@facilia.se)
not later than 5 October 2016. The nomination should include:

- The participant(s) name
- Full contact details including address, telephone number, and email address
- Employment position and duties
- Anticipated payment method

The nomination will not be finalized until payment of the registration fee of 2000 euros is received. The registration fee includes training during the two week period, provision of printed training materials, full access to the free SAFRAN software tool following the training, a one-month free trial version of the Ecolego software tool, a discounted price in purchase of the Ecolego full version, and a certificate of successful completion of the course.

If financial support is provided through the IAEA, you will be directed to submit an official IAEA nomination form to the appropriate Project Management Officer and/or Technical Officer responsible for the project under which the participation will be funded.