IAEA
International Atomic Energy Agency
Atoms for Peace and Development

International RAMP Users' Group Meeting - Symposium on Emergency/Accident Assessment -

IAEA's assessment and prognosis tools

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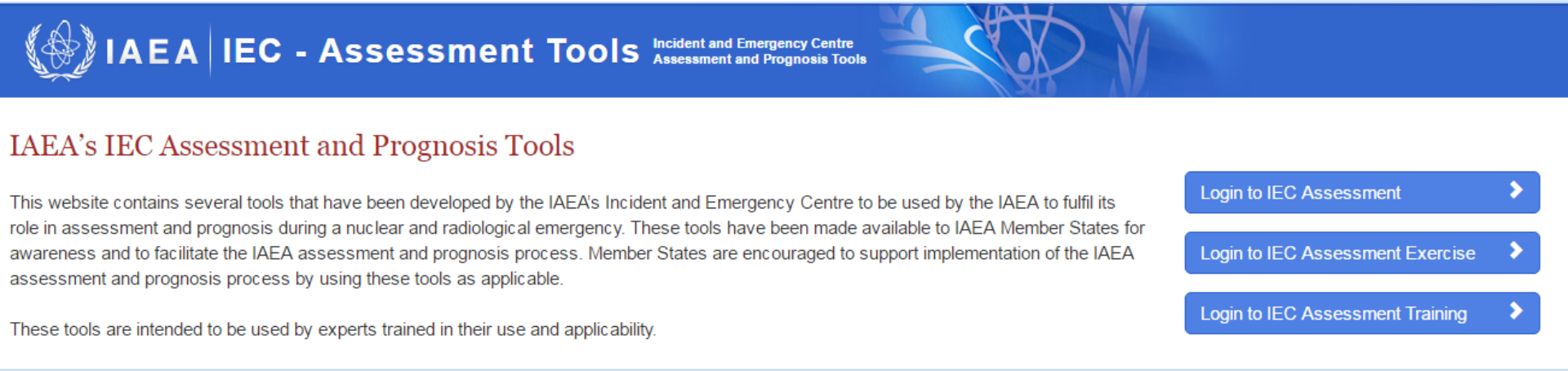
Incident and Emergency Centre

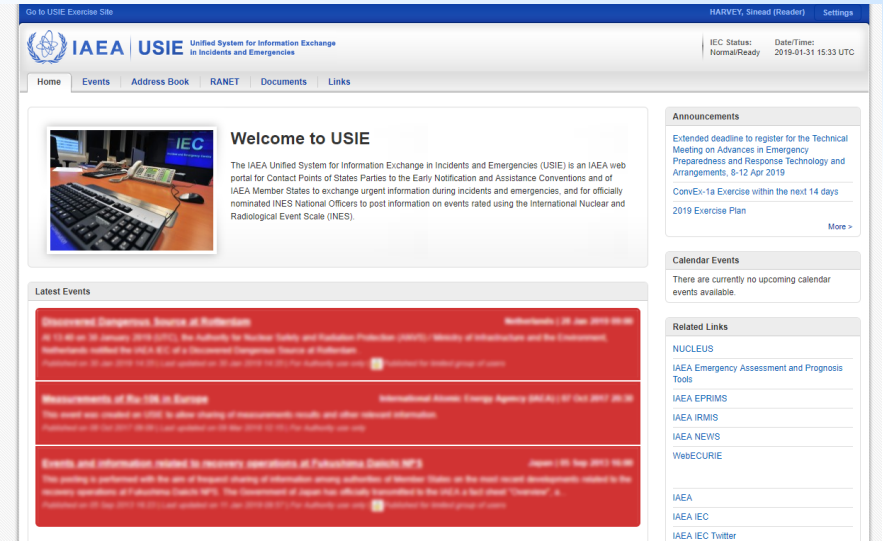
Tools to support A&P activities



- Link available in USIE
- Directly at: https://iec.iaea.org/iecat

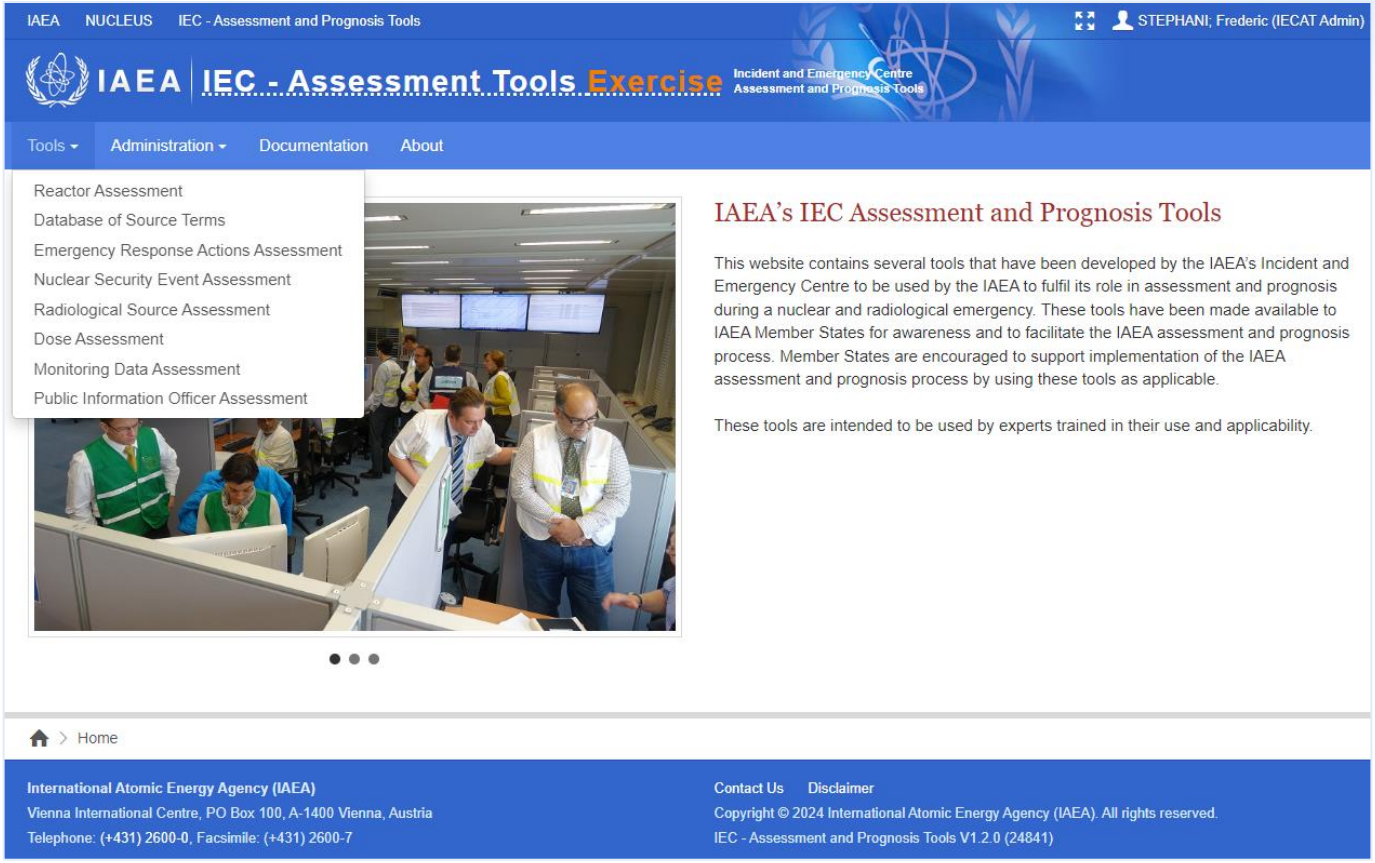
USIE

The IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE)



- 20 years in operation
- Available and operational 24/7, restricted secure website
- 1500 users from > 300 Contact Points
- ~100 exercises conducted every year by Member States

IAEA's assessment tools



Tools made available to experts from Member States on request

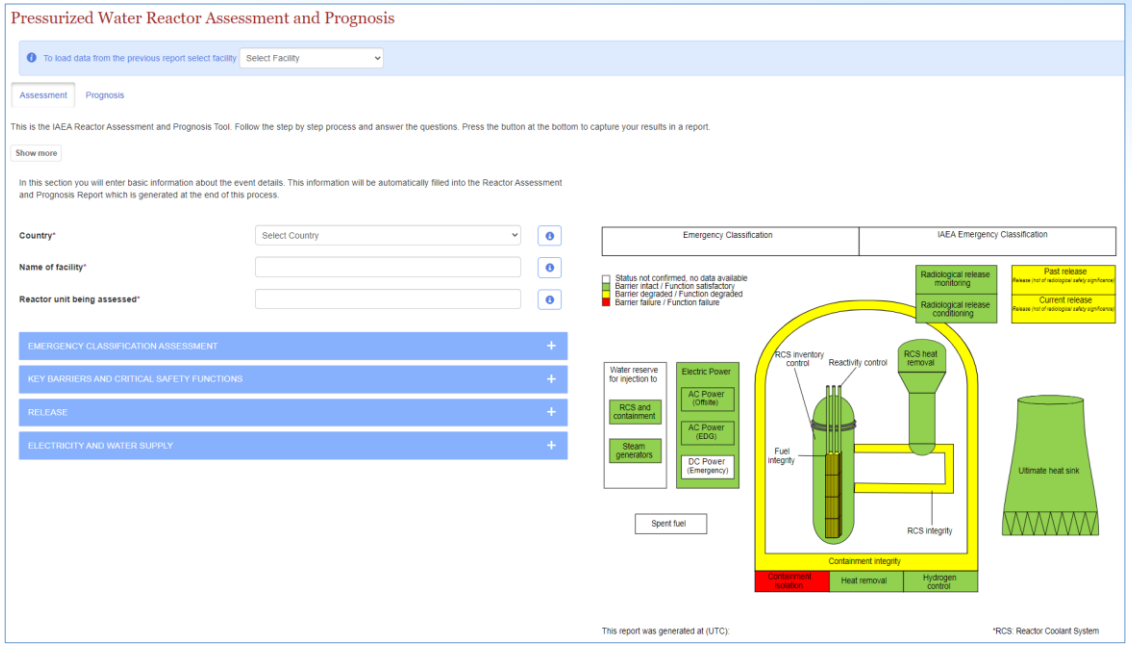
A templated report can be generated using each of these tools

Reports generated by external users of the IAEA's A&P tools:

- Are not automatically shared with the IAEA
- Can be shared with the IAEA (and Member States) on USIE as an attachment to a USIE form

IAEA Reactor Assessment Tool (RAT)

- Supports the assessment of potential emergency consequences and prognosis of possible emergency progression during the response to a nuclear emergency at a Nuclear Power Plant (NPP) or Research Reactor (RR)

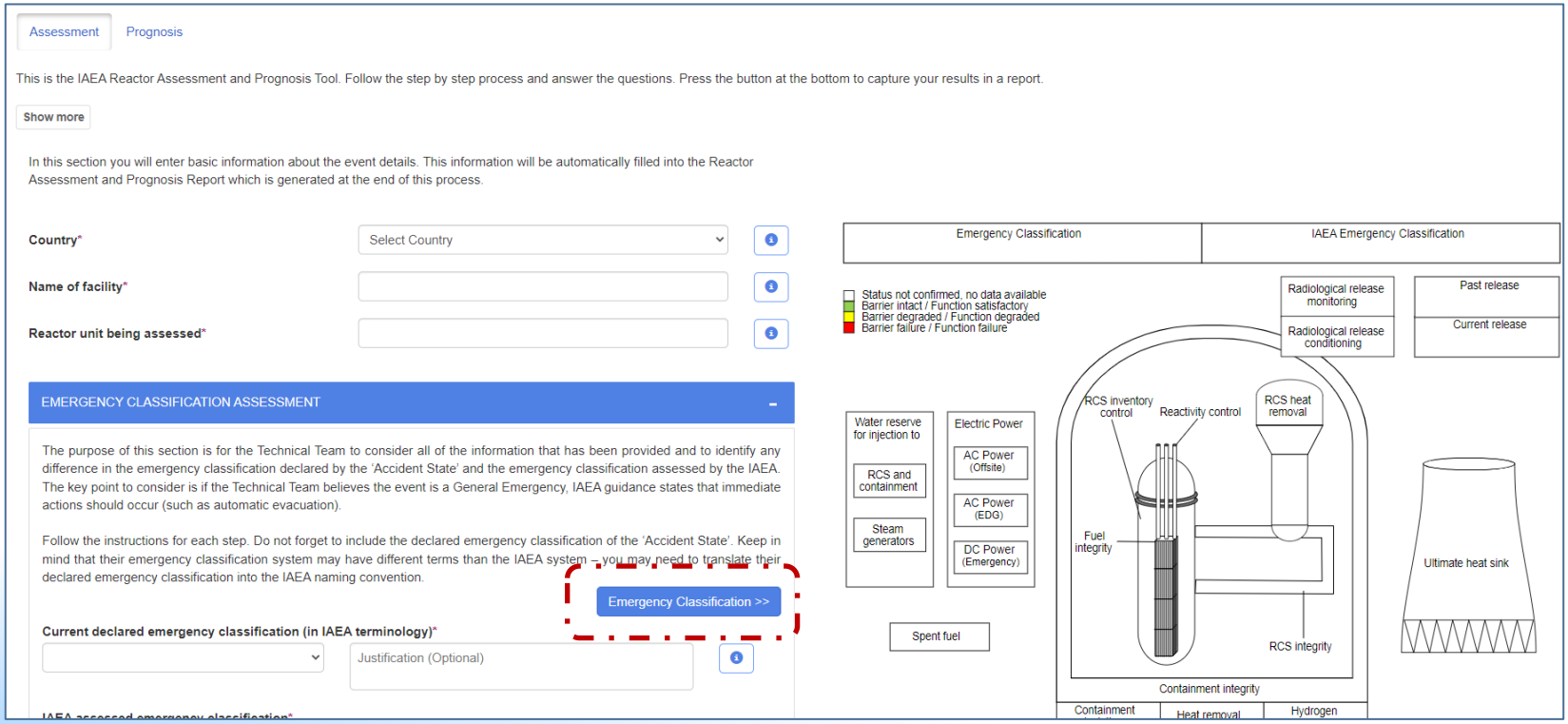


- 7 reactor modules (PWR, BWR, CANDU, VVER, AGR, Generic, RR)
- Each NPP module composed of two tabs (A&P) with technical workflows and dynamic color-coded pictures
- Embeds Reactor Technical Information from the IAEA Emergency Preparedness and Response Information Management System (EPRIMS)
- Functionality for quick templated report generation

Emergency Classification Tool (in RAT) [1/2]

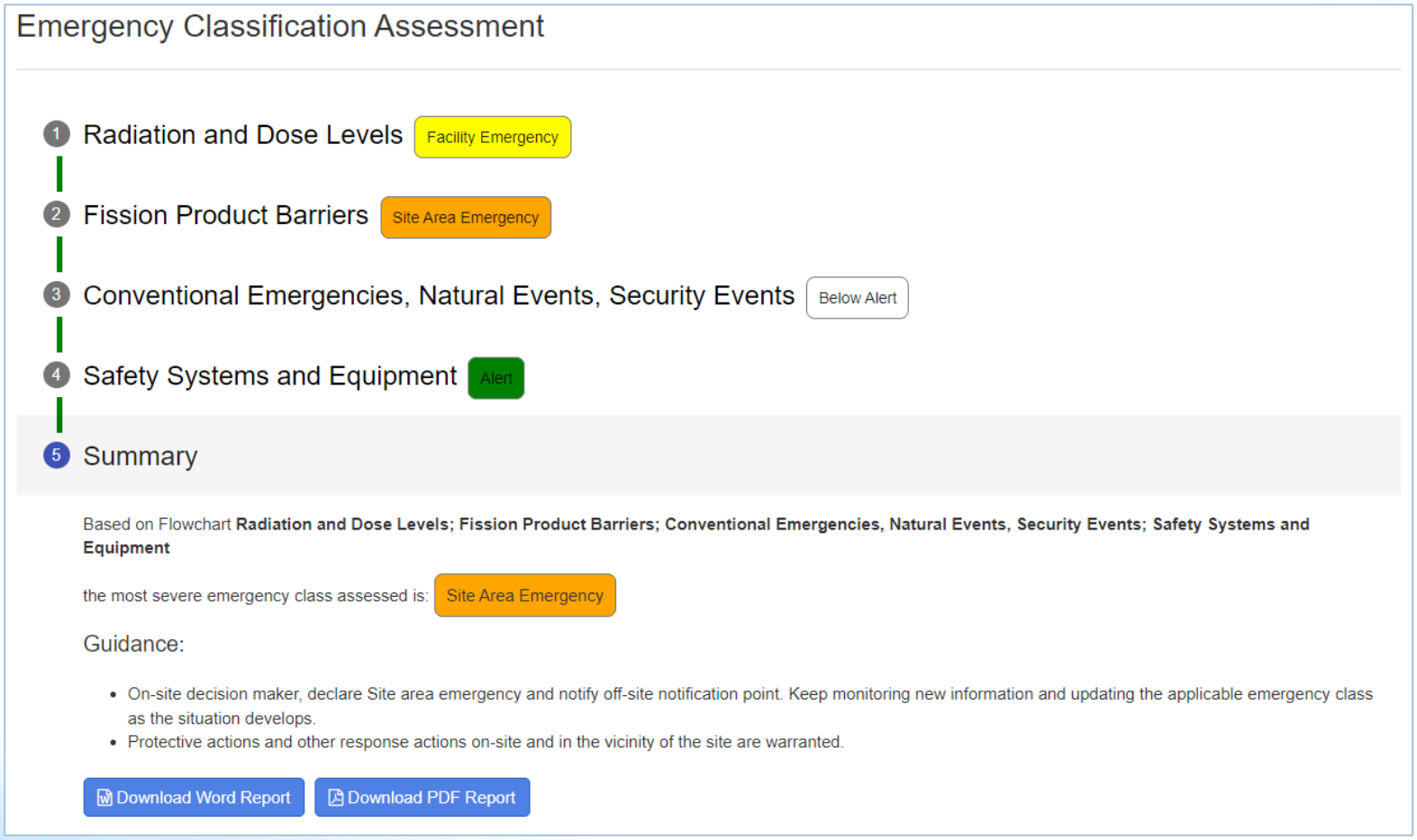
Those 1+4 flowcharts have already been implemented in a new tool, available on the IAEA's Assessment and Prognosis Tools website (accessible to experts in Member States on request)

- As a tool to support each NPP module of the Reactor Assessment Tool

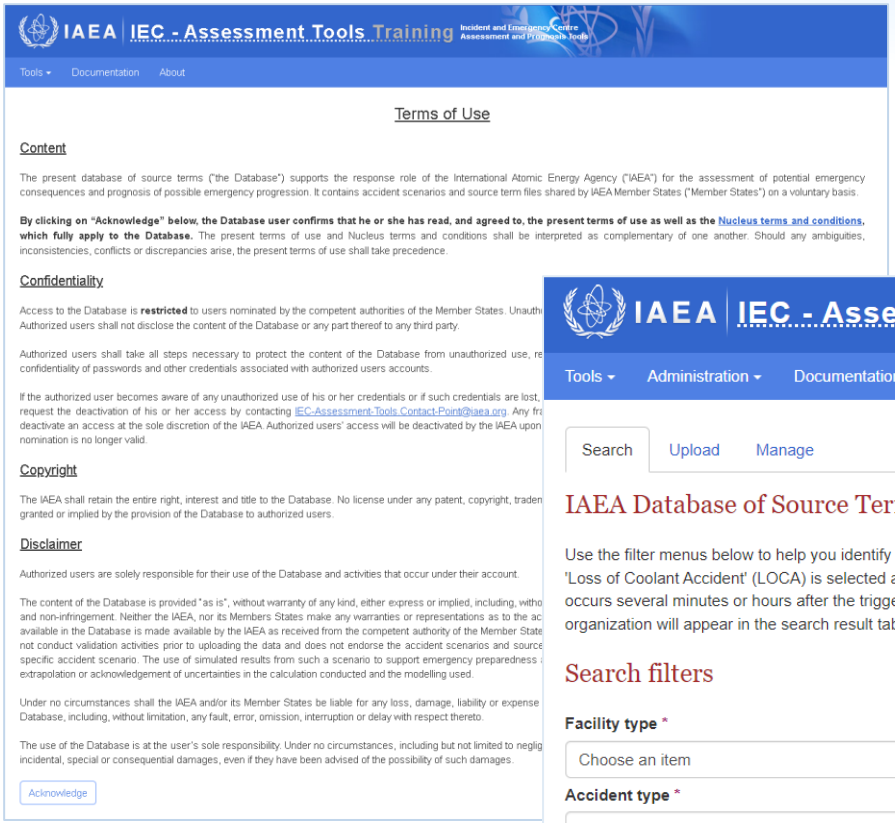


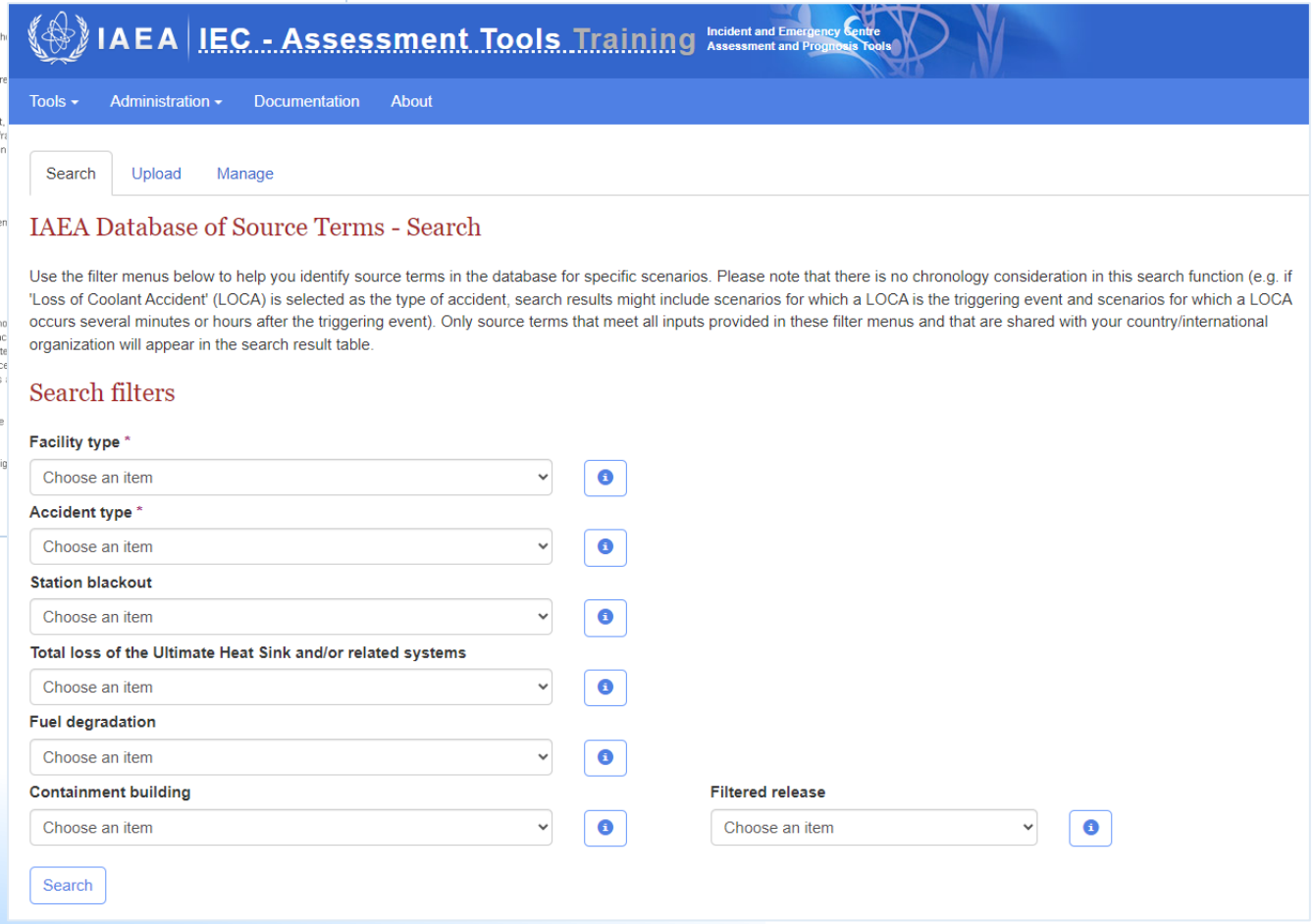
Emergency Classification Tool (in RAT) [2/2]

Emergency Classification Tool - example



Database of source terms [1/3]





Database of source terms [2/3]

Tools ▾ Administration ▾ Documentation About

IAEA Database of Source Terms - View

Country/Intl. Organization	The Orangeland Republic	**Contributing organization**	OJ Regulator
Facility Type	Pressurised Water Reactor	**Accident Type**	Loss of Coolant Accident
Station Blackout	No		
Total loss of the Ultimate Heat Sink and/or related systems	No	**Fuel degradation**	Core melt
Containment building	Release through containment	**Filtered release**	Yes

SCENARIO ASSUMPTIONS +

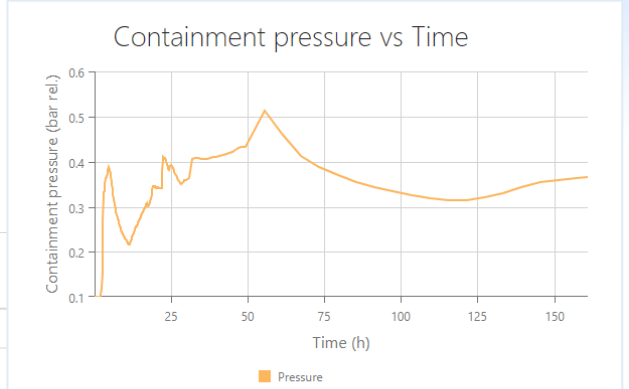
SCENARIO EVENTS +

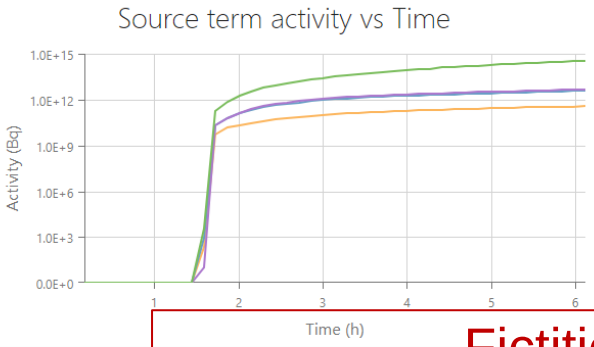
COMMENTS +

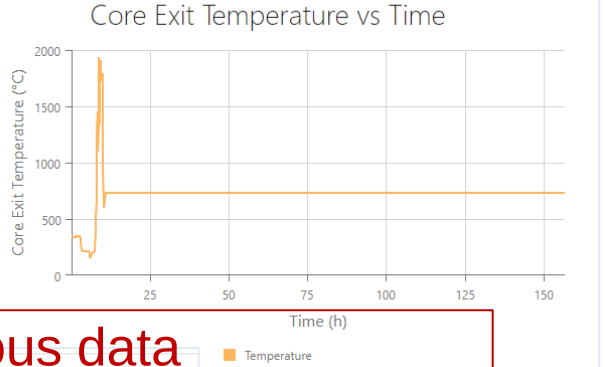
SUPPORTING DOCUMENTS +

Total source term (Bq)

Xe-133 (noble gas)	I-131 (iodine)	Cs-137 (caesium)	Te-132 (tellurium)
3.69E+14	3.81E+12	3.84E+11	4.76E+12







Fictitious data

Latest upload 2021-12-21 08:38 UTC

Shared with Users in the following countries and/or international organizations only:

- Austria
- Belgium
- European Commission (EC)
- International Atomic Energy Agency (IAEA)
- The Orangeland Republic

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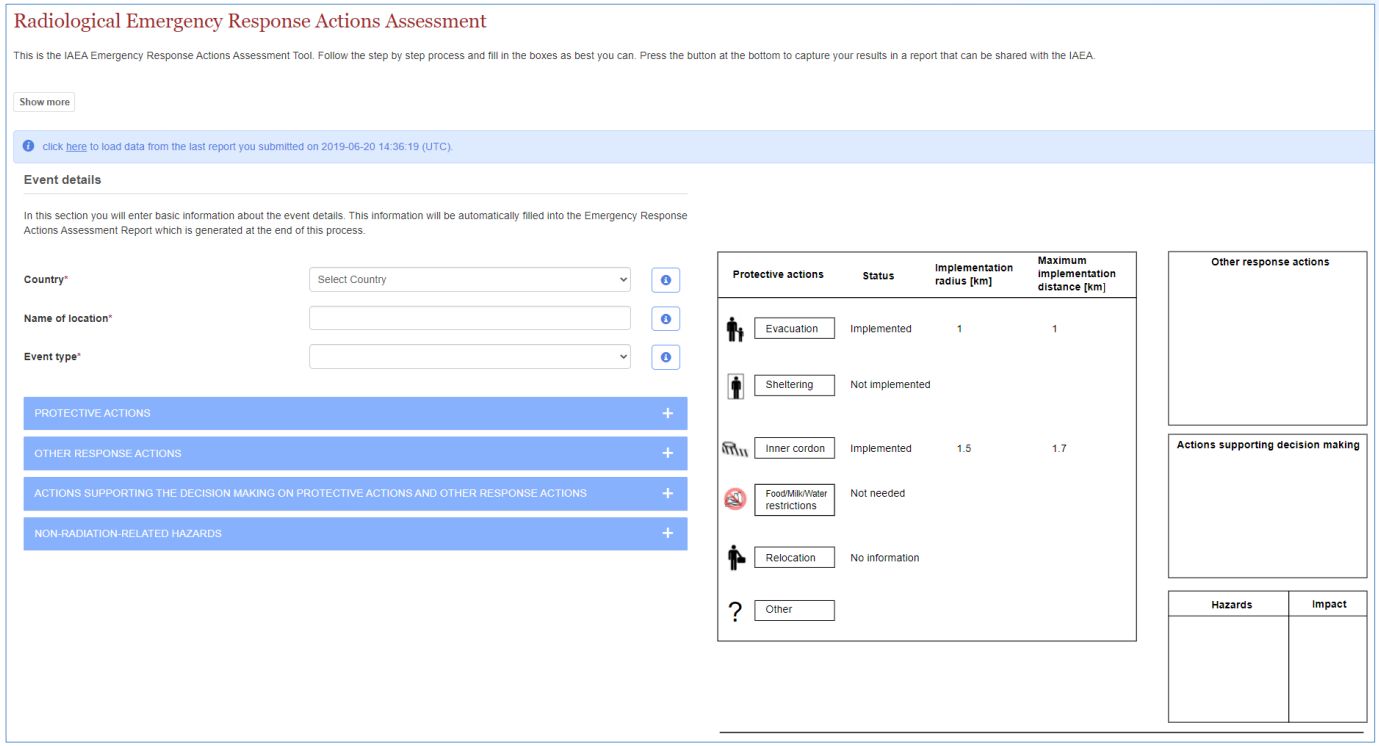
Tools > Database of Source Term

IAEA Database of Source Terms [3/3]

Sharing scenarios and source terms	Accessing the database	Seeing scenarios and source terms in the database
All Member States (MS) and International Organizations (IO) can share, on a voluntary basis	Member States and International Organizations will designate official users of the database	A user of the database will not necessarily have access to all the content in the database
Using the 4 template files; One set of 4 files per scenario	These designated users will need a Nucleus ID, which will be granted access to the database	A user of the database will have access to scenarios and related source terms that have been shared with his/her country by another MS/IO
For each scenario and related source term, MS/IO will specify the sharing audience: • IAEA only • Specific list of MS/IO • All MS/IO	Having access to the database will not guarantee seeing data in the database	

IAEA Emergency Response Actions Assessment Tool



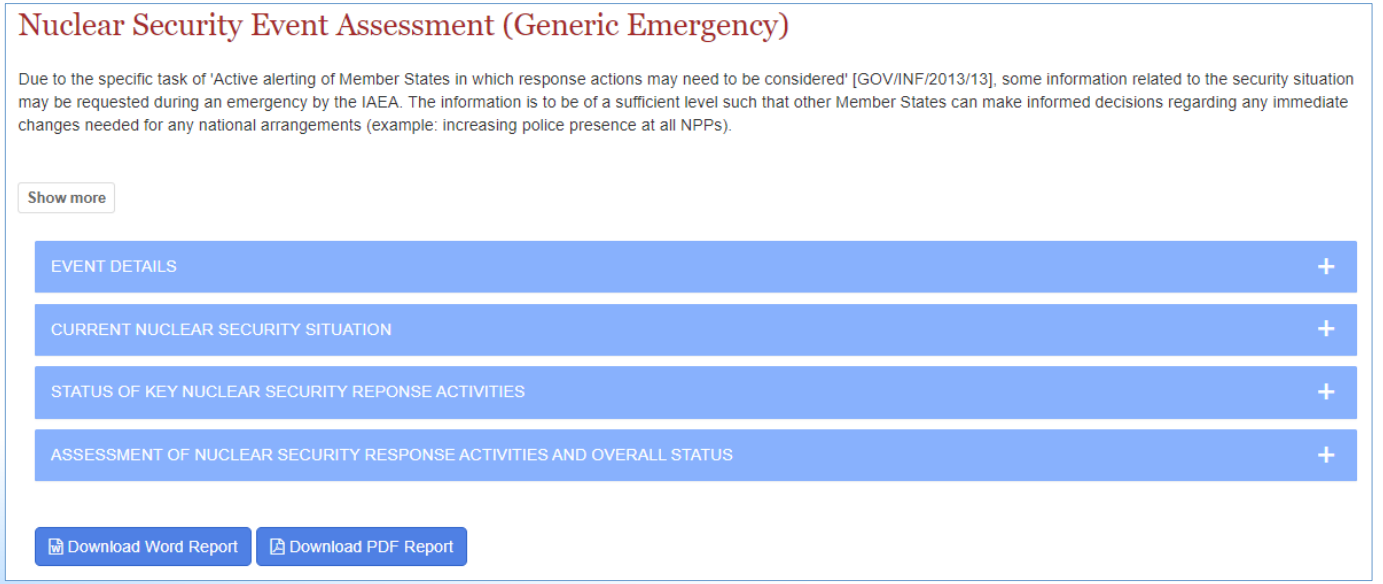
- Assist in the process of capturing essential information during an incident or emergency involving a nuclear power reactor or radiological material

- Support the assessment of the situation regarding the nature and implementation of public protective actions

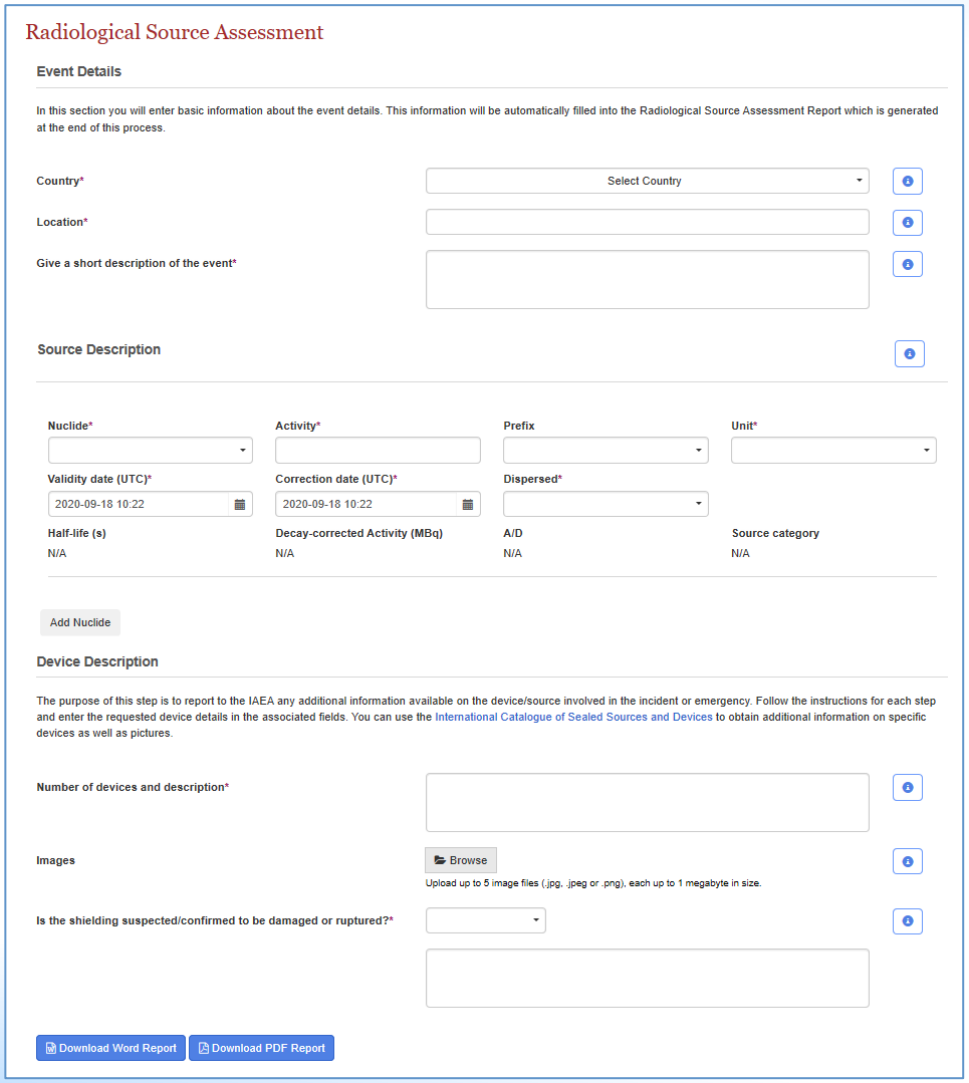
- Functionality for quick templated report generation

IAEA Nuclear Security Event Assessment Tool

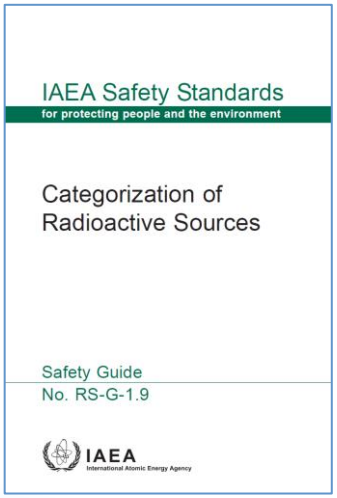
- Information related to the security situation might be requested to the ‘Accident State’ by the IAEA during a nuclear or radiological emergency, so that other Member States can make informed decisions regarding any immediate changes needed for national arrangements (example: revised security posture at NPPs)
- The tool assists in the process of capturing such essential information
- Link to the IAEA Incident and Trafficking Database (ITDB)
- Functionality for quick templated report generation

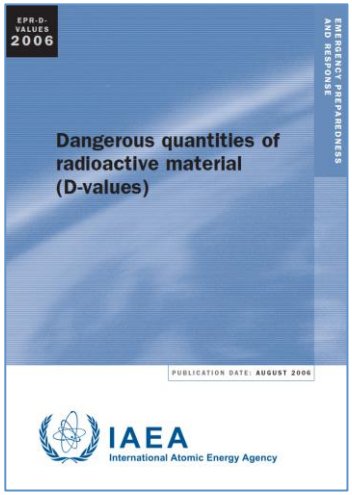


IAEA Radiological Source Assessment Tool



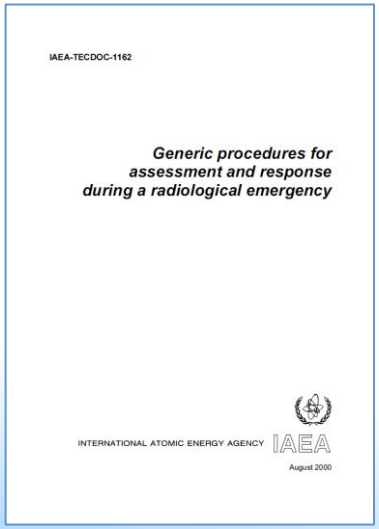
- To assist in the process of capturing essential information during an incident or emergency involving one or more radioactive sources
- To help an expert user categorize the sources involved, as well as assess the potential hazards associated with the category of the sources involved
- Functionality for quick templated report generation

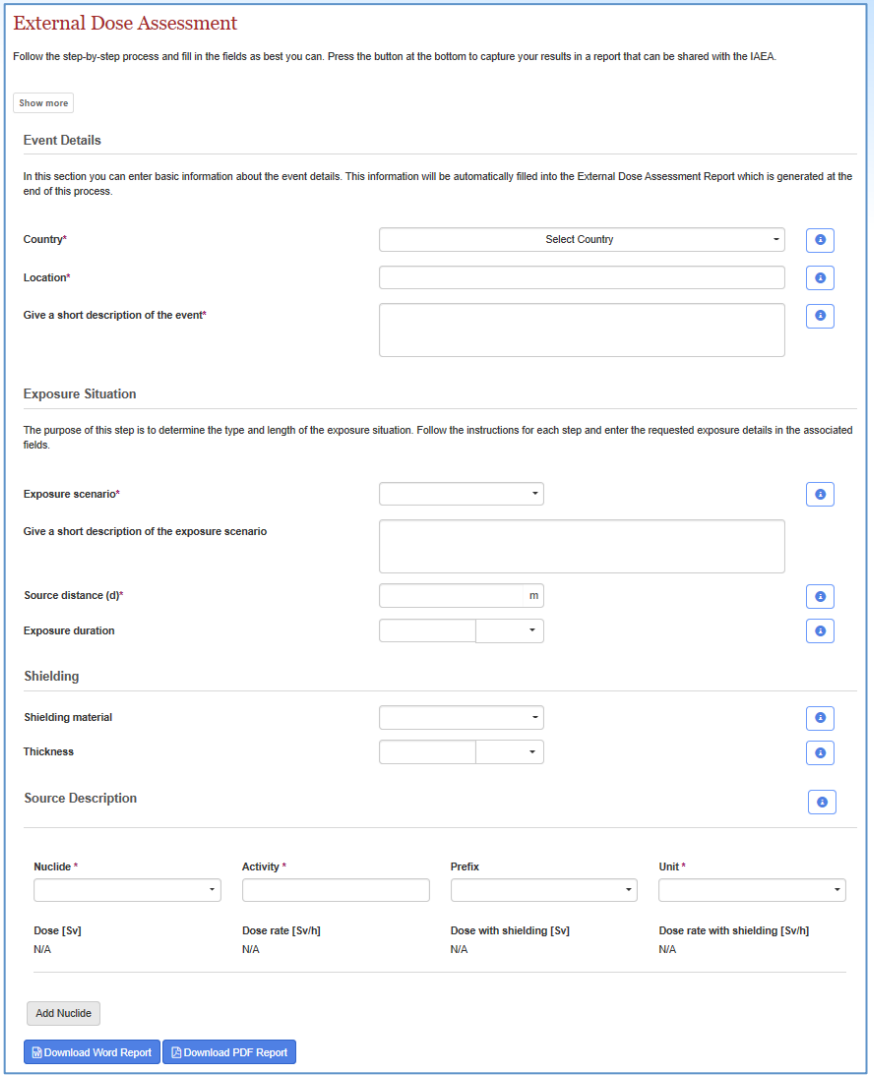




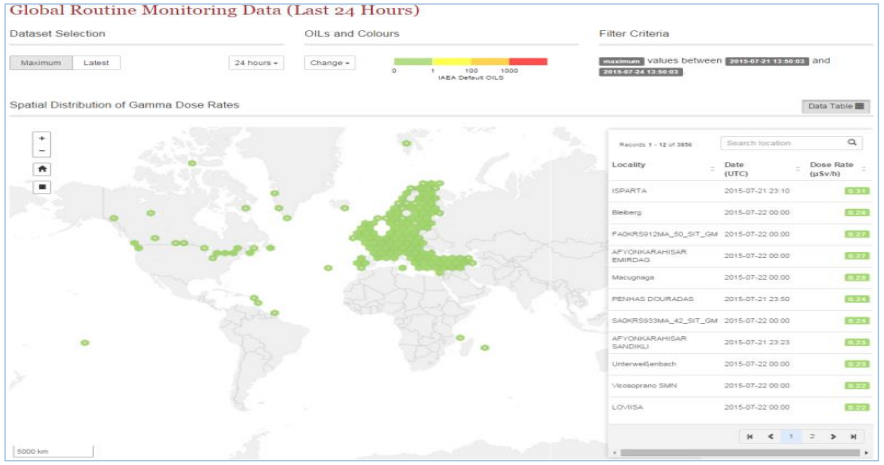
IAEA Dose Assessment Tool

- To assist in the process of evaluating radiological consequences during an incident or emergency involving potential exposure to one or more radiological sources
- To help an expert user estimate the radiological dose to an individual in the case of external or internal exposure to radioactive material in prefabricated scenarios
- Functionality for quick templated report generation



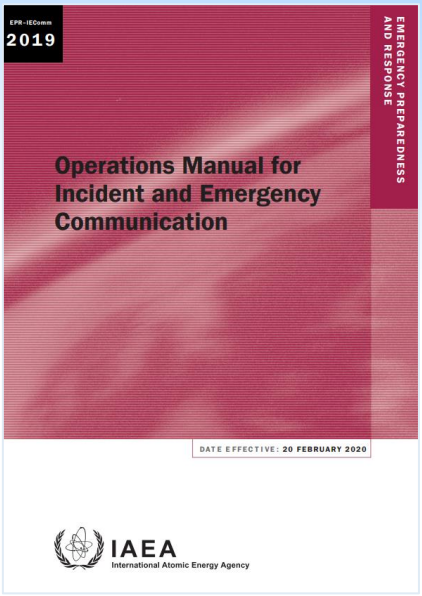


IAEA International Radiation Monitoring System



- Supports implementation of the Early Notification Convention
- Provides a mechanism for the global exchange of large quantities of radiation monitoring data
- Gamma dose rates, isotope specific ground deposition and air concentration from fixed monitoring stations
- Data in Visualization page are color coded in terms of user defined Operational Intervention Levels (OILs) to assist in the decision-making process to protect the public during an emergency

Exercising on the use of IAEA assessment tools



ConvEx-2 level: to test that CAs can appropriately complete various reporting forms and to test the procedures for information exchange, for provision of public information, for requesting and providing assistance and for assessment and prognosis

Type of exercise	Main objective
ConvEx-2a	test the abilities of CAs and INES National Officers to complete the appropriate reporting forms and the abilities of IRMIS Data Providers to upload monitoring data
ConvEx-2c	test the arrangements for responding to a transnational nuclear or radiological emergency
ConvEx-2e	test the IAEA's assessment and prognosis process
ConvEx-2g	test the arrangements for public communication

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Thank you!