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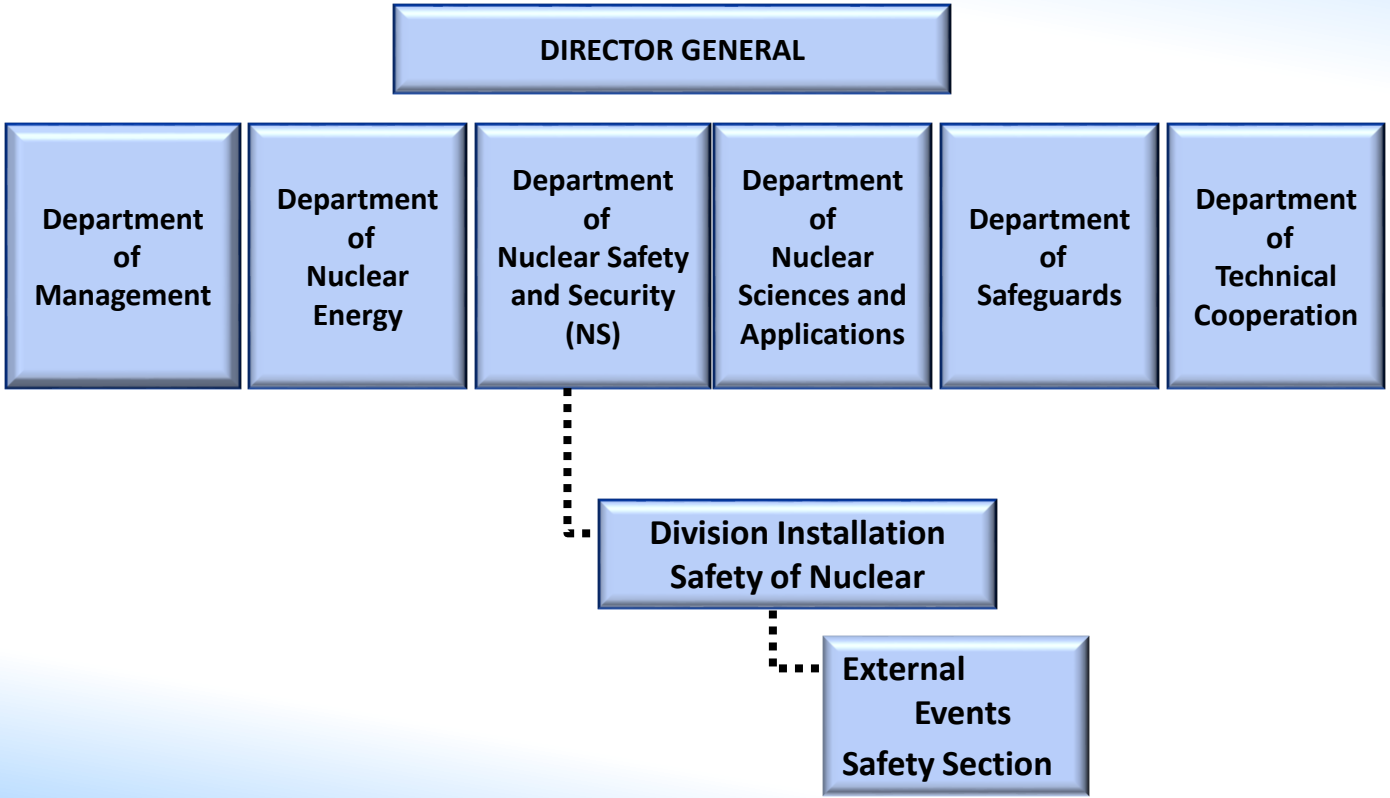
OPENING

Asian Nuclear Safety Network (ANSN)
Regional Workshop on Radiological Environmental Impact Assessment for Nuclear Installations
Hosted by the Government of the Philippines through the Philippine Nuclear Research Institute (PNRI)
Manila, Philippines, 24–28 October 2022

IAEA TEAM

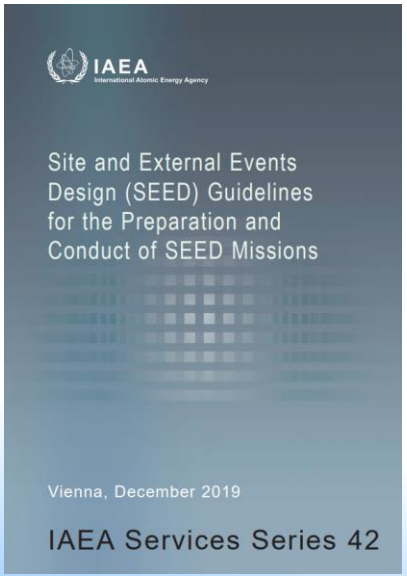
External Events Safety Section (EESS)



External Events Safety Section (EESS)

The mission of the EESS is to assist IAEA Member States in site safety related aspects and protection of nuclear installations against external events.

The SEED review services



SEED REVIEW MODULES

Module 1 – Review of Site and Design Regulations
- Sub-Module 1.1: Regulations for Site Safety Evaluation
- Sub-Module 1.2: Regulations for Design Safety against External Hazards
- Sub-Module 1.3: Regulations for Safety Assessment against External Hazards

Module 2 – Review of the Site Selection Process
- Sub-Module 2.1: Application of Management System for Site Selection
- Sub-Module 2.2: Review of the Site Survey and Site Selection Processes

Module 3 - Site Evaluation Review
- Sub-Module 3.1: Application of Management System for Site Evaluation
- Sub-Module 3.2: Review of the Screening and Detailed Evaluation of External Hazards
- Sub-Module 3.3: Review of the Site Evaluation Report

Module 4 – Environmental Impact Assessment (EIA) Review
- Sub-Module 4.1: Application of Management System for Radiological EIA
- Sub-Module 4.2: Review of Radiological EIA Report

Module 5 – Site Monitoring Review
- Sub-Module 5.1: Pre-Operational Stage Monitoring Programme Review
- Sub-Module 5.2: Operational Stage Monitoring Programme Review

Module 6 - Safety Review of Structures, Systems and Components against External Hazards
- Sub-Module 6.1: Review of Design of Nuclear Installations against External Hazards;
- Sub-Module 6.2: Review of Safety Evaluation of Nuclear Installations against External Hazards; and
- Sub-Module 6.3: Review of External Event Probabilistic Safety Assessment (PSA)

Objective

- The potential effects of the nuclear power plants (NPPs) on people and the environment should be estimated by considering normal operation and potential exposure scenarios.
- IAEA Draft Safety Standard No. DS529 (Revision of NS-G-3.2) Investigation of Site Characteristics and Evaluation of Radiation Risks to the Public and the Environment in Site Evaluation for Nuclear Installations), provides guidance on studies and investigations necessary for assessing the impact of a nuclear installations on people and the environment - for example environmental background including population distribution, and analysis of transport of radionuclides in atmosphere, analysis of transport of radionuclides in surface water and groundwater, assessment of overall radiological impact and monitoring programme.
- It also provides guidance on the collection of information needed to determine the feasibility of an effective emergency response action.
- The objective of the workshop is to enhance the understanding and competence of regulatory bodies and future operators with regard to investigation of site characteristics and assessment of radiological environmental impact for nuclear installations.

Scope

- The following workshop activities will be included to achieve the objective:
  - Presentation of IAEA safety requirements and guides related to assessment of radiological environmental impact for nuclear installations,
  - Presentation of good practices in the area of assessment of radiological environmental impact for nuclear installations,
  - Share participants' experiences on the subject

The following topics will be covered:

- General approach and consideration for radiological environmental impact assessment,
- Environmental background including population distribution,
- Analysis of transport of radionuclides in atmosphere,
- Analysis of transport of radionuclides in surface water,
- Analysis of transport of radionuclides in groundwater,
- Assessment of overall radiological impact,
- Monitoring of radioactivity in the environment,
- Consideration of the feasibility of effective emergency response actions,
- Application of management system.

References

[1] INTERNATIONAL ATOMIC ENERGY AGENCY, Site Evaluation for Nuclear Installations, IAEA Safety Standards Series No. SSR-1, IAEA, Vienna (2019).

[2] EUROPEAN COMMISSION, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS ENVIRONMENT PROGRAMME, WORLD HEALTH ORGANIZATION, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, IAEA Safety Standards Series No. GSR Part 3, IAEA, Vienna (2014).

[3] INTERNATIONAL ATOMIC ENERGY AGENCY, Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSR-Part 7, IAEA, Vienna (2015).

[4] INTERNATIONAL ATOMIC ENERGY AGENCY, Dispersion of Radioactive Material in Air and Water and Consideration of Population Distribution in Site Evaluation for Nuclear Power Plants., IAEA Safety Standards Series No. NS-G-3.2, IAEA, Vienna (2002).

[5] INTERNATIONAL ATOMIC ENERGY AGENCY, WORLD METEOROLOGICAL ORGANIZATION, Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations, IAEA Safety Standards Series No. SSG-18, IAEA, Vienna (2011).

[6] INTERNATIONAL ATOMIC ENERGY AGENCY, Prospective Radiological Impact Assessment for Facilities and Activities, IAEA Safety Standards Series No. GSG-10, IAEA, Vienna (2018).

[7] INTERNATIONAL ATOMIC ENERGY AGENCY, Regulatory Control of Radioactive Discharges to the Environment, IAEA Safety Standards Series No. GSG-9, IAEA, Vienna (2018).

[8] INTERNATIONAL ATOMIC ENERGY AGENCY, Environmental and Source Monitoring for Purposes of Radiation Protection, IAEA Safety Standards Series No. RS-G-1.8, IAEA, Vienna (2005). (Under revision)

IAEA Team Members

Ayhan Altinyollar	IAEA – Nuclear Safety Officer
Mehmet Ekmekci	IAEA External Expert – Türkiye
Neil Harman	IAEA External Expert – UK

Workshop participants:

- Bangladesh
- Indonesia
- Malaysia
- Thailand
- Republic of Korea
- Philippines
- Viet Nam

Agenda

Monday, 24 October 2022		
10:00 - 10:30	Opening, introduction of participants and experts Adoption of agenda	IAEA All experts and participants
10:30 - 12:00	IAEA Guidance for environmental impact assessment for Nuclear Installations	A. Altinyollar
12:00 - 13:30	Lunch Break	
13:30 - 14:00	IAEA Safety Standards NS-G-3.2 including changes in the revision (DS529)	A. Altinyollar
14:00 - 15:00	General Approach and consideration: Environmental background including population distribution	N. Harman
15:00 - 15:30	Refreshment	
15:30- 16:30	Analysis of transport of radionuclides in atmosphere	N. Harman
16:30 – 17:00	Examples and software demonstrations	N. Harman

Agenda

Tuesday, 25 October 2022		
09:00 – 10:30	Analysis of transport of radionuclides in hydrosphere; Needs for Modelling	M. Ekmekci
10:30 - 11:00	Refreshment	
11:00 – 12:30	Analysis of transport of radionuclides in surface water	M. Ekmekci
12:30 - 14:00	Lunch Break	
14:00 - 15:30	Analysis of transport of radionuclides in groundwater	M. Ekmekci
15:30 - 16:00	Refreshment	
16:00 – 17:30	Examples and Software demonstrations	M. Ekmekci

Wednesday, 26 October 2022		
09:00 – 10:00	Assessment of overall radiological impact	N. Harman
10:00 - 10:30	Examples on Assessment of overall radiological impact	N. Harman
10:30 - 11:00	Refreshment	
11:00 – 11:45	Monitoring of radioactivity in the environment	N. Harman
11:45 – 12:30	Consideration of the feasibility of effective emergency response actions	N. Harman
12:30 - 14:00	Lunch Break	
14:00 - 15:10	Application of management system	A. Altinyollar
15:10 - 15:30	Country presentation: Republic of Korea	
15:30 - 16:00	Refreshment	
16:00 - 16:20	Country presentation: Bangladesh	
16:20 – 16:40	Country presentation: Viet Nam	
16:40 – 17:00	Country presentation: Indonesia	
17:00 – 17:20	Country presentation: Malaysia	

Thursday, 27 October 2022		
09:00 – 09:20	Country presentation: Thailand	
09:20 – 09:40	Country presentation: Philippines	
09:40 – 10:30	Overall discussion on country presentations	All
10:30 - 11:00	Refreshment	
11:00 – 12:30	Exercises, case studies,	All
12:30 - 14:00	Lunch Break	
14:00 - 15:30	Exercises, case studies,	All
15:30 - 16:00	Refreshment	
16:00 – 17:30	Exercises, case studies,	All
Friday, 28 October 2012		
09:00 – 12:00	Overall discussion, Q&A, summary and closure	All
12:00 – 13:30	Refreshment	
13:30 – 15:30	ANSN Siting Topical Group (STG) meeting	All

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Thank you!
Questions?

This event is conducted by the IAEA, with funding by Japan and the Republic of Korea, among others.