

# SUMMARY

*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*

# Framework

- The Asian Nuclear Safety Network (ANSN) has been providing a sustainable regional network for effectively supporting establishment and continuous improvement of national nuclear safety infrastructure in the Member Countries, especially the countries embarking on nuclear power programmes, by taking advantage of the regional resources through enhanced regional cooperation in collaboration with the International Atomic Energy Agency (IAEA).
- One of the Topical Group of ANSN is Siting Topical Group (STG).
- The STG serves as a forum for exchanging and sharing information, experience and knowledge on all safety aspects related to the selection and evaluation of sites for nuclear installations, with emphasis on Nuclear Power Plants (NPPs) and Research Reactors, among ANSN Member States.

# Objective

- The objective of the workshop was to enhance the understanding and competence of the staffs of regulatory bodies and future operators with regard to investigation of site characteristics and assessment of radiological environmental impact for nuclear installations.

## Work Done

- Requirements for site evaluation for nuclear installations
- 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.

# Work Done

- Example of Software
  1. Software for atmospheric dispersion – Normal & Accidental release
  2. Software for dispersion in the hydrosphere
  3. Software for dispersion of groundwater

## Work Done

- Practice sessions were conducted for groundwater systems using two software, one for demonstrating the analytical models (AnaModelTool) , and the other for numerical models (Seep/W:).
- The software were distributed to the participants to work on during the practice session.
- The student Licence was supplied for Seep/W. During the practice session, the participants had the opportunity to;
  1. understand the fundamentals of modelling;
  2. be aware of the assumptions and simplifications of analytical models;
  3. flexibility and main steps of numerical modelling.

## Work Done

- Participant constructed a numerical model for a given conceptual hydrogeological model and simulated transport scenarios in both a homogeneous and heterogeneous systems.
- The transport was simulated using particle tracking (advective) and advective and dispersive mechanisms.
- Thereby, they had the insight of the modelling different transport mechanisms that might be needed in applying a graded approach.

## Work Done

- The 12<sup>th</sup> annual meeting of the Siting Topical Group (STG) was held with participation of the national representatives from the STG member countries, the Coordinator of the STG, IAEA Technical Officer and IAEA external experts.
- Ms Park (the Coordinator of the STG, KINS, Republic of Korea) chair the meeting.



## Work Done

- As part of 12th annual meeting of the STG, country presentations were delivered on Thursday:
  - Republic of Korea
  - Bangladesh
  - Indonesia
  - Malaysia
  - Thailand
  - Philippines
  - Viet Nam
- Status of their nuclear projects, regularity framework for environmental impact assessment, content of EIAR, regulations, decision making organizations.

## Work Done

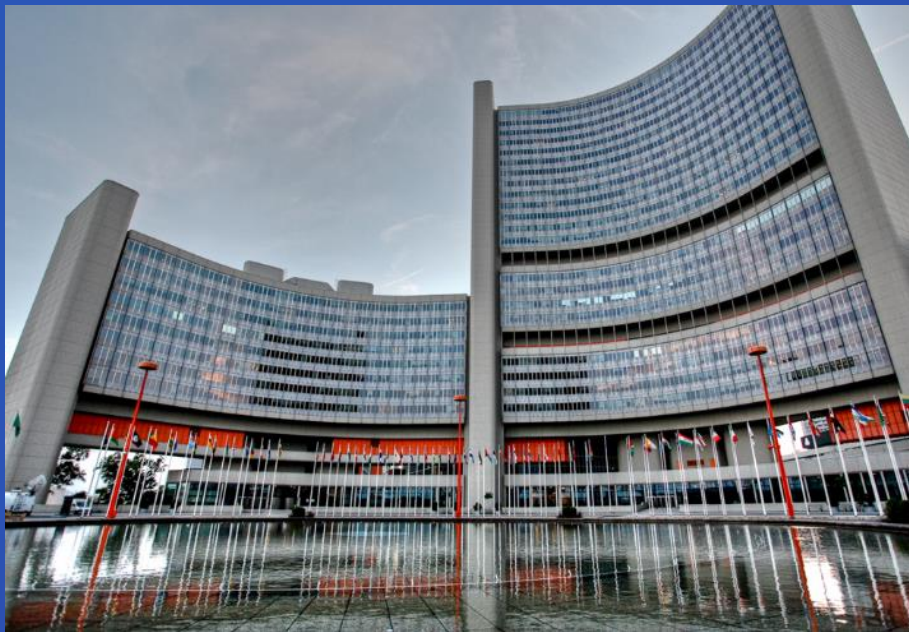
- 2023 Action Plan discussed.
- The topics for the STG regional activities in 2023 were selected as follows:
  - SMR siting
  - Climate change
  - Combined evaluation of hazards.
- PERSON, national representative of COUNTRY, kindly proposed to host the Regional Workshop and 13th Annual Meeting of the STG in 2023.

## Concluding Remarks

- The IAEA team comprised of one IAEA staff member and two external experts from UK and Türkiye.
- 27 participants from Republic of Korea, Bangladesh, Indonesia, Malaysia, Thailand, Philippines and Viet Nam joined to the workshop.
- Questions and feedback from all participants were informative and contributed to fulfil the objective of the workshop.
- IAEA Team appreciate very much active contribution of all participants.
- In conclusion the objectives of the workshop have been achieved.

## Concluding Remarks

- Technical aspects related radiological EIA for nuclear installations is a complexity and safety relevance.
- The technical expertise and experience are needed for;
  - development of EIAR for nuclear installations including data collection, modelling, analysis, overall impact assessment of nuclear installations on people and environment and
  - also reviewing of the EIAR.
- Use of well established process based on IAEA safety standards is very important.



*Thank you!*



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