

News Letter



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Reactor simulation exercise, ITC on Reactor Engineering



Radiation measurement exercise with high school students, NTS on-Basic Radiation Knowledge for School Education

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Developing Instructors in Nuclear Field in Asia

Instructor Training Program (ITP)

ITP is conducted by Integrated Support Center for Nuclear Nonproliferation, Security and Human Resource Development (ISCN), the Japan Atomic Energy Agency (JAEA) since 1996 under contract with the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT). The aims of ITP are to contribute to human resource development (HRD) in the field of nuclear technology in Asian countries and to make nuclear facility located areas in Japan become a hub for international activities. ITP initially started with two participating countries, and currently the number of the countries has increased up to eleven.

Training in Japan

Instructor Training Course (ITC)

ITC is designed for fostering instructors concerning three areas: Reactor Engineering, Nuclear/Radiological Emergency Preparedness and Environmental Radioactivity Monitoring. During the three-to-five-week courses in Tokai, Ibaraki, Japan, participants from Asian countries aim to acquire necessary basic knowledge as instructors through joining lectures by experts, exercises using a variety of equipment, and visits to nuclear facilities.

Advanced Instructor Training Course (AITC)

AITC is designed for enhancing FTC instructors' quality in three areas: Reactor Engineering, Nuclear/Radiological Emergency Preparedness and Environmental Radioactivity Monitoring. Participants of these courses stay in Tokai, Ibaraki, Japan for about ten days. They are expected to acquire advanced technical knowledge and skills through the courses. The lectures and exercises are organized to learn deeply about themes of each area.

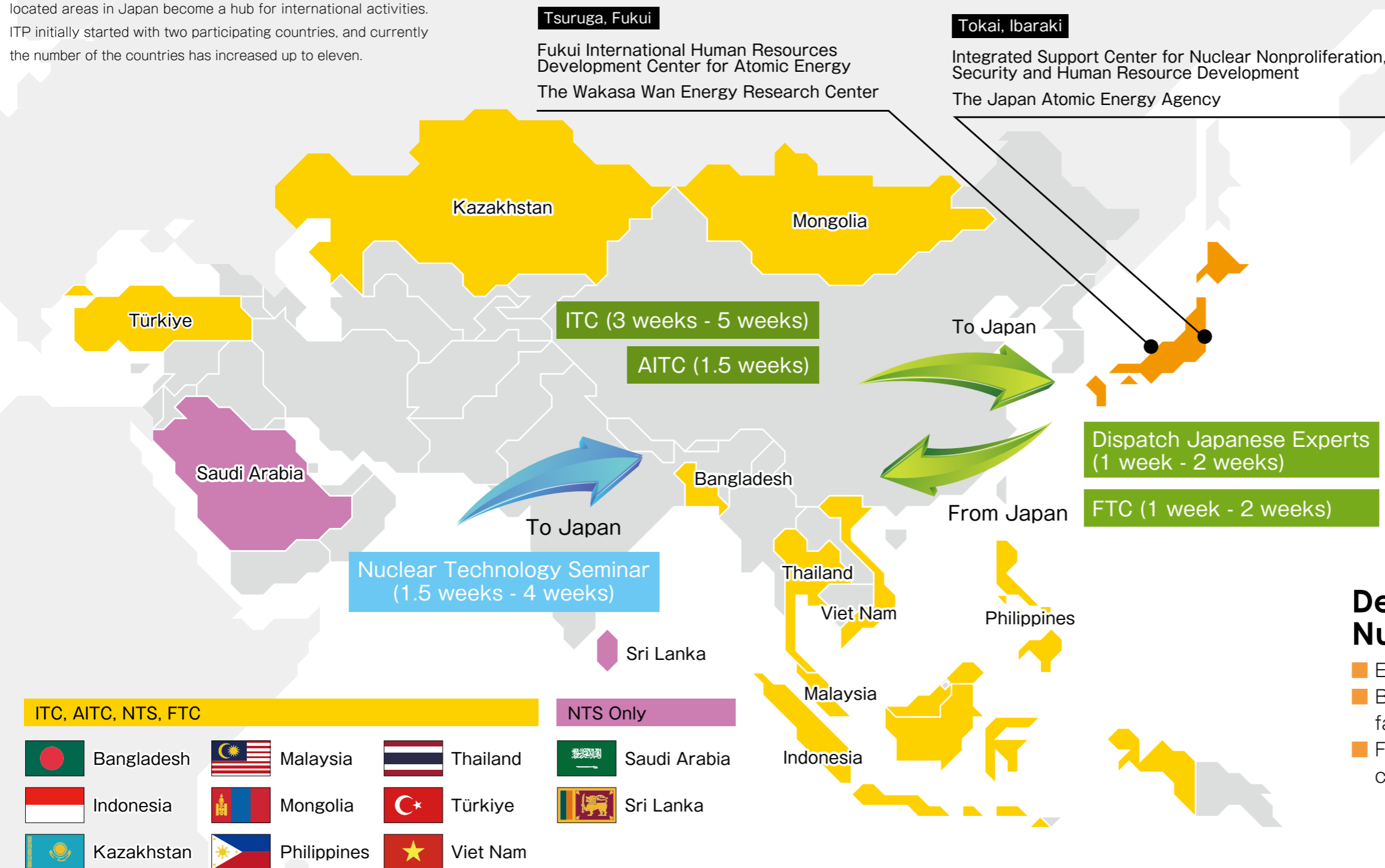
Nuclear Technology Seminar (NTS)

NTS is designed for fostering engineers and specialists in specific areas of nuclear technology. In Tsuruga, Fukui, three seminars are held: Nuclear Plant Safety, Nuclear Energy Officials, and Site Preparation and Public Relations. Basic Radiation Knowledge for School Education is held in Tokai, Ibaraki. Participants of NTS are invited to Japan for one to four weeks to improve their specialty through tours to nuclear facilities, discussion and interaction with people at nuclear facilities located areas, as well as lectures and exercises.

Training in Participating Countries

Follow-up Training Course (FTC)

FTC is held in each ITC participating country. The ITC participants give lectures in FTC by making the best use of knowledge and experience gained from ITC. They become excellent instructors by the accumulation of teaching experiences year by year through FTC. A few experts are dispatched from Japan to each FTC to give lectures and technical advice for the establishment of the self-sustainable training courses.



Developing Instructors in the Nuclear Field in Asian Countries

- Establish a nuclear HRD network in Asia
- Build an international activity base at nuclear facility located areas
- Facilitate cooperation between Japan and Asian countries in the nuclear field

Reactor Engineering

Period: 8 October – 13 November 2025
 Venue: Tokai, Ibaraki
 Participants: 13
 Outline: Participants acquire a wide range of knowledge on nuclear engineering and the skills to disseminate the knowledge as instructors. The course is open to engineers, researchers and academic staff in the nuclear field. In JFY2025, the course provided 18 lectures, 6 exercises, and 12 facility visits.



Group photo at LSTF

Learning Reactor Behavior During Loss-of-Coolant Accidents

First, participants studied "Nuclear Plant Safety," focusing on the three major accidents including the Tokyo Electric Power Company Holdings (TEPCO) Fukushima Daiichi Nuclear Power Station accident, as well as the key strategy of defense in depth for reactor design and safety function. They also learned the characteristics of "Loss-of-Coolant Accidents (LOCA)" as a design basis accident at light water reactors, the reactor design provisions such as the Emergency Core Cooling System (ECCS), typical accident scenarios and the results of numerous accident simulation experiments conducted by JAEA. At the end, they visited the Large Scale Test Facility

(LSTF), which simulates the full scale of a 1100 MWe Pressurized Water Reactor (PWR) in height (29 m), and a volume ratio of 1/48, with pressure (12 MPa) equivalent to actual plants. The participants climbed to the 7th floor of the building to observe equipment specific to simulation experiments, including high-pressure ECCS pumps, high-power supply for simulated fuel rods, methods for measuring high-temperature steam ejected from simulated pipe ruptures and endoscopes. While overwhelmed by these large-scale simulation facilities, they deepened their understanding of methods for simulating actual pipe ruptures and their operational principles.

Nuclear/Radiological Emergency Preparedness

Period: 3 September – 24 September 2025
 Venue: Tokai, Ibaraki
 Participants: 6
 Outline: Participants acquire knowledge and skills on emergency response in case of a radiation accident inside and outside nuclear or radiation handling facilities. The course aims to build both technical skills and teaching skills, enabling participants to share their knowledge as instructors. The course is open to engineers, researchers and academic staff in the nuclear field. In JFY2025, the course provided 16 lectures, 11 exercises and 5 facility visits. Some parts of the curriculum were joint classes with ITC on Environmental Radioactivity Monitoring.



Radiation protective gear exercise

Practice on Using Radiation Protective Equipment

In this course, participants learned a wide range of topics, from basic radiation knowledge to protection measures during nuclear and radiological emergencies. Through hands-on practice, they also learned practical emergency response skills. The exercise on radiation protective gear was a key exercise where participants learned how to correctly put on and take off different kinds of protective equipment used to work safely at an emergency site.

Participants learned how to properly put on and take off protective equipment, including multiple layers of body and

limb protection, as well as mask-type respiratory protection. Failure to correctly wear these protective gears could allow radioactive materials to enter through gaps between the equipment, potentially causing internal contamination. Additionally, improper removal or inadequate sealing of protective gear could cause radioactive contamination to spread.

With support from JAEA's instructors, participants carefully reviewed each step of the donning and doffing procedures, deepening their understanding of proper equipment handling protocols.

Environmental Radioactivity Monitoring

Period: 3 September – 24 September 2025
 Venue: Tokai, Ibaraki
 Participants: 7
 Outline: Participants acquire knowledge and skills on environmental radioactivity monitoring, as well as the ability to teach this knowledge as instructors. The course is open to engineers, researchers and academic staff in the nuclear field. In JFY2025, the course provided 15 lectures, 9 exercises and 6 facility visits. Some parts of the curriculum were joint classes with ITC on Nuclear/Radiological Emergency Preparedness.



Pretreatment exercise for water samples

Enhancement of Practical Training Content Through Pre-Course Learning

In this course, participants studied the basics of radiation measurement and practiced sampling, pretreatment, and measurement of environmental samples. For the JFY2025 program, they watched introductory video lectures before coming to Japan. This helped them spend more time on practical exercises during the training.

The photo shows participants carrying out the distillation of water samples as part of pretreatment. Because the work involves heating and chemicals, they wore safety glasses, gloves, and lab coats. They carefully

performed each task, such as weighing samples and setting up glass equipment under the instructor's guidance. They also practiced measurements using a liquid scintillation counter and learned how to measure radioactive substances such as tritium in distilled water samples.

Participants further practiced dose-rate measurement in Fukushima Prefecture. Many participants commented positively that incorporating advance study allowed more time for practical exercises.

Voices of ITC Participants



Reactor Engineering

Mr. Emre KUCUKALI
 Turkish Energy, Nuclear and Mineral Research Agency (TENMAK)

This program has been an inspiring journey through the diverse fields of nuclear engineering. The lectures and hands-on exercises deepened my practical understanding, while the visits to major research and industrial facilities — including reactor complexes, test installations, and accelerator laboratories — offered a rare opportunity to witness Japan's advanced nuclear technology in practice. I am sincerely grateful to the ISCN staff for their exceptional dedication and kind support throughout the course and to JAEA and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) for making such a meaningful experience possible. It has truly broadened my vision and strengthened my motivation for future contributions to nuclear research.



Nuclear/Radiological Emergency Preparedness

Mr. K M Mahabub MORSHED
 Bangladesh Atomic Energy Commission (BAEC)

I am very thankful for the opportunity to attend ITC organized by JAEA. The program was an excellent combination of lectures, practical training, drilling exercises, table talks, and a valuable facility visit, which gave me an insight knowledge of emergency preparedness and response. Each session was well-structured and enriched with real-world examples, making the learning experience both practical and inspiring. I also sincerely appreciate ISCN staff for their warm hospitality, honesty and well-disciplined manner. This training was a truly rewarding and unforgettable professional experience.



Environmental Radioactivity Monitoring

Ms. Saulet YDYRSHEVA
 Institute of Nuclear Physics (INP) in Kazakhstan

I am deeply thankful to ISCN JAEA for the opportunity to join this outstanding course and for its excellent organization. The program was intensive and highly rewarding, blending solid theoretical foundations with meaningful practical training. Facility tours and practical exercises offered valuable insights that strengthened my professional abilities. I am also appreciative of the chance to collaborate with colleagues from Japan and abroad, whose experiences enriched my understanding. This course provided enduring competencies, international connections, and fresh inspiration, which I believe will support my future work and enable me to contribute more effectively to society.

Voices from Guest Lecturers

What is a Guest Lecture?

Past ITC participants who showed excellent performance in ITC and actively contribute to FTC in their own countries are invited as guest lecturers to ITC. This system has started in JFY2010 and 45 guest lecturers have been invited from each country so far. In JFY2025, three past ITC participants were selected as the guest lecturers.

Dr. Kanokrat TIYAPUN

Thailand Institute of Nuclear Technology (TINT)
Completed ITC 2020 on Reactor Engineering and ITC 2020 on Nuclear/Radiological Emergency Preparedness



Thailand



My Impression of ITC

Through active participation in the Instructor Training Course (ITC) and Follow-up Training Course (FTC) provided by the Japan Atomic Energy Agency (JAEA), I have effectively leveraged advanced reactor engineering knowledge and strategic human resource development (HRD) methodologies not only at TINT but also broadly benefiting Thailand's educational framework and national HRD initiatives.

My Experience as Coordinator and Instructor of FTC

As a coordinator and instructor, I implemented comprehensive training programs that encompass reactor physics, reactor kinetics, thermal hydraulics, radiation shielding, and nuclear safety protocols, thereby significantly enhancing technical proficiency and theoretical comprehension among nuclear professionals and educators across the nation. The consistent improvement in participant performance and feedback highlights these programs' substantial

positive impact on Thailand's nuclear education and workforce readiness. The ITC and FTC on Reactor Engineering offer extensive benefits such as international collaboration, and advanced training infrastructure. Participants gain invaluable hands-on experience through reactor laboratory experiments, practical simulations, and visual learning to Japanese nuclear facilities including JAEA's JRR-3, J-PARC (Japan Proton Accelerator Research Complex), and TEPCO's Fukushima Daiichi Nuclear Power Station. Structured interdisciplinary workshops further promote knowledge transfer from experienced professionals, fostering talent retention and continuous educational growth nationwide. Addressing Thailand's challenges in HRD specific to Small Modular Reactor (SMR) technology, including nuclear infrastructure, regulatory refinement, and public acceptance, my future initiatives will integrate FTC with advanced SMR technology, strategically strengthening Thailand's nuclear workforce, supporting national energy security, technological innovation, and the goal of carbon neutrality by 2050.

Mr. MAI Xuan Phong

Vietnam Atomic Energy Institute (VinAtom)
Completed ITC 2015 and AITC 2023 on Nuclear/Radiological Emergency Preparedness



Viet Nam

Experience as instructor and coordinator in FTC

I have been working at Dalat Nuclear Research Institute (NRI) under VinAtom since 2010, with responsibilities in research and teaching in nuclear physics and radiation protection. In 2015, I had the opportunity to participate in ITC. Upon returning to Viet Nam, I applied the knowledge and experience gained from the course to develop and organize FTC at the DNRI. In these programs, I served as both the coordinator and main instructor. The training program consistently aligned with the knowledge and experience acquired the ITC as well as based on the needs and qualifications of the participants.

The FTC has played a significant role in enhancing the knowledge and skills of young staff members at the DNRI, as well as key personnel responsible for radiological emergency response at radiation facilities.

In 2023, I was honored to attend AITC, which provided a foundation for me to continue improving and upgrading the FTC program in the future.

My hope as an instructor

Viet Nam is currently preparing to implement Nuclear Power Plant projects, a new nuclear research reactor project, and to expand the application of atomic energy across other socioeconomic sectors, including healthcare, industry, agriculture, and environment. To achieve these objectives, human resource development is an urgent and crucial necessity. Therefore, continuing to strengthen training cooperation with JAEA through the ITC and FTC programs is particular importance. This will not only enhance the quality of our existing human resource but also contribute to the development of a high skilled workforce for the future.



Mr. Muhammad Azfar Bin AZMAN

Malaysian Nuclear Agency (Nuklear Malaysia)
Completed ITC 2019 on Environmental Radioactivity Monitoring



Malaysia



My Impression of ITC

Since joining the Malaysian Nuclear Agency in 2014, I have been working as a research officer under the Waste Technology and Environmental Division, focusing on neutron activation analysis (NAA) for elemental analysis. I was offered by the previous coordinator of ERM to participate in the ITC in 2019. The course improved my technical capabilities as well as insight to be better at presenting skills as a lecturer.

My Experience as FTC Coordinator

Back from Japan, I was entrusted to coordinate the FTC for JFY2019 in February 2020, which is my first role as both coordinator and instructor. Over the years, we have done continuous improvement on the course. Since the start of coordinating the course, we have

made several improvements, especially to the lecture durations, and we have added more new subjects, such as "Introduction to NAA," "Basic Principles of Alpha Spectrometry," and most recently, "Isotope Hydrology and Applications in Water Resources Management." These improvements are based on the feedback given by participants over the years so that we can deliver impactful and relevant training for our participants. Looking ahead, I hope the collaboration between the Malaysian Nuclear Agency and JAEA continues to thrive. Expanding these programs to include educators could increase the radiation awareness among younger generations. Through understanding rather than fear, we can cultivate a society that appreciates the role of radioactivity in environmental and technological advancement.

Advanced Instructor Training Course (AITC)



Participants engaging in discussion



Observation of aircraft used for environmental radiation monitoring

Nuclear/Radiological Emergency Preparedness

Period: 3 December – 12 December 2025

Venue: Tokai, Ibaraki

Participants: 4

Outline: For JFY2025, the goal was to acquire advanced and specialized knowledge and skills for FTC instructors in the field of nuclear and radiological emergency response. The course provided 5 lectures, 5 exercises and 4 facility visits. Some parts of the curriculum were joint classes with AITC on Environmental Radioactivity Monitoring.

In this course, participants engaged in lectures and exercises based on case studies of nuclear emergency response, reviewing past nuclear and radiological emergency events to learn appropriate response measures. First, the instructors introduced past accident cases and explained the sequence of events, the flow of media coverage, and the impact of secondary issues related to the accidents. Next, corrective actions implemented after the accidents were presented, followed by discussions between participants and instructors on their effectiveness and challenges. Participants also shared accident cases experienced by their own organizations or cases of particular interest and exchanged views through group discussions.

By examining real accident case studies, participants enhanced their knowledge and understanding of effective emergency response.



Presentations of accident case studies

Environmental Radioactivity Monitoring

Period: 3 December – 12 December 2025

Venue: Tokai, Ibaraki

Participants: 3

Outline: For JFY2025, the aim was to enhance the expertise of FTC instructors in the field of environmental radioactivity monitoring through the acquisition of advanced and specialized techniques. The course provided 7 lectures, 4 exercises and 4 facility visits. Some parts of the curriculum were joint classes with AITC on Nuclear/Radiological Emergency Preparedness.

In this course, a two-day exercise was conducted to help participants acquire essential teaching skills for effective presentation. On the first day, participants received guidance from instructors on how to structure lecture materials and deliver effective presentations. After the exercise, they reviewed recordings of their own presentations and practiced individually in preparation for the next session. On the second day, participants paired up to rehearse their presentations and exchange feedback on areas for improvement. By the end, all participants were able to deliver confident presentations using their revised materials, achieving significant progress. Although preparing improvements within a short period was challenging, the participants commented that the experience provided valuable lessons for their future roles as instructors.

In addition, lectures and discussions were held on the behavior of radioactive materials in the environment (forests, rivers, and the ocean) following the TEPCO's Fukushima Daiichi Nuclear Power Station accident. Through these sessions, participants seriously considered what actions should be prioritized under difficult conditions after the accident and gave presentations based on their reflections. The participants further deepened their understanding through the discussions that followed the lectures.



Observation of lichens as indicators of environmental radioactivity dynamics

Celebrating 30 Years of the ITP: A Journey of Growth and Cooperation

Since the Instructor Training Program (ITP) was launched in 1996, JAEA has dedicated the past 30 years to developing skilled instructors in the nuclear field across Asia. Over these decades, the program has helped us build strong and trusting relationships with many Asian countries—connections that cannot be formed through financial support alone. We are deeply grateful for participating countries' long-standing understanding and cooperation, which have made this achievement possible.

In celebration of the 30th anniversary of the ITP, we are pleased to share congratulatory messages from graduates who have taken part in the program throughout its history.

the year of participation for each country



The Accumulated Number of ITP Participants

(JFY 1996~2025)

Instructor Training Course	769	Follow-up Training Course	7959*
Advanced Instructor Training Course	95	Nuclear Technology Seminar	734

*The number is as of 30 January 2026.

History of Activities



FTC 2003 on Radiation Measurement & Radiation Protection, Indonesia



FTC 2006 on Application of Nuclear Technique in Industry and Environment, Viet Nam



ITC 2008 on Nuclear and Radiological Emergency Preparedness



FTC 1999 on Application of Nuclear Technique, Thailand



ITC 2008 on Application of Nuclear Technique in Industry and Environment



ITC 2013 on Environmental Radioactivity Monitoring

Future of the Instructor Training Program

The ITP has grown over the years by building on its core courses—the ITC and the FTC—and by introducing new programs such as the NTS and the AITC. In JFY2026, we will also begin a new Follow-up Seminar for graduates of the NTS on Basic Radiation Knowledge for School Education.

Through these expanding opportunities, we hope to continue enriching our training programs and strengthening our network across Asia, so that we can support even more promising professionals in the years to come.

Congratulatory Messages from Past ITC Participants



Dr. Sudi ARIYANTO

Principal Researcher of Nuclear Energy System, National Research and Innovation Agency (BRIN)
Completed ITC 2001 on Radiation Measurement and Radiation Protection

Congratulations on the 30th anniversary of the ITP. For three decades, the ITP has been a beacon of excellence human resource development in nuclear science and technology. This milestone is a testament to your unwavering vision and dedication to developing global expertise, including in Indonesia. Your legacy lives on in the knowledge and professional integrity of every graduate.

The ITC on Radiation Measurement and Radiation Protection was a pivotal experience in my career as a trainer in nuclear field. Its pedagogy—emphasizing critical thinking over rote answers, transforming theory into skill in hands-on labs, and demonstrating passionate instruction—set the ultimate training standard. This model directly inspired and shaped the programs I implemented as the Director of Education and Training Center, National Nuclear Energy Agency of Indonesia (BATAN) from 2015 to 2019.

As we look to the coming years, I am confident the ITP will lead the way in preparing trainers and professionals for the challenges of nuclear utilization in the future, be it in radiation and nuclear safety, nuclear medicine advancements, or the next generation of nuclear power.



Ms. Suchin UDOMSOMPORN

Former Deputy Secretary General, Office of Atoms for Peace (OAP), Ministry of Higher Education, Science and Technology
Completed ITC 1999 on Application of Nuclear Technique, Completed ITC 2005 on Radiation Safety Officer

In celebration of the 30th anniversary of ITP, I would like to take this opportunity to express my heartfelt gratitude and wish the ITP continued prosperity and success in nurturing valuable professionals both in Japan and internationally.

My impressions of both courses include the well-structured programs, the intensive and comprehensive course content designed for future instructors, and the valuable facility visits. Most memorable of all were the lecturers, covering theoretical and practical aspects, who delivered the content with dedication, precision, and a variety of effective techniques that I still recall today.

To ensure the highest level of radiation safety of workers and public, radiation protection courses are indispensable for personnel in organizations that make use of radiation. Beyond the course content and the training facilities for practical and theoretical study, the instructor is the key factor in effectively imparting knowledge to participants. Instructors must therefore possess strong theoretical and practical expertise, as well as the ability to communicate knowledge clearly and effectively. For this reason, institutions dedicated to developing highly skilled instructors and a well-structured training curriculum are essential.



Dr. NGUYEN Tuan Khai

Vice President, Vietnam Atomic Energy Institute (VinAtom), Former Director General of Vietnam Agency for Radiation and Nuclear Safety (VARANS)
Completed ITC 2013 on Reactor Engineering

I would like to extend my heartfelt congratulations on the 30th Anniversary of ITP. Over the past three decades, ITP has played a vital role in advancing knowledge and expertise in radiation monitoring, radiation emergency response, and nuclear reactor engineering through FTC and ITC.

My memories from the ITC remain vivid. The FTC greatly benefits a large number of young researchers and engineers through lectures by both Vietnamese and Japanese. For me, as a participant in the ITC on Reactor Engineering, this milestone carries a special meaning, as the program greatly shaped both my technical skills and professional outlook. The course deepened my understanding of reactor physics and nuclear safety, and I particularly valued the collaborative problem-solving exercises with participants from diverse backgrounds, which enriched both the technical discussions and personal connections.

Looking to the future, I hope the ITP continues to adapt to emerging nuclear power technologies and global challenges. By fostering innovation, international collaboration, and strong professional networks, it will remain a cornerstone in supporting human resource development for nuclear safety and sustainability.

Follow-up Training Course (FTC)

The Follow-up Training Course (FTC) is designed to foster nuclear human resources in the home countries of ITC (Instructor Training Course) graduates. This training is managed primarily by ITC graduates, who also serve as instructors. The course offers training in three areas: Reactor Engineering, Nuclear/Radiological Emergency Preparedness, and Environmental Radioactivity Monitoring.



FTC on Nuclear/Radiological Emergency Preparedness and Emergency Radioactivity Monitoring, Türkiye

Annual Implementation Record of FTC

Indonesia Kazakhstan Malaysia Mongolia
Philippines Thailand Türkiye Viet Nam

Training Course Name	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Reactor Engineering												
Nuclear/Radiological Emergency Preparedness												
Environmental Radioactivity Monitoring												

Nuclear/Radiological Emergency Preparedness

Providing Emergency Response Skills



Mongolia

At the Nuclear Energy Commission of Mongolia, the FTC on Nuclear/Radiological Emergency Preparedness is conducted every year with participants from a wide range of related organizations. This year's course was held in late October, during very cold weather with daytime temperatures below freezing.

Fourteen participants from thirteen organizations joined the training. These included the National Cancer Center, the General Intelligence Agency, the National Police Agency, and the General Staff of the Armed Forces. The participants learned the knowledge needed to respond properly to emergency situations.

The course included a wide range of lectures and exercises. Lectures covered basic radiation knowledge and Mongolia's emergency response system. Practical exercises focused on how to use radiation measurement instruments. Instructors from Japan also contributed by giving lectures on internal dose calculation and Japan's nuclear emergency response framework, supporting human resource development in Mongolia.

At the end of the course, the participants carried out a tabletop exercise. The scenario involved a traffic accident with a vehicle transporting radioactive materials. Working in groups, they discussed response actions and improved their understanding of how to respond to nuclear and radiological emergencies.



Tabletop exercise on emergency response

Reactor Engineering

Contributing to Thailand's Human Resource Development Program

Thailand



FTC on Reactor Engineering in Thailand was held over five days at the Thailand Institute of Nuclear Technology (TINT) in Bangkok. In addition to 19 participants from power companies, research institutes, and university lecturers, four high school students participating in this year's IAEA-sponsored International Nuclear Science Olympiad (INSO) also took part. The program included lectures on reactor physics, neutron experiments, and facility tour of the research reactor (TRR-1/M1). During the neutron moderation and diffusion experiment practice, which started three years ago, the equipment did not work smoothly because of some troubles. However, the ability of instructor to handle the situation despite these troubles demonstrated their accumulated experience.

In Thailand, a Systematic Approach to Training (SAT) is being implemented, applying five phases—Analysis, Design,

Development, Implementation, and Evaluation—to standardize the quality of human resource development. Consequently, beyond the FTC, domestic facilities like TRR-1/M1 are utilized for common human resource development, experiments, and continuous assessment. This advances a human resource development plan in the field of reactor engineering aligned with the national nuclear roadmap and human capital strategy.



Neutron Experiment

Environmental Radioactivity Monitoring

DOST-PNRI Conducts FTC as a National Training Course



Philippines

The Department of Science and Technology - Philippine Nuclear Research Institute (DOST-PNRI), in cooperation with JAEA, successfully conducted the FTC on Environmental Radioactivity Monitoring from August 4 to 8, 2025, at the PNRI compound in Diliman, Quezon City. The FTC on Environmental Radioactivity Monitoring is an annual training organized by PNRI to provide participants from diverse sectors with both theoretical knowledge and hands-on experience in environmental radioactivity monitoring. This year's participants included members of the academe, nuclear and radiation workers, researchers, as well as representatives from public and private industries. Two Japanese experts from JAEA served as resource lecturers alongside PNRI experts and specialists in environmental radioactivity measurement and monitoring.

The participants commented that "FTC is indeed an excellent course to take in enhancing your capacity to handle radioactive materials from different sources in the environment. This leads to the protection of the radiation workers and the public from detrimental effects of radiation." and "All instructors are well-prepared." This year's program placed strong emphasis on hands-on practical training designed to strengthen participants' technical competence in radiation measurement and monitoring. The course included guided exercises on ambient gamma dose-rate monitoring, enabling trainees to conduct field measurements, interpret real-time data, and understand environmental radiation levels. Participants were also trained in radioactivity measurement using gamma spectrometry, covering detector operation, spectrum analysis, and radionuclide identification. In addition, liquid scintillation counting exercises were conducted to familiarize participants with sample preparation, counting techniques, and data evaluation for low-level radioactivity analysis.

To further enhance the scope of the program, the curriculum incorporated both basic and advanced radon measurement and

monitoring. Participants were introduced to the principles of radon detection and the use of various radon measurement technologies, ranging from passive detectors to active continuous monitoring instruments. These lectures and exercises provided practical experience in instrument deployment, data interpretation, and assessment of radioactivity levels in different environments, reinforcing the course's objective of delivering comprehensive, application-oriented training in radiation monitoring.



Exercise on environmental radiation measurement

Nuclear Technology Seminar (NTS)

Basic Radiation Knowledge for School Education

Period: 3 July – 16 July 2025
 Venue: Tokai, Ibaraki
 Participants: 12

Outline: The course objective is to foster human resources who will disseminate correct knowledge of nuclear energy and radiation to the public and students in Asian countries. The course is open to persons in charge of public relations in nuclear research institutes or governmental agencies, persons involved in educational administrations and schoolteachers. In JFY2025, the course provided 7 lectures, 6 exercises and 6 facility visits.

Learning through Experiencing Decontamination Activities

During the course, participants learned about decontamination procedures through practical exercises. Following the Fukushima Daiichi Nuclear Power Station accident, extensive decontamination work was carried out in areas where contamination was detected. Workers at that time used protective equipment such as Tyvek suits and full-face masks to prevent exposure. In the training, participants practiced putting on this equipment to gain an understanding of the conditions experienced by those workers. They learned that the procedures are detailed, that mobility is limited in the suit, and that breathing becomes more difficult when wearing the mask. They also practiced removing the protective equipment carefully to avoid spreading contamination.

The course further included a skin-decontamination exercise. Instead of radioactive material, fluorescent paint visible under black light was used. After applying the paint and washing their hands, participants observed that areas not washed thoroughly continued to glow. Even after washing with soap, small amounts of paint remained in skin creases and around the fingernails. Through these exercises, participants gained a clear understanding of the challenges involved in effective decontamination.

In addition to radiation safety, participants visited the ISCN exercise field to learn about the importance of nuclear security. The photo above on page 12 shows a demonstration of baggage screening using an X-ray system as an example of security measures at nuclear facilities. The visit provided participants with practical insights into various nuclear security measures.



Protective equipment exercise with hand decontamination practice



ISCN exercise field visit for the NTS on Basic Radiation Knowledge for School Education

Making Radiation Education Accessible and Enjoyable: Learning from Professor IIMOTO's Initiatives

Professor IIMOTO Takeshi, Division for Environment, Health and Safety, the University of Tokyo, has been actively promoting radiation education that helps people feel more familiar with radiation and learn about it in an enjoyable way. By developing original, experience-based learning programs, he has made a significant contribution to the promotion of nuclear science education both in Japan and internationally.

In the NTS on Basic Radiation Knowledge for School Education, participants learn about Japanese educational practices developed by Professor Iimoto through his lectures and by watching radiation education videos in which he personally appears. Participants shared positive feedback such as, "We would like to create similar videos ourselves," and "This gave us valuable ideas for developing education programs in our own countries." These experiences offer important insights into engaging and effective approaches to learning. The knowledge gained is further applied in discussions and presentations during the training and provides strong support for each participant's future radiation education and outreach activities in their home countries.



Group photo with Prof. IIMOTO (third from the left in the back row)

Nuclear Plant Safety

Period: 26 November – 19 December 2025
 Venue: Tsuruga, Fukui
 Participants: 10

Outline: The course is open to researchers and engineers engaged in the field of radiation application, fundamental nuclear technology, and operation of nuclear power plants or research reactors in Asian countries. The course provides participants with lectures on safety measures and risk assessment for nuclear facilities, operation and maintenance of nuclear reactors, prevention of nuclear disaster and management of radioactive wastes. Moreover, it provides exercises and nuclear related facility visits as well as information exchange and discussion on each country's nuclear power generation plan. In JFY2025, the course provided 19 lectures, 3 exercises, 7 facility visits and 3 discussions.

Learning Safety Technologies for Nuclear Reactor Facilities

Participants received lectures from experts on a wide range of topics related to nuclear power plant safety, including safety assurance measures, plant operations, radiation protection, maintenance, and safety assessment. They also visited Tsuruga Nuclear Emergency Response Center, which serves as a key base for emergency response in the event of an accident at a nuclear power plant, and learned about its roles, response procedures, and facilities. Participants commented that the visit was particularly interesting, noting that they gained valuable insights into efficient communication systems for responding to nuclear emergencies.



Visit to Tsuruga Nuclear Emergency Response Center, Tsuruga, Fukui

Nuclear Energy Officials

Period: 13 January – 30 January 2025
 Venue: Tsuruga, Fukui
 Participants: 12

Outline: The course is open to governmental officials in nuclear administration. The course provides participants with lectures on a wide range of necessary topics for nuclear administrators such as nuclear energy policy, security administration, safety culture, safety measures and safety management for nuclear facilities, and human resource development. The course also offers visits to nuclear-related facilities as well as information exchange and discussion on each country's nuclear power generation plan. In JFY2025, the course provided 18 lectures, 7 facility visits and 3 discussions.

Learning about Nuclear Administration

Participants learned about Japan's approach to nuclear power generation, nuclear safety regulations, disaster prevention and crisis management, as well as the roles of local governments in nuclear administration, public outreach, and disaster preparedness through lectures and site visits. They also received lectures from domestic and international experts on topics such as the nuclear damage compensation system (see P14). Participants commented that learning directly from Japanese experts about nuclear management was valuable and applicable to their work. Others noted that they gained an understanding of the entire lifecycle of nuclear power, from introduction to decommissioning.



Visit to Tsuruga Unit 2, JAPC

Site Preparation and Public Relations

Period: 27 October – 31 October 2025
 Venue: Tsuruga, Fukui
 Participants: 10

Outline: The course is open to governmental officials in nuclear regulation and public relations. The course provides participants with lectures on laws and assessment regarding site preparation of nuclear facilities, public relations activities, and risk communication as well as a visit to a planned construction site of nuclear power plants. Furthermore, participants exchange information and have discussions on each country's nuclear power generation plan. In JFY2025, the course provided 7 lectures, 4 facility visits and 2 discussions.

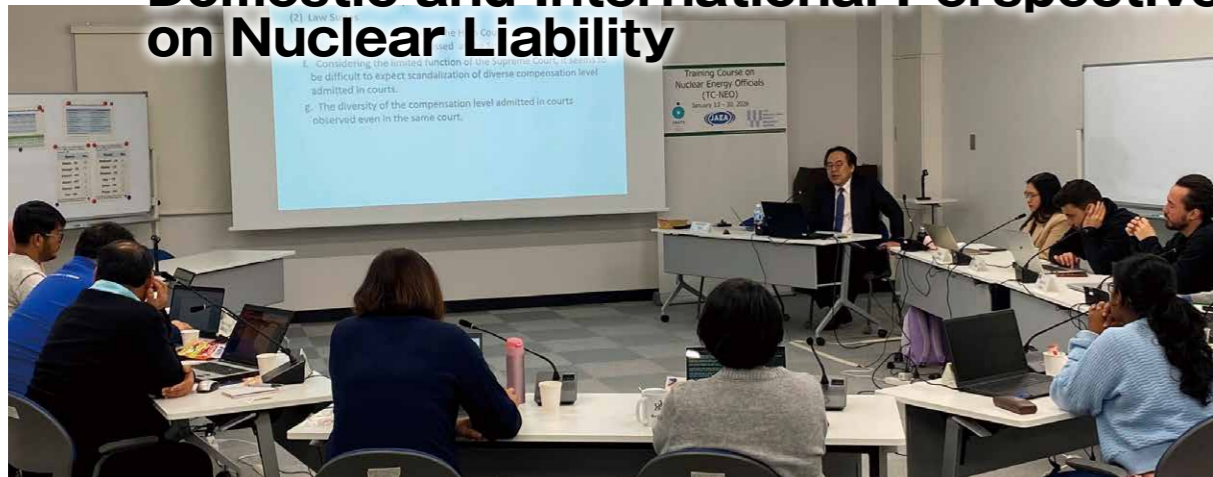
Learning about Siting and Construction of Nuclear Power Plants

Participants learned how nuclear power plant construction projects are planned and implemented, with a focus on site selection and environmental impact assessments. They also visited the construction preparation site for Units 3 and 4 at the Tsuruga Power Station by the Japan Atomic Power Company (JAPC). After the visit, participants commented that they gained a clear understanding of the environmental and safety considerations taken before actual construction begins and obtained valuable insights into the early stages of nuclear power plant construction projects.



Visit to planned construction site of Tsuruga Units 3 and 4, JAPC

Feature Article Another Pillar Supporting the Introduction of Nuclear Power
Domestic and International Perspectives on Nuclear Liability



The introduction of nuclear power cannot proceed without a sound nuclear liability regime complying with international principles. In response to growing momentum toward nuclear power deployment across Asia, NTS on Nuclear Energy Officials introduced a new lecture this fiscal year on nuclear liability systems. This year, we welcomed three distinguished lecturers:

Mr. Taro Hokugo, Deputy Director of RIKEN Center for Advanced Intelligence Project (AIP), who is serving as Vice-Chair of the OECD Nuclear Energy Agency (NEA) Steering Committee, Vice Chair of the Meeting of Contracting Parties and Signatories to the Convention on Supplementary Compensation for Nuclear Damage (CSC), and a member of the IAEA's International Expert Group on Nuclear Liability (INLEX). He also served as Vice-President of the CSC Amendment Conference held in January 2026;

Mr. Ben McRae, Deputy Assistant General Counsel for Civilian Nuclear Programs at the U.S. Department of Energy, who is serving as Vice-Chair of the NEA Nuclear Law Committee, Chairperson of the Meeting of Contracting Parties and Signatories to the CSC, a member of INLEX, and served as President of the CSC Amendment Conference; and

Mr. Akihito Uetake, Senior Managing Director of the Japan Atomic Industrial Forum (JAIF), who promotes the development and peaceful use of nuclear technology from an industry perspective.

Today, we spoke with Mr. Hokugo about domestic and international perspectives on nuclear liability systems.

Q1 Could you outline the content of this year's lectures?

A1 I spoke about Japan's nuclear liability system and the compensation related to the TEPCO's Fukushima Daiichi Nuclear Power Station accident. Mr. McRae lectured on the current situation of the international regimes on nuclear liability, such as the CSC, while Mr. Uetake explained about the importance of nuclear liability systems from the perspective of industry.

Q2 Please explain the nuclear liability system.

A2 A nuclear liability system establishes a special framework for compensation in the event of a nuclear accident. Its purpose is to ensure that victims are compensated promptly and fairly in the unlikely event of an accident, while also promoting the sound development of nuclear activities. Unlike ordinary tort liability, the nuclear operator bears strict liability for the nuclear damage caused by its operation, compensation liability exclusively, and its liability is exclusively channeled to such operator. In addition, nuclear operators are required to maintain the financial security, such as insurance, to cover potential compensation liability.

Q3 How does the Fukushima Daiichi accident relate to the nuclear liability system?

A3 The Fukushima Daiichi accident was only the second case where the nuclear liability system was actually applied in Japan. The scale of and the long-term process of the compensation raised the recognition of the fundamental significance of the system. At the same time, challenges became evident, including how to secure sufficient fund for compensation and the appropriate range of the role of the Government. In response, a series of additional legislative measures were enacted after the accident. These experiences have been shared internationally as the important lessons for practical preparedness for the compensation in the unlikely event of an accident.

while enhancing global awareness of the importance of the systems.

Q4 What international frameworks exist for nuclear liability systems?

A4 International conventions establish common rules for nuclear liability and clarify the court jurisdiction and choice of law in cases involving transboundary damage. These include the Paris Convention, adopted by Western European countries, and the Vienna Convention, with many parties in Eastern Europe and South America. In addition, there is the Convention on Supplementary Compensation for Nuclear Damage (CSC), which is open to parties to either of these conventions as well as to the countries that are not party to either. The CSC also provides a supplementary compensation mechanism funded by contributions from contracting parties, which supports compensation in the accident state. As countries such as Japan, the United States, the United Kingdom, and India participate, the CSC currently covers the largest share of global nuclear generating capacity. The IAEA actively promotes broader adherence to international nuclear liability conventions, such as the CSC, and through INLEX, its Director General's advisory body, works for the harmonization in practice among these conventions.

Q5 Nuclear power is also being introduced in many Asian countries. What are your expectations for the Lecturer Development Program?

A5 When developing domestic nuclear liability legislation or joining the international conventions, it is essential that government officials responsible for nuclear administration have a solid understanding of these systems. Providing accurate information and fostering discussion among officials through the Lecturer Development Program is therefore extremely important for strengthening nuclear liability regimes in Asian countries. Going forward, support should continue to be provided in ways that reflect international developments while remaining responsive to the specific circumstances of each country.

Steering Committee Meeting (SCM)

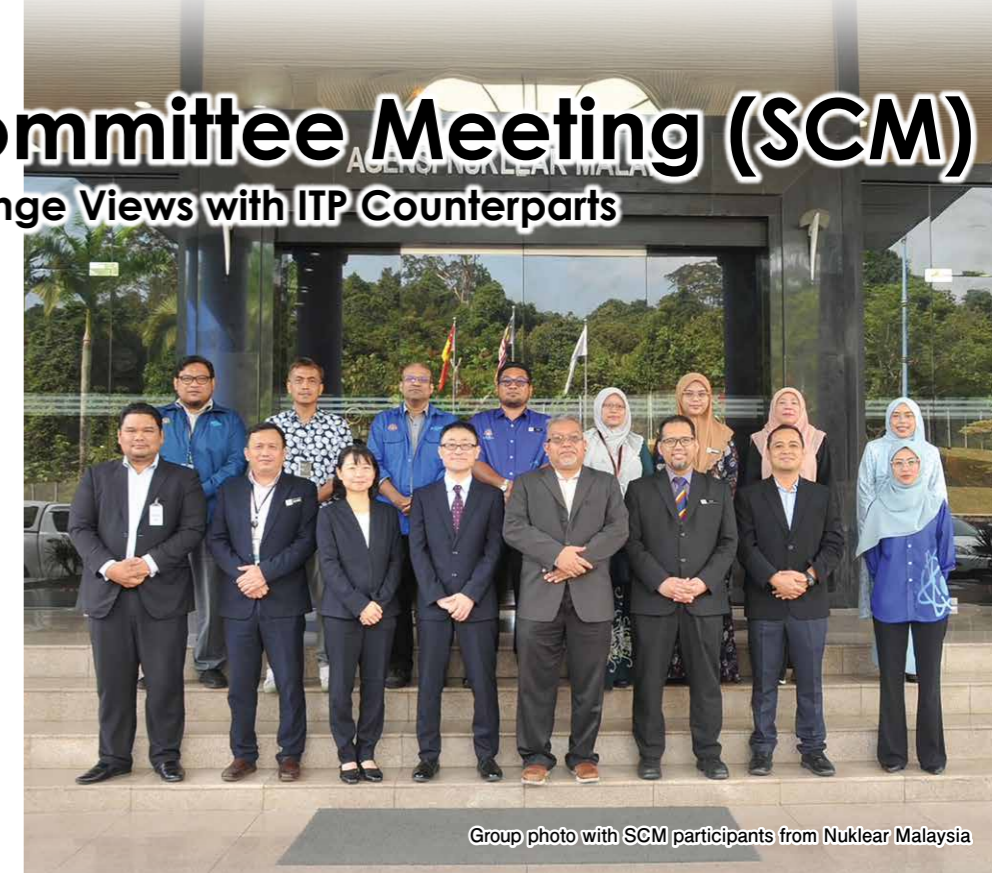
Opportunities to Exchange Views with ITP Counterparts

Overview of the Steering Committee Meeting (SCM)

Every year, staff from the Integrated Support Center for Nuclear Nonproliferation, Security and Human Resource Development (ISCN) of JAEA hold a Steering Committee meeting (SCM) with counterparts in the nine countries that have participated in the Instructor Training Course (ITC) (see p.2). These meetings serve as a platform for discussing and exchanging views on the status and future plans for nuclear human resource development, including the implementation of Follow-up Training Courses (FTC), as well as operational challenges related to the Instructor Training Program (ITP).

In addition to exchanging information on each country's nuclear utilization status and future plans, JAEA staff also visit relevant organizations to promote cooperation in nuclear human resource development and identify specific needs in this area.

Under the ITP framework, each participating country designates a counterpart organization (see p.16), which is responsible for selecting ITC candidates and organizing FTCs. To ensure the smooth and effective implementation of activities, the program not only facilitates interactions between past ITC participants, FTC instructors and participants, and JAEA instructors but also promotes engagement with key personnel from nuclear-related organizations in each country.



Group photo with SCM participants from Nuklear Malaysia

Expected Outcomes of the SCM

The understanding and full commitment of the counterpart organizations are essential for past ITC participants to successfully organize FTCs annually in their home countries and sustain nuclear human resource development. In the SCM, JAEA and its counterparts share information on the implementation of ITC and FTC, discuss challenges, and strengthen collaboration. By gaining deeper insight into each country's situation and identifying specific needs, JAEA can provide more tailored support and continuously enhance the program. In addition, to promote the mutual development of nuclear science and technology, JAEA shares information and exchanges views on nuclear policies among Asian countries and Japan.

Report on the SCM with the Malaysian Nuclear Agency (Nuklear Malaysia)

From 5 to 7 August 2025, two staff members from the ISCN, JAEA visited the Nuklear Malaysia, the counterpart organization in Malaysia, to hold the SCM. The meeting was attended by 20 representatives from Nuklear Malaysia, including Dr. Shukri bin Mohd, Senior Director of the Management Programme at Nuklear Malaysia. They provided information on the current status and future plans for the use and development of nuclear energy in Malaysia, as well as on human resource development programs at Nuklear Malaysia. JAEA shared information on the status of nuclear energy utilization in Japan and the implementation of training programs under the ITP. In addition, reports on the FTC conducted annually in Malaysia (see the photos on the right) and plans for the next course were discussed, providing a valuable opportunity for both sides.

In addition, JAEA shared at the SCM that, starting in JFY2026, an online Follow-up Seminar will be held for past participants of the Nuclear Technology Seminar (NTS) on Basic Radiation Knowledge for School Education. During the meeting, course graduates reported that in Malaysia, the Ministry of Education and Nuklear Malaysia work together to integrate nuclear science education into school science programs. They also introduced initiatives such as nuclear camps, which provide children with opportunities to learn in an enjoyable way. Furthermore, Malaysia's unique efforts in inclusive education were shared, including the development of Braille learning materials for people with visual impairments. JAEA plans to feature these outstanding initiatives from participating countries in future Follow-up Seminars.



FTC on Reactor Engineering: Neutron activation analysis



FTC on Nuclear/Radiological Emergency Preparedness: Integrated emergency response drill



Photo with graduates of the NTS on Basic Radiation Knowledge for School Education



FTC on Environmental Radioactivity Monitoring: Water sampling exercise

Message from Director of ISCN

Integrated Support Center for Nuclear Nonproliferation,
Security and Human Resource Development (ISCN)
Japan Atomic Energy Agency (JAEA)

Director **INOUE Naoko, Ph.D.**



This year, we celebrate the 30th anniversary of the Instructor Training Program (ITP). The program has grown into a cornerstone of nuclear human resource development in Asia, made possible by the strong commitment and cooperation of our Asian partners. I would like to express my sincere gratitude to all those who have contributed to this achievement.

In April 2025, the Nuclear Human Resource Development Center (NuHRDeC) was merged with the Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), marking a new start as a renewed center. This merger has strengthened our ability to support human resource development toward the sound advancement of nuclear science and technology, with expanded focus on 3S (nuclear and radiation Safety, nuclear Security, and Safeguards) capacity building and 2S (Security and Safeguards) technology development and cooperation.

Today, amid global efforts toward decarbonization, energy security, and rising electricity demand driven by new technologies such as AI and data centers, nuclear energy is once again gaining attention worldwide. In this changing environment, the role of the ITP is also evolving. We will continue to deepen our partnerships with Asian countries and contribute through human resource development that meets regional needs. As a renewed ISCN moving forward together with Asia, we kindly ask for your continued support and cooperation.

ITP Counterparts in JFY2025

Country	Organization	Abbreviation
Bangladesh	Bangladesh Atomic Energy Commission	BAEC
Indonesia	Indonesia National Research and Innovation Agency	BRIN
Kazakhstan	National Nuclear Centre of the Republic of Kazakhstan	NNC RK
	Institute of Nuclear Physics	INP
Malaysia	Malaysian Nuclear Agency	Nuklear Malaysia
Mongolia	Nuclear Energy Commission	NEC
Philippines	Philippine Nuclear Research Institute	PNRI
Saudi Arabia	King Abdullah City for Atomic and Renewable Energy	KACARE
Sri Lanka	Sri Lanka Atomic Energy Board	SLAEB
Thailand	Thailand Institute of Nuclear Technology	TINT
Türkiye	Turkish Energy, Nuclear and Mineral Research Agency	TENMAK
Viet Nam	Vietnam Atomic Energy Institute	VinAtom

Memories of JFY2025

In 2025, many activities and memorable moments come to mind as we look back on the year. One highlight was a radiation measurement exercise conducted jointly by Asian participants and students from Mito Daini Senior High School in Ibaraki (see the photo at the bottom of the cover). We also carried out outdoor environmental sample collection and radiation measurement exercises while carefully implementing heat-stroke prevention measures (see the photo on the right), as well as visits to a wide range of nuclear-related facilities. These activities provided valuable learning opportunities for all participants.



We received many positive comments from the participants, including "It was a very meaningful experience," which was truly encouraging for our editorial and training staff. We are also pleased to report that all participants completed the program safely this year, without any injuries or illnesses.

As we wish our graduates every success in their future endeavors, we will continue to support nuclear human resource development in Asia together with our partners.

ITP Schedule in JFY2026

ITP Schedule in JFY2026		Course Period	Announcement	Deadline	Selection Results	Place	Participant
ITC	Reactor Engineering	11 Nov - 16 Dec 2026	Mar 2026	May 2026	Aug 2026	Tokai,Ibaraki	13
	Nuclear/Radiological Emergency Preparedness	7 Oct - 28 Oct 2026			Jul 2026	Tokai,Ibaraki	7
	Environmental Radioactivity Monitoring	7 Oct - 28 Oct 2026					7
AITC	Reactor Engineering	2 Sep - 11 Sep 2026	Feb 2026	Apr 2026	May 2026	Tokai,Ibaraki	8
	Nuclear/Radiological Emergency Preparedness	(Scheduled for 2027)	—	—	—	Tokai,Ibaraki	—
	Environmental Radioactivity Monitoring					—	
NTS	Basic Radiation Knowledge for School Education	2 Jul - 15 Jul 2026	Feb 2026	Apr 2026	May 2026	Tokai,Ibaraki	12
	Nuclear Plant Safety	TBD (4 weeks)	May 2026	Jun 2026	Jul 2026	Tsuruga,Fukui	10
	Nuclear Energy Officials	TBD (3 weeks)					12
	Site Preparation and Public Relations	TBD (1.5 weeks)					10

*In the event of unavoidable circumstances, changes are possible.



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Our Website



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