Advanced Instructor Training Course JFY2025

Course Prospectus

Nuclear/Radiological Emergency Preparedness

Integrated Support Center for Nuclear Nonproliferation,
Security and Human Resource Development

JAPAN ATOMIC ENERGY AGENCY

1 COURSE INTRODUCTION

1.1 OBJECTIVE

The objective of the Advanced Instructor Training Course (AITC) on Nuclear/Radiological Emergency Preparedness (NREP) is to deepen the knowledge of Follow-up Training Course (FTC) instructors in nuclear and radiological emergency preparedness. In addition, exercises to enhance presentation skills will be provided to help develop experienced instructors in Asian countries.

Through this program, simulation techniques such as atmospheric dispersion forecast system (WSPEEDI) will be presented together with the lecture. Discussions will be held with participants and JAEA experts on appropriate responses to nuclear emergencies. Facility visits in JAEA, such as the Collaborative Laboratories for Advanced Decommissioning Science (CLADS) in Fukushima, and the Clean Laboratory for Environmental Analysis and Research are also included in this course.

1.2 PARTICIPANTS

FTC instructors who have teaching experience of two or more different years of FTC in the field of nuclear and radiological emergency preparedness are qualified to apply for the course as participants. Please refer to the “Application Guidance” for the further information.

1.3 NOTE

- AITC on Nuclear/Radiological Emergency Preparedness will be held in parallel with AITC on Environmental Radioactivity Monitoring. Most of the lectures and other activities will be jointly conducted with AITC on Environmental Radioactivity Monitoring. The joint activities are described in COURSE SYLLABUS as Joint Class.
- This course will be organized face-to-face.

2 COURSE SYLLABUS

2.1 Lecture

(1) Environmental Radiation Monitoring Program in Japan (Joint Class)

- Introduction of environmental radiation monitoring programs for normal and emergency situations in Japan
- Concept and structure of environmental radiation monitoring

(2) Atmospheric dispersion forecast system (WSPEEDI) - Prediction of environmental dose in nuclear emergency utilizing particle dispersion simulation model (Joint Class)

- Overview of Worldwide version of System for Prediction of Environmental Emergency Dose Information (WSPEEDI)

(3) Experience of Environmental Radiation Monitoring in Fukushima and its Application to Nuclear Disaster Prevention (Joint Class)

- JAEA's experience in measuring the distribution of environmental radioactivity on a large scale using unmanned aerial vehicles
- The development status of new technology regarding unmanned aerial vehicles and its application to nuclear disaster prevention technology for the future

(4) Case Study on Nuclear/Radiological Emergency Response

- Overview of emergency response system in Japan
- Nuclear/Radiological emergency cases in Japan
- Discussion on appropriate responses to nuclear emergencies.

2.2 Exercise (Joint Class)

(1) Presentation: Introduction of FTC in your country

- Good practice and challenges.

(2) Exercise on WSPEEDI

- Simulations of Fukushima Daiichi NPP accident case scenario (esp. practical and hands-on)

(3) Presentation Skills Enhancement Exercise

- Enhance lecture delivery and audience engagement
- Practice through mock lectures and feedback

(4) Prospect for your FTC

・Plans for Improving the FTC

2.3 Facility Visit

(1) Airborne Survey System using Unmanned Airplane (Minami-soma City, Fukushima), CLADS, JAEA

・Facility and equipment related to 2.1 (3)

(2) Naraha Center for Remote Control Technology Development

・Full-scale mock-up test building

・VR system used for training workers at the Fukushima Daiichi Nuclear Power Plant

(3) Exhibition Building of Prevention Equipment against Nuclear Disaster, Chiyoda Technol Corporation

・Practical training facility with actual devices/equipment

(4) Clean Laboratory for Environmental Analysis and Research (CLEAR), JAEA (Tokai, Ibaraki)

・The first laboratory-scale clean-room facility in Japan

・Reliable analysis on ultra-trace amounts of nuclear materials

(5) Facility of Radiation Standards (FRS), JAEA

3 ASSIGNMENT

(1) Presentation

・Introduction of FTC in your country

・Good Practices and Challenges

(2) Final Presentation

・Prospect for your FTC

・Plans for Improving the FTC