

Workshop of Safety and Regulation on Radioactive Sources

Organised by

Arab Network of Nuclear Regulators (ANNuR)

And

Korea Institute of Nuclear Safety (KINS)

Daejeon, Republic of Korea

June 1 - June 11, 2015

Prospectus

A. Introduction

The Workshop of "Safety and Regulation on Radioactive Sources" is aimed at assisting government, radiological regulatory bodies, and its technical support organizations (TSO) to transfer and share knowledge and experience of safety regulation of radioactive sources among the Arab Network of Nuclear Regulators (ANNuR) member countries. Safety assessment for radioactive sources will be practiced specifically and discussed. The workshop is designed to run 11 days so that it consists of various activities such as lectures, presentation, discussion, practice, on-the-spot study, and draw-up of action plans. In this regard, the workshop will be held at the **Korea Institute of Nuclear Safety (KINS) in Deajeon, Republic of Korea, from June 1 to June 11, 2015.**

B. Objectives

The objective of this workshop is to share knowledge and experience of regulatory bodies which are in charge of national radiological safety of radioactive sources which include radioisotopes (RIs) and radiation generators (RGs). This workshop is also aimed at exchanging regulatory activities of radioactive sources in the stage of production or import, distribution, installation, use, storage, maintenance and disposal. In addition, this workshop will also deal with regulatory infrastructure, safety assessment, manufacture, regulatory inspection and use of radioactive sources to self-evaluate capability of regulatory body of ANNuR member countries.

C. Target Audience

The expected participants will be technical regulators who review and inspect safety of RIs and RGs. They must be safety reviewers and/or inspectors in regulatory body, governmental agency, and technical support organization. They have to be experienced in regulating or supervising design, production, use, transportation, decommissioning or disposal of radioactive sources. The contents of this workshop are made up for working-level regulatory personnel (technician, engineer, or researcher), not high level officers or government officials.

D. Working Language

The working language of this workshop will be English; therefore, the ability of English listening and speaking is very necessary. In the workshop participants should give their national presentation. It will be encouraged to discuss with some issues based on their experience. While the workshop is progressing, participants will be requested to deliver their practice report. When an applicant is applied

to this workshop, the recommender who employs the applicant should consider applicant's **English ability**.

E. Structure

This workshop and its subject was proposed by ANNuR and KINS jointly. This workshop provides knowledge and experience for regulatory skilled personnel who have worked in safety review and inspection on RIs and RGs. This workshop progresses with presentations by representatives from each country, lectures by experts from KINS, AdSTM (Advanced System Technology and Management) and KAERI (Korea Atomic Energy Research Institute), and practice for safety assessment. The course comprises five main sessions as follows;

- Session 1: Deposited knowledge and experience of KINS and US NRC will be explained in lectures. KINS will explain about basic technology of radiation protection, radiation exposure and safety management as well as safety regulation and its experience on RIs and RGs. AdSTM will focus on the relationship between the safety and security of radioactive sources, and the regulatory requirements and licensing of radioactive sources by the US Nuclear Regulatory Commission (US NRC).
- Session 2: National presentations should be prepared by participants from ANNuR member countries. After the presentation, the contents will be discussed sufficiently with other participants. The presentation material will be based on draw-up of action plans for each country.
- Session 3: Scientific visit to the KAERI Advance Radiation Technology Institute and HANARO research reactor gives a practical chance to look around operating facilities. Through the visit, we will understand how to produce radioisotope from the reactor, and we will look around high level irradiation device, linear electron accelerator and ion implantation device.
- Session 4: Practice of report draw-up will provide a chance to participants to learn how to evaluate and draw up a regulatory report on a radiation generator. The practice will be carried out in group work.
- Session 5: All of participants should prepare action plans for the regulatory body of their countries. The action plans will be presented in Power Point file, and the ideas will be shared with other participants. The action plan may be a practical material for ANNuR program for next year.

F. Qualification to Apply

To apply to this workshop, an applicant should be designated by his respective government or national regulatory organization. To ensure maximum effectiveness of the exchange of information, the applicant should be a person who has worked for over 2 years in radioactive source safety or regulation, because the participant will have to deliver his national current state and explain his work to other participants. The person should have practical experience on safety and regulation in the field. This workshop is a space for information and knowledge exchange, not just an educational course. Maximum 3 persons (on average 2) from each country will be invited to this workshop.

If only unqualified persons are recommended from a country, the allocation will be passed over other countries.

G. Application Procedure

A person who wants to participate in this workshop should first apply with an application form through the coordinator of KINS (Korea Institute of Nuclear Safety), Mr. DaeSoo Shin, via his official email address: sds@kins.re.kr, not later than **the deadline for nominations (April 10, 2015)**. When an applicant applies, he/she has to be nominated in advance by the applicant's government, organization or agency, and the application should be signed by the CEO or someone who is equivalent of. The completed application will be delivered at the coordinator of KINS, Mr. DaeSoo Shin. The completed application should be legible and clear. Applicants' name should be same as the name in passport. The name will be used for booking airplane ticket. If there is any discord, booking can be failed. The photo in the application sheet should be a colour one. Applicant's telephone number and e-mail address is very important, because all of information for this workshop will be delivered through e-mail.

The participants will be nominated finally from discussion between ANNuR/AAEA and KINS. The participant list will be set up before **April 17, 2015** and it will be informed to the nominated people directly by email from KINS.

VISA issuing will be supported by the Administrative Assistant of KINS, Ms. Jaeseul Park via his official email address: laila823@naver.com. To take VISA and airplane ticket, the nominated participants should submit their passport copy to KINS within 2 days after the nomination.

H. Arrangements

Selected participants will be informed in due course and will be given at that time full details on the procedures to be followed with regard to administrative and financial matters. Selected participants will be fully supported by the KINS in terms of airplane ticket, hotel accommodation, food and transportation.

Copy and shipment of accumulated workshop materials to the participants' home countries is not the responsibility of the hosts. The organizers of this workshop are not to be liable for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the workshop, and it is clearly understood that each Government, in nominating participants, undertakes responsibility for such coverage.

The participants are requested to bring their personal laptop computer for various activities on this workshop.

I. National Presentation

The nominated participants are requested to prepare one national presentations. The presentation is in regard to utilization and industry of radioactive sources, and regulatory structure which include law, organization, authorization, regulatory process, etc. In this presentation, the presenter's work will be

described for sharing his knowledge and skill with other participants. The presentation will be given in first week of the workshop.

One national presentation by each country is about 20 minutes, and the contents of the presentation will be discussed among other participants. The national presentation material should be submitted by **May 15**, 2015 to KINS, the workshop leader; Mr DaeSoo Shin. The each presentation forms will be provided to the participants after the nomination. The presentation material should be prepared in Power Point.

J. Venue

The workshop will be held at the Korea Institute of Nuclear Safety (KINS), Daejeon, Republic of Korea.

K. Organization

Arab Network of Nuclear Regulators (ANNuR)/AAEA

Coordinator:

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Korea Institute of Nuclear Safety (KINS)

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K. KINS Website

Please visit the website regularly for new information regarding KINS and INSS(International Nuclear Safety School):

KINS: <http://www.kins.re.kr/en/>

INSS: <http://inss.kins.re.kr/inss/>

Workshop Agenda



**Korea Institute of Nuclear
Safety**
P.O. Box 114, Yuseong,
Daejeon 305-600, Korea

Edited on April 16

Course Outline

Dates	June 1 (Monday) ~ June 11 (Wednesday), 2015
Subject	Safety and Regulation on Radioactive Sources
Participants	ANNuR and KINS

Schedule

First Week

June 1 ~ June 11

Date	Time	Subject	Remarks
May 31 (Sun.)		<ul style="list-style-type: none"> - Arrival at Incheon Airport - Move to Hotel in DaeJeon - Preparation Meeting of ANNuR and KINS Coordinators 	ANNuR Participants
June 1 (Mon.)	09:00~09:30 (Safety School)	Registration of Participants	
	09:30~10:50	Opening - Self-introduction of Participants - Presentation P1-1: Current State of AAEA/ANNuR - Presentation P1-2: International Cooperation of the KINS	Presided by DaeSoo Shin AAEA DaeSoo Shin
	10:50~11:20	Break	
	11:00~12:00	- Introduction of Workshop Schedule - Welcome Remark- Dr. KangRyong Choi, Director of KINS Safety School - Appreciation Remark- ANNuR Representative - KINS Campus Life - Group Photo	Presided by DaeSoo Shin
	12:00~13:20	Lunch	
	13:20~14:50	Lecture L1-1: Status of Nuclear Facilities and Radioisotope Users in Korea	DaeSoo Shin
	14:50~16:20	Lecture L1-2: What is Radiation	DaeSoo Shin
	16:20~17:50	Lecture L1-3: Radiation Protection	CheolSu Kim
	17:50~18:00	Discussion	

June 2 (Tue.)	09:00~09:20	Preparation	
	09:20~10:50	Lecture L1-4: Radiation Exposure	CheolSu Kim
	10:50~12:20	Lecture L1-5: Radiation Protection Against Naturally Occurring Radiation Sources	CheolSu Kim
	12:20~13:20	Lunch Break	
	13:20~14:50	Lecture L1-6: Safety and Security of Radioactive Sources	Charlie Miller
	14:50~16:20	Country Report- 1 Country Report- 2 Country Report- 3	Presided by DaeSoo Shin
	16:20~17:50	Country Report- 4 Country Report- 5 Country Report- 6	Presided by DaeSoo Shin
	17:50~18:00	Discussion	
June 3 (Wed.)	09:00~09:20	Preparation	
	09:20~10:50	Lecture L1-7: Regulatory Requirements for the Safe Use of Radioactive Sources in the USA	Charlie Miller
	10:50~12:20	Lecture L1-8: Licensing of Radioactive Sources by the USNRC	Charlie Miller
	12:20~13:20	Lunch Break	
	13:20~14:50	Lecture L1-9: Safety Assessment of Radiation Sources	HoShin Choi
	14:50~16:20	Lecture L1-10: Regulatory Inspection on Radiation Sources	HoShin Choi
	16:20~17:50	Country Report- 7 Country Report- 8 Country Report- 9	Presided by DaeSoo Shin
	17:50~18:00	Discussion	
June 4 (Thu.)	08:30~11:00	Departure to ARTI in JeongEup Move to the ARTI	Escorted by DaeSoo Shin
	11:00~12:30	Lecture L1-11: Radiation Effect Science and Protection	JinKyu Kim
	12:30~14:00	Lunch Break	
	14:00~15:30	Lecture L1-12: Cyclotron and its Application	SeungDae Yang
	15:30~17:00	Lecture L1-13: Drug Evaluation Using Radioisotopes	SangHeun Park
	17:00~18:00	Facility Tour FT1-1: Cyclotron Facility Tour FT1-2: RI-Biomics	MinGu Heu BeumSoo Chang

June 5 (Fri.)	09:20~10:30	Lecture L1-14: Radiation Processing for Polymeric Materials and its Industrial Application	SeungHwan Oh
	11:00~12:30	Lecture L1-15: Radiation Measurement Instrument	ManHee Cheung
	12:30~14:00	Lunch Break	
	14:00~15:30	Lecture L1-16: Radiation Breeding Application for Agriculture	JunWoo Ahn
	15:30~16:30	Facility Tour FT1-3: Irradiation Facility Facility Tour FT1-4: Radiation Breeding in Korea	HoJe Kwon JunWoo Ahn
	16:30~	Move to Hotel in DaeJeon	Escorted by DaeSoo Shin

Schedule			
Second Week			
June 8 ~ June 11			
June 8 (Mon.)	09:00~09:20	Preparation	
	09:20~10:50	Lecture L2-1: Design and Operation of the Hanaro Research Reactor	JaeKwon Lee
	10:50~12:20	Lecture L2-2: Safety and Regulation of Research Reactors	DaeSoo Shin
	12:20~13:10	Lunch Break	
	13:10~13:40	Move to Hanaro in KAERI	Escorted by DaeSoo Shin
	13:40~14:40	Facility Tour FT2-1: Hanaro Facility Tour FT2-1: RIPP	JaeKwon Lee JunSik Lee
	14:40~16:10	Lecture L2-3: Production of Radioisotopes from a Research Reactor	JunSik Lee
	16:10~17:40	Lecture L2-4: Operation of the RIPP	JunSik Lee
	17:40~	Move to Hotel	Escorted by DaeSoo Shin
June 9 (Tue.)	09:00~09:20	Preparation	
	09:20~10:50	Practice Pr-1: Exercise of Safety Assessment on a Radiation Generator	HoShin Choi
	11:40~12:20	Practice Pr-2: Draw-up of the Report, and Discussion	HoShin Choi
	12:20~13:20	Lunch Break	

	13:20~17:30	Practice Pr-2: Draw-up of Reports and Discussion	HoShin Choi
June 10 (Wed.)	09:00~09:20	Preparation	
	09:20~12:20	Practice Pr-3: Presentation on the Assessment Report, and Discussion	HoShin Choi
	12:20~13:20	Lunch Break	
	13:20~14:50	Action Plan AP-1: How to Draw up an Action Plan	DaeSoo Shin
	14:50~17:30	Action Plan AP-2: Draw-up of an Action Plan	DaeSoo Shin
June. 11 (Thu.)	09:00~09:30	Preparation	
	09:30~12:00	Action Plan AP-3: Presentation of Action Plans and Discussion	DaeSoo Shin
	12:00~12:20	Course Evaluation	
	12:20~13:20	Lunch Break	
	13:20~14:20	Completion Ceremony of the Training Course - Review of the Training Course - Comment by Participants - Award of Certificates - Closing Remark- . KINS Representative- Director of Safety School . ANNuR Representative - Group Photo	Presided by DaeSoo Shin
	14:20~	Return to Hotel or Depart to Incheon Airport	

Welcome Reception of First Week

Monday, June 1, 2015

Participants: ANNuR, KINS

Time	Contents
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18:00-18:30	Departure from KINS to Restaurant
18:30-20:00	Welcome Dinner
20:00-20:30	Departure from Restaurant to Hotel

Experience of Korea Culture- Seoul Tour	
Saturday, June 6, 2015	
Participants: ANNuR, KINS	
Time	Contents
08:00-11:00	Departure from Hotel to Seoul
12:00-19:00	Seoul Tour
19:00-22:30	Departure from Seoul to Hotel

Farewell Dinner of Second Week	
Wednesday, June 10, 2015	
Participants: ANNuR, KINS	
Time	Contents
18:00-18:30	Departure from KINS to Restaurant
18:30-20:00	Farewell Dinner Sightseeing on New Downtown in DaeJeon
20:00-20:30	Departure to Hotel