Japan-IAEA Joint Nuclear Energy Management School (2014)

June 9th – June 26th 2014 in Tokyo and Tokai-mura, Japan

Host organizations:

Japan Nuclear Human Resource Development Network
Japan Atomic Energy Agency (JAEA)
The University of Tokyo
Japan Atomic Industrial Forum (JAIF)
JAIF International Cooperation Center (JICC)

In cooperation with IAEA

IAEA International Atomic Energy Agency
JN-HRD.NET
JAEA
東京大学 THE UNIVERSITY OF TOKYO
JICC JAIF International Cooperation Center
JAIF

Outline of the School

(Purpose) To provide a unique international educational experience to young professionals from newcomer countries seeking to develop nuclear power plants.

(Target) Officials from policymaking and regulatory body, nuclear engineers and researchers

(History)
2010 The first school in Italy (Trieste)
2012 UAE (Abu Dhabi), Japan (Tokai-mura), Italy (Trieste)
2013 USA (Texas), Japan (Tokyo & Tokai-mura), Italy (Trieste)
2014 Japan (Tokyo & Tokai-mura)

(Contents)

[Lectures] : Energy Policy, Nuclear Nonproliferation, International Law, Economy, Environment, Human Resource Development ,etc.

[Group Works] : Group discussion on various topics and presentation on the topics

[Facility Visits] : Nuclear plant manufacturers, Hamaoka Nuclear Power Plant and Nuclear reactor facilities of JAEA , etc.

(Significance)

- ◆Cooperation with IAEA
- ◆International contribution to the NPP-introducing countries
- ◆Establishment of international human network

Outline of the School 2014

(Period) June 9th – June 26th 2014, about 3 weeks

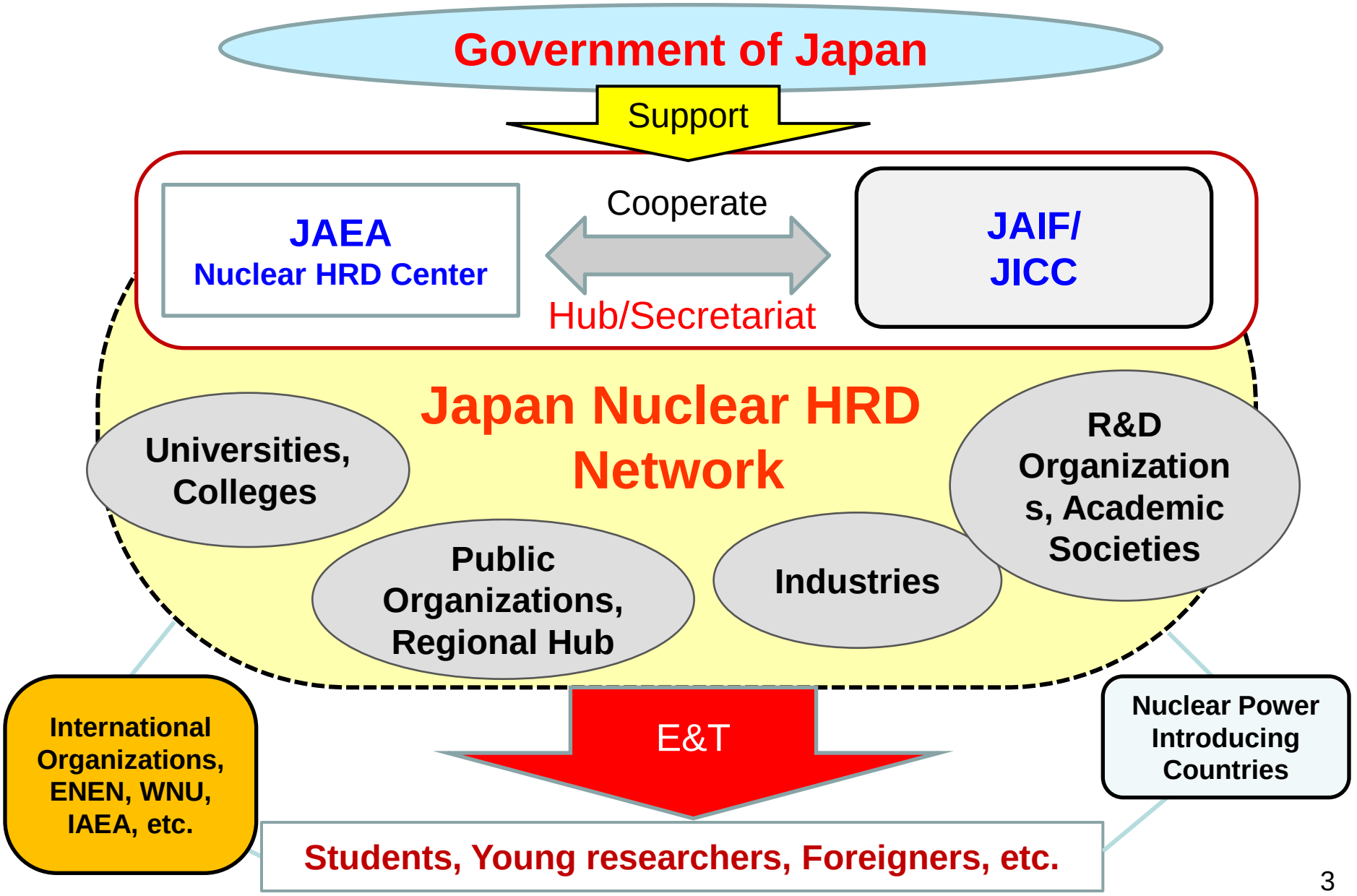
(Venue) The University of Tokyo and the Ibaraki Quantum Beam Center

(IAEA participants) Ms.F. Adachi, Mr.J.de Grosbois, seven people in total participated .

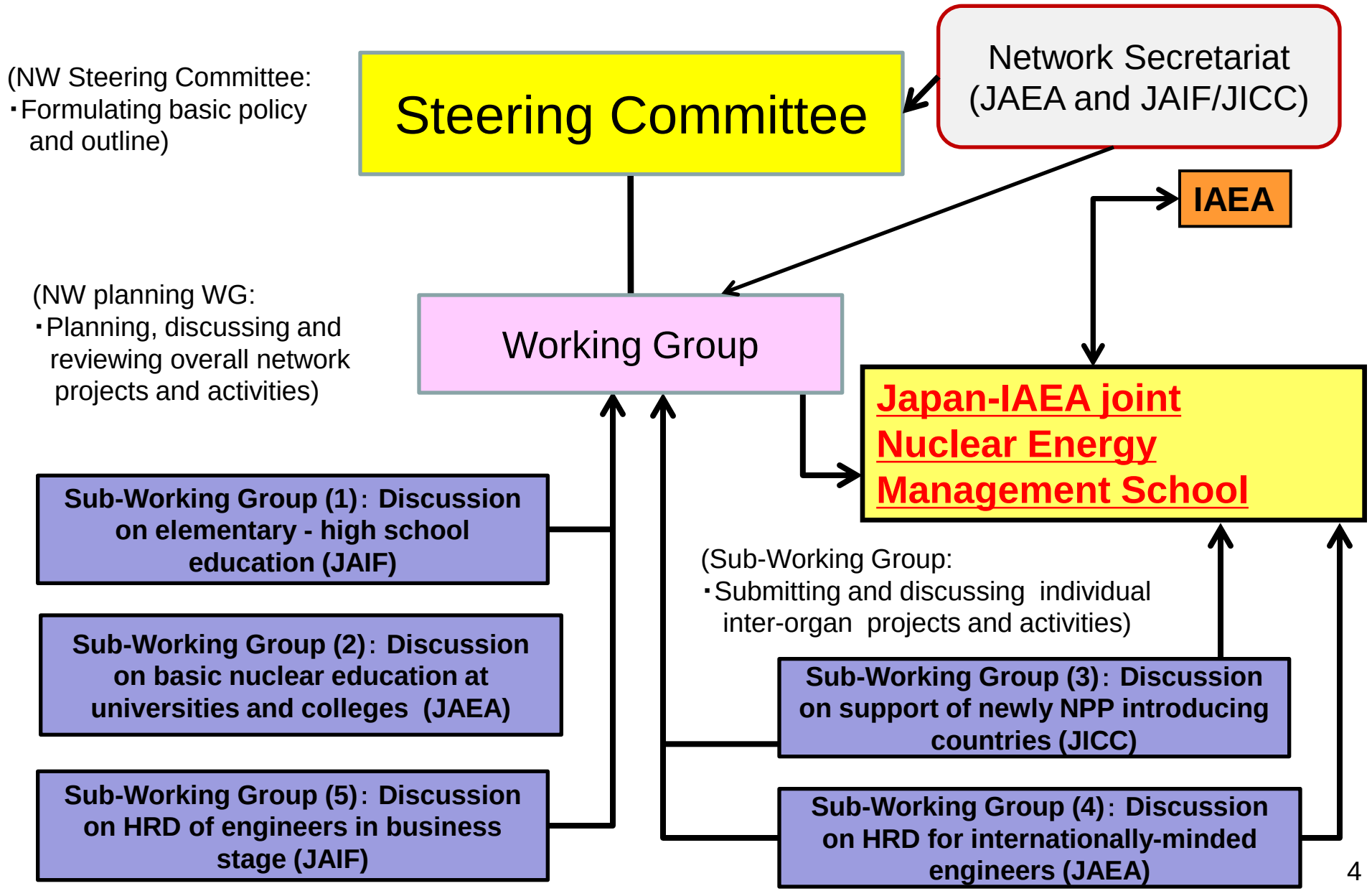
(Japanese participants) Relevant officials from Japan Atomic Energy Commission, METI, MEXT, JAEA, Tokyo Univ., JAIF, JICC, etc.

The opening ceremony of the school

Scheme of JN-HRD Net



Administration Structure of the School



Characteristics of the School 2014

① Participants visited Hamaoka nuclear power plant as part of facility visits and learned about safety measures and emergency preparedness and response, etc.

② The school period was extended from two weeks to three weeks this year, and a lot of time was allocated to group works that participants could exchange their opinions.

③ In the first half of the school, lectures on atomic energy were mainly given in the University of Tokyo. In the latter half in Tokai-mura, participants visited the facilities to deepen the knowledge obtained through lectures. Finally, participants came back to Tokyo to present their group work results and took the final examination.

④ Participants had an exchange meeting to cultivate friendship with local junior high students.

⑤ In Tokai-mura, participants visited the Ibaraki Science Museum of Atomic Energy to learn PR activities by the local governments as public relations is one of important issues in the nuclear fields.

⑥ The School became more international through inviting lecturers from South Korea and China.

⑦ We exchanged opinions with participants to establish a network by graduates who could give learning support to participants during the School.

Details of the participants

21(9) Foreign participants (16 countries)
(X) is the number of women

One male participant each from Bangladesh, Thailand, Poland, Lithuania, UAE, Czech, Hungary
One female participant each from Kazakhstan, Finland, China , Malaysia, Indonesia
Turkey (2), Korea (2, (1)) ,Vietnam (3, (2)),
South Africa (*2, (1)),

Electric power company 1, Plant maker 2,
Research institute 3, University 3, Governments 12

11 (1) Japanese participants

Electric power company 5 (1)
Plant maker 3 (*1)
JAEA 2
JAIF *1
Age 26～34 (average 29.4)
*Observer participation

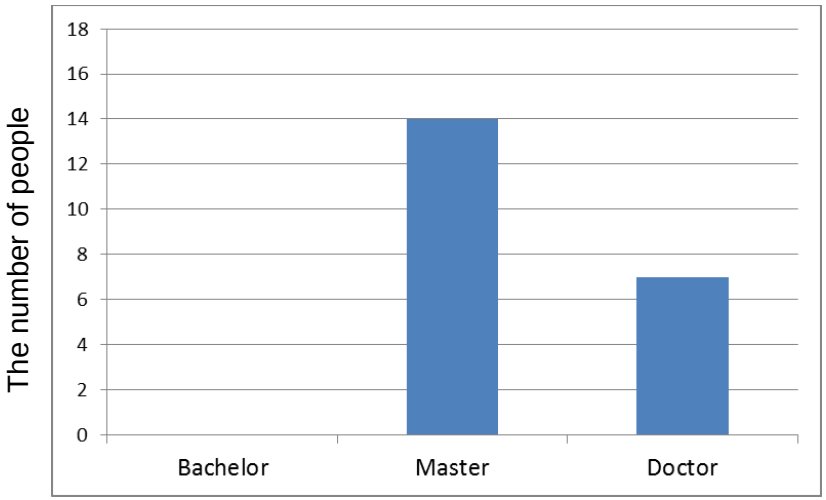
Total 32 (10) participants ,(*observers 4)

Greetings from
Mr. A.Bychkov, DDG of IAEA

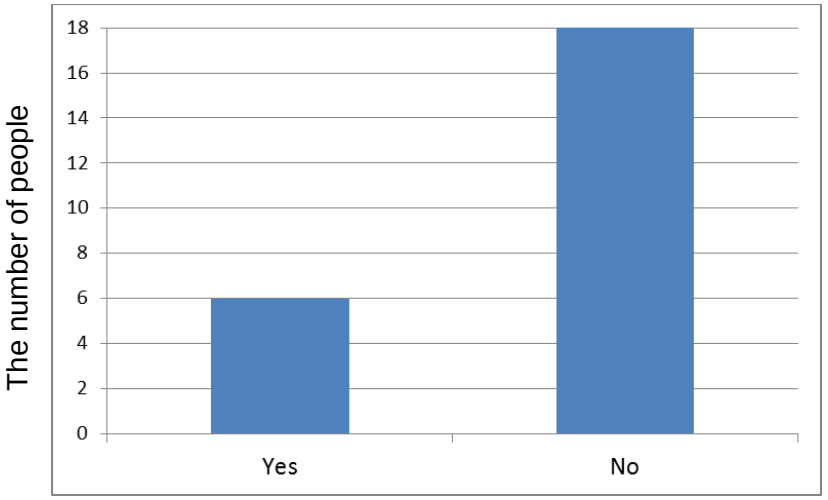
Orientation explanation from
Mr. J. de Grosbois, IAEA

School overview from
Prof. Uesaka,Tokyo univ.

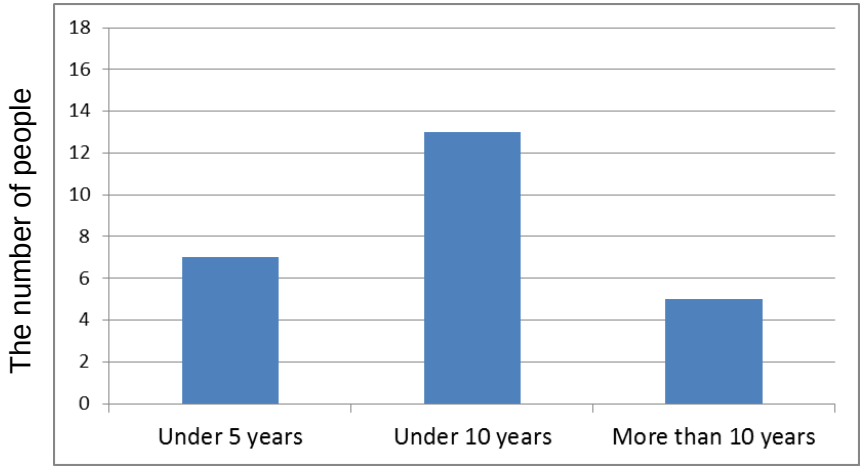
Career of the participants



①Educational background



②The experience of studying abroad



③ The number of working years in the atomic energy industry

Lectures

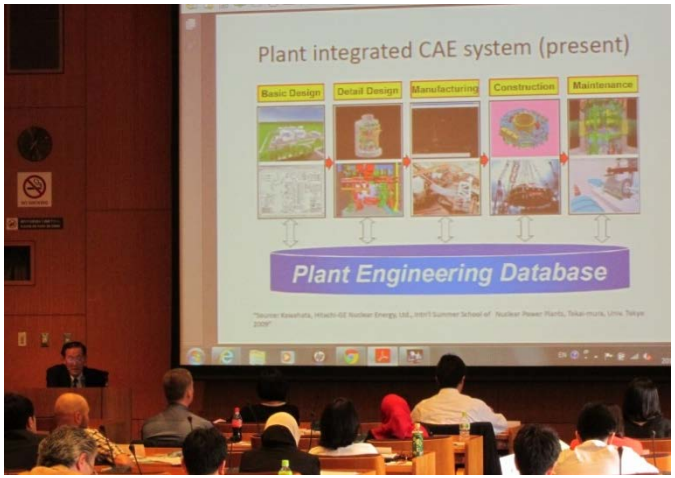
Contents: Energy Policy, Nuclear Nonproliferation, International Law, Economy, Environment, Human Resource Development etc.
The total number of lectures is 35.

Japanese lecturers: Japan Atomic Energy Commission, The University of Tokyo, Kyoto University, Tokyo Institute of Technology, Nuclear Regulation Authority, Nagasaki University, The Institute of Energy Economics, Japan Nuclear Safety Institute, National Institute of Radiological Sciences, Three NPP Manufacturers, Three Electric Power Companies, JAEA, etc.
Experts were invited from various areas related to nuclear energy.

Overseas lecturers: Professor Y.Sun of Tsinghua University, Professor G.Park of KINGS, IAEA Mr.A.Bychkov, Mr.J.de Grosbois, Mr.P.Degnan, Mr.T.Koshy, Mr.H.Khartabil, Ms.A.Starz and so on.

Direction of the basic energy plan and remaining challenges
Mr. M. Toyoda Chief director of The Inst. of Energy Economics Japan

Korean nuclear energy strategy
President of KINGS Mr.G.Park



Chairman, Mr. Y. Oka
Japan Atomic Energy Commission

He widely explained atomic energy: the history of the atomic energy technology, the role of atomic energy in energy sector, waste treatment, a new atomic energy technology, safe culture, and the nuclear fuel cycle.

Professor, Y.Sun
Tsinghua University from China

He explained the present energy situation in China. As the energy demand in China increases, nuclear energy will be further required. He talked about the significance of nuclear HRD with the expansion of atomic energy.

Mr. S.Kurata,
Japan Nuclear Safety Institute

He explained the importance of safety culture, methods for enhancing the atomic energy security, leadership, and IAEA's perspective on safety culture.

Group works

Group works: Participants were divided into 6 groups by each theme, they performed an intensive study and a constructive argument and had presentations about their results of the investigation and discussion.

Objectives: It contributed to the breeding of international communicative competence by participating in joint activity. The practical teamwork with cross-cultural communication was required as participants had different backgrounds.(e.g.) nationality, culture, experience and expertise.

Theme: (1) Energy Planning
(2) Legal Framework
(3) Fuel Cycle and Waste Management
(4) Safety, Security and Safeguards
(5) Knowledge Management and Human Resource
(6) Communicating Radiation Risks and Outreach

The total number of mentors and sub-mentors were 24.
Their organizations were as follows:
The University of Tokyo 7, JAEA 9, HITACHI 3, MHI 1, TOSHIBA 1, Tokyo Electric Power Company1, Central Research Institute of Electric Power 1 and JICC1.

Group work

Presentation results

Facilities Visit

date	facility name	contents	
12-Jun	Hamaoka nuclear power station	tunami protection wall	nuclear reactor
17-Jun	Toshiba Keihin factory	turbine	BWR and PWR nuclear plant components
18-Jun	Atomic energy Hall	Atomic energy public information	
20-Jun	Hitachi GE seaside factory	BWR nuclear plant components	
23-Jun	JAEA Tokai	Nuclear protective facilities	Nuclear Safety Research Reactor
24-Jun	JAEA Ooarai	Experimental fast reactor	High temperature engineering test reactor

Facility visit at one of nuclear plant manufacturers

Visit to Hamaoka Nuclear Power Plant

① Exhibition Pavilion (a full-scale tsunami protection wall model etc.)
② Tsunami Protection Wall (huge protection wall: height-22m, length-1.6km)
③ No.5 Nuclear Reactor (observing the suspended nuclear reactor from the gallery)
④ Corridor to Learn from Failure (display of the goods damaged in a past accident, lesson obtained from it)
⑤ Emergency Task Force
⑥ Emergency Generation Facilities and Pure Water Tank
⑦ Heavy Industrial Machine Device Training Scenery

Questions for Hamaoka NPP

① About the expenses for safety measures
② Psychological effects of the big and long tsunami protection wall

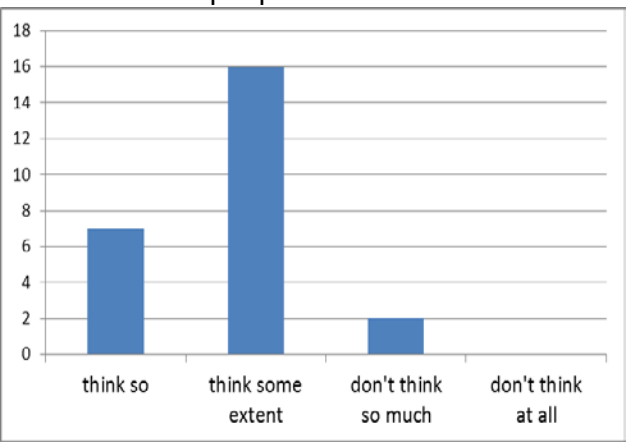
Visit in the exhibition pavilion

Question from a participant

Questionnaire results

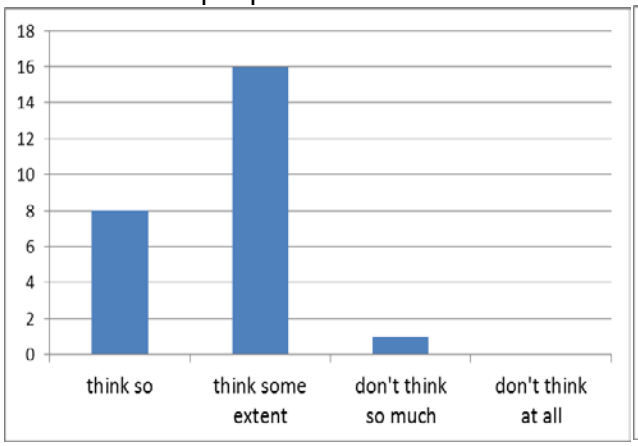
Evaluating results ：The sense of accomplishment is high generally.

The number of people



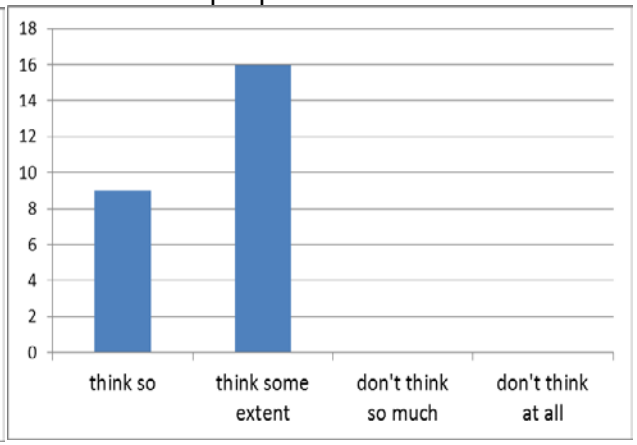
①Could you attain the general learning target ?

The number of people



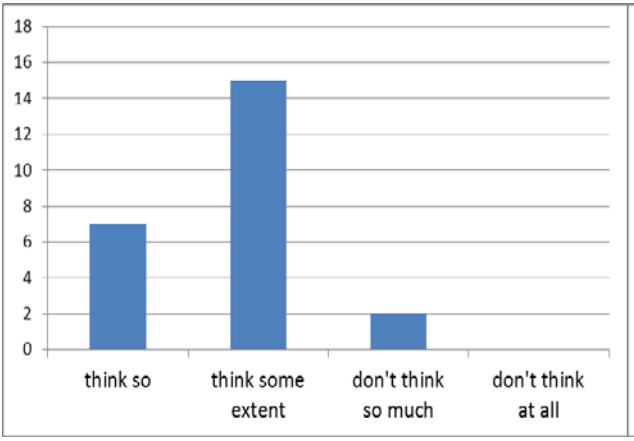
②Did you get the atomic energy general knowledge?

The number of people



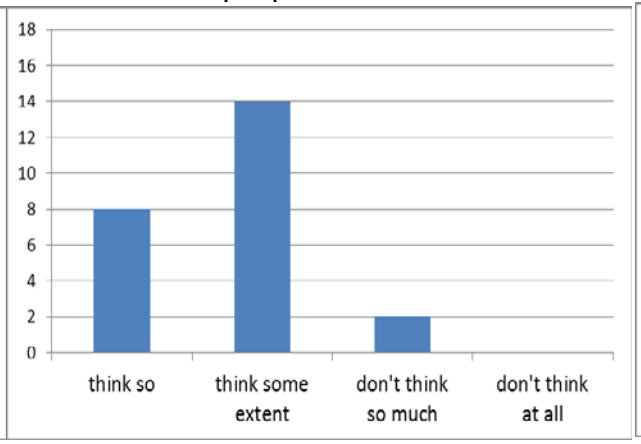
③Did you get the power to show the ability as a member of the teams ?

The number of people



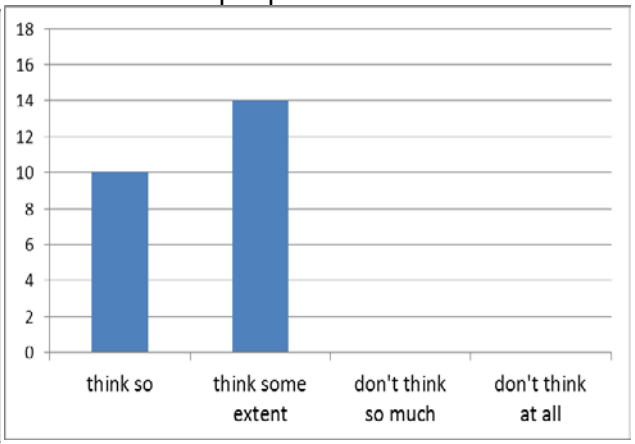
④Did you get the communication power in English?

The number of people



⑤ Did you get the international sense enough?

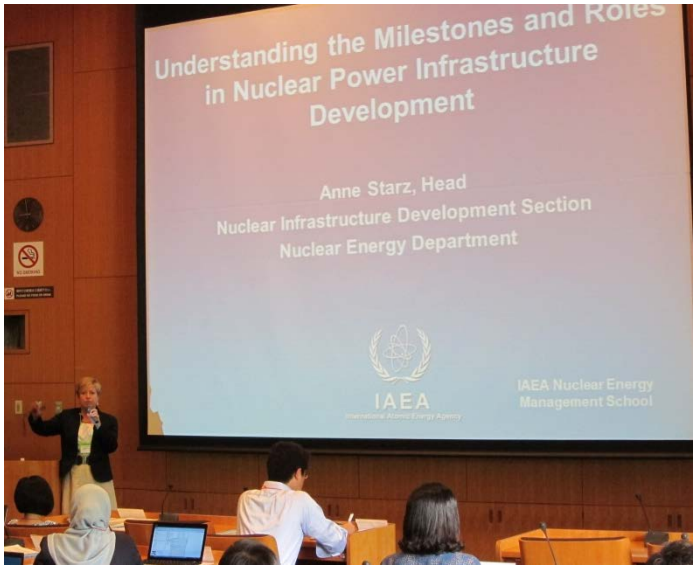
The number of people



⑥ Did you get the engineer ethic?

Lectures No.1

Collection of photographs



Milestones in Nuclear Power Infrastructure Development Ms. A.Starz (IAEA)

Role of Research reactors
Mr.K.Yamashita (JAEA)

IAEA's role on Nuclear Safety and Security
Mr.H.Khartabil(IAEA)

Panel discussion with Mr. Koshy (IAEA) and Japanese NPP manufacturers (Toshiba, Hitachi and MHI)

Lectures No.2

The social responsibility of the atomic energy scientist
Mr.Suzuki (previous deputy chairperson of AEC)

The lesson learned from Fukushima accident
Mr.Inagaki（Tokyo Electric Power Co.）

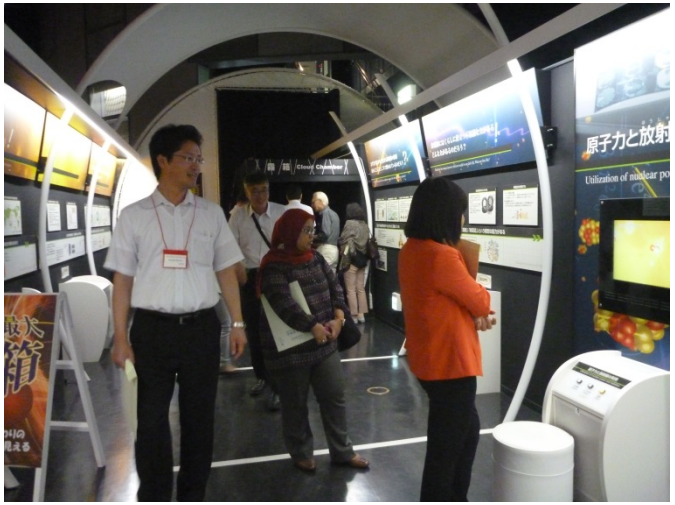
Exchange Meeting with the local junior high students

Introduction of my wonderful school and village

Introduction of each country by the participant

Facilities Visit

With a model of turbine in the back



Prefectural Atomic Science Hall for PA

In front of the control panel
(JAEA -Experimental Fast Reactor (JOYO))

Nuclear Physical Protection Facilities (JAEA)

Exchange meeting

Study of the network construction of the graduates (collaboration with Atomic Energy Society of Japan-YGN, AESJ-collaboration Task force, etc.)
Mr. J.Nishiyama Tokyo Inst. of Technology

Peaceful Reception at the University of Tokyo with Lithuanian Vice Minister, Mr. Alex as a guest

With Tokai Village Mayor
(Reception in Tokai village)

Speech of JN-HRD Chairman, Mr. Hattori
(Farewell party)

Examination and Closing Ceremony

Earnest Looks at The Final Examination

Happy participants receiving her Diploma from School Director

Joyful participants with Diploma and Organizers

Summary

① The visit of Hamaoka Nuclear Power Plant was significant as participants actually observed various safety measures, and the Corridor to Learn from Failure was highly evaluated from IAEA.

② The group work was an effective training to learn the skill of international leadership because participants could build an earnest argument and discussion.

③ The facility visits were a good opportunity for foreign participants as they could see the advanced Japanese nuclear energy technology with their own eyes.

④ The School becomes more international through inviting lecturers from South Korea and China, and IAEA.

⑤ We planned the exchange meeting with local junior high students. Participants were able to talk with them directly in English. For the junior high students, it was a good opportunity to talk with foreigners.

⑥ Japan has greatly contributed to N-HRD for NPP-embarking countries and supported to IAEA's international activity.

From the above, we were able to give a great opportunity to young talented participants to learn problems concerning atomic energy. The School was well evaluated by various organizations including IAEA. Next year, Japan Nuclear Human Resource Development Network is going to hold the fourth school in Japan.