Overview of NRA Human Resource Development Center and NRA Cooperation and Support for IAEA/ANSN

International Conference on Human Resource Development for Nuclear Power Programmes: Building and Sustaining Capacity
12 – 16 May 2014 Vienna, Austria

Shohei SATO
Director, Division of International Training Programs
NRA Human Resource Development Center
Nuclear Regulation Authority
Contents

1. Merger of JNES into NRA
2. Overview of NRA Human Resource Development Center
3. NRA Cooperation and Support for IAEA/ANSN
1. Merger of JNES into NRA(1)

NRA (Nuclear Regulation Authority)
Chairman and 4 Commissioners

JNES (Japan Nuclear Energy Safety Organization)
Mission as a Technical Organization to support the NRA
Inspection
Analysis and evaluation etc.

A non-civil service style
Incorporated Administrative Agency

was merged into the NRA on March 1st, 2014

The Secretariat to the NRA

Annual budget \20.1 billion
(FY 2013)

The number of staff 498
Permanent staff 401
Part-time staff 97
(as of Apr.1, 2013)

Annual budget \37.2 billion
(FY 2013)

The number of staff 545
(as of Sep.4, 2013)

The number of authorized staff 1,025
(as of March 1, 2014)
1. Merger of JNES into NRA (2)

Before

Secretary-General

- Deputy Secretary-General
- Director-General for Emergency Response
- Director-General (3)
- Director-General for Regional Safety Management

- General Affairs Division
- Policy Review and Public Affairs Division
- International Affairs Division
- Regulatory Standard and Research Division
- Director for Nuclear Regulations (5)
- Nuclear Emergency Preparedness Division
- Radiation Monitoring Division
- Radiation Protection and Safeguards Division

President

- Executive Directors (3)

- Policy Planning and Coordination Department
- Personnel and Accounting Department
- Plant Inspection and Maintenance Evaluation Department
- Nuclear Emergency Response and Preparedness Department
- Nuclear Security Support Office
- Nuclear Energy System Safety Department
- Nuclear Fuel Cycle and Radioactive Waste Management Safety Department
- Seismic Safety Department

After

Nuclear Regulation Authority (NRA)

- Secretary-General

- Deputy Secretary-General

- Director-General for Emergency Response
- Director-General for Nuclear Regulation (7)
- Director-General for Regional Safety Management

Nuclear Regulation Department

- Director-General
- Nuclear Regulations Policy Planning Division
- Director for Nuclear Regulations (7)

Radiation Protection Department

- Director-General
- Emergency Preparedness and Response Policies Division
- Director for Nuclear Emergency Preparedness
- Radiation Monitoring Division
- Radiation Protection and Safeguards Division

NRA Human Resource Development Center

- Director-General (Director-General for Policy Planning and Coordination)
1. Merger of JNES into NRA(3)

Nuclear Regulation Authority (NRA)

**Secretary-General**

**Deputy Secretary-General**

**Director-General for Emergency Response**

**Director-General for Nuclear Regulation(2)**

**Director-General for Nuclear Regulatory Technical Affairs**

**Director-General for Policy Planning and Coordination**

- Policy Planning and Coordination Division
- International Affairs Division
- Counsellor(2) - Personal Affairs, Budget and Account

**Director-General for Regulatory Standard and Research**

- Regulatory Standard and Research Division
- Directors for Technology(4)

NRA Human Resource Development Center

- Director-General (Director-General for Policy Planning and Coordination)

Note: Red: New, Blue: Shift, Black: Existing

**Nuclear Regulation Department**

- Director-General

- Nuclear Regulations Policy Planning Division

- Director for Nuclear Regulations (7) *

**Radiation Protection Department**

- Director-General

- Emergency Preparedness and Response Policies Division

- Director for Emergency Preparedness and Response Programs Division

- Radiation Monitoring Division

- Radiation Protection and Safeguards Division

* Director, Division of Regulation for BWR
  Director, Division of Regulation for PWR
  Director, Division of Regulation for Inspection of Nuclear Reactor Facilities
  Director, Division of Regulation for Advanced Reactors, Research Reactors, and Decommissioning
  Director, Division of Regulation for Nuclear Fuel Facilities and Use of Nuclear Material
  Director, Division of Regulation for Radioactive Waste, Storage and Transport
  Director, Division of Regulation against Earthquake and Tsunami
NRA’s Core Values and Principles

- **Mission**
  
  Our fundamental mission is to protect the general public and the environment through rigorous and reliable regulation of nuclear activities.

- **Guiding Principles for Activities**
  
  - Independent Decision Making
  - Effective Actions
  - Open and Transparent Organization
  - Improvement and Commitment
  - Emergency Response
Human Resource Development Center at NRA

• To achieve the NRA’s Mission, the Human Resource Development Center (HRDC) was established at the NRA on the occasion of the merger of JNES into the NRA.

• The purposes of the HRDC establishment were to enhance expertise of the NRA staff and to strengthen human resource development functions with keeping in mind:
  - Lessons learned from the Fukushima Dai-ichi NPP accident and prevention of occurrence of similar accidents;
  - Recommendations offered by the IRRS 2007; and
  - Insights gained from the IAEA’s TECDOC 1254, the Action Plan endorsed by the 55th IAEA General Conference, etc.
2.1 Vision

- Development and training of NRA employees
  - To achieve and maintain nuclear regulation based on a high level of expertise
  - To abide by the plan over a long period of time
  - To recognize that such workforce is the most valuable asset of the regulatory body

- Establishment of safety culture
  - To continuously master specialized knowledge and skills on nuclear safety
  - To implement constant thorough review of the safety improvement

- Enhancement of international cooperation
  - Cooperation with foreign nuclear regulatory organizations
  - Cooperation with emerging nuclear power countries
  - Special emphasis on sharing lessons learned from the Fukushima Dai-ichi NPP accident
2.2 Mission

- Design, develop and implement training programs for NRA employees
- Promote knowledge transfer from experienced expert to young staff
- Strengthen international cooperation with other nuclear regulatory organizations
- Implement national examinations and develop nuclear safety experts at large etc.
- Continuously improve training programs by implementing a PDCA cycle
2. Overview of NRA Human Resource Development Center(3)

2.3 Organization

Nuclear Regulation Authority (NRA)

Secretariat to the NRA
Director-General for Policy Planning and Coordination
Counsellor for Personnel Affairs

Close coordination in human resources issue including employee’s career path development, competency management, and knowledge transfer

Utilize external training facilities

NRA Human Resource Development Center

Director-General
Vice Director-General

Concurrent Appointment

Policy Planning Division
- Plan and research HRD policy
- Promote knowledge transfer

Chief Senior Fellow
Senior Fellow
- Conduct training
- Promote knowledge transfer

Training Operations Division
- Implement training
- Competence management
- Implement national examinations

Division of International Training Programs
- Implement training for regulatory organization of emerging nuclear power countries
- Plan overseas training for employees

Budget and Accounting Division
- Budget and Accounting affairs
- Management of training facility

Japan Nuclear Safety Training Facility
Training facility for technical training (Hitachinaka, Ibaraki)
2.4 NRA Employee Training 2014(1)

Main activities
- Design and implement comprehensive development and training
- Research activities to facilitate HRD strategy development

Training Plan

To meet diverse training needs for all employees numbering up to about 1,000 people, provision of training programs that covers wide range of and different levels of competences is necessary.

- **Training for new employees**
  - Provide introductory training programs including basics of nuclear regulation and on-site and off-site training

- **Basic training**
  - Provide basic training programs to become nuclear safety inspectors and nuclear emergency preparedness officers, including nuclear safety regulation law, outline of safety inspection, nuclear emergency preparedness system etc.
2. Overview of NRA Human Resource Development Center(5)

2.4 NRA Employee Training 2014(2)

- Training to enhance employee’s expertise
  - Provide practical training programs on structures and function of nuclear power facilities including simulator training etc., to further improve technical skills of nuclear safety inspectors etc.
  - Provide adequate training to enhance the qualification of nuclear regulation office (local office) employees

- Training for pre-management level employee
  - Provide training programs to acquire skills, knowledge, and attitude required for management such as public relations, communications with mass media, etc.
2.4 NRA Employee Training 2014(3)

- Training to cultivate internationally competent personnel
  - Implement training to enhance international communication skills
  - Provide opportunities to participate in nuclear-related training and seminars abroad to develop personnel who can contribute internationally
2. Overview of NRA Human Resource Development Center(7)

2.4 NRA Employee Training 2014(4)

Other Activities

- **Knowledge transfer**
  - Enhance knowledge transfer from experienced expert to young staff through a knowledge-sharing initiative and on-the-job training etc.

- **Development of training programs and improvement of training facility**
  - Develop training programs in collaboration with specialized institutions as appropriate
  - Improve training equipment/facility including nuclear reactor plant simulator etc. to enable practical training
  - Newly develop and improve e-learning programs

- **Enhancement of HRD programs**
  - Put effort into further enhancement of HRD programs in collaboration with relevant division
  - Implement efficient management of individual employee development
2. Overview of NRA Human Resource Development Center(8)

2.5 International Cooperation(1)

Main Activity

- Plan and implement training programs targeting foreign nuclear regulatory organization

- Strengthen cooperation with foreign nuclear regulatory organizations to ensure global nuclear safety

- Provide training programs on regulatory activities targeting especially at emerging nuclear power countries, through appropriate international framework

Classroom lecture (Tokyo, JAPAN)  
Simulated Safety Assessment (Hanoi, VIETNAM)
2. Overview of NRA Human Resource Development Center(9)

2.5 International Cooperation(2)

Training for Vietnam(1)

<table>
<thead>
<tr>
<th>Basic Training</th>
<th>Intensive Training</th>
<th>Simulated Safety Assessment (SSA) Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 19 trainees</td>
<td>2011 3 trainees</td>
<td>2011 1 Seminar in Hanoi</td>
</tr>
<tr>
<td>2012 10 trainees</td>
<td>2012 1 trainees</td>
<td>2012 2 Seminars in Hanoi</td>
</tr>
<tr>
<td></td>
<td>3 trainees</td>
<td>2013 2 Seminars in Hanoi</td>
</tr>
</tbody>
</table>

Lectures on the fundamental knowledge

Lectures and exercises of the special subjects like RELAP code, dose analysis and severe accident

Simulated Safety Assessment

2013 2 Trainings in Tokyo
Simulated Safety Assessment

Objective:
- To understand the plant system/subsystem
- To appreciate the structure of Safety Analysis Report (SAR)
- To have experience of the interaction between regulator and licensee

Role of VARANS Trainees: Licensee

- Study Safety Analysis Report (SAR) of Japanese plant
- Study related Regulatory Guides
- Review the conformity of SAR with Regulatory Guides
- Explain what trainees learned to trainers

Role of JNES Trainers: Regulator

Debate on Trainees’ explanation
2. Overview of NRA Human Resource Development Center

2.6 National Examination

Main Activity

- Implementation of national examinations to qualify the licensed engineer of reactor and the licensed engineer of nuclear fuel

- Success in the national examination is mandatory to be qualified as a licensed engineer

- Since such qualification is essential for nuclear safety, many people challenge this demanding exam every year to become a qualified specialist

- National Examinations, together with professional graduate school and designated training institutions, also work and contribute to development of nuclear specialists
3. NRA Cooperation and Support for IAEA/ANSN(1)

3.1 Overview of ANSN(1)

- EBP-Asia was launched in 1997 as Extra-budgetary Program on the Safety of Nuclear Installation in the South East Asia, Pacific and Far East Countries.

- ANSN, Asia Nuclear Safety Network, became fully operational in 2004 as the Phase-2 activities of the EBP-Asia.

- ANSN includes an advanced IT network for pooling, analysing and disseminating safety knowledge and practical experiences in Asia as well as a strong human network and the 10 Topical Groups which plan and implement activities on specific subjects which cover all key topics regarding nuclear safety infrastructure.

- Capacity Building focused since 2009 for Bangladesh, Indonesia, Kazakhstan, Malaysia, Philippines, Singapore, Thailand and Vietnam.

- ANSN member states include 11 participating countries, 3 supporting countries, 1 associate country and 2 associate organizations.
3. NRA Cooperation and Support for IAEA/ANSN(2)

3.1 Overview of ANSN(2)

Participating Countries

- China
- Bangladesh
- Australia
- Kazakhstan
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Thailand
- Vietnam

Mutual Learning and Continuous Enhancement for Nuclear Safety Capacity Building

Supporting Countries

- France
- Germany
- USA

Associate Countries

- Pakistan
- ASEAN

Associate organizations

Plenary Meeting (PM)

Capacity Building Management Group (CBMG)

Topical Group (TG)

- ETTG
- EPRTG
- GRITG
- OSTG
- RWMTG
- SATG
- SMRRTG
- STG
- CTG
- LMSTG

IT Support Group (ITSG)

www.ansn.org

Participating Countries

Thailand

Vietnam

Indonesia

Malaysia

Philippines

Singapore

Thailand

Vietnam

Japan

Korea

Kazakhstan

Australia

France

EC

USA

Germany

Japan

China

Bangladesh

Pakistan

ASEAN

Associate organizations

Supporting Countries

Associate Countries

Thailand

Vietnam

Indonesia

www.ansn.org

Mutual Learning and Continuous Enhancement for Nuclear Safety Capacity Building

3.1 Overview of ANSN(2)
3. NRA Cooperation and Support for IAEA/ANSN(3)

3.2 Vision and Operational Strategy for ANSN

■ Vision

- A strong human and IT network for achieving a high level of nuclear safety in Asia

■ Mission

- Nuclear safety capacity building
- Sustainable regional cooperation

■ Focused Planning & Implementation

- Self-initiative
- Strong human & IT network
- Practical knowledge & experience
- Best use of existing resources
3. NRA Cooperation and Support for IAEA/ANSN(4)

3.3 Contribution of NRA(JNES) to ANSN

- Participated in Phase-1(1997-2003) as one of 6 supporting countries.
- First Chairman of ANSN Steering Committee in 2004-2010 of Phase-2.
- Capacity Building Management Group (CBMG) Chairman (2010-present)
- 2 TGs Chairmen (EPRTG, RWMTG)
- Promoting Self-Assessment Program with providing web tools
Thank you for your attention
Overview of NRA Training Facility (1/3)

NRA Training Facility in Hitachinaka City

Location: Hitachinaka City, Ibaraki Prefecture (130 km north from Tokyo)
Completion: Mar. 14, 2008
Opening: Apr. 23, 2008

Site area: 3,700 m²
Building 1
  two-story: 2,000 m²
Building 2
  one-story: 500 m²

Compact Simulator Training Course

Compact Simulators

Multi-Screen
Overview of NRA Training Facility (2/3)

Training Course utilizing Major Equipment Model

Electric, I&C Systems Training Course

MSIV Switching Operation

Water Loop Test Facility

Major Component Cutaway Models

Metal Clad Switchgear

Three-phase Induction Motor
Overview of NRA Training Facility (3/3)

Equipment Condition Monitoring Systems Training Course

(1) Horizontal Pump Test Loop
(2) Vertical Pump Test Loop
(3) Valve Test Loop
(4) Gear Speed Test Facility
(5) Small Size Piping Test Loop
(6) Fan Test Loop
(7) Electric Motor Test Facility

Monitoring Equipment
- Magnetic Flux Sensor
- Valve Monitoring Equipment
- Check Valve Monitoring
- Eddy Current Sensor

Monitoring/Measurement Equipment
- Vibration Monitoring
- Ultrasonic Vibration Monitoring
- Oil Analysis Equipment
- Infrared Temperature Sensor

NRA Human Resource Development Center
## Training Participation

<table>
<thead>
<tr>
<th>Training Category</th>
<th>Number of Participants in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training for new employees</td>
<td>111</td>
</tr>
<tr>
<td>Basic Training</td>
<td>173</td>
</tr>
<tr>
<td>Training to enhance employee's expertise</td>
<td>366</td>
</tr>
<tr>
<td>Training for pre-management level employee</td>
<td>60</td>
</tr>
<tr>
<td>Training to cultivate internationally competent personnel</td>
<td>142</td>
</tr>
</tbody>
</table>