



産学官連携

原子力人材育成ネットワーク

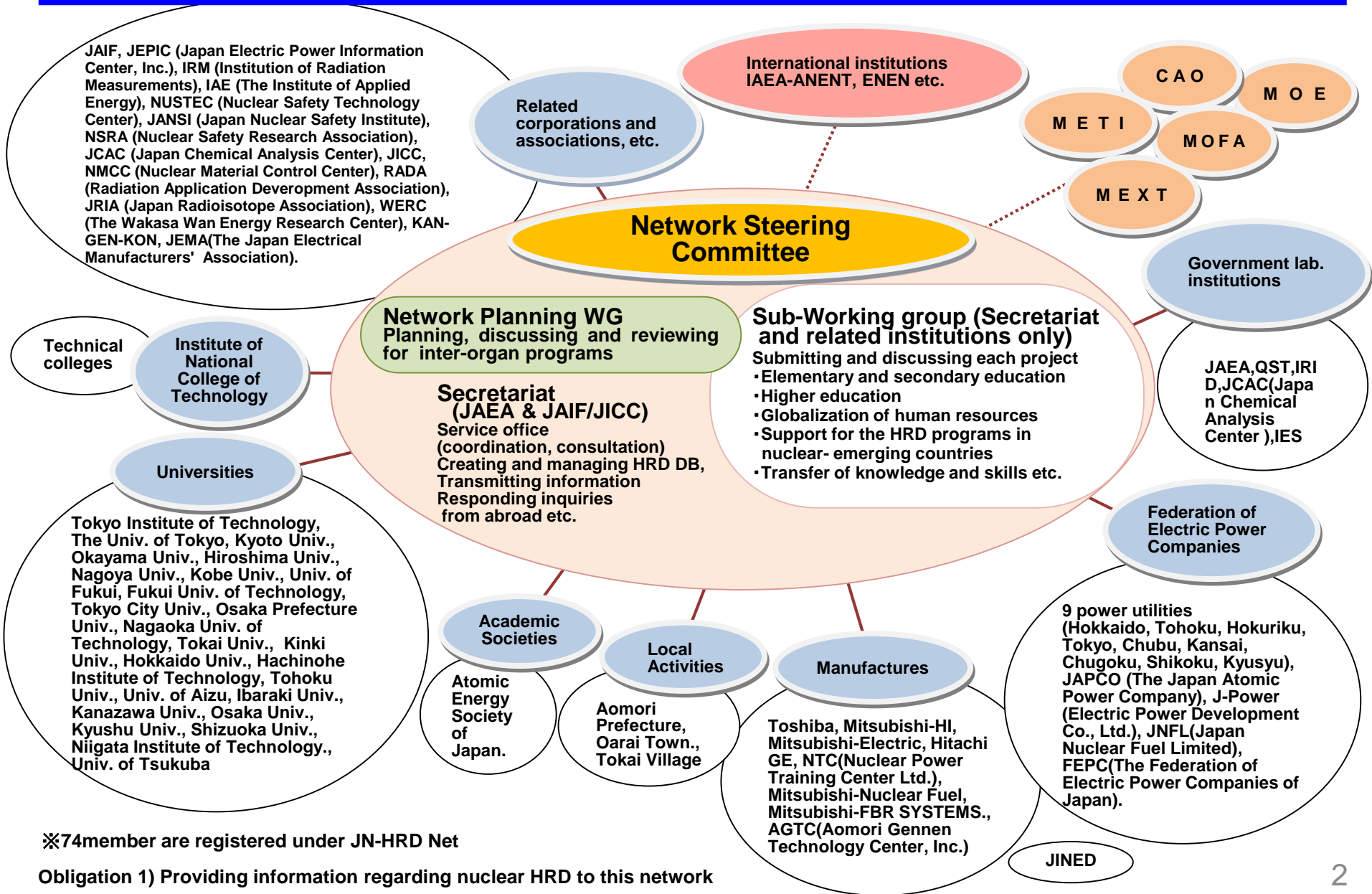
Nuclear Human Resource Development Network

Provisional

# Overview of JN-HRD.Net Activities

## --- Activities in 2017 and Challenges in 2018 ---

Satoshi Sakurai (JAEA)  
on behalf of  
JN-HRD.Net Secretariat (JAEA/JAIF/JICC)



※74 member are registered under JN-HRD Net

Obligation 1) Providing information regarding nuclear HRD to this network

Obligation 2) Appointing contact person

# Operational Chart

**Policy Making**  
Chair Takahashi (JAIF)

**Steering Committee**  
(19 members)

**Secretariat**  
(JAEA / JAIF / JICC)  
General Sakurai (JAEA)

**Management**  
Chair Kudo (AESJ)

**Planning Working Group** (24 members)

**1. Sub-WG: HRD at Secondary Schools [JAIF]**  
Chair Kudo (AESJ)

**2. Sub-WG: HRD in Universities and Colleges [JAEA]**  
Chair Arita (Fukui Univ.)

**3. Sub-WG: HRD for Working Engineers [JAIF]**  
Chair Hotta (Shikoku EPCO)

**Sub-Working Groups:**  
Identifying and implementation planning of cross-organizational programs

**4. Sub-WG: Internationalizing Domestic Engineers [JAEA]**  
Chair Yoshimura (Hitachi-GE)

**5. Sub-WG: HRD Support to Newcomer Countries [JICC]**  
Chair Uesaka (Tokyo Univ.)

[Secretarial organization]

## Tours to nuclear facilities

【Participants】 about 30

【Dates】 August/September 2017, February/March 2018

【Facilities visited】

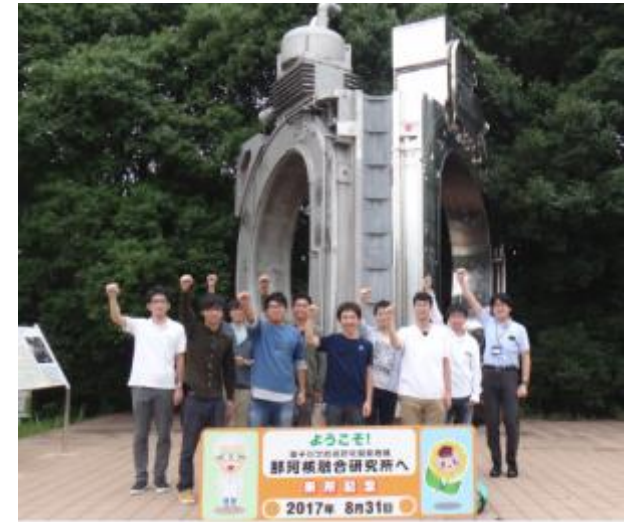
J-PARC Center at Tokai, QST Fusion Labo. at Naka

Mitsubishi NFC, NARO Gamma-field in Ibaraki

JAPC NTC at Tsuruga, WERC, KEPCO Mihama NPS

## Job hunting and recruiting survey

- ◆ Job hunting trend of nuclear students
- ◆ Recruiting trend in nuclear industry
- ✓ Baseline for NHRD programs
- ✓ Survey of workforce securing and HR D in nuclear industry
- ✓ Input to NHRD policy making in industry, government and academia
- ✓ Interest shown by media



## Research reactors restarted

【KUCA (Kyoto Univ. CA)】

- Restarted in June 2017
- 137 post graduates in experiments

【KUR (Kyoto Univ. Research Reactor)】

- Restarted in August 2017
- Utilization for joint research

【Kindai Univ. Research Reactor】

- Restarted in March 2017
- Student drills under Global NHRD

## Challenges in 2018

### ① Continued from 2017

- Job hunting and recruiting survey
- Tours to nuclear facilities

### ② New challenges in 2018

- Tours to nuclear facilities: timeliness, expanded to teachers ...
- Opportunities survey of sharing equipment, software, educational materials, nuclear drill facilities, etc.
- Self-auditing of NHRD programs against Roadmaps (what is satisfiable, insufficient, delayed or missing?)

## 6-th Japan-IAEA joint Nuclear Energy Management School

### 【Participants】

20 from overseas (16 States)

15 from Japan

### 【Dates】

July 18 – August 3, 2017

### 【Venue】

U. of Tokyo, Fukushima Kosen and others



## WNU-SI, IYNC

- ◆ Participation support for WNU-SI, 2017 (5 fellows: from KEPCO, Toshiba, Hitachi-GE, MHI, Mitsubishi FBR Systems)
- ◆ Exploring to host a WNU-SI
- ◆ Committing to host IYNC2020
- ◆ Participation support for research reactor drills at Utah State University, USA

## Capacity Building for Globalization

[Organizer] JAEA

[Participants] 16 (Electric Utilities, Manufacturers, JAEA)

[Dates] November 20 – 24, 2017

[Venue] British Hills Training Facility

## Global Nuclear School (WERC)

### 【Participants】

38 (36 from local high schools, 2 from Fukui University)

## Challenges in 2018

### ① Continued from 2017

- **Japan-IAEA Nuclear Energy Management School 2018**
- **Participation support for WNU Summer Institute**
- **Global Capacity Building Training Course**

### ② New Challenges in 2018

- **Exploring of hosting WNU Summer Institute in Japan**
- **Exploring Global Capacity Building in IAEA Working Environment**
- **Self-auditing of NHRD programs against Roadmaps  
(what is satisfiable, insufficient, delayed or missing?)**
- **Exploring the introduction of workshops by reviewing ongoing activities  
(NEM, Global Capacity Training Course and others)**

## Outcome from 2017 Activities

- ① **Standardization of working knowledge and technologies**
  - “Standard working knowledge and technologies” by FEPCO being reviewed by electric utilities
  - Training Guidelines under compilation by JANSI
- ② **CPD of NPP engineers**
  - Education standardization being explored for skill up
    - Operator development program at EPDV Ohma NPP
    - Reactor Chief Engineer accreditation acquisition by NPP owners
- ③ **Human resource development for decommissioning**
  - Technology requirements and associated HRD
  - NPPs and nuclear fuel cycle facilities
- ④ **Case study (field survey of training facility)**
  - JAL Safety Development Center



## Challenges in 2018

- ① **Standardization of working knowledge and technologies**
  - Development and application of standardized working knowledge and technologies for education and training at NPPs
- ② **CPD of NPP engineers**
  - Education standardization for skill up (cont'd)
- ③ **Human resource development for decommissioning**
  - Technology requirements and associated HRD (cont'd)

## Outcome from 2017 Activities

- ① **Horizontal development of activities, good practices**
  - Participation encouraged to IAEA Science Competition in October 2018
  - Secondary students education in collaboration with IAEA
  - Nuclear and radiological education in secondary students' educational guidelines (Science and sociology)
- ② **For transparent education support,**
  - Dissemination of available educational resources (seminars for teachers, textbooks, etc.)
- ③ **Collaboration with secondary students education managers**
  - Support to Teachers' Workshop on Reactors at Kinki University
  - Exhibition at the National Junior-high Science Symposium in Sapporo
  - Sponsored Workshop on Education Guidelines jointly with FEPCO
- ④ **Input to high-school textbooks in collaboration with AESJ**
  - Comprehensive survey of descriptions (geography, history, sociology)

## Issues for support

- Radiation measuring kit “Hakaru,” not easily available
- Educational material on irradiation too costly to acquire

## Challenges in 2018

Activities in 2017 to be continued in higher qualities

- IAEA Science Competition Workshop
- Secondary student education jointly with IAEA
- Input to an AESJ new publication “Nuclear: Today and Tomorrow”
- **Dissemination of available educational resources for school teachers**
- **Support to Teachers’ Workshop on Reactors at Kinki University**
- Exhibition at the National Junior–high Science Symposium in Kobe
- Input to high–school textbooks (science and people, basic physics … )
- Facility tours for teachers, workshop for teachers, portal operation …

## Outcome from 2017 Activities

- ① IAEA course on NP infrastructure development
- ② Japan-IAEA NEM School 2017  
(jointly with Sub-WG on Domestic HRD)
- ③ HRD courses for specific countries
- ④ Follow-up of INMA activities

## Challenges in 2018

- ① Japan-IAEA NEM School 2018  
(jointly with Sub-WG on Domestic HRD)
- ② IAEA course on NP infrastructure development
- ③ HRD courses for specific countries as they emerge

- ◆ **JN-HRD.Net Operation :**
  - Steering Comm., Planning WG, Sub-WGs, Annual Review Meeting ...
  - Cooperation among industry, academia and government
- ◆ **Secretariat Work:** Liaison, Coordination, Portal operation
- ◆ **Public Outreach:**
  - Newsletters (quarterly), Web operation (upcoming events, etc.)
- ◆ **Promotion of international networking**
  - International cooperation, Experience exchange, etc.
- ◆ **Strengthening of collaboration** among relevant national organizations by means of operating IAEA NEM, NP Training Course and other opportunities
- ◆ **Self-auditing and feedback to PDCA** on pre-established HRD roadmaps