

Organization Outline & Present Activities of International Research Institute for Nuclear Decommissioning (IRID)

2013.9.16

International Research Institute for
Nuclear Decommissioning
(IRID)

Process of establishment

〈Establishment〉

- 2013.8.1 Approved by Minister of Economic, Trade and Industry, Mr.Motegi, upon Research & Development Consortium Act of Japan.
- 2013.8.8 1st General meeting was held to start the consortium. Organizational scheme was agreed, and actual activities kick-off.

〈Basic Role〉

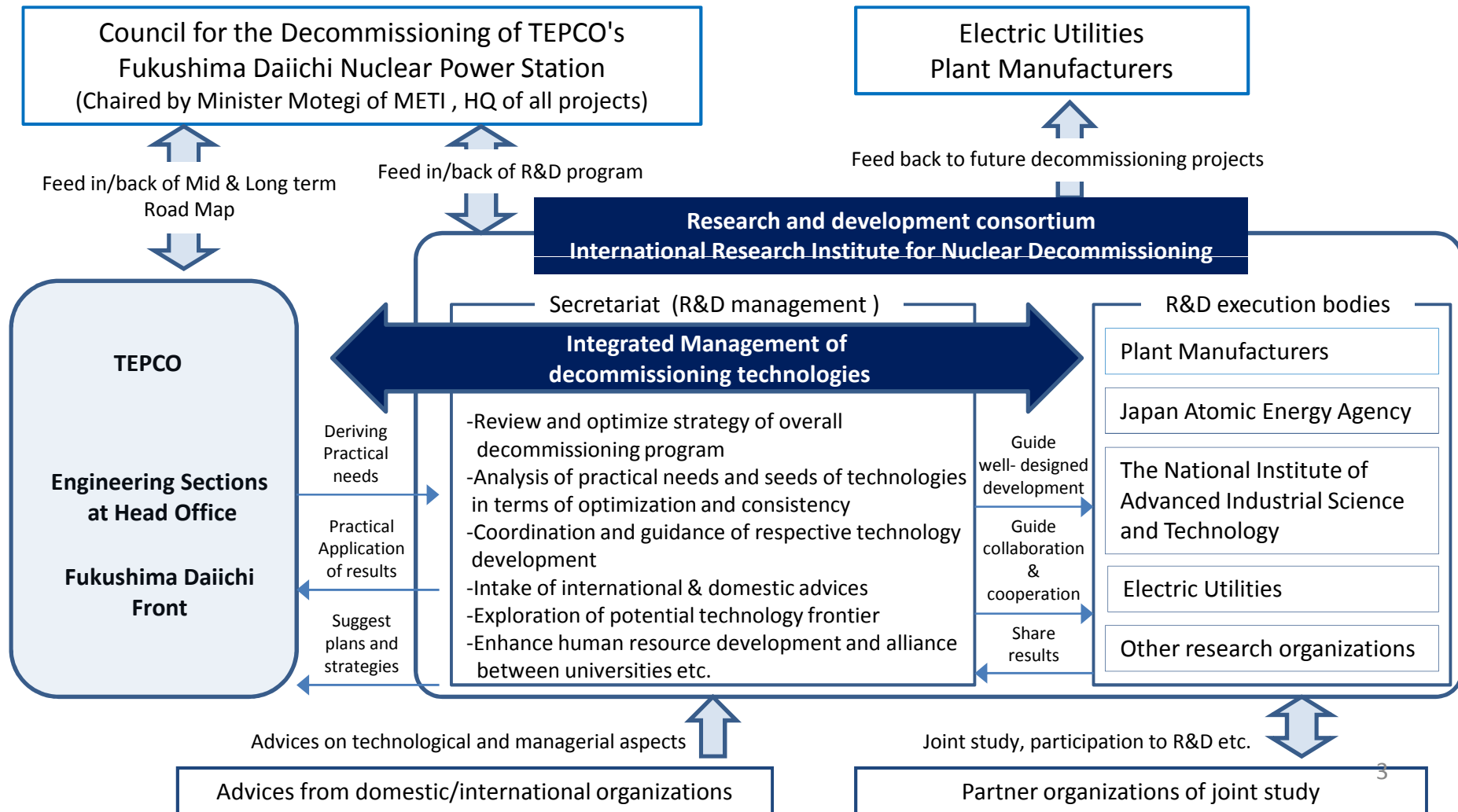
- With perspective of enhancing technological basis for nuclear decommissioning for the future, fully commit to technology R&D that helps decommissioning project of Fukushima Daiichi NPS.

Schematic image of IRID's function

*With perspective of enhancing technological basis for reactor decommissioning, focusing on clear and present challenges of Fukushima Daiichi NPS decommissioning

- Accelerate decommissioning of Fukushima Daiichi NPS, secure safety and restore environment
- Early recovery of Fukushima area and confidence building among nation

- Preparation for future decommissioning and advancing safety level
- Incubating, accumulating and improving of related technologies



Outline of IRID

1. Name

Research & Development Consortium

International Research Institute for Nuclear Decommissioning (IRID in brief)

2. Location of Main Office

〒105-0004 6F, Parkplace, 27-1, 5-Chome, Shimbashi, Minato-Ku, Tokyo

3. Contents of operation

R&D for nuclear decommissioning

Advancing international/domestic alliance for decommissioning

Human resource development for nuclear R&D

4. Founding members (17)

-Incorporated administrative agencies:

Japan Atomic Energy Agency, National Institute of Advanced Industrial Science and Technology

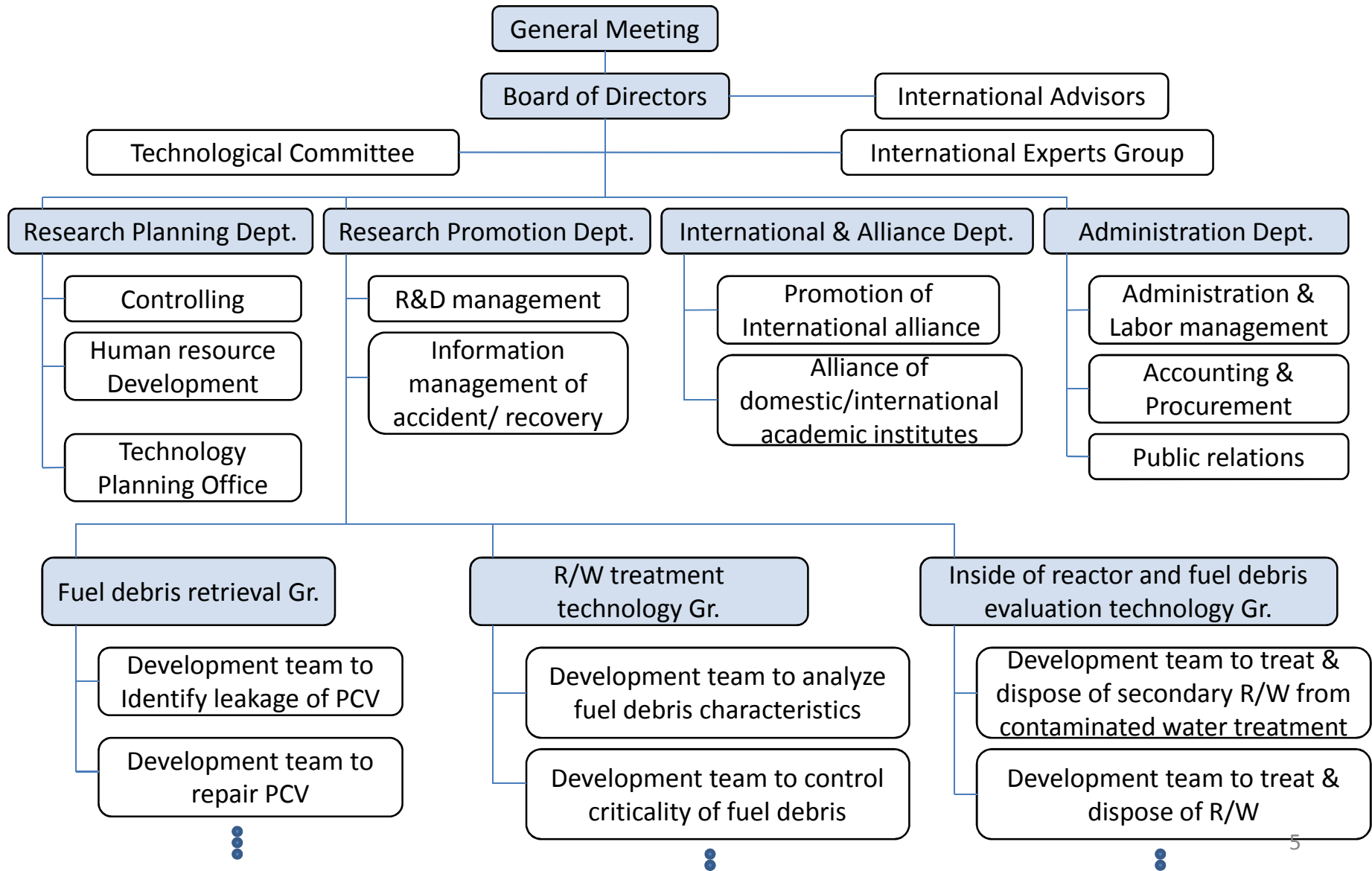
-Manufacturers:

Toshiba Corporation, Hitachi-GE Nuclear Energy, Ltd., Mitsubishi Heavy Industries, Ltd.

-Electric Companies:

Hokkaido Electric Power Company, Tohoku Electric Power Company, Tokyo Electric Power Company, Chubu Electric Power Company, Hokuriku Electric Power Company, Kansai Electric Power Company, Chugoku Electric Power Company, Shikoku Electric Power Company, Kyushu Electric Power Company, The Japan Atomic Power Company, J-POWER, Japan Nuclear Fuel Limited

Organizational Chart



Present Operation Plan (R&D projects)

R&D to set up fuel debris retrieval

R&D to identify leakage points of PCV

R&D to repair PCV

R&D for remote decontamination in reactor building

R&D to control criticality of fuel debris

R&D to inspect inside of PCV

R&D to estimate inside of a reactor using severe accident analysis code

R&D to evaluate soundness of RPV/PCV

R&D to characterize and treat fuel debris

R&D to retrieve SFs in SF pool

R&D to evaluate long-term soundness of fuel assembly and others retrieved from SF pool

Examination of treatment methods for damaged fuels and others retrieved from SF pool

R&D for treatment & disposal of R/W

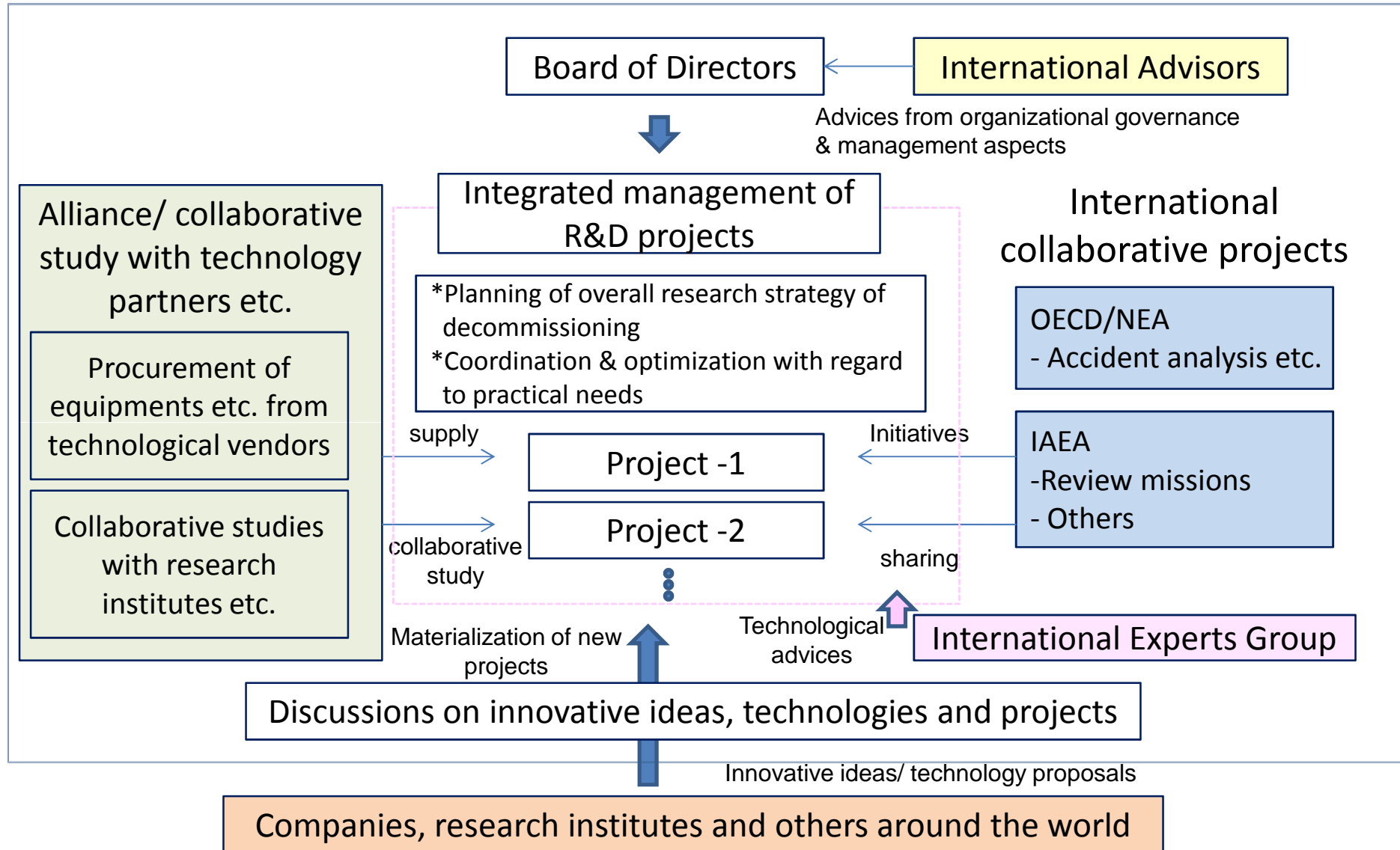
R&D to treat & dispose of secondary R/W accompanying contaminated water treatment

R&D to treat & dispose of R/W

“Open Platform” to integrate knowledge from all around the world

- Soliciting advices based upon findings & experiences of other countries
 - Advices by international advisors on overall management at IRID
 - Technological advices by international expert groups (IEG; consisting of experienced experts from US, UK, France, Russia and Ukraine)
 - Findings & advices to be solicited for contaminated water and tank problems
 - IEG meetings scheduled from 9/23 to 9/27 at Tokyo & Fukushima
- Promoting collaborative study with companies & research institutions around the world
 - Collaborative study with research institutions
 - Participation by companies of diverse areas to R&D projects (Procurement , subcontracts, and others from technological vendors)
 - Initiatives for international collaborative projects at international organizations

Overall image of international research activities by IRID



Present activities-1 Promoting R&D projects

- Effective & efficient promotion of projects laid out by government's "R&D program"
 - Overriding existing scheme of R&D organizations (JAEA, plant manufacturers) to implement unified/integrated technology management by IRID
- * Re-assess each R&D project's positioning within decommissioning scenario
- * Close and flexible feedback of site-reality
- * Cross-cutting coordination of projects
- * Preparing alternatives based upon evaluation of project risks
- * Enhanced alliance with relevant organizations around the world
- * Dissemination and PR of plans and results

〈Present plan〉

- Thorough project evaluation (PDCA cycle)
- Promotion of projects and announcement of results
 - Conducted "inspection inside PCV" (#2 unit, early August)
 - Demonstration of remote-controlled decontamination robot at real unit (#3 unit, projected at around October)

Present activities-1 Promoting R&D projects

- Objective evaluation/advice by external experts through technological committee
 - Evaluation/advice to overall strategies and operations of IRID
 - Set up topic-basis sub groups for R&D projects
 - *Fuel debris retrieval
 - Development of equipments/devices
 - Evaluation of PCV soundness
 - *Evaluation of inside of RPV and fuel debris
 - *Treatment of R/W
- Integration of remote-technologies findings/experiences, and consideration/proposal of solutions
 - Regarding equipment/device related projects utilizing remote technologies, conduct evaluation/study by experts while setting up a group to study and propose alternative methods (in progress)

Present activities-2 Promoting Alliance with Related Organizations Worldwide

- Fuel debris retrieval and decommissioning of Fukushima Daiichi NPS is unprecedented technological challenge the world has ever faced. We need to promote alliance and cooperation with related organizations worldwide so as to establish a scheme enabling integration of world knowledge.
- As for technological challenges with extreme difficulty such as fuel debris retrieval, we are considering ways to encourage wide variety of ideas and proposals from worldwide.

〈Present plans〉

- Dissemination to world arena using occasions like IAEA general assembly (the week of 9/16).
- Soliciting advices at International Experts Group meeting to be held in Japan during the week of 9/23.
- International collaborative project meeting of OECD/NEA for accident analysis (10/15 to 17).

Present activities-3 Promoting Fundamental Studies and Human Resource Development

- To secure human resource and its development from mid-to-long term perspective, promote fundamental studies under alliance with universities, research institutes and so forth.
- By hosting workshops, tied up with Ministry of Education, Culture, Sports, Science and Technology (MEXT), promote dissemination and sharing information on R&D program, while considering areas and tasks of fundamental studies to focus which meet practical needs.

〈Present plans〉

To host a series of workshops on R&D program and fundamental studies.

- 1st (9/25 Kanto-1): R/W and fuel debris related
- 2nd (10/8 Fukushima): Development of remote controlled equipment and device, Data visualization related
- 3rd (Around late October, Kansai/Western Japan-1): R/W, Fuel debris related
- 4th (Around Mid November, Tohoku/Hokkaido): Soundness of PCV etc., R/W related
- For after 5th, planning to host at respective areas