# The Nuclear Risk Research Center Current Status

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## Mission and Vision

#### **Mission Statement**

To assist nuclear operators and nuclear industry to continually improve the safety of nuclear facilities by developing and employing modern methods of Probabilistic Risk Assessment (PRA), risk-informed decision making and risk communication.

#### **Vision Statement**

To become an international center of excellence in PRA methodology and risk management methods, thereby gaining the trust of all the stakeholders.

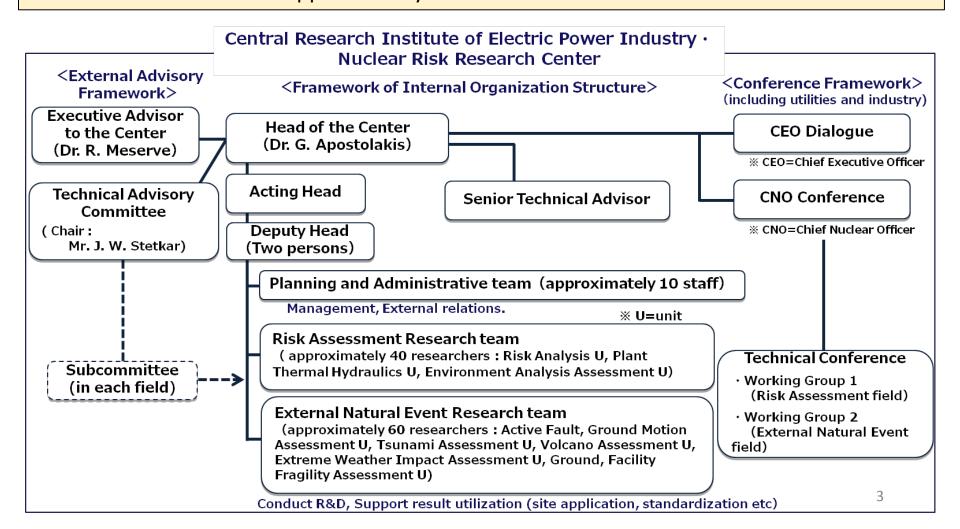
## **Establishment of NRRC**

Date of Establishment: Oct 1, 2014

Location: Central Research Institute of Electric Power Industry, Otemachi (Chiyoda-ku, Tokyo)

(Research activities are conducted mainly in Abiko and Komae)

The number of members: Approximately 110



## International Collaboration

- Executives of NRRC have broad international experience.
- Members of the Technical Advisory Committee (TAC) also have a variety of international experience.



Dr. G. Apostolakis Head of NRRC (USA)



Dr. R. Meserve **Executive Advisor** (USA)

#### **Technical Advisory Committee**



Mr. J. W. Stetkar Chair of TAC (USA)



(USA)



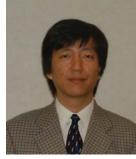
Dr. N. Chokshi (USA)



Mr. X. Pouget-Abadie (France)



Prof. T. Takada (Japan)



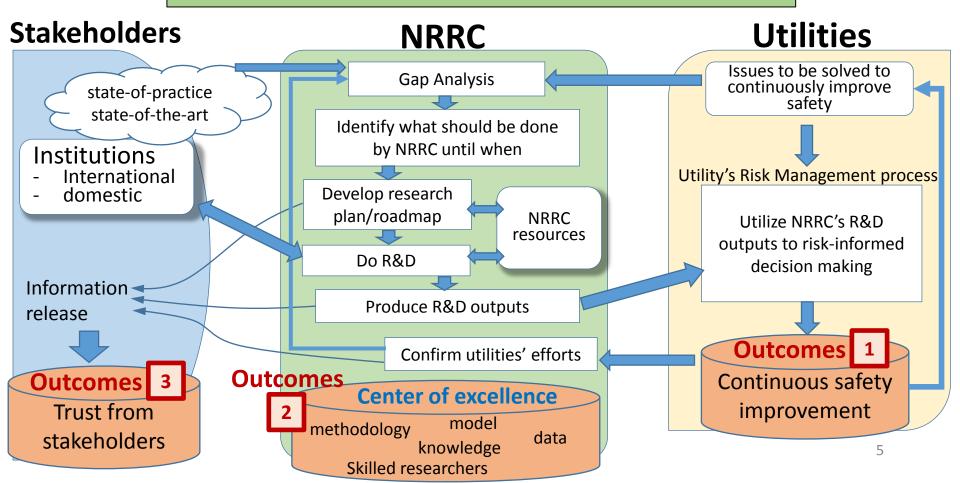
Prof. A. Yamaguchi (Japan)

## Role of NRRC

#### To support utilities, NRRC will

- Develop modern PRA methodologies and infrastructure
- Investigate mechanism, frequency and consequences of external natural hazards
- Continuously be aware of and identify new risks

#### Production cycle of NRRC R&D outcomes



# NRRC Management Policy

- To support utilities' efforts to continually improve the safety of nuclear facilities
- To produce research results that will help utilities' risk-informed decision making
- International collaboration

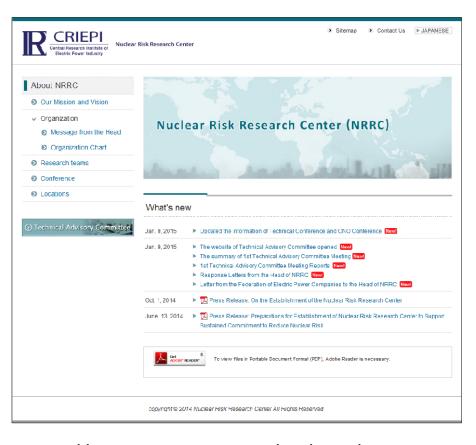
 Open and transparent operation to enhance public confidence

# Open and Transparent Operation

- Information released on NRRC website in both English and Japanese
- Enhanced attendance and presentations at both domestic and international conferences

- Open communications between NRRC and TAC
- Publication of NRRC activities and R&D results available to the public

### **NRRC** Website



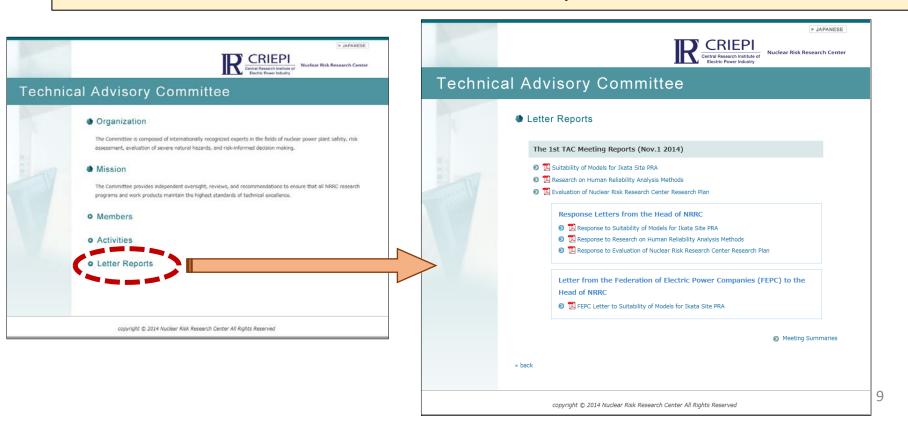


http://criepi.denken.or.jp/en/nrrc/index.html

http://criepi.denken.or.jp/jp/nrrc/index.html

## Open communications between NRRC and TAC

- Letter reports were released from the Chair of TAC to the Head of NRRC after 1<sup>st</sup> TAC meeting and those were posted on the TAC website.
- Response letters from the Head of NRRC to the Chair of TAC were also posted on the TAC website.
- A Response letter from the industry was submitted to the Head of NRRC and it was also treated the same way.



# Highlights of the NRRC Research Plan

	Near Term Goals	Mid/Long Term Goals
PRA improvement	<ul> <li>General improvement of Level-1 and Level-2 PRA by Ikata Unit 3 pilot plant project</li> <li>Seismic and Tsunami PRA</li> </ul>	<ul> <li>PRA for various hazards</li> <li>Seismic induced event PRA</li> <li>Fire and Flooding PRA</li> <li>Multi-unit PRA</li> <li>Level-3 PRA</li> </ul>
Mechanism of External Natural Hazard	<ul> <li>Tornado: preliminary realistic         evaluation upon local topography</li> <li>Volcano: preliminary realistic         evaluation of ash precipitation</li> <li>Fault displacement: preliminary         realistic evaluation of the effect</li> </ul>	<ul> <li>Effects of earthquake combined with Tsunami</li> <li>Effects of various combinations of natural hazards</li> </ul>
Infrastructure	<ul><li>Human reliability analysis</li><li>Database for PRA</li></ul>	<ul><li>Risk communication</li><li>Industry safety goals</li></ul>
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# Initiative for Setting Industry Safety Goals for Multi-unit Sites

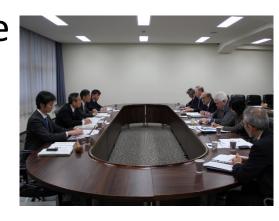
- Demonstrate that we undertake initiatives to establish our own objectives in accordance with the latest international activities, e.g., IAEA, CANDU Owners Group, et al.
- Establish performance metrics for multi-unit sites.
- Identify and resolve PRA methodological issues for multi-unit sites.
- This initiative can provide important information for communication with the public.

## Communications with the Industry

 Direct Communications with utility Chief Nuclear Officers (CNOs) are maintained through the NRRC's CNO conference.



 Dialogue with utility Chief Executive Officers (CEOs) is also held to share and determine priority issues to be investigated by NRRC.



Discussions with members of the industry PRA promotion task team.

# **Concluding Remarks**

- The NRRC is only three months old
- We have developed our mission and vision statements
- We have a strong Technical Advisory Committee
- We are open and transparent
- We take initiatives in addition to more routine work
- We interact with industry and international organizations