



Support for Embarking Countries & Sharing our Lessons Learnt; Proposed Regulatory Requirements

13 March, 2013
Regulatory Information Conference

Hiroshi YAMAGATA
Director, International Affairs Division
Secretariat of Nuclear Regulation Authority (NRA), Japan

Table of Contents



<Current Activities>

1. Bilateral Cooperation
 - Vietnam
 - China
2. Multilateral Approach
 - Asian Nuclear Safety Network
 - Support to IAEA International Seismic Safety Center

<Sharing our Lessons Learnt from Fukushima Daiichi NPS accidents>

3. Progression of Fukushima-Daiichi Accident and Countermeasures
4. Basic Policy of Proposed Regulatory Requirements
5. Basic Policy on Proposed Regulatory Requirements (SA and Terrorism)
6. Stricter requirement for tsunami

1. Bilateral Cooperation



For Vietnam

FROM Basic Training

10 Trainees (2011) 10 weeks
18 Trainees (2012) 8 weeks
All VARANS young staff
No more this type of training from 2013



Teach all the Basis of nuclear Technology

- From the principle of Fission to Fuel Cycle
- To give the Idea what has to be learned by Regulator
- Enable Self-Study later



(Based on the result of Basic Training...
it's important to understand the process of safety review)

TO Simulated Safety Assessment (SSA)

VARANS' Trainees as if Licensee
@Hanoi (3 days) or @Tokyo (8 weeks)

- JNES as if Regulator**
- To understand the structure of Safety Analysis Report
 - To confirm the conformity to Safety Guidelines
 - To learn the interaction with the future licensee

Challenges associated with Vietnam Training

- Importance of Custom-make Feature and Flexibility meeting Recipients' Needs
- To provide effective Support for internal Project Management
- Importance of proactive Approach and Dialogue with Trainees
 - tests + interviews
 - presentation of the training Results

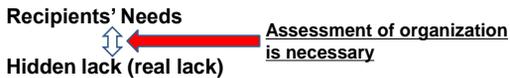
2

For China

- Long Term Training for Chinese Regulators
 - Background and purpose
 - Chinese regulatory authority requested the NRA to provide training for the junior regulatory staff of China in order to acquire technical knowledge and know-how as nuclear regulators.
 - Outline of the training
 - Training for Chinese regulators started in 1996 and a total of 113 trainees have finished the training course as of end of March, 2013.
 - About a one-month training in which around 10 Chinese junior regulators in their 20s to 30s participate is conducted twice a year.
 - Japan is trying to undertake this training with definite aim while understanding Chinese's needs.

3

Our Concerns



4

4. Basic Policy of Proposed Regulatory Requirements



- 1) Thorough Application of Defense-in-Depth Concept
 - Prepare multiple effective measures (multi-layered protective measures) and, for each layer, achieve the objective only in that layer regardless of the measures in the other layers.
 - Assume the preceding layer be breached (denial of preceding layer) .
- 2) Elimination of Common Cause Failure
 - Strengthening of fire protection, and of measures against inundation by tsunami.
 - Reinforcement of SSCs important to safety (elimination of shared use of passive components, if relied on for a long time).
- 3) More Stringent Assessment and Enhanced Protective Measures Against Extreme Natural Hazards
 - More stringent approach for assessment of earthquake and tsunami, introduction of measures against tsunami inundation.
 - Due consideration of diversity and independence (shift of emphasis from "redundancy centered").
- 4) Functional Requirement

11

5. Basic Policy on Proposed Regulatory Requirements (SA and Terrorism)



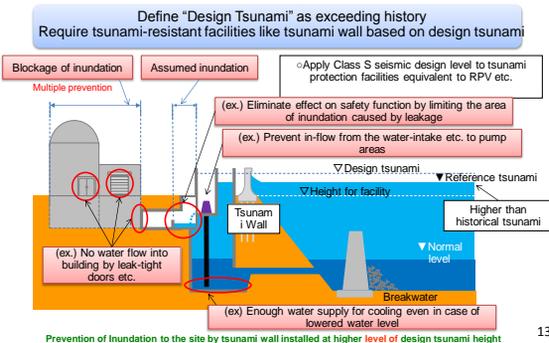
- 1) Preparation of multi-layered protective measures for "prevention of core damage", "maintaining containment integrity", "controlled release by venting", and "suppression of release / dispersion of radioactive materials"
- 2) Use of mobile equipment as a base similar to U.S. etc. and further enhancement of reliability by combined use with permanently installed systems / equipment "Continuous improvement"
- 3) Enhancement of protective measures for SFP
(Water level measurement, Alternative water supply, Spray)
- 4) Enhancement of command communication and instrumentation (Reinforced seismic-resistance of on-site emergency response center, improved reliability / durability of communication system, enhanced instrumentation including SFP)
- 5) Introduction of "Specialized Safety Facility" against intentional aircraft crash

12

6. Stricter requirement for tsunami



※Still subject to the changes according to the public hearing



13
