

Management for Nuclear Safety - Risk and Safety Culture -

For PSAM Panel Discussion



April 15, 2013 Akihide Kugo





Profile



- Education
 - B.E. (1978, Mechanical Engineering, Tokyo Univ.)
 - M.A.(2002, International Study, Leeds Univ.)
 - Ph.D.(2006, Risk Communication, Kyoto Univ.)
- Research interests
 - Risk Communication, Safety Culture, Ethics,
- Professional Careers
 - Chief Nuclear Reactor Engineer (Ohi #1,2 Plants)
 - General Manager, Preparatory Office for JANSI

(Federation of Electric Power Company)

- Director, Human Resource Development (JANSI)



Definition and Context of Risk

"Using the word "Risk" without identifying its accurate context would leave a sense of ambiguity."

Professor Tatiana Bouzdine-Chameeva BEM- Bordeaux Management School, France

For example

"Uncertainty", "Instability", "Suspicion" (Negative context)

"Calculated decision-making", "Decision based on probability" (Positive context)

The word "Risk" has double faces.



Risk should be shared



Personal View on Nuclear Power Technology based on the Fukushima Daiichi Accident

Poor Risk Management

- Poor recognition to external events
- Dilution of hazard awareness, essentially for nuclear energy, due to misunderstanding of mission completed
- Luck of risk sharing in area of nuclear safety related technology
- The philosophy of "defense-in-depth" has not been utilized in the design and the operation.
- If "defense-in-depth" is utilized, serious consequences could be avoided.

LWR technology is not immature one.

Roles of Nuclear Experts

"Experts must have the ability of self reflection, asking themselves whether their actions are consistent with intentions and achievements in light of objectives in various phases to assume responsibility"



JANSI : Japan Nuclear Safety Institute

"Special Risk" for Nuclear Power Operators?

Had it occurred, a considerable large scale of the everyday life and the social economy would become spoiled and unstable.

- Potential damage over public health and property, and environment through wide area
- Framing effect leading to psychological damage in society
- Unsettled obligation for the accident liability
- Vague brake-even point for safety
- Big innercia to keep operation to save investment cost
- Cross-border impact
- Incomplete social consensus
- Instability due to external factors
- Self regulation

My conclusion

"Science is not necessarily universal truth." "Culture has a greater influence than science does."

> Dr. Claude Fischler Research director for the French National Centre for Scientific Research, School for Advanced Studies in the Social Sciences



• Experts must recognize the "special risk" of nuclear power and *question their responsibility* with modesty.



Thank you for your attention

