Integrated NEA Response to the Fukushima Dai-ichi NPP Accident

Mr. Javier Reig

Director, Nuclear Safety Division

OECD Nuclear Energy Agency

Outline

- NEA support to Japanese Government
- NEA Integrated Response to the Fukushima Dai-ichi Accident
- Ongoing Activities in Response to Fukushima Daiichi within CSNI, CNRA and CRPPH

Cross-committee Topical Areas

		CNRA	CRPPH	CSNI
1.	**Accident Management and Progression**			
	a. TRANSITION: Review of on-site accident management programmes and procedures to address the transitional conduct of operations from normal to accident conditions to severe accident conditions, and to the implementation of protective measures under the emergency preparedness plans. This includes onsite and offsite decision-making processes.	**L**	S	S
	b. ACCIDENT PROGRESSION: Enhanced understanding of accident progression analyses methods and techniques.	S	S	**L**
	c. HUMAN PERFORMANCE: Human and organisational performance issues under accident response conditions.	S	S	**L**
	d. OFFSITE: Improvement of off-site emergency preparedness by sharing knowledge on core melt accident progression and source term quantification to improve off-site emergency procedures and technical tools.	S	**L**	S
2.	**Crisis or Emergency Communications** (primary information exchange between CNRA and CRPPH)			
	a. PUBLIC: Communication with the public, media and other stakeholders including Japanese organisations.	**L**	**S**	
	b. REGULATORS: Communication with the regulators in other countries and with international organisations, such as the International Atomic Energy Agency (IAEA) and the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE).	**L**	**L**	
	c. ONSITE OFFSITE: Crisis communications between onsite and offsite emergency response organisations.	**L**	**L**	
3.	**Reassessment of Defence-in-Depth**	S		**L**
4.	**Evaluating the methodologies for defining and assessing initiating internal and external events, including coupled, as well as methodologies defining the design basis criteria**	S		**L**
5.	**Reassessment of Operating Experience and prior opportunities to identify or address conditions that could challenge nuclear safety.**			
	a. OPE: Evaluation of operating experience for events that may be precursors to future events that could challenge the safety of nuclear power plants given the insights from Fukushima.	**L**		S
	b. RESEARCH: Review and gap analysis of safety research relevant to the analysis of the accident.	S		**L**
6.	**Balancing deterministic and probabilistic approaches to regulatory decision making**	**L**		S
7.	**Regulatory Infrastructure**	**L**		
8.	**Radiological Protection and Health Physics**		**L**	
9.	**Decontamination and recovery (onsite and offsite)**		**L**	

Ongoing Activities within NEA

CSNI

- Working Group on Accident Management and Analysis (WGAMA)
  - WGAMA F-CAPS (2012)1 – Position paper on filtered containment venting
  - WGAMA F-CAPS (2012)2 - International benchmarking project on fast-running software tools used to model fission product releases during accidents at nuclear power plants
  - *WGAMA is discussing a possible additional new task on hydrogen generation and mitigation*
- Working Group on Human and Organisational Factors (WGHOF)
  - WGHOF F-CAPS (2012)1 – Human performance and intervention under extreme conditions

Ongoing Activities within NEA

CSNI Cont'd

- Working Group on Integrity of Components and Structures (WGIAGE)
  - WGIAGE F-CAPS (2012)2 – Metallic component margins under high seismic loads (MECOS)
- Working Group on Risk Assessment (WGRISK)
  - WGRISK F-CAPS (2012)1 – Workshop on PSA of natural external events including earthquakes
- Other ongoing work within CSNI includes:
  - A discussion paper on Defence-in-Depth to identifying future technical topics (joint effort with CNRA)
  - Re-constitution of DiDELSYS TG to investigate the issue of electrical system robustness in light of Fukushima

Safety Research/Joint Projects

- Importance of future safety research has been highlighted in the CSNI Concept Paper, CNRA STG Recommendations to CNRA and other supporting strategy/policy documents
- New safety research will be identified using a phased approach within NEA:
  - Comprehensive review of past safety research - done
  - Gap analysis based on research issues from Fukushima – ongoing
  - CSNI review of research direction – ongoing
- Joint international research project being established: *Benchmark Study of the Accident at the Fukushima Daiichi NPS (BSAF Project)*

Ongoing Activities within NEA

CNRA

- CNRA Senior Task Group on Impacts of Fukushima Daiichi Accident (STG-FUKU)
  - Established to coordinate CNRA and ultimately cross-committee response to Fukushima Daiichi accident
  - Discuss regulatory issues (i.e., Defence-in-Depth)
- Working Group on Operating Experience (WGOE)
  - Task on pre-cursor events - evaluation of various initiators and situations for new lessons in light of the Fukushima Daiichi accident and improvements in implementing lessons learnt. WGRISK to cooperate in a risk analysis of precursor events exercise

Ongoing Activities within NEA

CNRA Cont'd

- New Task Group on Accident Management established
  - Enhancements of on-site accident management procedures
  - Decision-making and guiding principles in emergency situations
  - Guidance for instrumentation, equipment and supplies for addressing long-term aspects of accident management
  - Guidance when taking extreme measures for AM

Ongoing Activities within NEA

CNRA Cont'd

- **Working Group on Public Communication (WGPC)**
  - Completed workshop on Crisis Communication (Madrid, May 2012)
- **Safety of Research Reactors Task Group (SORRTG)**
  - Task on peer review workshop of country comprehensive safety assessments (stress tests) of high risk RR facilities.

Ongoing Activities within NEA

CRPPH

- Established Expert Group on Radiological Protection Aspects of the Fukushima NPP Accident (EG-RPF)
  - Sub-group on criteria for trade in food and commodities after a nuclear accident
  - Survey on recovery lessons learned
- Working Party on Nuclear Emergency Matters (WPNEM)
  - ✓ INEX 4 evaluation report and workshop planning
  - ✓ EGIRES report on optimization in emergency preparedness and response with special focus on reference levels
  - ✓ Update of report on Short-term Countermeasures in Case of a Nuclear or Radiological Emergency (2003)
  - ✓ Survey on emergency management lessons learned

Ongoing Activities within NEA

CRPPH

- Information System on Occupational Exposure (ISOE) Expert Group on Severe Accident Management (EG-SAM)
  - ✓ Lesson learned in management of occupational exposure in high radiation areas
- Other CRPPH Activities
  - ✓ Support to Japanese government workshops on decontamination and recovery and other technical topics

Thank you for your attention

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