

Country Report of Japan

The 15th FNCA Ministerial Level Meeting
Sydney, Australia
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Contents

- Background: Challenges surrounding Japan
- Fukushima Update
- The New Strategic Energy Plan
- Japan's Nuclear R&D Activities
- Expectation of FNCA



Background: Challenges surrounding Japan (1)

Energy Security

- 6% energy self-sufficiency . Second lowest among 32 OECD member countries.
- 88% of fossil fuel imported from abroad.
- 81% of crude oil through the Strait of Hormuz.

Economy

- Fuel cost increase due to NPP shutdown: US\$33bn (2013)
- Electricity rate +19% for home use, +28% for industry use (2013>2010)

Background: Challenges surrounding Japan (2)

Global Warming

- CO2 emission +6.9% (2012>2010)

Anti-Nuclear Surge

- 60-70% Public Opinion against restarting nuclear power reactors

The New Strategic Energy Plan

Good balance of 3E + S

Energy **S**ecurity, **E**conomic **E**fficiency, **E**nvironment and **S**afety

“Dependency on nuclear power generation will be lowered to the extent possible by energy saving and introducing renewable energy.”

“An important base-load power source; low- carbon, quasi-domestic energy source”

“Carefully examine volume of electricity to be secured by nuclear power”

48 reactors idled; 20 under review by NRA, 2 cleared by NRA

“Promote the nuclear fuel cycle”

- to reduce volume and harmfulness of radioactive waste and to utilize resources -

Established the Nuclear Risk Research Center (NRRC) October 1, 2014

Fukushima Update

Decommissioning and contaminated water management

- Removal of 1533 fuel rods from Unit 4 waterpool to be completed.
- Three ALPS in operation
- Groundwater pumping and bypass (April 2014~)
 - Frozen-soil impermeable walls (March 2015~)

Evacuation orders lifted in some affected areas (April 2014)

Publishing marine monitoring results (daily) and foods monitoring (weekly)

Establish an international collaborative research center on decommissioning (April 2015)

Japan's Nuclear R&D Activities

(1) R&D for Reactor Decommissioning of Fukushima Daiichi

- ◆ Promoting advanced technology development in a Plan to accelerate the Reactor Decommissioning



Prospective International Collaborative Research Center

(2) Human resource development and R&D on nuclear technologies

- ◆ Education of young people and training of researchers and engineers
- ◆ Basic research on nuclear physics and radiation applications
- ◆ Research on High Temperature Gas-cooled Reactor (HTGR)



Training at a hot laboratory



HTTR (High Temperature engineering Test Reactor)

(3) Nuclear safety research

- ◆ Research on safety of nuclear facility
- ◆ Research on radiation protection for human and environment



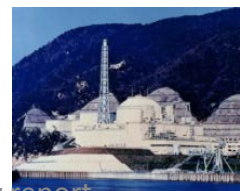
NSRR (Nuclear Safety Research Reactor)



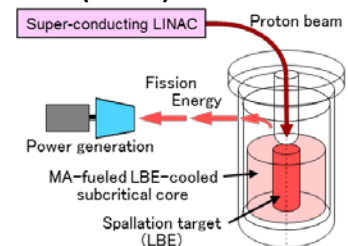
JMTR (Japan Materials Testing Reactor)

(4) R&D on nuclear fuel cycle and high-level radioactive waste disposal

- ◆ Fast reactor development
- ◆ Reduction of hazardous radioactive waste
- ◆ Accelerator Driven System (ADS) for MA Transmutation



FBR "Monju"



Accelerator Driven System(ADS)

Expectation to FNCA

Towards next 15 years of FNCA progress

Let's recall FNCA pioneers' spirit

- *Our cooperation has to:*
 - meet true needs of each country
 - provide tangible output
 - be flexible to take each country's situation into consideration
 - be horizontal rather than vertical , i.e. equal partnership

Counting on every country's leadership

- Ministerial level leadership and proactive involvement of Coordinators in designing the future FNCA's direction



Thank you