

# *U.S. Efforts in Transparency and Nuclear Nonproliferation*

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## **Presentation Outline**

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  - **Summary**



# Origin of Japan - U.S. DOE Transparency Engagement

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- **July 2000: JNC - DOE Action Sheet signed for “Cooperation in Nuclear Transparency.”**
  - Working through the Council for Security Cooperation in the Asia Pacific (CSCAP), formed the *Nuclear Energy Experts Group*.
  - Began with less sensitive topics (radiation in the environment), moved on to more sensitive issues (back-end of the fuel cycle).
  - Goal: Develop regional tradition of transparency cooperation as stepping stone to effective regional nonproliferation activities.
  - Use of CSCAP web site is strong (13,000-18,000 files per month) by 42 countries, including 14 CSCAP countries.
- **Hosted Naoko Inoue as JNC Visiting Scholar at Sandia National Laboratories: Jan 2001 – July 2002**



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## Regional Collaboration for International Safeguards

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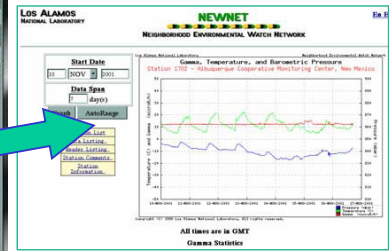
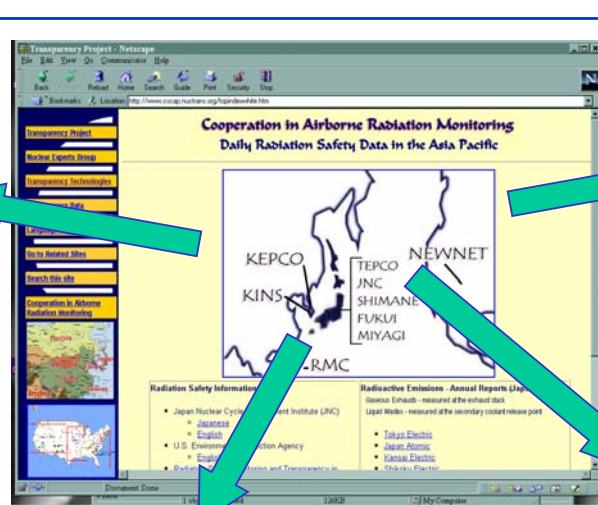
- **June 2004: JNC - DOE Action Sheet signed for “Development of Regional Collaboration, Transparency and Secure Data Communications for Nuclear Nonproliferation and Transparency.”**
  - Technical collaboration for the development of remote monitoring and secure communications technologies.
  - Sharing of safeguards-type data (but NOT safeguards-confidential) between nuclear facilities within Japan and the United States.
  - Mechanism for regional seminars and workshops regarding safeguards technologies.



# Transparency Data Web-Site Features Regional Airborne Radiation Data

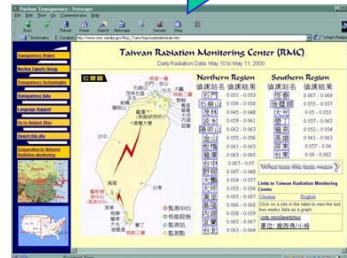


KINS in Korea



NEWNET in US

RMC in Taiwan



JAEA in Japan



## Proposed Revision of Transparency Collaboration

- November 2005: JAEA - DOE First Annual Review Meeting. Decision made to update “Cooperation in Transparency” Action Sheet to reflect current focus on nonproliferation in the nuclear fuel cycle.
  - Draft title “Science and Technology Contributions to Nonproliferation in the Nuclear Fuel Cycle”.
  - Action Sheet being prepared for signature following approval of new JAEA-DOE Safeguards Cooperation Agreement.



# U.S. - India Civil Nuclear Cooperation Initiative

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- Part of new U.S. - India strategic partnership.
- Recognizes India's strong commitment to preventing WMD proliferation.
- When fully implemented will allow Indian access to nuclear technologies currently denied.
- Would bring India toward the non-proliferation mainstream by broader application of international safeguards in India.
- Announced on July 18, 2005.



## India's Commitments in the U.S. - India Civil Nuclear Cooperation Initiative

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- Identify and separate civilian and military nuclear facilities and programs and file a declaration with the International Atomic Energy Agency (IAEA) regarding its civilian facilities.
- Place all civilian nuclear facilities under IAEA safeguards.
- Sign Additional Protocol with respect to civilian nuclear facilities.
- Continue unilateral moratorium on nuclear testing.
- Work with the U.S. for conclusion of multilateral Fissile Material Cut-Off Treaty (FMCT).
- Refrain from the transfer of enrichment and reprocessing technologies to states that do not have them.
- Secure nuclear and missile materials and technologies through export control legislation and adherence to Missile Technology Control Regime (MTCR) and Nuclear Suppliers Group (NSG).



# U.S. Commitments in the U.S. - India Civil Nuclear Cooperation Initiative

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- **Seek agreement from Congress to adjust U.S. laws and policies.**
- **Work with allies to adjust international regimes to enable full civil nuclear energy cooperation and trade with India.**
- **Consult with partners on India's participation in the fusion energy International Thermonuclear Experimental Reactor (ITER) consortium and the Generation IV International Forum, relating to advanced nuclear energy systems.**



## East Asia Fuel Cycle Cooperation

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- **Establish group of nonproliferation and energy experts to identify areas of proliferation risk and potential technical approaches.**
- **Based on regional feedback, two focus areas were identified:**
  - **Multilateral Fuel Cycle Regimes**
    - **Estimate demand for enriched uranium and amount and characteristics of irradiated fuel arising from regional nuclear energy programs.**
    - **Explore viability of multilateral fuel cycle service supply concepts for new users of nuclear energy (e.g., Indonesia and Vietnam).**
  - **Secure and transparent management of irradiated nuclear fuel**
    - **Technical issues associated with consolidated interim storage.**



# Other Approaches to the Civilian Nuclear Fuel Cycle

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- **Nonproliferation concerns**
  - Countries with the full nuclear fuel cycle (especially enrichment and reprocessing) can produce weapons useable nuclear material.
  - A country could legally acquire enrichment and reprocessing capabilities while a member of the NPT and then withdraw with a stockpile of weapons useable material.
- **Goal of multinational approaches**
  - Limit national control of sensitive fuel cycle services (enrichment and reprocessing), materials and technologies.
  - Increase transparency of sensitive fuel cycle facilities.
- **Potential incentives for countries to accept multinational approaches**
  - Guaranteed uninterrupted, cost-effective nuclear fuel supplies.
  - Cost-effective streamlined nuclear waste / spent fuel management services.
- **Potential concerns with multinational approaches**
  - Fear that fuel supplies could be cut off for political or other reasons.
  - Concern about viability of international approaches to spent fuel and waste management.
  - Increased transportation of material.
  - Some multinational approaches could increase access to sensitive technologies.



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## U.S. Approach – Reliable Fuel Supply

### President Bush Proposal, February 2004

- **Ensure reliable access to fuel for civil reactors at reasonable cost to states foregoing enrichment and reprocessing and comply with their NPT and safeguards obligations.**
- **Suppliers will work through the IAEA to provide a back-up supply mechanism should a problem arise with the market.**
- **Supported by U.S. Reserve. Urge other suppliers to do the same.**

U.S. Department of Energy Secretary Bodman told the 2005 IAEA General Conference that DOE will reserve up to 17 metric tonnes of HEU, blended down to LEU, to support this reserve.



# Summary

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- **Japan - U.S. DOE cooperation on transparency is demonstrative of broader bilateral commitment to global nonproliferation goals.**
- **Japan - U.S. DOE transparency activities create opportunities for increased regional cooperation.**
- **Transparency of fuel-cycle related activities is critical to increasing regional trust and confidence.**

