Sandia National Laboratories' Approach to Transparency of Nuclear Activities in Asia

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Confidence Building Measures Can Reduce Regional Tension

- **Transparency is a key confidence building measure**
- **Transparency provides the international community assurance that**
  - States are not diverting material from their civilian nuclear power programs
  - Threats of theft and sabotage have been addressed through proven physical protection systems
- **Regional workshops and collaborations can address nonproliferation issues**

Transparency

- **Can take the form of**
    - **Multinational fuel cycle agreements/facilities**
    - **Resident inspectors**
    - **Regional data sharing while protecting proprietary and sensitive information**
        - **Remote monitoring sensors**
        - **In-process monitoring sensors**

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Needed Technologies

- **Trusted processors**
- **Authentication algorithms**
- **Methodologies, technologies and system models for managing and processing safeguards data**
- **Technologies that assure robust/unobtrusive/proliferation resistant**
    - **Transparency measures**
    - **Material composition determination**
    - **Sustainable, economical, and effective physical protection systems**
    - **Secure, cost effective data transmission technologies, e.g., Virtual Private Networks**

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Potential Areas of Concern

- **Security of existing nuclear weapons and weapons-grade material**
    - **Physical protection of existing weapons and weapons-grade materials**
    - **Protection of related information and technologies**
- **Safeguards on nuclear power processes generating weapons grade material**
- **Protection of facilities against sabotage**
- **Reduction of nuclear weapons in the region**

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What role do you see in Japan and the region for transparency in the nuclear fuel cycle?

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