

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



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*Presented by*

**Dori Ellis, Director**  
**International Security Center 6900**



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,  
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## アジアの原子力活動の透明性に対する サンディア国立研究所のアプローチ (仮訳)

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国際安全保障センター部長  
Doris Ellis

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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**

## 信頼醸成措置→地域の緊張を緩和

- 透明性＝主要な信頼醸成措置
- 透明性による国際社会への保証
  - ・軍事転用がないこと
  - ・核物質防護を通じ盗取や妨害破壊行為の脅威に対処できること
- 地域レベルのワークショップや協力
  - ⇒不拡散問題への対処



# Transparency

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- **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**

## 透明性

- **透明性の形**
  - **多国間燃料サイクル協定／施設**
  - **常駐査察官**
  - **データの共有、ただし、所有権と機微情報は保護**



## Needed Technologies

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- **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**

## 必要とされる技術

- 信頼できる処理装置
- 認証アルゴリズム
- 保障措置データを管理・処理する  
手法、技術、システムモデル
- 頑丈で目立たず、かつ拡散抵抗性  
を確実にする技術



## Potential Areas of Concern

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- **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**

## 潜在的な懸念分野

- 既存の核兵器や兵器級核物質のセキュリティ
- 兵器級核物質を生産可能なプロセスへの保障措置
- 妨害破壊行為に対する施設防護
- 地域の核兵器削減



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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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- 核燃料サイクルの透明性のために、日本や地域レベルでどんな役割があると思いますか？