

NGSI Accomplishments in FY 2009

NGSI held three major international meetings in the past year:

- The First Annual International Meeting on Next Generation Safeguards brought together high-level government officials and technical experts to reach a common understanding of next generation safeguards challenges and opportunities.
- An inaugural international workshop was held in June 2009 to begin an effort to harmonize the safeguards infrastructure assistance provided by advanced nuclear states and organizations.
- An inaugural international human capital development workshop was co-hosted with Euratom in September 2009 to explore opportunities to collaboratively train the next generation of experts.

Policy Development and Outreach:

- Initiated multi-U.S. National Laboratory studies to develop ways to achieve President Obama's objective to provide the International Atomic Energy Agency (IAEA) with "more resources and authority to strengthen international inspections."

Concepts and Approaches:

- Completed six multi-U.S. National Laboratory studies on: (1) Process Monitoring; (2) Institutionalizing Safeguards by Design; (3) Safeguards Approaches for Enrichment and Reprocessing Plants; (4) Proliferation Risk Reduction Assessments of different reprocessing technologies; (5) Material Attractiveness; and (6) the IAEA's State Evaluation Process.
- Initiated U.S. National Laboratory projects and consulted with U.S. industry to develop guidance on safeguards requirements and best practices to assist facility designers in integrating safeguards into facility designs.

Technology Development:

- Launched a multi-year project to assess 13 non-destructive analysis techniques for the direct quantification of plutonium in spent fuel, an identified IAEA need.
- Initiated 10 new projects in the areas of measurement technology, field instrumentation, data integration, data authentication, environmental sample analysis, and design information verification.
- Completed several technology development projects with foreign partners focused on unattended monitoring of plutonium holdup, encrypted remote data transmission, and analyzing environmental swipe samples at U.S. and foreign laboratories.

Human Capital Development:

- Held five summer safeguards courses for 150 students and sponsored over 100 students from 40 universities to serve as summer safeguards interns at U.S. National Laboratories.
- Sponsored several University Engagement Workshops, developed course materials, and provided over 40 guest lectures to assist university faculty with incorporating safeguards and nonproliferation modules into their courses.
- Held workshops on recruiting qualified Americans for safeguards positions at the IAEA and for mid-career transitions into safeguards for technical experts at the U.S. National Laboratories.

Infrastructure Development:

- Hosted international training courses in coordination with the IAEA on State Systems of Accounting and Control and the Small Quantities Protocol to train nuclear facility personnel from over 50 countries on IAEA safeguards best practices.
- Trained over 300 foreign nationals on international safeguards.

Preview of FY 2010 NGS Activities

Second International Meeting on Next Generation Safeguards

On October 26-28, 2009, The U.S. Department of Energy/National Nuclear Security Administration and the Japan Ministry of Education, Culture, Sports, Science and Technology will co-host the Second International Meeting on Next Generation Safeguards in Tokai, Japan. This meeting will build on the progress made at the first meeting and seek to reach consensus by participants in the importance of further international collaboration on Next Generation Safeguards.

Harmonization Workshop for Safeguards Infrastructure Cooperation

A second infrastructure harmonization workshop will be held November 2009 in Vienna. This workshop will begin to implement several of the areas for cooperation identified in the June 2009 workshop.

Policy Development and Outreach:

- Continue U.S. National Laboratory studies to support efforts to achieve President Obama's objective to provide the IAEA "more resources and authority to strengthen international inspections."
- Work with U.S. National Laboratories to improve effectiveness and transparency of state-level approaches to information-driven safeguards.

Concepts and Approaches:

- Undertake U.S. National Laboratory projects to develop: (1) a guidance document for U.S. industry aimed at accommodating effective Design Information Verification and other safeguards activities at gas centrifuge enrichment plants; (2) a requirements document for applying process monitoring at gas centrifuge enrichment plants; (3) a best practices document for international safeguards at aqueous reprocessing facilities; and (4) a draft technical requirements document for international safeguards suitable for use by facility designers.

Technology Development:

- Continue to work with the U.S. National Laboratories to catalogue safeguards-relevant reference materials and identify U.S. safeguards infrastructure needs.
- Continue an assessment of spent fuel non-destructive analysis techniques.
- Initiate a collaborative project with a foreign partner to directly measure plutonium in spent fuel.

Human Capital Development:

- Continue an assessment of U.S. human capital requirements and core capabilities for supporting international safeguards work. This assessment will identify needs, demographic trends, emerging gaps in specific skill sets and expertise, and inform future investments in human capital development for international safeguards.

Infrastructure Development:

- Expand regional and bilateral training workshops focused on teaching fundamental safeguards techniques and assisting in the development of safeguards infrastructure.