

# **Nuclear Suppliers Group: Evolution, Transformation & Future Outlook**



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# Outline

- Evolution
  - Supplier governments' long track record of collaboration on nuclear proliferation issues
  - Early focus on the proliferation threat from the emerging nuclear fuel cycle
  - Nuclear Commerce
- Transformation
  - Iraq
  - Nuclear Terrorism
  - Iran and DPRK
- Future Outlook

## **Supplier governments' long track record of collaboration on nuclear proliferation issues**

- **Collaboration ranged from discussions on technology controls to sanctions and investigations of weapon research, development, production and testing activities.**
- **Collaborations occurred mostly in response to perceived vulnerabilities in existing rules or mechanisms.**
- **Experience also shows that supplier governments have been able to cooperate on issues both at the general level of nonproliferation policy and in response to specific problems in export control.**

# Early focus on the proliferation threat from the emerging nuclear fuel cycle

- **Centrifuge Classification Controls**
  - In July 1960 the United States, UK, Netherlands and West Germany imposed security classifications on their gas centrifuge programs.
- **Nuclear Exporters Committee (Zangger)**
  - A group of NPT signatory governments met to establish and keep up to date a list of materials and equipment that should “trigger” the application of International Atomic Energy Agency (IAEA) safeguards.
- **Nuclear Suppliers Group (London Club)**
  - In 1976, a voluntary code of conduct known as the “London Club Guidelines” provided a “trigger list” of technologies requiring safeguards. The compromise on greater restrictions on “sensitive” technologies was to include a guideline recommending particular caution in supplying enrichment and reprocessing material, equipment, and technology.

# **Nuclear Commerce**

- **As the volume of trade increased and the nuclear industry became increasingly global, it will become even more important to ensure that transfers of nuclear materials and technology are made for peaceful purposes.**
- **The NSG played an increasingly important role in ensuring the peaceful nature of nuclear transfers by continuing to control technology and know-how, as well as dual-use equipment and components for the production of special nuclear material and nuclear explosive devices.**

# Comparison of Some Aspects of the Trigger List and the Dual-Use List

## Trigger List

- Covers fuel cycle technologies/items only
- Listing of EDP items
- Illustrative List
- Technical descriptions of controlled items can be sufficiently broad to cover all usable items of that type
- De minimis quantities for certain materials/items
- De facto “embargo list” to countries without full-scope safeguards

## Dual-Use List

- Covers both fuel cycle and weaponization
- Listing of dual-use items that are both significant and controllable
- Definitive List
- Technical descriptions precisely and narrowly worded to cover only those items that are significant and controllable. Not all usable items are necessarily controlled
- In general, no de minimis quantities for materials
- Can supply items even to countries without full-scope safeguards provided supplier is satisfied item is to be used in non-nuclear activity or safeguarded nuclear activity

# Iraq

- **Proliferation Concerns and Revelations in the early 1990s led to several important collaborations for nonproliferation.**
- **After the Iraq invasion of Kuwait in the 1990 and the revelation that Iraq had been able to acquire considerable material, equipment, and facilities despite export controls and Guidelines, NSG Participating Governments quickly and easily agreed to expand the Guidelines to include controls on nuclear dual-use items.**

# Iraq Continued

- **Part 2 of the NSG Guidelines contains a list of nuclear related dual-use equipment, materials and related technologies**
- **Part 2 of the NSG Guidelines prohibits the export of the controlled commodities and technologies:**
  - To any non-nuclear weapons state for use in nuclear explosive activity, or in an unsafeguarded nuclear fuel-cycle facility; or
  - In general, if there is an unacceptable risk of diversion to such an activity, or if the export would be contrary to nonproliferation objectives; or
  - If there is a risk of diversion to terrorist acts
- **Sharing of Denial Information**



# Iraq Continued

- **Further, it was also agreed that a full-scope safeguards agreement in force with the IAEA is a condition of supply for the export of NSG Trigger List items.**
- **Explicit controls on technology transfers were also added.**
- **Inclusion of a non-proliferation principle:**  
*“...suppliers should authorize transfer of items ore related technology in the trigger list only when they are satisfied that the transfers would not contribute to the proliferation of nuclear weapons or other nuclear explosive devices or be diverted to acts of nuclear terrorism.”*

# Nuclear Terrorism

- **In 2002, following the September 11 attacks, the NSG agreed upon changes to the Guidelines to help prevent acts of nuclear terrorism.**
- **These new counter-terrorism changes to the Guidelines included new provisions for physical security, the protection of facility design information, and language to prohibit the transfer of equipment or technology which could be diverted to acts of nuclear terrorism.**

# Iran, DPRK and Libya

- **Incorporation of a Catch-All Control in the NSG Part 2 Guidelines**
- **Consideration of the IAEA Additional Protocol as a Condition of Supply**
- **Further restricting the transfer of enrichment and reprocessing (ENR) technologies**
- **Development of “Watchlists” for NSG partners use.**
- **Establishment of the Information Exchange Meeting and Licensing and Enforcement Experts Meeting to share more actionable information.**

# Future Outlook

- **The NSG has evolved in response to the threat at hand and will continue to do so.**
- **Possible considerations as we look forward:**
  - A review of the NSG Guidelines once the Fundamental Review of the NSG Trigger and Dual-Use Lists has concluded
  - Linkages with regional organizations and industry
    - 1540 Committee
    - WNA
    - WINS
  - More outreach with non-members to encourage adherence to the NSG Guidelines

# Conclusion

- **NSG meets on an annual basis or more frequently and has continually revised its Guidelines based on balancing proliferation threat and commercial realities.**
  - the establishment of criteria for the export of enrichment and reprocessing equipment and technology.
- **Will continue to look at the NPT Revcon and nuclear commerce as a barometers of where the group should focus:**
  - Establishing the Additional Protocol as a condition of supply for Trigger List items
  - Multilateral Nuclear Approaches