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# Material Protection, Control and Accounting Lessons Learned Applied to US and RF Nuclear Security Cooperation in 2015

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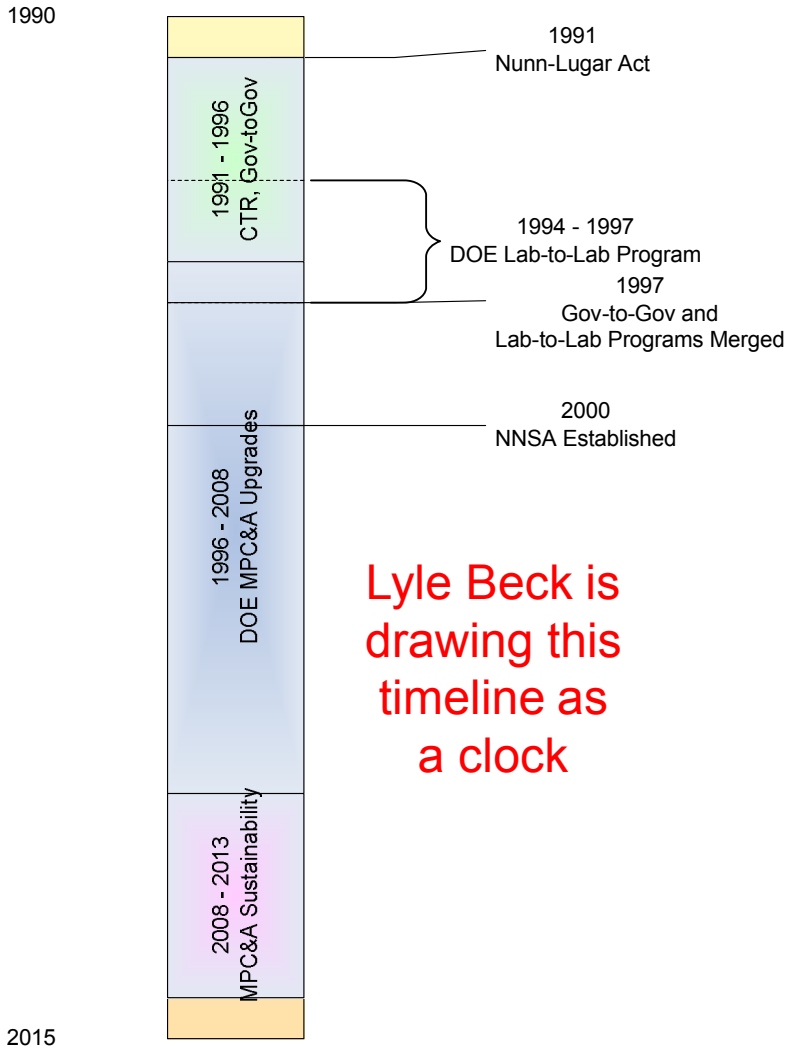
# MPC&A Program




Lyle Beck is drawing this timeline as a clock

- **RF Partners: ROSATOM and RF MOD**
- **Objectives:**
  - ***Secure:*** **Install physical security and accountancy upgrades appropriate for:**
    - **Material attractiveness**
    - **Threat of theft**
  - ***Reduce:*** **Consolidate material**
    - **Fewer buildings**
    - **Fewer sites**
    - **Convert HEU to LEU**
  - ***Sustain:*** **Encourage development of Russian capabilities and commitments to operate and maintain the security improvements**

# Kola Technical Center

- **Technical Support Center Functions**
  - Training
  - Maintenance and Testing
  - Lifecycle Support
  - Spare Parts Inventory
- **Joint design and planning for transition**
- **Training**
  - "Train the trainer"
  - Courses for maintenance, operations and management of MPC&A systems within the Kola region
  - Russian trainers involved in course development from the beginning
- **Equipment Maintenance and Testing**
  - Equipped with equipment used at sites it supports
  - Mobile maintenance vehicles purchased
  - Distribution center for replacement equipment

# Implementation Lessons Learned


- Training is best institutionalized by involving qualified training developers from the beginning
- Train the operational staff to increase the level of on-site field maintenance, especially for remote sites
- Match the technology used to the indigenous capability to maintain it
- Match the project to the needs – joint requirements and needs analysis
- Efficiencies of scale related to training and spare equipment provision can be realized through the use of regional centers with a "depot" level focus
- Russian institutes are interested in Western methodologies for gathering and analyzing data on the installed technical systems

# Organizational Lessons Learned

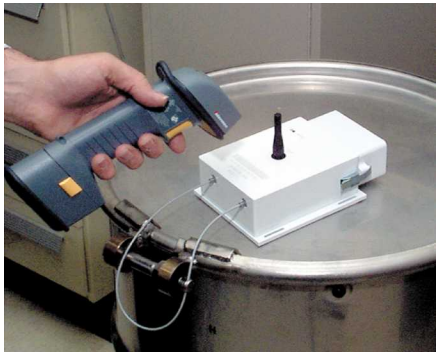
- Commitment at the highest levels within each of the partner organizations and governments has a significant benefit
- Strong relationships contribute to success; as a result it is important to minimize changeover in personnel
- Focus on the most important projects/problems for the maturity level of the collaboration
- Establish a clear legal framework for the cooperation
- Insulate the program from political issues to the extent possible
- Establish efficient organizational structures and delegate programmatic decision-making authority as low as possible

# A New US-RF Nuclear Cooperation Framework: Potential Objectives

- Global leadership in nuclear safety and security (RF and US using their collective expertise to push for more effective nuclear security)
- Enhanced sustainable worldwide security of global nuclear material stockpiles, including material consolidation, inventory reduction to necessary levels, and robust material controls
- Commitment to safe, secure, and proliferation resistant growth of nuclear energy
- Investment in science and technology development to enable affordable and sustainable nuclear safety and security
- Measures to combat terrorism including security of nuclear sources

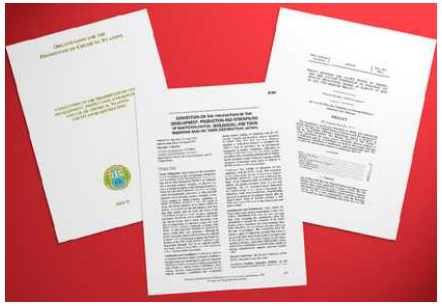
Image: US-Russian Flags, crossed

# Potential Areas of Cooperation



- Joint implementation projects based on high security experience and technical expertise (for example expedited denuclearization of a clandestine nuclear program)
- Joint technology development projects (sensors, assessment, access delay, simulation and modeling, measurement methods, etc.)
- Joint technology performance testing projects (tests of systems against capabilities of evolving threats including cyber and other highly technical attack methods)
- Observation and evaluation of large scale security exercises
- Joint training and technical exchanges both bilateral (RF-US) and trilateral (RF-US-IAEA)
- Hyper awareness of threat changes (sharing of information on adversary capabilities, tactics, and targets)

# Suggestions for Implementing a New Partnership Framework



- Establish a Framework Agreement for the Elements of the Partnership, as Appropriate
- Create Charter, Organizational Structure, and Project Implementation Plan for Activities under the New Partnership
- Address visa issues
- Identify funding source and scope
- Jointly develop and select a number of pilot projects, for example:
  - Joint technical exchanges with other weapons states hosted by the US/RF in nuclear weapons safety and security.
  - Small joint implementation project to secure nuclear material in a third country.

# Conclusion

- The time is right for the formation of a new partnership for global nuclear security with the RF and US
- The goals for this new partnership should include:
  - Worldwide nuclear safety and security leadership
  - Commitment to the safe, secure, and proliferation resistant growth of nuclear energy
  - Measures to combat terrorism including the security of nuclear sources
  - Science and technology collaboration to enable joint goals
- Starting the process today will ensure a strong, fully implemented global nuclear security partnership between the RF and US in 2015 and beyond