



2013 MID-YEAR IAG MEETING: COMPILED NOTES FROM THE NDWG

Workshop Goals and Objectives

1. Review and finalize Volume III in the “Developing a Nuclear Detection Architecture Series”: “Guideline for Planning and Organization”
2. Determine scope and develop content for Volume IV in the NDWG document series
 - a. Identify detection challenges through a tabletop exercise and breakout group discussions
 - b. Identify and discuss country case studies
 - c. Form a drafting group
3. Discuss NDWG roadmap of future activities

Sessions 1 and 2: Final Review of “Guidelines on Planning and Organization”

- The table below summarizes the comments and changes made to the document during Sessions 1 and 2 of the NDWG meeting.
- Document status: **Reviewed and Finalized**

Comment	Outcome	Rationale
Executive Summary: delete “critical security” from first sentence.	Change accepted	
Section 2.2, first bullet. Change to “articulating the activities necessary to achieve the goals established in the detection strategy”	Change accepted	
Section 2.3.1. Change the term “nuclear security” to “prevention of illicit trafficking of nuclear materials and radioactive substances and countering the nuclear and radiological terrorism”.	Changed “national security and nuclear security context” to “national security context”. This change was made throughout the document.	This intent of this section is that the nuclear detection architecture goals and the national security context should be understood together. States do not develop the nuclear detection architecture in isolation, but rather in

Comment	Outcome	Rationale
		cooperation with broader national security activities.
Section 2.3.1, bullets. Add “relevant” before each bullet.	Changed accepted.	
Section 2.3.1, bullet. Delete “documents describing nuclear security, safety, safeguards, or response activities.”	Change accepted.	
Section 3.2. Add bullet “building consensus and common understanding among architecture stakeholders”	Change accepted.	
Section 4.3.3. Change 6 th bullet to “establish and maintain continuous awareness programs”	Change accepted.	
Case Study 4: Update the name of State Ministries/Organizations, as appropriate.	Ministries/Organizations have been updated.	

Session 3: Domestic Interior Focused Tabletop Exercise (TTX)

- The NDWG participants (in 6 small groups) worked through a planning tabletop scenario for the interior portion of a fictional State’s—Centralia—national nuclear detection architecture.
- The objectives of the TTX were to:
 - Identify challenges and strategies for addressing challenges for detection in the domestic interior portion of a nuclear detection architecture.
 - Share perspectives on implementation approaches and best practices
 - Facilitate discussion and exchange on real-world nuclear detection experiences
- **8 broad challenge categories were identified through the TTX.** Challenges related to:
 1. Geography and Pathways
 2. Threat Environment
 3. Operational Personnel
 4. Interactions with stakeholders outside national government (e.g., International, industry, general public)
 5. Legal
 6. Technical
 7. Financial / Resource Constraints
 8. Structural / Organizational Issues
- TTX Group Notes: Challenges (Each sub-bullet corresponds with a challenge identified in a TTX group)

- Geography and Pathways
 - Manage vast land, area / control & complexity
 - Geography itself (e.g., harsh terrain)
 - Lack of chokepoints / checkpoints
 - Dynamic environment
 - Small roads, ports, and airports
 - Almost unlimited pathways for moving material within interior
- Threat Environment
 - Sources within the country
 - Threat material could come from within the borders
 - Understanding the threat
 - Multiple large cities that may be targets
 - Identify targets
 - Many potential targets located in the interior
- Operational Personnel
 - Lack of training resources and lack of knowledge
 - Competing missions and priorities
 - Lack of awareness of threat
 - Lack of awareness / training
 - Deployment of new equipment
 - Lack of training and equipment for law enforcement in the interior
 - Lack of technical expertise among front-line operators
- Interactions with stakeholders outside national government (e.g., International, industry, general public) – **Addressed in “Planning and Organization” (P&O)**
 - Not to limit or affect the economy too much
 - Potential economic impact (e.g., tourism)
 - Diversity of public knowledge, language, and culture
 - Misinformation and rumors
 - Communication between industry and government
- Legal – **Addressed in IAEA NSS documents**
 - Jurisdictions (domestic and international)
 - Legal authority
 - Privacy considerations
- Technical
 - Alarm adjudication
 - Equipment interference
 - Background radiation
 - Software compatibility

- Financial / Resource Constraints – **Addressed in P&O**
 - Allocation of funding
 - Limited funding
 - Sustaining technical capabilities after deployment
 - Lack of equipment in domestic interior
 - Detection without radiation detection instruments
 - No R/N equipment in the domestic interior
- Structural / Organizational Issues – **Addressed in P&O**
 - Multiple ministries involved
 - Common language and communication
 - Management of capabilities deployment
 - Many stakeholders with different roles, priorities
 - Different levels of stakeholders (federal vs. local)
 - Management of capabilities deployment
 - Need to have a national level communication system
 - International relationships: managing international perceptions of national capabilities
 - Coordination / consensus
 - Communications and information flow
 - Need for a national coordinating body
 - Coordination of licensing and regulation of sources
 - A lot of agencies have some responsibility in this mission - could get confusing: gaps and overlap with roles / responsibilities
- TTX Group Notes: Strategies for addressing Challenges
 - Create a working group of interested parties
 - Collect specific information and provide to interior operators
 - Intelligence, knowledge of other smuggling
 - Training on indicators of illicit trafficking
 - Early warning systems (in case of theft and/or loss of radioactive sources)
 - Conduct random checkpoints and unpredictable operations
 - International cooperation (equipment and information)
 - Detection does not just mean RND equipment (e.g., detection by information alert)
 - Purchasing alarm specific equipment
 - Combine efforts with other mission
 - Use experience from international exercises / cooperation for understanding how to combat language issues
 - Managing public communications to inform appropriately and avoid rumors

- Avoiding rumors and ensuring a well-informed populace
- Collecting information from the public
- Public awareness campaigns
- Threat assessment
- Risk assessment
- Strategic deployment of capabilities
- Prioritization of capabilities deployment
- Surge operations
- Explosive detection capabilities and bomb squads
- Search teams
- Technical support teams
- Mobile capabilities
 - “SWARM” concept
 - Relocate-able
- Mobile detect
- Human resource development (tailored to roles, exercises)
- Established training curriculum and provide continuous training and “train-the-trainer” courses
- Training and exercises (lectures, courses, ongoing)
- Utilize existing industry resources
- Improve protection of internal sources
- Reallocate existing resources
- Source accounting and reporting by private industry
- Communication procedures and regulation
- Create a mechanism or body for coordination purposes
- Develop strategies which include roles and responsibilities of all regulatory agencies
- Cross-border exercises
- Utilize explosive equipment from law enforcement
- Use random search / screening methodologies
- Profiling of adversary

Sessions 4 and 5: Volume IV – Document Scope and Content Development

- Case Study Presentations:
 - Session 4: “Challenges with Detection Technologies: Nuclear Security Architecture in Greece – Upgrading the Cargo Area in Piraeus Seaport” (Theodore Matikas, Greece)

- Session 5: “Assessments on Terrorism and Counter Terrorism in Afghanistan” (M. Amin. Ahmadzai, Afghanistan). *Handout*.
- Discussed the challenges identified in the TTX and the 8 challenge categorized. Some challenge categories were linked to other guidance documents (e.g., other NDWG documents such as “Awareness, Training, and Exercises” or “Planning and Organization” as well as IAEA Nuclear Security Series documents) in order to identify gaps in existing guidance.
- Guidance for the interior portion of a nuclear detection architecture was identified as a gap.
- Guidance for operational personnel (e.g., law enforcement) was also identified as a gap.
- **Determined document scope**
 - Working title: “Nuclear Security Detection Architecture within a State’s Interior”
 - Framework for the interior portion of the nuclear detection architecture
 - Domestic interior focus areas
 - Strategic locations (e.g., key cities, critical infrastructure)
 - Major public events (reference: IAEA NSS#18)
 - Other internal pathways and areas
 - Search and Survey
 - Challenges to detection in the domestic interior and actionable recommendations
 - Key topics include: information flow, better application of existing technologies, capitalizing on existing capabilities (e.g., specialized search and counterterrorism teams)
 - Document Format
 - Shorter length with respect to “technical content”.
 - Country case studies (3-5 pages) will be used to supplement the “technical content” by providing examples of how challenges were addressed.
 - Case study format:
 - Challenge
 - Context
 - Actions taken
 - Result and lessons learned
- Volume IV: Next Steps

Milestone	Timeframe
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Volunteer for drafting group (e.g., Russia Guardian 2012)	Now – mid-March
Initial outline based on discussions	March
Drafting Period	February - September
Mid-period status check and case study draft due	May
Case studies due	July
Virtual Review and Comment	September
Technical Review and Discussion	October 8-10
Virtual Review and Comment	November

Session 6: Future NDWG Focus Areas

- Reduce distance from theory to practical implementation
- Development of implementing tools
 - Checklists
 - Visual training aids
 - Curriculum development
 - Virtual learning tools
- Exercises
 - Thematically focused working group TTXs
 - Regional / multi-national TTXs
 - Field exercises
 - Detection team “challenge” exercises
 - Exercise playbook
- Technology engagement
 - Technology reviews
 - Site visits
 - Technical demonstrations
- Development of topical guidelines documents
- Topical Areas discussed
 - Alarm adjudication process
 - Dual use training aids
 - Shielding and masking of sources

- Source localization
- Support for identifying Nuclear, contaminated, radioactive, and NORM materials
- Role of intelligence in the architectures
- Assessment of detection systems
 - Characterization, testing, and evaluation before deployment
 - Guidelines for minimum requirements for equipment and techniques
 - Specifications for assessing manufacturer claims of performance
- Equipment management