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# Lessons Learned from Planning for and Conducting International Chemical Demilitarization Activities in Remote Locations – Albania Case Study

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Approved for Public Release

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Present some lessons learned from planning and conducting international chemical demilitarization operations



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- Albania Case Background
- Case Site Characteristics
- AMSAA's Role and Contributions
- Lessons Learned
- Conclusions and Recommendations

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- In 2002, the Government of Albania (GOA) declared a stockpile of chemical weapons
- The Cooperative Threat Reduction (CTR) Program under the Defense Threat Reduction Agency (DTRA) was tasked to provide assistance to the GOA to destroy the stockpile – late 2004
- AMSAA provided technical support to DTRA – Jan 2005 – Feb 2007



- Remote, unimproved, semi-mountainous area
- Essentially no support infrastructure
- Minimal in-country supply support



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## 1. USG Technical Authority

- Acquisition Strategy Development
- Technology Selection
- PM Technical Rep. in the Field
- Design Change Impacts
- Safety Corrective Action Verification
- Systems Analysis (e.g. metals emissions)

## 2. Independent Evaluator

- Test Strategy Development
- Systemization Planning/Analysis
- Test Evaluation
  - TEP
  - Data Collection Methodology
  - Test Evaluation Report

## TEP/TER

- **Performance**
  - CA Transport and Receipt
  - CA Preparation and Staging
  - CA Destruction and Demilitarization
  - Effectiveness of Waste Treatment/Removal
  - Facility Decontamination Disposal
  - Facility Throughput Capability
- **Safety of the Facility**
- **Environmental Preservation**
- **Supportability**
  - Secondary/Utility Systems
  - Maintainability and Facility Responsiveness
  - Human Factors Engineering
  - Manpower, Personnel and Training

**• The people, procedures and equipment were evaluated to ensure the safety and effectiveness of the facility prior to agent operations.**

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Phase

AMSAA's Contributions

	January 05	April 05	June 05 – February 07	June 05 – February 07
	<b>Concept Refinement</b>	<b>Technology Selection</b>	<b>Design &amp; Development</b>	<b>Test Design &amp; Evaluation</b>
	<ul style="list-style-type: none"> <li>Existing technology comparisons</li> <li>Defined unique site characteristics</li> <li>Acquisition strategy development</li> <li>Program risk identification</li> </ul>	<ul style="list-style-type: none"> <li>RFP and SOW development</li> <li>Source Selection - evaluated and rated contractor proposals</li> <li>Recommended the most suitable, "Best Value" proposal</li> </ul>	<ul style="list-style-type: none"> <li>Reviewed designs and suggested considerations</li> <li>Reviewed and defined critical program documentation related to testing, risk, treaty, environment, safety, monitoring, etc.</li> <li>Systems analysis (i.e., Metals Emissions)</li> </ul>	<ul style="list-style-type: none"> <li>TEP development</li> <li>Systemization and test plan development</li> <li>Data collection methodology</li> <li>Witnessed sub-contractor developmental testing in Germany</li> <li>Witnessed commissioning, systemization, full scale operational testing in Albania</li> <li>Reviewed and evaluated ORI activities</li> </ul>

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- Utilize “best value” contracting versus “lowest bidder”
- Require more details in certain areas of the proposals versus quick turnaround, short proposals (30 pages maximum)
  - Chem demil performance history (contractor and proposed equipment)
  - History (testing and use) of equipment use in the configuration proposed
- Equipment selection that has been proven in the particular application; want to minimize R&D nature of the project
- If not a design, build, operate contract ensure early contractor/sub contractor integration

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## Overarching Themes

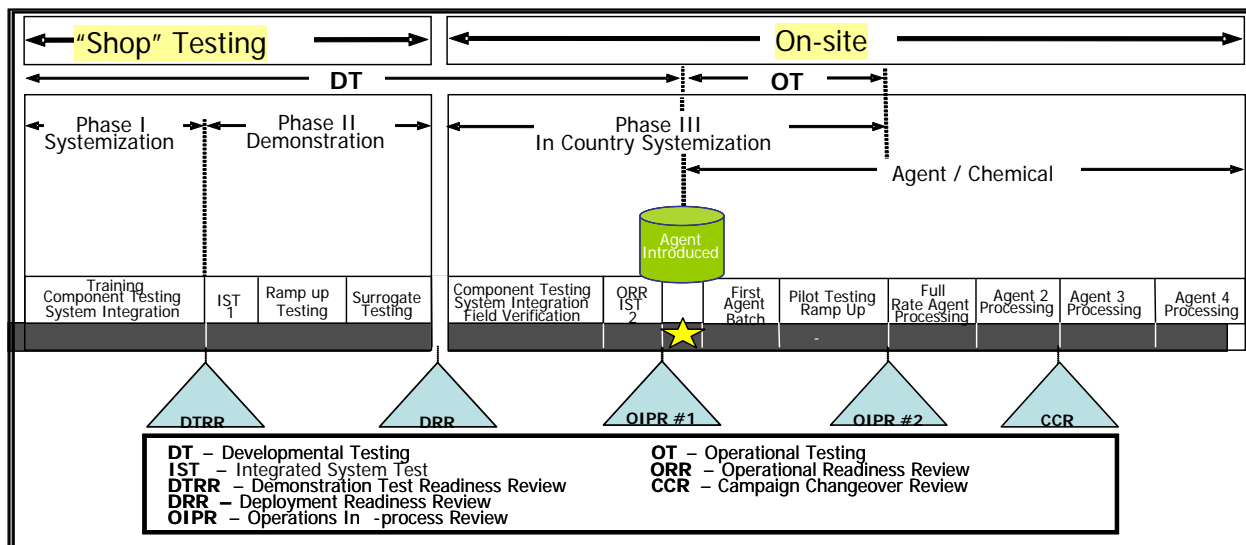
- Maximize technology reuse
- Incorporate lessons learned from previous operations
- Identify project constraints
- Fully characterize agents of concern to extent practical

## Detailed Technology Selection Considerations

- Destruction level required
- Destruction verification process
- Technology maturity
- Agent flexibility
- Throughput
- Chem Demil specific experience
- Footprint
- Required facility support
- Secondary waste types and amounts
- Environmental concerns
- Personnel protection requirements

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- Develop a T&E Strategy early including metrics for success and then execute
- Create a detailed Test Plan early in the program and be adaptable as the program progresses
- Define success milestones during development and prior to testing and meet them before proceeding
- Ensure “successful” system operation prior to shipment to the site
- Adequate quantity of testing materials on hand or readily available in the event that retesting is needed



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- **“Factory” Testing**

- Determine and Verify Operating Parameters / Process Understanding as early as possible
- Develop Contingency Operations - emergency response protocols as early as possible
- Complete approved/planned test plan activities
- Test all required design changes with the integrated system

- **On-Site Testing**

- Conduct integrated end-to-end demonstrations with surrogate chemicals to ensure safe, controllable and repeatable operations
- Test emergency response actions

**Utilize a phased approach to testing rather than demonstrating everything at once immediately before agent operations**

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- Contracting
  - Materials and services availability
  - Materials and services quality
- International shipping – ITAR, customs and security
- Equipment decontamination, disassembly and administrative control issues
- Permitting
- Adequate spare parts supply
- Passports, visas, country clearance
- Have the right mix of personnel - program management, engineering, operations

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- Invest time to plan properly
- Equipment selection that has been proven in the particular application; want to minimize R&D nature of the project
- Incorporate lessons learned from previous operations
- Develop a T&E Strategy early including metrics for success and then execute
- Create a detailed Test Plan early in the program and be adaptable as the program progresses

**Issues will likely arise – Be adaptable and flexible**

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