





Second Line of Defense (SLD) Program Goals



- **Cooperative effort for minimizing risk of illicit trafficking through:**
 - **Search, detection, and identification of nuclear and nuclear-related materials**
 - **Development of response procedures and capabilities**
 - **Deterrence of future trafficking in illicit nuclear and nuclear-related materials**



SLD System Process



Operational Processes/Procedures

Training

Sustainability



- Site Identification
- Site Prioritization/Selection
- Site Survey
- Vulnerability Assessment
- Site Installation Design
- Installation/Integration
- System Acceptance



Site Identification



- **Joint agreement between U.S. and foreign government**
 - **Potential sites identified**
 - **U.S. objectives to be satisfied**
 - **Proliferation concerns**
 - **Host government objectives identified and considered**
 - **Create joint list of sites**



Site Prioritization/Selection




- **Site prioritization/selection methodology is employed**
- **Prioritization factors considered to select for effective implementation:**
 - **Smuggling routes**
 - **Volume of traffic**
 - **Proximity to special nuclear materials (SNM) sources**
 - **Open sources of smuggling incidents**
 - **Project resources for system deployment**



Site Survey



- **Survey each site to determine**
 - **Physical layout**
 - Vehicle entrances
 - Pedestrian entrances
 - Rail entrances
 - Site perimeters
 - **Site operations**
 - Stakeholder identification, roles, responsibilities
 - Employees, shipping crew, and contractor operations and interactions
 - **Customs procedures**
 - Clearing/controlling cargoes
 - Clearing/controlling personnel
 - Clearing/controlling vehicles



Vulnerability Assessment (VA)



- **Assess threats**
- **Review existing system to prevent smuggling**
- **Theorize adversary theft scenarios**
- **Estimate effectiveness of existing system**
- **Define upgrades**
- **Re-evaluate effectiveness**



Site Installation Design



- **Consider VA results and recommendations to eliminate adversary paths**
- **Consider equipment needed in design**
 - **SNM sensors — effective sensitivity, low nuisance**
 - **Video systems**
 - **Central Alarm Station (CAS) computers and communications**
- **Consider physical upgrades**
 - **Perimeter fences and walls**
 - **Creating choke-points for personnel and cargoes**



Installation/Integration



- **Contract for equipment purchase and installation**
- **Install equipment at site**
- **Integrate hardware into site system and with national system**
- **Integrate system into site and national operations**



System Acceptance



- **Test SNM sensor sensitivities and operation**
- **Test CAS equipment and operations**
- **Test system operations and integration with site/national procedures, processes, and response practices**



Operational Processes/ Procedures



- **Upfront/early identification of stakeholders**
- **Joint stakeholder creation of processes and procedures to support SLD operations**
 - **Manning of portal areas**
 - **Roving patrols**
 - **Alarm assessment**
 - **Two-man rules for assessments, CAS operations**
 - **Response responsibilities, activities, and coordination**



Training



- **Develop curriculum**
- **Manuals and course materials**
- **Training for**
 - **Responsibilities and duties**
 - **Processes and procedures**
 - **Use of equipment**
 - **Equipment operation**



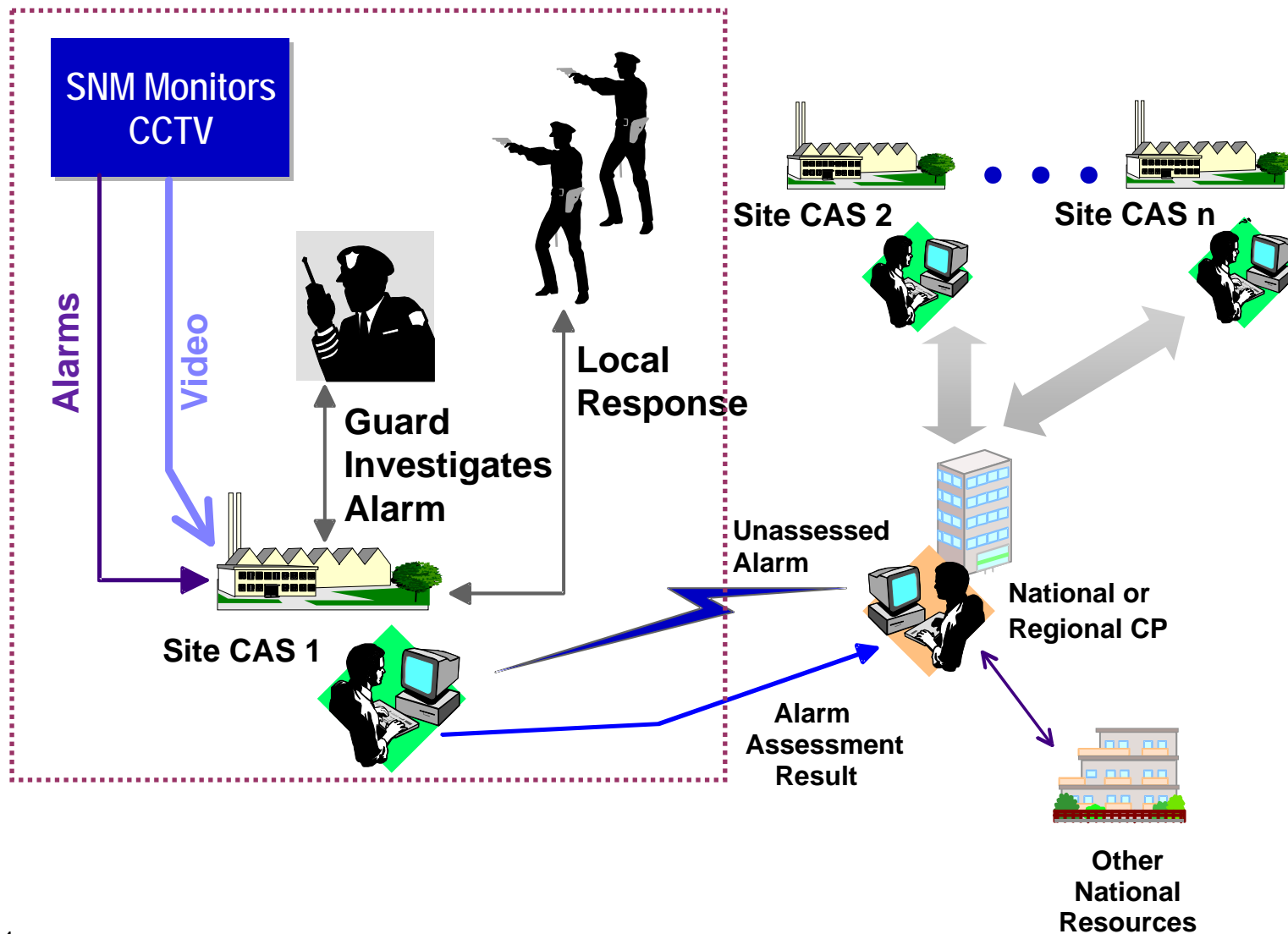
Sustainability



- **Sustainability considerations:**
 - Life-cycle of systems and equipment
 - Infrastructure requirements
 - Transition from assistance to self-sustaining

- **Sustainability provides for:**
 - Indigenous equipment when possible
 - Maintenance procedures
 - Spare parts
 - Training

SLD System Concept





System Considerations



- **Effective system operation is a complex issue**
 - **It is not just an equipment issue; it is also a procedural and operational issue**
 - **One cannot be considered in the absence of the other**
 - **Detection and deterrence will not be effective if the equipment is not adequate or if the operations, procedures, and response are not adequate**