Nuclear Power Plant Security
Plant Security’s Primary Mission
Nuclear Plant Safety and Security

- All plants have comprehensive measures for safety and security
  - Comprehensive emergency and security plans
  - Robust containment, used fuel pools, and used fuel storage containers
  - Redundant and diverse plant safety systems
  - Trained plant staff, skilled in accident and event response
  - Well-trained, well-armed security forces
Multiple Layers of Protection

- Containment Vessel: 1.5-inch thick steel
- Shield Building Wall: 3 foot thick reinforced concrete
- Dry Well Wall: 5 foot thick reinforced concrete
- Bio Shield: 4 foot thick leaded concrete with 1.5-inch thick steel lining inside and out
- Reactor Vessel: 4 to 8 inches thick steel
- Reactor Fuel
- Weir Wall: 1.5 foot thick concrete
Comparative Size of Targets

WTC
208’ wide
1,353’ tall

Pentagon
1,489’ wide (921’ per side)
71’ tall

Containment Building
130’ wide
160’ tall

Spent Fuel Pool
80’ wide
40’ tall

Fuel Storage containers
10’ wide
20’ tall
Concentric Circles of Security

- Owner
- Controlled Area
- Protected Area
- Double Fence
- Vital Area
- Protected Area
- Access Control Points
Security Programs Must Protect Against:

- Several well trained dedicated adversaries
- Determined violent assault
- Hand held automatic weapons with silencers and with long range accuracy
- Insider assistance
- Incapacitating agents
- Explosives
- Vehicle bombs
- Vehicles as means of entry
Protected Area Security

- Personnel reliability
- Vehicle barriers
- Vehicle search
- Physical security measures
Personnel Reliability

- Background checks
- Substance abuse & psychological screening
- Continuous behavior observation program
- Personnel/material searches
- Access control systems
Vehicle Barrier System

- Steel cables
- Concrete barriers
- Natural terrain
- Crash resistant gates
Vehicle Search Process

- Undercarriage inspections
- Interior inspections
- Engine compartment inspection
- Cargo inspections
Physical Security Measures

- Fencing
- Intrusion detection
- Isolation zone
- Closed circuit T.V. system
- High intensity yard lighting
- Central alarm monitoring
Vital Area Security

• Protects redundant and diverse safety equipment.
• Access requires passage through at least two physical barriers.
• Access is strictly controlled.
• Unescorted access is limited.
Vital Area Security Measures

- Concrete floors, walls and ceilings
- Steel locked and alarmed doors
- Key card access control
- Steel barriers
Security Protective Strategy

- Provides defense in depth
- Uses NRC reviewed and approved tactical response plans
- Employs a combination of:
  - Several armed security officers trained in anti-terrorist tactics
  - Hardened defensive fighting positions
  - Physical protection system for adversary detection, assessment and interdiction
  - Appropriate adversary delay and engagement barriers
Defensive Positions & Delay Barriers
Tactical Response Training

- Tabletop training
- Tactical weapons training
- Force-on-force training
- Anti-terrorist exercises
Paramilitary Security Force

• Nationally, more than 8000 trained professionals
  – On average 125 per plant site at about $50,000/year
• 67% have previous military, law enforcement or security experience
• 17% have college degrees
• High job satisfaction (>90% retention rate)
• Highly trained
  – 270 hours of initial training
  – 90 hours/year of re-qualification
  – 30 hours/year of “anti-terrorist” tactical exercises
Actions Taken Since September 11th

- Increased number of security officers at each plant
- Implemented enhanced security procedures
- Enhanced coordination with intelligence and law enforcement agencies
- Re-evaluated security, emergency planning and operating procedures
- Intense interactions with NRC to enhance security
- Industry sponsored studies evaluating plant capabilities and consequences
- Information link with NIPC
The Appropriate Strategic Response: Seamless Defensive Shield

Private sector resources and capability

Military resources

Federal law enforcement, homeland security resources

State, local law enforcement
Relationship between WINS & US Commercial Facilities

- NEI and WINS meet about once/year to discuss respective activities and discuss needed help/support
- US provides behind-the-scene support in the form of document reviews and technical information input
- US nuclear personnel participate in a limited manner in select document development workshops
- WINS’ guides generally not used by the US nuclear operators