

# RIC 2007

## Emergency Preparedness Session

### EP Threat Based Drills

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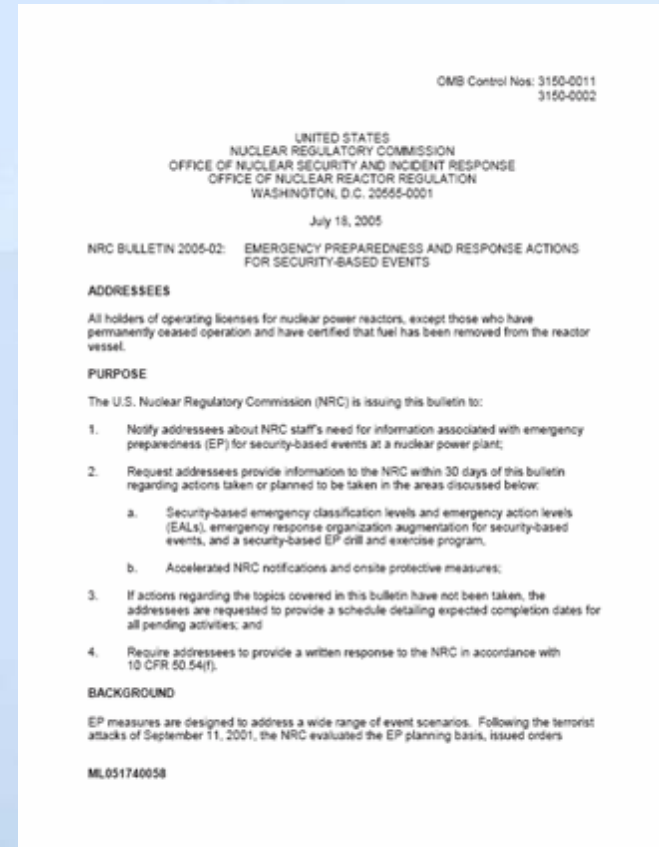
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# Historical Perspective

- 9/11 established the question of nuclear sector preparedness for a threat based event.
- Federal interactions ((National Response Plan (NRP) validation and other full-scale drills)) framed the scope.
- Force-on-force (FoF) pilot drills established new emergency preparedness (EP) guidelines and provided initial lessons learned.
- The initiative was formally recognized in NRC Bulletin 2005-02.



# Bulletin Specifics

- NRC Bulletin 2005-02 defined threat-based scenarios as major elements of the EP program as follows:
  - NUREG-0654 and NUREG-0737 Supp. 1 refer to testing major elements of emergency plans over a 6-year period. The NRC, per Inspection Procedure 82302, periodically reviews these elements, which include activities (via EALs) applicable to threat based scenarios.
  - It stated that in light of the post-9/11 potential for these events, it is the staff's expectation that threat based EP activities will be demonstrated as major elements of the emergency plan within the cycle.
- The Bulletin then asked licensees how their current drill programs prepare or evaluate responders for threat based events commensurate with established EP standards.

# NEI / Industry Initiative

- Provide consistent standards for threat based scenarios.
  - Scenario development (scope) standards.
  - Performance objective and demonstration criteria standards.
- Coordinate with NRC/Department of homeland Security (DHS) to develop acceptable evaluation standards.
- Replace 1 of the 3 “six-year cycle” radiological exercises with a threat-based exercise.

NEI 06-04  
Revision 0

**Nuclear Energy Institute**

**Guideline for the Development of EP  
Drill and Exercise Threat-Based  
Scenarios**

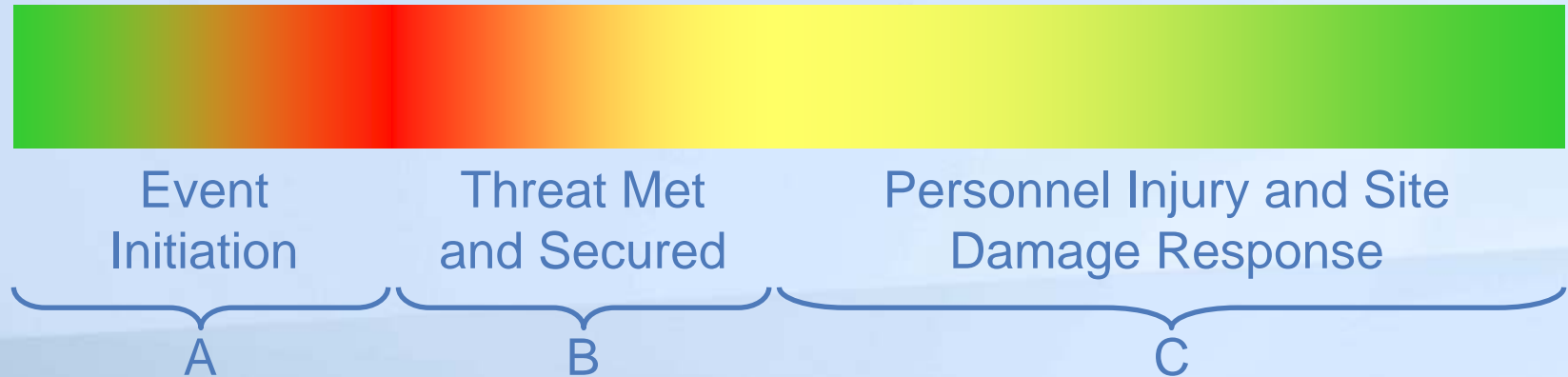
August 2006

Nuclear Energy Institute, 1776 I St. N.W., Suite 400, Washington, D.C. (202.739.8000)

# Phases of the Initiative

- Phase I & II – Conducted tabletop and integrated drills to develop, refine and validate new onsite and offsite guidance and objectives.
  - Tabletops held at Diablo Canyon (Air), Duane Arnold (Land), North Anna (Air, Land and Water), Vermont Yankee (Land).
  - Integrated drill was held at Callaway (Land).
  - 16 utilities representing 51 sites (77% of nuclear power plants (NPPs) and 12 States (39% of the states with NPPs) participated in developing the guidance.
- Phase III – 3 year period for industry threat drills (09/2006).
  - Industry requested NRC/DHS endorsement of guidance.
  - NRC and DHS currently as part of joint scenario working group.
- Phase IV – Incorporation of threat drills into the evaluated exercise program [End State].

# Scenario Anatomy



- A: Starts with normal plant operations and proceeds up to the point that a threat event occurs (Part 1).
- B: Starts with the event (plane crashes, bomb explodes, attack force crosses boundary) and ends when the onsite threat has been cleared (FoF Exercises).
- C: Starts with emergency response organization (ERO) staged and/or response facilities activated and ends with the completion of the drill objectives (Part 2).

# Drill Design – Scope/Objectives

Initial Event Response (Part 1)	Post Event Response (Part 2)
<p><u>Scope</u></p> <p>Integrated EP and offsite initial response to a threat-related event.</p>	<p><u>Scope</u></p> <p>Large-scale post event response based on significant damage caused by a threat-related event.</p>
<p><u>Main Objectives</u></p> <ol style="list-style-type: none"> <li>1. Classification/Notification</li> <li>2. Onsite protective actions</li> <li>3. Augmentation logistics</li> <li>4. Initial operator plant control actions</li> <li>5. ERO response logistics</li> <li>6. Offsite initial response/resources</li> <li>7. Security local law enforcement agency interface</li> </ol>	<p><u>Main Objectives</u></p> <ol style="list-style-type: none"> <li>1. Mitigation</li> <li>2. Unified command / communications</li> <li>3. Release/Protective measure considerations</li> <li>4. Public Information</li> <li>5. Remote / alternate emergency response facilities</li> <li>6. Multi-casualty medical response</li> <li>7. Large-scale/area fire</li> <li>8. 50.54(x) activities (severe accident management, security)</li> <li>9. Incident of National Significance considerations</li> <li>10. Crime scene considerations</li> </ol>

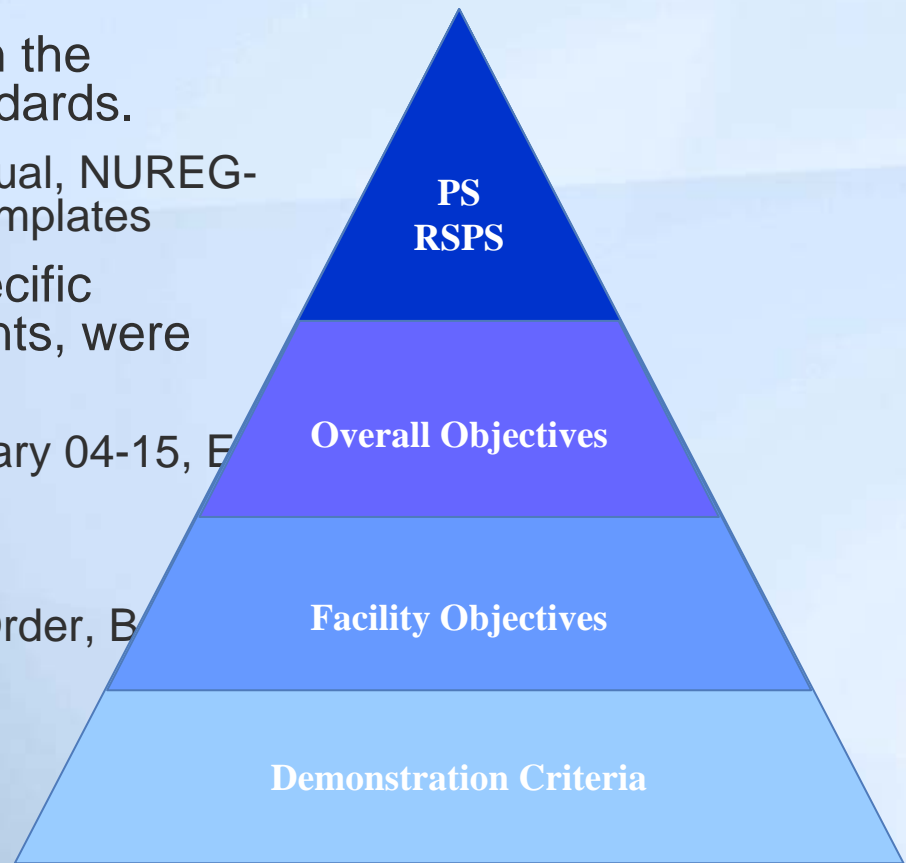
# Drill Design – Main Differences

- Coordination and participation of the State and local agencies is far beyond the scope of any current routine exercise.
- While the main focus of the Phase III threat scenario is not on a radiological release nor offsite protective actions, conditions would still involve the thought and decision processes and procedures for these activities.



# Threat Objectives Bases

- Tiered hierarchy based on §50.47(b) Planning Standards plus mitigation.
- Objectives are organized within the categories of the planning standards.
  - DHS Exercise Evaluation Manual, NUREG-0654 and IP 82302 used as templates
- Demonstration Criteria, the specific performance evaluation elements, were derived from many sources.
  - Regulatory Information Summary 04-15, E- Lessons - Post 9/11
  - 71114.07, FoF IP
  - Interim Corrective Measures Order, B section
  - Several 2005 Advisories
  - Pilot tabletops and drill



# Lessons Learned

NOTE: NEI is maintaining a website for collecting and communicating Phase III onsite and offsite lessons Learned.

- There is significantly more scenario development effort involved in creating the threat drills.
  - Development team members are needed from each offsite agency.
  - Outreach and inclusion of State agencies outside Radiological Emergency Program/Emergency Management are necessary (Terrorism or Homeland Security divisions).
- A key player tabletop or similar venue prior the full ERF threat drill (to identify communications issues, vague procedure instructions and inapplicable action steps) is highly recommended.
- Integration of Unified Area Command center is not well defined.
- Utility employees are not familiar/proficient with onsite protective actions and communications during threat scenarios.

# Lessons Learned

- Training and drills for response to, staffing of and operations from backup ERFs need to be more formally conducted to establish a minimum level of proficiency in this area.
- Sites with nearby Emergency Operations Facilities and Joint Information Centers could have ERO mobilization issues depending on the time of day a given threat scenario takes place.
- Utility employees are not familiar/proficient with onsite protective actions and communications during threat scenarios.
- Time jump considerations for take cover and restored movement within the site have not been thoroughly considered in several of the personnel attack scenarios.

	2007	2008		2009
1Q		Turkey Point (Feb) Byron (02/21/08) Palo Verde (03/05/08) Palisades (03/08/08)		Beaver Valley (Jan) St. Lucie (Feb) Farley (Mar)
2Q	Quad Cites (04/04/07) Vogtle (05/23/07) Seabrook (06/19/07)	Limerick (04/12/08) McGuire (May) San Onofre (May) Browns Ferry (05/14/08) Dresden (06/18/08)		Crystal River (1-2Q) Millstone (2Q) LaSalle (04/29/09) Peach Bottom (May) South Texas (05/19/09) Salem / Hope Cr (05/18/09) Catawba (06/23/09)
3Q	Braidwood (07/11/07) Brunswick (07/17/07) Prairie Island (07/24/07) Fermi (08/20/07) Point Beach (08/29/07) Perry (09/12/07)	D.C. Cook (3Q) Fort Calhoun (3Q) Ginna (3Q) Hatch (3Q) Robinson (Aug)	Comanche Peak (8/20/08) Shearon-Harris (Sep) Summer (Sep) Oyster Creek (Sep) Kewaunee (09/09/08)	Oconee (Jul-09) Sequoyah (08/17/09)
4Q	Columbia (10/23/07) Susquehanna (11/13/07)	Fitz / Nine Mi Pt (Fall) Pilgrim (Fall) Grand Gulf (4Q) Wolf Creek (4Q) Three Mile Island (Oct) Calvert Cliffs (10/20/08)	Watts Bar (11/05/08) Davis-Besse (11/13/08) Waterford (Dec) Surry (12/02/08) Monticello (12/03/08)	Arkansas Nuclear (Fall) River Bend (Fall) Clinton (10/14/09) Cooper (TBD)