

NREP Conference

Implementation of Threat Based EP Based Exercises

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NUCLEAR
ENERGY
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Historical Perspective

- 9/11 initiated the question of nuclear sector preparedness for a threat based event.
- Federal interactions (NRP validation, CRs, Top-off and other full scale drills) framed the scope.
- FoF pilot drills established new utility EP guidelines and provided initial lessons learned.
- The initiative was formally recognized in Bulletin 2005-02.

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3150-0002

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR SECURITY AND INCIDENT RESPONSE
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20565-0001

July 18, 2005

NRC BULLETIN 2005-02: EMERGENCY PREPAREDNESS AND RESPONSE ACTIONS
FOR SECURITY-BASED EVENTS

ADDRESSEES

All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operation and have certified that fuel has been removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this bulletin to:

1. Notify addressees about NRC staff's need for information associated with emergency preparedness (EP) for security-based events at a nuclear power plant;
2. Request addressees provide information to the NRC within 30 days of this bulletin regarding actions taken or planned to be taken in the areas discussed below:
 - a. Security-based emergency classification levels and emergency action levels (EALs), emergency response organization augmentation for security-based events, and a security-based EP drill and exercise program,
 - b. Accelerated NRC notifications and onsite protective measures;
3. If actions regarding the topics covered in this bulletin have not been taken, the addressees are requested to provide a schedule detailing expected completion dates for all pending activities; and
4. Require addressees to provide a written response to the NRC in accordance with 10 CFR 50.54(f).

BACKGROUND

EP measures are designed to address a wide range of event scenarios. Following the terrorist attacks of September 11, 2001, the NRC evaluated the EP planning basis, issued orders

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Bulletin Specifics

- NRC Bulletin 2005-02 defined threat based scenarios as major elements of the REP program as follows:
 - NUREGs-0654 and -0737 Sup 1 refer to testing major elements of E-Plans over a 6-year cycle. The NRC, per IP 82302, periodically reviews these elements that 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 expected that threat based EP activities will be demonstrated as major elements of the E-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.
 - Ensure reasonable assurance standards are maintained.
- Coordinate with NRC/DHS to develop acceptable evaluation standards.

NEI 06-04
Revision 0

Nuclear Energy Institute

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

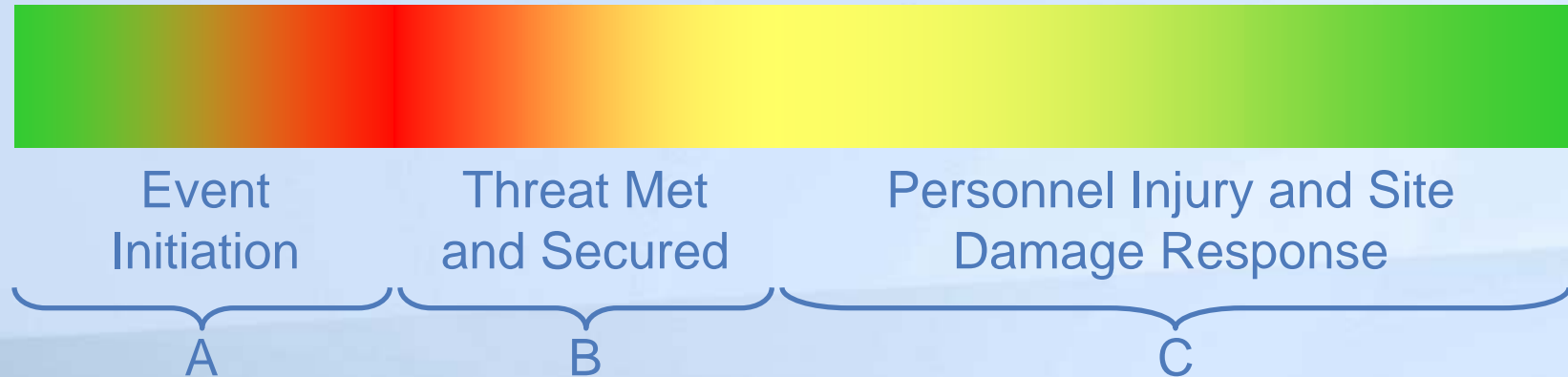
August 2006

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 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/FEMA endorsement of guidance.
 - NRC and FEMA currently as part of joint scenario working group.
- Phase IV – Incorporation of threat drills into the evaluated exercise program [End State].

Scenario Anatomy



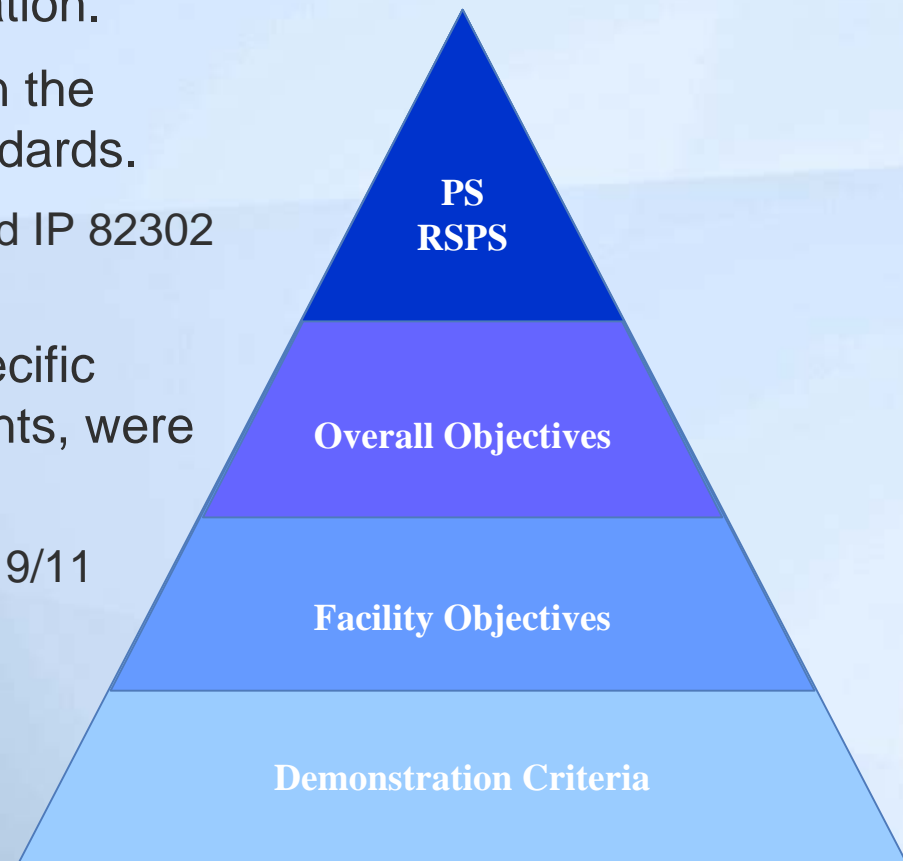
- A: Starts with normal plant operations and proceeds up to the point that a threat event occurs (Part 1).
- B: Starts with the event (plane crashes, bomb explodes, attack force crosses boundary) and ends when the onsite threat has been cleared (FoF Exercises).
- C: Starts with ERO staged and/or response 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> Integrated EP and Offsite initial response to a threat-related event.</p>	<p><u>Scope</u> 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"> 1. Classification/Notification 2. Onsite protective actions 3. Augmentation logistics 4. Initial operator plant control actions 5. ERO response logistics 6. Offsite initial response/resources 7. Security LLEA interface 	<p><u>Main Objectives</u></p> <ol style="list-style-type: none"> 1. Mitigation 2. Unified command / communications 3. Release/Protective measure considerations 4. Public Information 5. Remote / alternate ERFs 6. Multi-casualty medical response 7. Large-scale/area fire 8. 50.54(x) activities (SAM, security) 9. INS considerations 10. Crime scene considerations

Threat Objectives Bases

- Tiered hierarchy based on §50.47(b) Planning Standards plus mitigation.
- Objectives are organized within the categories of the planning standards.
 - FEMA EEM, NUREG-0654 and IP 82302 used as templates
- Demonstration Criteria, the specific performance evaluation elements, were derived from many sources.
 - RIS 04-15, EP Lessons - Post 9/11
 - 71114.07, FoF IP
 - ICM Order, B.5.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.

- Funding responsibilities need to be discussed and understood prior to developing the full offsite extent of play activities.
- There is significantly more scenario development effort involved in creating the threat drills.
 - Development members are needed from each offsite agency.
 - Outreach and inclusion of State agencies outside REP/EM are necessary (Terrorism or Homeland Security divisions).
- Running a key player tabletop prior the full threat drill is highly recommended.
- Integration of Unified Area Command center needs greater planning and guidance detail.
- Federal (NRC/DHS/FEMA) interaction is not well documented or understood for a threat event.

	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) Columbia (Aug-09) Sequoyah (08/17/09)
4Q	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)

Thank You