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PDR
007

March 31, 1986

POLICY ISSUE
(Notation Vote)

SECY-86-101

For: The Commissioners
From: Victor Stello, Jr.
Acting Executive Director for Operations
Subject: DESIGN BASIS THREAT - OPTIONS FOR CONSIDERATION

Purpose: To provide the staff's evaluation of options identified in the staff requirements memorandum of February 7, 1986 concerning the design basis threat. An additional option has been included in response to Commissioner Bernthal's request in the memorandum of February 12, 1986 to discuss "contingency" planning.

Background: On January 28, 1986 the staff briefed the Commission on the status of on-going activities related to current deliberations on the design basis threat. In response to the staff's presentation, the Commission requested a staff evaluation of specific options the Commission desired to consider further, along with a staff recommendation. Each option is identified and discussed below.

In addition, the issue of open vehicle gates and unchecked vehicle access at nuclear power facilities was raised at the January 28th meeting. In the interest of clarity, Enclosure 1 provides details concerning present practice regarding vehicle access controls at operating power reactors.

(The Commission's request regarding clearances for NUIARC personnel has been addressed by March 19, 1986 memo to the Chairman

Options: 1. Await Other Agency Response

This option would permit an NRC decision regarding the design basis threat that would reflect national level policy guidance. The response might provide specific guidance for necessary actions and permit an NRC approach to the issue that is consistent with other federal agencies. This option would avoid the possibility of premature action or implementation of policy

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ENCLOSURE 2

inconsistent with national guidance. On March 4, 1986 contact was made regarding the status of the response to issues raised by the NRC. The response indicated that the matter was being pursued with other federal agencies. No follow-on response date was identified.

The disadvantage of this option is that it could further delay a Commission decision. Also the possibility exists that the final response might not provide substantive guidance.

In regard to our interactions with the Department of Energy on comparability, a response to Secretary Herrington was forwarded on March 14, 1986. On the matter of comparability we recommended that the effort proceed without any further delay.

2. Vehicle Denial System for Roadway Access to Power Reactor Sites

This option would revise the design basis threat* and provide for a vehicle denial system only in the immediate area of existing vehicle gates. Supplemental denial systems include hydraulic barriers, concrete bollards (i.e., heavy posts anchored in the ground), planters or other structural obstacles that would provide increased penetration resistance near vehicle gates, and a possible deterrent effect. The remaining protected area perimeter would remain vulnerable to vehicle penetration.

Existing safeguards systems and plant structural design features at power reactors already provide some defenses against vehicle attack. Even though perimeter chain link fences will not prevent vehicle intrusions, the current requirement of prompt response by guards armed with shoulder-fired weapons would limit actions of intruders. Furthermore, staff believes that the design features that enable safety-related equipment to withstand floods and tornadoes, and structures to withstand earthquakes, etc., would also protect against damage from the vehicle used as a battering ram at most facilities. Accordingly, while the addition of vehicle barriers would improve the defensive posture of the site, they might not constitute a substantial overall increase in the public health and safety.

*10 CFR 73.1 would be modified to add a road vehicle as a tool for breaching vehicle gates. This modification would not include vehicle delivered explosives.

Cost estimates and an implementation plan are contained in Enclosures 2 and 3, respectively.

3. Vehicle Denial System for Land Access to Power Reactor Sites

This option would revise the design basis threat* and provide for a vehicle denial system for the land portion of the protected area perimeter. System components would include those identified in Option 2, plus cabling in the fence, and additional bollards and revetments. This system would deny vehicle access to the protected area at the existing protected area boundaries.

However, as noted under Option 2, operating reactors by virtue of design features already protect against natural disasters. These same features also provide some degree of protection against damage from a vehicle. The addition of a circumferential vehicle denial system would certainly increase the level of security, however would only incrementally contribute to the public health and safety for the same reasons stated under Option 2.

Cost estimates and an implementation plan are contained in Enclosures 2 and 3, respectively.

4. Security Response Planning (For protection against vehicle transported explosives at power reactors and fuel cycle sites - Commissioner Bernthal's February 12, 1986 memorandum)

This option would provide for security response plans without revising the design basis threat for both near and long-term contingencies in the event that any significant change to the domestic threat environment occurred. Such planning would enable licensees to quickly respond with temporary security measures to a new threat while preplanned permanent systems were installed. Near-term planning would include prearrangements for rapidly establishing temporary vehicle

*10 CFR 73.1 would be modified to add a road vehicle as a tool for breaching the protected area barrier at any point accessible to such a vehicle. This modification would not include vehicle delivered explosives.

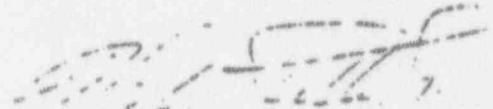
barriers, e.g., the use of readily available large trucks. Preplanning for permanent systems would require the licensee to identify those systems and complete the necessary engineering design, drawings, surveys and purchase order specifications. Such planning might not be possible at certain sites because public lands, highways, railroads and private property might fall within the required standoff zone.

Response plans would require periodic review and updating. Additional information is provided in Enclosures 2 and 3.

Backfit Considerations

Options 2, 3 and 4 are considered to be potential backfits under 10 CFR 50.109. However, it does not appear (although the required analysis has not been prepared) that these proposed new requirements meet the criteria necessary to support a backfit action.

Recommendation: In response to the Commission's request for a staff recommendation on the specific options identified by the Commission (and Commissioner Bernthal), the staff recommends Option 1 (Await Other Agency Response) and Option 4 (Security Response Planning).


Victor Stello, Jr.
Acting Executive Director for Operations

Enclosures:

1. Vehicle Access Controls
2. Estimated Cost of Options
3. Implementation of Options

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Wednesday, April 16, 1986.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Wednesday, April 9, 1986, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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I. Background

During a January 28, 1986 Commission meeting on the design basis threat, Commissioner Bernthal stated that he had observed several instances of open vehicle gates and unchecked vehicle access into power reactor sites. This analysis addresses these concerns.

II. Current Requirements

Regulations in Part 73 require for plants with operating licenses that vital equipment be protected by at least two physical barriers, one of which is normally a fence around the perimeter. In addition, means to detect penetration of the protected area must be provided, usually by electronic devices. Commitments to these requirements are contained in licensee approved security plans. An open, unattended vehicle gate would be a severe violation of both the security plan and the regulations.

Other regulations in Part 73 require that personnel entering a protected area (including vehicle operators) be identified and searched prior to entry. The vehicle itself must be searched (cab, engine compartment, undercarriage and cargo area) for items that could be used for sabotage purposes, and upon entry into the protected area be escorted by a member of the security organization. Commitments to these safeguards are also found in licensees' security plans.

A licensee that permitted a vehicle to enter a protected area unchecked would be guilty of seven violations related to the rules governing:

- authorization for entry
- perimeter barrier
- intrusion detection
- driver identification
- driver search
- vehicle search
- vehicle escort

III. Comments From Regional Safeguards Personnel

Regional safeguards personnel have stated that they are unaware of any instances at plants with operating licenses of vehicle gates being "left open", or of vehicles entering a protected area unchecked and unsearched.* Standard procedure for vehicle entry involves:

- stopping the vehicle

*Certain allowances are made for security vehicles on duty, emergency vehicles, and dedicated licensee work vehicles.

- identifying and searching the driver and passengers
- searching the vehicle
- assigning an escort
- opening the vehicle gate under the surveillance of armed guards
- closing the gate

Note that employee vehicles are excluded from entry into the protected area.

IV. Conclusion

Based on information from Regional safeguards personnel no specific instances of uncited violations of vehicle access were identified. It should be noted that control requirements apply at the protected area of power reactors (and fuel plants) that have operating licenses. These requirements do not apply to plants under construction or at the boundary of the owner controlled area that surrounds but is outside of the site protected area.

ESTIMATED COST OF OPTIONS 2, 3 AND 4

OPTION 2. ROAD ACCESS DENIAL SYSTEM

- 0 HEAVY DUTY HYDRAULIC VEHICLE BARRIER SYSTEM (108") WITH CONTROL, POWER SUPPLY, SIGNALS, INSTALLED AT TWO LOCATIONS, PLUS
- 0 100 LINEAR FEET OF BARRIER EXTENSIONS COMPOSED OF 12" DIA STEEL PIPE FILLED WITH CONCRETE ON 4' CENTERS.
- 0 INITIAL COSTS INCLUDING MATERIALS, DESIGN, INSTALLATION, TRAINING AND OVERHEAD.
\$100K TO \$200K PER FACILITY
- 0 ANNUAL MAINTENANCE COST
\$10K TO \$20K PER FACILITY
- 0 STAFF EFFORT FOR RULE DEVELOPMENT AND PLAN REVIEW
6 TO 8 SY TOTAL EFFORT

OPTION 3. PERIMETER ACCESS DENIAL SYSTEM (LAND ONLY)

- 0 HEAVY DUTY HYDRAULIC VEHICLE BARRIER SYSTEM AT TWO LOCATIONS, PLUS
- 0 TWO 3/4" DIA STEEL CABLES ANCHORED AT 200 FT INTERVALS, INSTALLED AROUND 60% (3000 FT)

- 0 CONCRETE REINFORCED REVETMENT OF 12" DIA STEEL PIPE FILLED WITH CONCRETE, INSTALLED AROUND 40% (2000 FT) OF PERIMETER.
- 0 INITIAL COSTS INCLUDING MATERIAL, DESIGN, INSTALLATION, TRAINING AND OVERHEAD.
 - \$500K TO \$1,000K PER FACILITY
- 0 ANNUAL MAINTENANCE COST
 - \$25K TO \$50K PER FACILITY
- 0 STAFF EFFORT FOR RULE DEVELOPMENT AND PLAN REVIEW
 - 8 TO 10 SY TOTAL EFFORT

OPTION 4. PREPARATION OF SECURITY RESPONSE PLANS

- 0 PREPARE PLANS FOR NEAR-TERM, RAPID IMPLEMENTATION.
- 0 DEVELOP PLANS; ENGINEERING DRAWINGS, PROCUREMENT SOURCES, BUDGET ESTIMATES, ETC, FOR PERMANENT INSTALLATION AT THE EXTENDED STANDOFF DISTANCES.
 - 0 DEVELOPMENT COST.
 - \$150K TO \$300K PER FACILITY
- 0 STAFF EFFORT FOR RULE DEVELOPMENT AND PLAN REVIEW
 - 6 TO 8 SY TOTAL EFFORT AND \$500K CONTRACT SUPPORT

TRAVEL COSTS AND INSPECTION COSTS HAVE NOT BEEN INCLUDED IN STAFF EFFORT FOR THESE OPTIONS.

IMPLEMENTATION OF OPTIONS 2, 3 AND 4

OPTION 2. ROAD ACCESS DENIAL SYSTEM

- a. AMEND SECTION 73.1(a)(1), THE DESIGN BASIS THREAT FOR SABOTAGE, AND SECTIONS 73.55(c) AND (d), OR ISSUE ORDERS UNDER SECTION 2.204, TO REQUIRE INSTALLATION OF ROAD BARRIERS AND LATERAL EXTENSIONS. PROVIDE GUIDANCE AS TO ACCEPTABLE METHODS.
- b. STAFF REVIEW AND APPROVAL OF PLANS.
- c. INSTALLATION REVIEWED DURING ROUTINE INSPECTIONS.
- d. ELAPSED TIME THROUGH INSTALLATION - 34 MONTHS.

OPTION 3. PERIMETER ACCESS DENIAL SYSTEM

- a. AMEND SECTION 73.1(a)(1), THE DESIGN BASIS THREAT FOR SABOTAGE, AND SECTIONS 73.55(c) AND (d) TO REQUIRE UPGRADE OF COMPLETE PERIMETER BARRIER. PROVIDE GUIDANCE DOCUMENTS DEFINING VARIOUS ACCEPTABLE METHODS.
- b. STAFF REVIEW AND APPROVAL OF PLANS.
- c. SPECIAL INSPECTION OF FINAL INSTALLATION BY REGIONS.
- d. ELAPSED TIME THROUGH INSTALLATION - 40 MONTHS.

OPTION 4. PREPARATION OF SECURITY RESPONSE / PLANS

- a. AMEND PART 73 TO REQUIRE PREPARATION OF PLANS (NO CHANGE TO DESIGN BASIS THREAT). STAFF TO PROVIDE GUIDANCE FOR PLAN DEVELOPMENT.**
- b. STAFF REVIEW AND APPROVAL OF PLANS.**
- c. IF NECESSARY, REQUIRE IMPLEMENTATION OF PLANS BY ISSUANCE OF IMMEDIATELY EFFECTIVE ORDER.**
- d. ELAPSED TIME THROUGH PLAN APPROVAL - 28 MONTHS.**

ENCLOSURE 2



OFFICE OF THE
SECRETARY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20546

June 16, 1988

MEMORANDUM FOR: Victor Stello, Jr.
Executive Director for Operations

FROM: ^{A. B. S.} Samuel J. Chilk, Secretary

SUBJECT: SECY-88-127 - CONTINGENCY PLANNING
TO COUNTERACT POSSIBLE SURFACE VEHICLE
THREAT

This is to advise you that the Commission (with all Commissioners agreeing, except as noted) has approved the following:

- NO ACTION* 1) For Category 1 fuel facilities, no further actions are necessary to protect against a surface vehicle bomb;
- AECD/NRR* 2) Development of generic contingency plans for power reactors for use by the NRC staff in the event that a vehicle bomb threat arises;
(EDO) (SECY Suspense: 12/31/88)
- NRR* 3) A requirement for licensees to develop short range contingency plans (Option 3A). (Commissioner Carr disagrees and does not believe the Commission needs to impose any requirements, short or long range on power reactor licensees.)
(EDO) (SECY Suspense: 12/31/88)
- NRR* 4) The staff should complete review of the issues related to the water borne vehicle bomb and provide a paper to the Commission by December 31, 1988.

Chairman Zech also believes that the NRC staff should develop guidance for licensees on what would be envisioned in long range contingency plans, and he would encourage licensees to consider option 4, with the view that some are more vulnerable than others.

Commissioner Rogers would encourage, but not require, licensees to pursue option 3b on long range contingency planning.

Additional comments of Commissioners were provided to you with copies of their vote sheets.

cc: Chairman Zech
Commissioner Roberts
Commissioner Carr
Commissioner Rogers
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ENCLOSURE 3