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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON FINAL RULE FOR PROTECTION AGAINST
MALEVOLENT USE OF VEHICLES AT NUCLEAR POWER PLANTS -
PART 73

Location: ROCKVILLE, MARYLAND

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NUCLEAR REGULATORY COMMISSION

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BRIEFING ON FINAL RULE FOR PROTECTION
AGAINST MALEVOLENT USE OF VEHICLES
AT NUCLEAR POWER PLANTS - PART 73

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, June 9, 1994

The Commission met in open session,
pursuant to notice, at 2:00 p.m., Ivan Selin,
Chairman, presiding.

COMMISSIONERS PRESENT:

IVAN SELIN, Chairman of the Commission
KENNETH C. ROGERS, Commissioner
FORREST J. REMICK, Commissioner
E. GAIL de PLANQUE, Commissioner

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STAFF SEATED AT THE COMMISSION TABLE:

JOHN HOYLE, Acting Secretary

MARTIN MALSCH, Office of the General Counsel

JAMES TAYLOR, Executive Director for Operations

ROBERT BERNERO, Director, NMSS

WILLIAM RUSSELL, Director, NRR

ROBERT BURNETT, Director, Fuel Cycle Safety and
Safeguards Division, NMSS

FRANK CONGEL, Director, Division of Radiation Safety
and Safeguards, NRR

PHILLIP MCKEE, Chief, Safeguards Branch, NMSS

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1 P-R-O-C-E-E-D-I-N-G-S

2 2:00 p.m.

3 CHAIRMAN SELIN: Good afternoon, ladies
4 and gentlemen.

5 This afternoon the NRC staff will brief
6 the Commission on the rulemaking for amendments to 10
7 CFR Part 73, the protection against malevolent use of
8 vehicles at use of nuclear power plants. We've been
9 briefed on this topic extensively, so I would ask the
10 staff to focus the presentation not on the background
11 information but on the comments on the proposed
12 rulemaking and then on the changes that you've
13 concluded seem appropriate based on these comments.

14 After this there will be a closed,
15 classified meeting on the security safeguards
16 information upstairs.

17 Copies of the slides and the Commission
18 paper on the rulemaking are available at the entrances
19 to the room. So, I think without further adieu, Mr.
20 Taylor, we'll move directly into the topic.

21 MR. TAYLOR: Good afternoon. With me at
22 the table are Bill Russell, Frank Congel and Phil
23 McKee from Office of NRR and Bob Bernero and Bob
24 Burnett from NMSS.

25 The Commission has before it the staff's

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1 paper and proposed final rule on this subject and our
2 briefing today will concentrate on a brief review of
3 the comments and actions associated with this rule.

4 I'll turn it over to Bill Russell.

5 MR. RUSSELL: The need for facility
6 protection against use of land vehicles has been a
7 longstanding and controversial issue. Requirements
8 for protection against forced entry by land vehicles
9 were considered in the proposed rulemaking back in
10 1974, but were not included in the final rulemaking
11 when it was published in '77. Then following the
12 Beirut Marine barrack bombing in '83, we reassessed
13 the need for protection against vehicle bombs and that
14 resulted in Generic Letter 89-07, to require licensees
15 to develop contingency plans. Then during Desert
16 Shield and Desert Storm, there were a number of cases
17 where we revisited the adequacy of contingency plans
18 and concluded they were, at that time, sufficient.

19 However, the TMI intrusion and the World
20 Trade Center bombing caused a reevaluation of the
21 sufficiency of the contingency plans. We're not going
22 to go further into the background. We will, in fact,
23 discuss the proposed rule, the public comments and the
24 changes to the rule and Phil McKee will do that in
25 just a moment.

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1 What I'd like to do is characterize that
2 it is the staff's recommendation in this final
3 rulemaking package to require vehicle denial be
4 included as a part of the design basis rather than as
5 a contingency plan for facility security and that this
6 would provide protection also for a vehicle bomb. We
7 believe that the proposed changes do provide a
8 substantial increase in protection of public health
9 and safety and therefore meet the backfit test and
10 we've proposed a regulatory approach which we think is
11 both effective and efficient, but does provide
12 flexibility to licensees in implementing these
13 performance based requirements.

14 What I'd like to do now is turn now to
15 Phil McKee and have him give you the details. There
16 are, in fact, few changes between the proposed rule
17 and the final rule.

18 MR. MCKEE: (Slide) Okay. If I can have
19 the first slide, please.

20 Just quickly, I'm going to -- there's two
21 slides on background and I'm going to forego those.
22 I think those topics have been covered before. I'm
23 going to talk on the proposed rulemaking package.
24 That would be the rule and the regulatory guide. The
25 reason I'm going to talk about that is there really

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1 were, as Bill mentioned, few changes to that area.
2 I'll put it in the context and talk about public and
3 ACRS comments and then identify those areas where
4 there were changes in the proposed packages.

5 (Slide) So, if I could have the slide --
6 I guess it's the fourth slide, please.

7 There are changes made in two areas of the
8 rulemaking, to the design basis threat and also some
9 of the implementing requirements. It was proposed
10 that the design basis threat for radiological sabotage
11 be amended to explicitly include use of a four wheel
12 drive land vehicle by adversaries for transport of
13 personnel, hand-carried equipment, and/or explosives.
14 To implement the revised design basis threat, four
15 provisions were proposed to be added to the reactor
16 security regulations and that was C, which deals with
17 barriers for reactors.

18 The first provision to be added was a
19 requirement for licensees to establish measures,
20 including a vehicle barrier system, to protect against
21 the use of a land vehicle to gain unauthorized
22 proximity to vital areas. All licensees would have to
23 fully meet this provision.

24 The second provision to be added required
25 licensees to evaluate the effectiveness of vehicle

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1 control measures to protect against a land vehicle
2 bomb. Licensees would be required to confirm to the
3 Commission that the intrusion control measures meet
4 specified design goals and criteria for protection
5 against a vehicle bomb. A licensee who would incur
6 extraordinary costs for measures needed to fully meet
7 the specified design goals and criteria would have the
8 option to propose, and these would be in addition to
9 measures needed to protect against the vehicle
10 intrusion, alternative measures for protection against
11 a vehicle bomb, although these measures may not fully
12 meet the design goals and criteria.

13 A licensee proposing alternative measures
14 would be required to describe the level of protection
15 that these measures provide against a land vehicle
16 bomb and compare their costs with the cost for
17 measures needed to fully meet the design goals and
18 criteria. The NRC would approve alternative measures
19 if they provided substantial protection against a land
20 vehicle bomb and if the licensee demonstrated by an
21 analysis that the cost of measures to fully meet the
22 design goals are not justified by the added
23 protection. Staff anticipated that there would only
24 be few cases where this alternate measures might
25 apply.

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1 The third proposed provisions specified
2 implementation schedules and information that would be
3 required to be submitted. Licensees would be required
4 to submit a summary description of the proposed
5 vehicle control measures to protect against vehicle
6 intrusion and the results of the vehicle bomb
7 comparison, including alternative measures if
8 proposed. It was proposed that this information be
9 submitted to the Commission within 90 days of the
10 effective date of the rule.

11 Also, licensees would be required to
12 implement the require vehicle control measures with
13 360 days from the effective date of the rule. That's
14 one area where I think probably the most substantial
15 proposal for changes were made.

16 The fourth provision specified that the
17 regulation applies to applicants for a licensee to
18 operate a nuclear power reactor.

19 The next area as part of the rulemaking
20 package that I'm going to talk about, the regulatory
21 guide. Similar to the rule, there were few changes,
22 probably even less changes made in the regulatory
23 guide. There weren't many comments on the
24 implementation area.

25 Quickly, the regulatory guide really

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1 provides guidance in three areas. Regarding
2 protection against the intrusion, the guidance is
3 provided on what constitutes unacceptable barrier
4 system. Essentially that provides guidance that the
5 barrier will be continuous over the land portions
6 surrounding vital areas and also that the barrier must
7 stop the forward movement of a vehicle. There's some
8 additional guidance also provided for passive
9 barriers. It identifies that you can use manmade, and
10 this includes other than constructed barriers. It
11 could be canals or other buildings to weave together
12 a barrier system. Also along with natural terrain
13 features, cliffs or whatever, where a vehicle could
14 not pass. Also a passive barrier that identifies that
15 velocity reduction measures could be applied and this
16 would allow for some changes or reduction design of
17 the barrier system. There's also guidance in the
18 active barrier area. Essentially this provides that
19 the barrier will have to be in the denial system, that
20 you'll have a complete barrier system and would be
21 open to allow a vehicle passage through those areas.
22 And also that provides some information on access
23 provisions to go through such a barrier. Now, we
24 anticipate that it's likely that most of the active
25 barriers will be placed at the normal access now at

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1 facilities.

2 Also, in a second area, guidance was
3 provided concerning protection against the vehicle
4 bomb. This guidance really was done and we termed it
5 in the reg. guide a blast effects analysis was in two
6 essential stages. The first stage applied to a
7 screening analysis and the screening analysis really
8 defined how you establish standoff distances and using
9 that might apply, safe standoff distances, at what
10 distance will the vital area barrier provide
11 protection.

12 In doing that, and I'll discuss in a
13 minute, we developed a NUREG document that provides
14 what we think is a cookbook that should make the
15 screening analysis relatively simple for most
16 structure designs given certain distances.

17 The reg. guide also, in the blast effect
18 analysis, provides remaining steps for more detailed
19 analysis and that detailed analysis might include
20 protection provided by intervening structures. More
21 importantly, you find that vital equipment often is
22 located inside compartmentalized areas. So, you have
23 maybe consideration of more than the vital area wall.
24 So, it allows that level of analysis. It also allows
25 for determination. If you can't determine that

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1 certain equipment is protected, might there by the
2 same blast be redundant or other equipment that may
3 provide redundancy to that equipment that is damaged
4 to safely shutdown our -- provide safe operations for
5 the plant. Also, some consideration is for damage
6 control measures. So, it provides a structure that
7 they can go through this.

8 The third area where guidance is provided
9 is in alternative measures. Again I mention we expect
10 this in very few instances where it would be needed to
11 apply this. This is left fairly flexible and open
12 because we believe there will be very unique
13 circumstances when such criteria might need to be
14 applied. But it will be determining such things as
15 the size of the explosive that the barrier that's
16 located for intrusion might protect against and it may
17 be very close to the design size or the specified size
18 for the actual design basis explosive device, the
19 length or the portions of the barrier where that may
20 apply. In other measures, certain measures, the
21 licensees may take to provide alternative or other
22 protection, and we provide some suggestions in that
23 area, but again we expect very unique circumstances
24 and cases in how that might be applied.

25 The next item, moving up from the reg.

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1 guide, is we did provide separately in the earlier
2 packages the characteristics of the design basis
3 vehicle, size and speed of the vehicle and also
4 characteristics of the explosive size that licensees
5 would use. This has been provided and based on
6 comments, and I don't get into it, no plan to change
7 or revise that criteria.

8 (Slide) If I could move onto I think the
9 next slide, slide 5, on public comments.

10 We received 35 comment letters. We also
11 evaluated some comments that were received in a May
12 1993 public meeting. But there were comments
13 essentially from 25 utilities, a couple advocacy
14 groups, the Nuclear Control Institute and the
15 Committee to Bridge the Gap, industry groups, NUMARC,
16 now NEI and NUMARC provided comments, and vendors and
17 a few individuals.

18 We also, and that was in the background
19 section, did meet with ACRS on several occasions on
20 the proposed rule, the Security Subcommittee and also
21 the full committee, and we even met with them in
22 closed session. We also met with them on the final
23 rule, the comments and other things, and received
24 comments. Primarily their comments will be in the
25 first area that I talked about, the quantification or

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1 justification of the threat. There were few, if any,
2 comments in the implementation areas.

3 A number of comments, as you might expect,
4 supported the rulemaking, thought it was a positive
5 proactive approach. Industry, a number of the
6 industry comments specified that they thought some
7 actions were needed. Some of the focus on that was
8 for industrial and commercial reasons. They saw the
9 need for it but they didn't think that rulemaking was
10 the right approach. There were a few that said, "No
11 action is required. What we have in our contingency
12 plans are sufficient."

13 I'll go through the areas. In general
14 areas, the primary area would be the first one that I
15 will talk about, but there are comments in three
16 general areas. A primary comment received from ACRS,
17 NUMARC and many of the utilities was concern that the
18 safety benefit of the proposed new requirements was
19 not adequately justified or quantified. Specifically,
20 it was commented that probabilities were not developed
21 for the threat of use of a vehicle by adversaries or
22 use of a vehicle bomb. Further comments were received
23 that the two events, the TMI intrusion and the World
24 Trade Center bombing, were isolated, unrelated and had
25 little or no bearing on the threat of a vehicle being

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1 used by an adversary at a reactor facility.

2 These commenters stated that lacking
3 quantifiable risk-based justification of these
4 threats, that the regulatory analysis did not make a
5 sufficient case that the proposed new requirements
6 would provide a substantial increase in safety as
7 required by the backfit regulations. Although in many
8 cases considerations of probabilities can provide
9 insights into the relative risk of an event, staff
10 believes that in some application it's not possible
11 with current knowledge and methods to usefully apply
12 probability estimates to certain events.

13 Staff considers in our assessment that
14 probability determinations of the threat of malevolent
15 use of a vehicle at a nuclear facility, which is a
16 premeditated rather than a random event, to be such a
17 case where PRA techniques cannot be reasonably
18 applied. Though the probability that an adversary
19 with the characteristics of the present design basis
20 threat would use a vehicle as a means to transport
21 people and equipment or a vehicle bomb were not
22 quantified, the staff did do additional analysis
23 regarding the likelihood of the sabotage consequences
24 of these threat attributes.

25 With respect to use of the vehicle for

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1 transportation of the adversary, additional analysis
2 focused on lessons learned from the TMI intrusion
3 event and whether a vehicle could provide an advantage
4 to an adversary with the characteristics of the design
5 basis threat. These assessments showed that use of a
6 vehicle by an adversary could provide a significant
7 advantage. Staff believes that this determination in
8 itself justifies additional measures to protect
9 against intrusion, independent of any consideration of
10 increased likelihood of a violent external assault.
11 And these findings and conclusions by this additional
12 assessment confirm some of our earlier assessments in
13 that same area from the lessons learned from TMI.

14 With respect to a vehicle bomb, a
15 conditional probability risk analysis was performed
16 for an existing power reactor site. The analysis
17 assumed an attempt to damage the plant with a design
18 vehicle bomb placed at locations within the protected
19 area that would create the greatest risk. The
20 analysis found that contribution to core damage
21 frequency for such an event would be high. These
22 additional analyses, along with earlier assessments
23 done by the staff, support the finding that protection
24 against either the threat of use of a vehicle by an
25 adversary to gain proximity to vital areas or the

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1 threat of a vehicle bomb provide a substantial
2 increase in public health and safety.

3 The next area that I was going to talk
4 about there were a number of comments on the
5 characteristics of the threat and I'll summarize some
6 of these. One comment was that the rule language
7 implies the intrusion of threat and the vehicle bomb
8 threat are coupled in that they would happen at the
9 same time. You'd have to protect against the vehicle
10 bomb along with adversaries and intrusion. The staff,
11 in looking at it, had not intended to couple the
12 threats. Any coupling involved in the rulemaking was
13 intended to apply to the implementing requirements to
14 provide efficiency and implementation. So, in this
15 area, we did revise some of the rule language
16 regarding the design basis threat.

17 There were a number of comments on the
18 characteristics of the vehicle and explosives. One
19 comment was that they considered that the explosive
20 size that was specified was too large, and that was
21 based on the commenter's assessment of historical
22 data. We disagree with that comment based on our
23 assessment. We think that the size established is the
24 correct size.

25 One commenter commented we should revise

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1 the threat to include the weapons and materials that
2 could be carried in the vehicle rather than hand
3 carried. Our assessment of that is that the primary
4 use of the vehicle is for transport of the adversaries
5 and once they get into their locations they will carry
6 whatever weapons and materials they need. So, we did
7 not address or include that comment in any changes.

8 COMMISSIONER REMICK: Excuse me. Would
9 you repeat the comment? I think I missed it.

10 MR. MCKEE: The comment was that somebody
11 using a vehicle for intrusion, you should include the
12 amount of weapons and materials that could be carried
13 in the vehicle beyond what the person could carry by
14 themselves.

15 COMMISSIONER REMICK: I see.

16 MR. MCKEE: Another comment was that you
17 had to consider -- the rulemaking should consider
18 potential for breaching the barrier that you have with
19 an explosive device and therefore barriers should be
20 designed to be of more substantial nature to protect
21 against that. We think that one of the advantages at
22 least as far as intrusion is the advantage of surprise
23 and assessment and that such an explosive would really
24 take away that advantage. So, we did not include and
25 incorporate any changes to address with respect to

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1 that comment.

2 Another comment, with the characteristics
3 the speed should take into account terrain and other
4 measures and perhaps because we didn't have the NUREG
5 and the reg. guide, speed is a factor that we included
6 and speed reduction measures and terrain would be one
7 factor that would address that. That's amplified now
8 in our NUREG document that we have out.

9 Another comment was -- and there was
10 concern that the rulemaking here was not -- should be
11 integrated with the other ongoing activities and the
12 broader look at the design basis threat. That was the
13 phase 2 that we're looking at. That phase 2 and the
14 results of that phase have been provided to the
15 Commission I think in March and that is complete. So,
16 we think all that activities, and we have looked at
17 that, that it is integrated and there won't be
18 conflicts.

19 COMMISSIONER REMICK: That phase 2 is
20 different than the phase 2 in your viewgraphs here,
21 which is the vehicle bomb threat. Am I correct?

22 MR. McKEE: It's the same phase 2.
23 Actually, phase 1, which was a rapid look, kind of
24 absorbed one aspect of phase 2.

25 COMMISSIONER REMICK: Okay. I

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1 misinterpreted the viewgraph.

2 MR. McKEE: The last area where we
3 received comments was regarding rule implementation.
4 In this area, by far the most extensive comments were
5 in the timing to complete various parts of the rule.
6 It was commented that the 90 days to provide the
7 summary description and the comparative analysis and
8 alternative measures, if needed, was too short and
9 many commented that that should be extended to 180
10 days. There also is the comment that the year to
11 provide for implementation from the effective date was
12 too short and that should -- you should provide
13 additional time allowing for outages. There might be
14 weather and procurement aspects.

15 For both those comments, we agreed that
16 there were valid points there and in our final
17 rulemaking package it proposed to extend the schedule
18 for both those, submitting the summary data from 90 to
19 180 days and also implementation from one year to 18
20 months.

21 There was a comment on implementation that
22 NRC should review and approve the various stages, the
23 comparative analysis, the summary description and in
24 all aspects make sure that this is done correctly. I
25 might note that we will review and approve any

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1 alternative proposals. Since we'll get the summary
2 analysis and since it will be included in the security
3 plan, some aspects, and be available, we do plan TIs
4 and even workshops prior to implementation. We do not
5 think that the approval process would slow down the
6 process and not add a lot and that we could cover that
7 through inspections and follow-up activities.

8 The third area, there was general comments
9 on the reg. guide and I'll just summarize those and
10 not get into that. For the most part, there were very
11 few comments in the reg. guide and many of those
12 focused on barriers. It wasn't comment so much on the
13 wording of the reg. guide, it was concern that certain
14 things weren't addressed and the licensees may be
15 required to do certain actions and they wanted a
16 clarification in that area as to what kind of
17 inspection would be needed for barriers, compensatory
18 measures, if there was a problem with the barrier,
19 procurement requirements. We've addressed some of
20 those comments. We did not revise the reg. guide, the
21 regulatory guidance requirements or recommendation
22 sections, but did provide some discussion to put those
23 kind of concerns and issues in what we think is a
24 better context. Also, the reg. guide provided some
25 guidance and it's very effective on alternative

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1 measures. One comment was that it was too flexible.
2 It was providing the licensees too much flexibility
3 and that any measures that are provided should be
4 equivalent to those needed to fully meet the design
5 goals and criteria. There are comments on the other
6 side stating that it appeared that the Commission was
7 asking licensees to accomplish analysis, assuming it
8 was quantitative, that the Commission itself had not
9 done. We did not make many changes in that area. We
10 think we've applied and left the flexibility necessary
11 to do that. As I mentioned, we expect rare cases and
12 very unique circumstances where that may apply and we
13 can deal with it at that time.

14 That was generally the comments on rule
15 implementation.

16 The last area, the applicability to the
17 independent spent fuel storage installations, although
18 it was not intended, and if you read the proposed rule
19 it did not apply, there was concern that it was not
20 clear that these requirements -- it was not clear
21 whether these requirements applied to independent
22 spent fuel storage installations. We have made
23 revisions and a change to the final rule package to
24 make it clear that it does not -- the regulations
25 requirements do not apply to independent spent fuel

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1 storage installations.

2 (Slide) With that, I can go on to the
3 sixth slide, the changes. And I can be very brief on
4 this because I've discussed most of them already.

5 We did clarify in the design basis threat
6 wording -- revised the wording to make distinct that
7 protection against vehicle intrusion and the vehicle
8 bombs. It's actually in two places in the design
9 basis threat. We did add and we just identified
10 certain other parts of the regulations that referred
11 to it, exemptions for independent spent fuel storage
12 installation.

13 We provided one clarification. If you
14 look in the wording of one of the provisions, the
15 implementing provisions of the rule, it required
16 licensees to evaluate the effectiveness of the vehicle
17 control measures to determine if they provide
18 protection sufficient to meet design goals for
19 protection against a vehicle bomb. We provide a
20 clarification to design goals as protection of vital
21 equipment. We use the same wording that it provides
22 to defining vital equipment.

23 Most importantly, I think the most
24 significant change in the package is we did provide
25 extension to the implementing schedules, as I

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1 mentioned, from 90 days to 180 days for the summary
2 description and the comparative analysis and from one
3 year to 18 months for final implementation. That's
4 from the effective date of the rule.

5 I won't even go into it, that we provided
6 minor clarifications to the reg. guide. Mainly that's
7 some expansion in the discussion section to provide a
8 little clarification on some of those issues that were
9 raised in the comments.

10 Lastly, the final rulemaking package does
11 include, and this is a document that we are continuing
12 to do additional work and we think we can provide some
13 additional guidance that will make the screening
14 process and other processes simpler, a NUREG. And
15 volume one of the NUREG talks about the blast, things
16 necessary for blast protection and provides some more
17 detail in determining standoff distances and provides
18 a screening process. Here it looks at typical
19 structures, nuclear wall structures for vital areas
20 and it's typically reinforced concrete and what
21 distance would provide safe standoff if you meet these
22 requirements for the typical walls, for various type
23 walls. We think this will provide a very -- really
24 support and enhance the screening process that we've
25 established in the reg. guide.

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1 Volume 2 of the NUREG document provides
2 information, some standard information on vehicle
3 barrier selection for both passive and active
4 barriers, provide some construction details for
5 passive barriers, penetration of kinetic energy
6 ratings. It also provides information and some test
7 data, some standard test data, although we leave it
8 open to other test data for active barriers. It gives
9 some details on means and effects of velocity
10 reduction and what that can do for you in supporting
11 your design.

12 (Slide) If I could move onto the last
13 slide in summary, and this will be repeating some of
14 it.

15 We think particularly based on some of the
16 additional analysis that the staff has done that the
17 rulemaking does meet the backfit criteria. There
18 were, as I mentioned, some minor changes. There were
19 no significant changes from the proposed package to
20 the final rulemaking package, either the reg. guide or
21 the rule and the implementation schedule. We're
22 proposing, as I talked to earlier, the implementation
23 schedule for 180 days for the initial submittal and
24 then 18 months for installation of the barrier system.

25 MR. TAYLOR: That concludes the

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1 presentation.

2 CHAIRMAN SELIN: Commissioner Rogers?

3 COMMISSIONER ROGERS: Oh, a couple of
4 questions. How different would the rule be if it was
5 really to provide only an assured protection against
6 vehicular intrusion rather than vehicular and bomb
7 threat? In other words, the full protection against
8 any kind of a vehicle that could go through, but
9 without including the bomb capabilities?

10 MR. MCKEE: We don't think in our
11 regulatory analysis that there would be much
12 difference. Now, it will require licensees to go
13 through an analysis process and that's why we
14 established the screening analysis which we think will
15 be simplified. There will be some additional effort
16 in that area. We anticipate it will actually end up
17 being somewhat of an iterative process. There may be
18 some adjustments in barrier locations when they go
19 through that analysis, but I don't think for most
20 utilities other than as we estimate maybe one or two
21 or a couple, that the end result will be much
22 perturbation or changes from what they would have done
23 just to protect against vehicle intrusion.

24 COMMISSIONER ROGERS: Because there is the
25 question all the time of how significant is the threat

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1 and the lack of quantification of threat analysis and
2 so on and so forth and yet we do know that we've seen
3 what happened to TMI where there wasn't any bomb
4 involved but certainly it was altogether too easy, it
5 seemed to me, for a vehicle to penetrate into an area,
6 a sensitive area, that then caused other problems at
7 the plant. From what we learned about those other
8 problems, I believe that's the basis, we have changed
9 our requirements with respect to the locking of
10 certain doors. And the SECY indicates that in a sense
11 that we permitted licensees to leave some vital area
12 doors unlocked in part on the basis of an earlier
13 Commission directive for the staff to proceed
14 expeditiously with rulemaking to provide vehicle
15 barriers. So there's a feeling on the part of the
16 staff that the vehicle barrier problem should be dealt
17 with expeditiously and have already sort of
18 anticipated that in some ways.

19 So, I think it is important to make that
20 point that if there isn't really a big difference
21 between what the licensee has to do to provide against
22 vehicle with bomb versus vehicle threats, intrusion
23 threats themselves, that that be kept in mind in
24 evaluating what the cost is of this to licensees. It
25 seemed to me that the confusion that resulted from

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1 that vehicular intrusion at TMI was enough to merit
2 considerable attention being directed at this problem.
3 I'm not sure that everybody else agrees with that, but
4 it certainly seemed very clear to me that that's the
5 case. If you can get bomb threat protection for not
6 very much more, then that's maybe not such a big
7 consideration about whether you proceed ahead with
8 insisting that there be a vehicular protection.

9 How specific are we in our requirements
10 with respect to the vehicular protection? My
11 understanding is from the little I've looked at the
12 SECY that there's a lot of flexibility afforded the
13 licensees in meeting that requirement. Is that
14 correct?

15 MR. McKEE: As I mentioned, I think you're
16 referring to the protection against the vehicle bomb.

17 COMMISSIONER ROGERS: Yes.

18 MR. McKEE: And that's what we tried to
19 provide, flexibility in our blast effects analysis.
20 We think because of the inherent nature and we're
21 finding out -- we're becoming smarter in this area of
22 the substantial nature of walls. that that was does
23 provide substantial inherent protection. But there
24 are a few cases where licensees may have to look at it
25 closer and even, as I mentioned, a very few where we

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1 think there might be -- additional measures may have
2 to be taken.

3 Our whole focus was to provide a screening
4 process that would make that analysis process and any
5 cost associated with that simpler and easier for
6 licensees.

7 COMMISSIONER ROGERS: Well, I know that
8 the ACRS commented on this and wasn't too enthusiastic
9 about it, although some members were. One of the
10 complaints of the ACRS was that there was no
11 quantification of the risk, that a quantitative
12 analysis was not done. I know that's difficult for a
13 number of reasons. But one question that occurred to
14 me here is has anybody tried to do quantitative risk
15 analysis on this? In particular, for example, while
16 it doesn't apply to nuclear power plants, but may in
17 fact be related to the difficulties in doing a risk
18 analysis, whether any insurance companies offer
19 insurance against, let's say, airplane terrorist
20 attacks and whether they have based that upon some
21 kind of a statistical analysis. This is usually how
22 they set their rates, and whether there's been any
23 basis for a quantitative analysis done by insurance
24 companies on the likelihood of a terrorist attack and
25 that might somehow or other give some clues as to a

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1 reasonable basis for at least some approach towards
2 quantification of risk in this case. Are you aware of
3 any?

4 MR. MCKEE: Well, as I mentioned, our
5 analysis really went on conditional risk. But on the
6 threat area, we think that that's an area that is
7 difficult to accomplish. Maybe Bob can speak to that.

8 MR. BURNETT: Mr. Commissioner, I'm not
9 aware of anybody who's attempted to quantify that even
10 in the insurance company industry. I'm not aware of
11 it. Many years ago we, the NRC, did look at the
12 possibility of doing a risk analysis and try to come
13 up with some quantitative number. What we discovered
14 was that we had to make so many assumptions in order
15 to come up with a risk number. It was completely
16 driven by the assumptions. We were not able to come
17 up with a number that was really usable.

18 CHAIRMAN SELIN: Commissioner Remick?

19 COMMISSIONER REMICK: First, just a
20 comment which really doesn't bear on the decision, but
21 it's kind of those hopefully words of wisdom for the
22 future.

23 The staff in the Federal Register notice
24 introduces the concept of perception and the
25 likelihood of an attempt to create radiological

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1 sabotage. I admit that that's a point for discussion.
2 I mean perception is important, but my words of
3 caution are I hope we would not attempt to use that as
4 a criterion for meeting the substantial increase in
5 public health and safety in the backfit rule. I mean
6 it's something worthy of discussion. I'm not
7 suggesting that the staff is proposing it, but I think
8 we have to be careful we don't use things like that as
9 criterion.

10 My honest view on whether or not the
11 permanent addition of vehicular intrusion barriers
12 provides a substantial increase in public health and
13 safety is highly questionable or questionable. I'm of
14 the belief that unfortunately we can't not quantify
15 the risk. The Commission has addressed that
16 originally in the safety goal development, that
17 sabotage and diversion of materials is something that,
18 for the reasons you've just indicated, are very
19 difficult to quantify.

20 However, it appears that both the staff
21 and the industry as certainly represented by NUMARC
22 say that it really boils down to a matter of prudence.
23 So, it seems like there's some general agreement
24 between the regulatory staff and the industry. I must
25 admit professionally and as a Commissioner I was

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1 embarrassed that it was apparently so easy to
2 penetrate in Three Mile Island. So, in my mind it
3 does come down to a question of prudence from the
4 standpoint of a vehicular intrusion.

5 I have some additional thoughts on the
6 vehicular bomb, but for prudence I will also save
7 those were the closed session.

8 The additional comment I would like to
9 make, although I don't want to make too much of an
10 issue of it, but I think there's some unfortunate
11 wording. I forget if it's in the SECY. All I
12 remember is it's on page 3. It must be the Federal
13 Register notice and I don't find it there. But
14 anyhow, in the document somewhere that drew my
15 attention, the staff points out that in SECY-94-121
16 that the -- and that's the SECY before us -- that it's
17 recommendations that were contained in SECY-93-326, to
18 permit licensees to leave some vital area doors
19 unlocked, was based in part on the earlier Commission
20 directive to proceed with this rulemaking.

21 Now, I've gone through that SECY document
22 and I don't see anywhere in there that you indicated
23 to the Commission that your recommendations were based
24 on the fact that the Commission had approved
25 proceeding with the rulemaking. But putting that

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1 aside, perhaps you did.

2 But going back to the discussion we had
3 this morning about what a proposed rule means, I think
4 you should not ever base your decisions in one area
5 based on the fact that we're proceeding on developing
6 a proposed rule in another area because you never know
7 how that rule is going to come out, if it ever comes
8 out, or what the final forum will be.

9 The thing that concerns me more, the staff
10 makes the statement, I wish I hadn't lost it in the
11 text, but the staff makes the additional statement in
12 that same area that the subsequent Commission
13 direction to allow licensees to leave all vital area
14 doors unlocked increases the importance of requiring
15 vehicular barriers. That point is valid, I think. I
16 mean the fact that if we do allow vital area doors to
17 be unlocked, the perimeter security is of more
18 importance. But I think it's unfortunate that the
19 staff did not point out that the Commission basically
20 said if those doors are alarmed and if they can be
21 remotely locked. I think there's a significant
22 difference.

23 One gives the impression, and I don't know
24 if it was an intended slap, and I assume it wasn't, by
25 the staff to say, "Okay, Commissioners, you did this,"

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1 but I think it was unfortunate it wasn't pointed out,
2 that the Commission didn't say all vital area doors
3 can be unlocked. They said if those doors are alarmed
4 and if they can be locked remotely. So, I think
5 unfortunately somebody just reading the cold document
6 could get the wrong impression about what the
7 Commission did approve back some time ago.

8 Those are my only comments at this
9 session.

10 CHAIRMAN SELIN: Thank you.

11 Commissioner de Planque?

12 COMMISSIONER de PLANQUE: Just one
13 technical question.

14 In the reg. guides you have ways of
15 adjusting the velocity based on the pathways or
16 obstacles in the pathways. Does that also hold -- can
17 you also adjust that based on the total weight,
18 vehicle plus bomb? Is that also a way to adjust that
19 factor?

20 MR. McKEE: You mean the weight of the
21 vehicle and --

22 COMMISSIONER de PLANQUE: Yes.

23 MR. McKEE: As far as speed is concerned?

24 COMMISSIONER de PLANQUE: Yes.

25 MR. McKEE: I don't think those tables --

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1 COMMISSIONER de PLANQUE: You didn't
2 consider that?

3 MR. MCKEE: We didn't consider that.

4 COMMISSIONER de PLANQUE: Okay. Just
5 wanted to make sure.

6 Given the analysis and the logic and
7 assumptions that you used in this rule, did you give
8 any consideration as to the implications of that logic
9 in the assumptions and the analysis for entry into the
10 plant other than by land? Did you think about this at
11 all? I just want to know if you considered it.

12 MR. MCKEE: Entry by other than land has
13 been factors that are looked at and continue in our
14 assessment of the threat.

15 COMMISSIONER de PLANQUE: I understand
16 that.

17 MR. MCKEE: We didn't apply all these same
18 principles necessarily.

19 COMMISSIONER de PLANQUE: Okay. So, you
20 haven't thought as far as what does the logic used
21 here imply in cases other than just land-based? It's
22 okay to say no.

23 MR. BURNETT: I can help a little bit.
24 There was extensive review on should the threat
25 encompass attacks by aquatic vehicles or air. Based

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1 on the threat data, we are not recommending to the
2 Commission that we embrace that level of threat. But
3 I think the question you're asking is forgetting the
4 threat, has the staff thought about the capabilities
5 of the licensees to repel something other than a land
6 basis.

7 COMMISSIONER de PLANQUE: Would the logic
8 used in the analysis used here predetermine a path
9 considering those other possibilities?

10 MR. McKEE: Well, I might add, we have
11 looked at some of the conditional possibilities
12 similar to what we did in here for water-borne threat.

13 COMMISSIONER de PLANQUE: Yes.

14 MR. McKEE: And that is an area that has
15 been -- again, regardless -- assuming what the
16 likelihood of that threat would be, we have done some
17 analysis in the past in that area, though not
18 obviously as extensive as in this area.

19 COMMISSIONER de PLANQUE: If you had to
20 look at that issue, those issues in isolation, would
21 the logic you've used here determine what your answer
22 would be in those situations? Do you know that?

23 MR. BURNETT: I think the logic would be
24 the same. You'd have to look at if the site was
25 penetrated by air, could they get to a vital area

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1 before the guards, is I think what you're really
2 getting at right there.

3 COMMISSIONER de PLANQUE: Well, and would
4 the justification that you use in here give you the
5 answer in the other scenarios, same answer in the
6 other scenarios? If you haven't gone through this,
7 then don't try to --

8 MR. MCKEE: Yes. I just don't think we've
9 done that process.

10 COMMISSIONER de PLANQUE: Okay. That's
11 all I wanted to know.

12 I have no further questions.

13 CHAIRMAN SELIN: Since it's come up a
14 couple times, I'd like to make a remark about the
15 probabilistic approach. I mean that's just not the
16 way we do this kind of analysis because there's an
17 interaction between the threat and the defenses. It's
18 not -- the threat in some ways depends on what
19 countermeasures are taken. Usually the principle
20 that's taken is not just a probability that there be
21 an attack because the more vulnerable the plant the
22 more likely a threat should be, but rather that the
23 defenses be sort of smooth, that once the protection
24 of a power plant against a threat gets to the point
25 where there are other equally attractive targets that

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1 are available doesn't make much sense to protect the
2 plant further.

3 So, the principle that's usually followed
4 is come up with threats which make some sense and then
5 avoid chinks or big weaknesses, rather than treat the
6 threat as if it had a probability that's independent
7 of the countermeasures. The stronger the
8 countermeasures, the less likely the threat becomes
9 and that's an interaction that's generally beyond our
10 ability to handle.

11 Basically, I think you did what we told
12 you to do last time, to put it in simple sentences and
13 we need to discuss some detail about the threat and
14 then vote in the next relatively short time about the
15 rule and I believe that's what we'll do.

16 So, at this point I think we'll adjourn
17 the open meeting and have a closed meeting on the
18 safeguard information and then get back to you very
19 quickly with the guidance on the proposed rule.

20 Thank you.

21 (Whereupon, at 2:51 p.m., the above-
22 entitled matter was concluded.)

23

24

25

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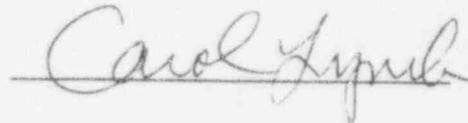
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MALEVOLENT USE OF VEHICLES AT NUCLEAR POWER PLANTS - PART 73
PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: JUNE 9, 1994

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**PROTECTION OF NPPs AGAINST
MALEVOLENT USE OF VEHICLES:
FINAL RULE**

June 9, 1994

Phillip F. McKee

**Division of Radiation Safety and Safeguards
Office of Nuclear Reactor Regulation**

OVERVIEW

- Background
- Proposed Rulemaking Package
- Public and ACRS Comments
- Changes to Proposed Rulemaking Package
- Summary

BACKGROUND

- February 1993 TMI intrusion & World Trade Center bombing prompts two phase reexamination of the design basis threat
 - PHASE 1 - Land vehicle threat
 - PHASE 2 - Design Basis Threat (DBT) characteristics
- Commission briefed April 22, 1993 on options to protect against malevolent use of vehicles and related threat information (SECY-93-102)
- Public meeting on DBT (MAY 10, 1993)
- Commission briefed June 24, 1993 on staff recommendations for protection against malevolent use of vehicles at NPPs (SECY-93-166)

BACKGROUND (Continued)

- Commission approved implementation approach and directed staff to proceed with rulemaking (June 29, 1993 SRM)
- Proposed amendments to 10 CFR PART 73 to protect against malevolent use of vehicles at NPPs provided to Commission (SECY-93-270 dated September 29, 1993)
- Commission approved publication of proposed rulemaking (October 26, 1993 SRM)
- Meetings with ACRS on proposed rule, (11/3/93, 11/4/93, and 12/10/93)
- Proposed rule published on November 4, 1993

PROPOSED RULEMAKING PACKAGE

- Rule amendments
 - Changes Design Basis Threat (10 CFR 73.1)
 - Added performance requirements (10 CFR 73.55(c))
- Regulatory Guide 5.68
 - Guidance on barrier system to protect against intrusion
 - Guidance on analysis to determine protection against vehicle bomb
 - Guidance on alternative measures to protect against vehicle bomb
- Land vehicle criteria and bomb characteristics provided separately to licensees (Safeguards Information)

PUBLIC AND ACRS COMMENTS

- **35 Comment Letters Received**
- **Comment Areas**
 - Quantification of the threat
 - Threat characteristics
 - Rule implementation
- **Applicability to Independent Spent Fuel Storage Installations**

CHANGES TO PROPOSED RULEMAKING PACKAGE

- **Changes to proposed rule**
 - Clarification that vehicle intrusion and vehicle bomb are separate threats
 - Specific exemption of ISFSI's
 - Clarification of design goals
 - Extended implementation schedules
- **Expanded regulatory analysis of protection capability assuming threat**
- **Minor clarifications to draft Regulatory Guide**
- **Development of NUREG/CR-6190**
 - Volume I, Vehicle Barrier System Siting Guidance for Blast Protection
 - Volume II, Vehicle Barrier System Selection Guidance

SUMMARY

- Rulemaking meets the backfit criteria
- Minor changes to proposed rulemaking package
- Implementation schedule
 - 180 days to provide summary description
 - 18 months to install barrier system