

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON RECOMMENDED ACTION  
FOR SUBSTANDARD PARTS

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON RECOMMENDED ACTION FOR  
SUBSTANDARD PARTS

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission  
One White Flint North  
Rockville, Maryland

Tuesday, March 20, 1990

The Commission met in open session, pursuant to notice, at 10:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman of the Commission  
KENNETH C. ROGERS, Commissioner  
JAMES R. CURTISS, Commissioner  
FORREST J. REMICK, Commissioner

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STAFF SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

JAMES TAYLOR, Executive Director for Operations

FRANK MIRAGLIA, Associate Director for Inspection and  
Technical Assessment, NRR

BEN HAYES, Director, Office of Inspections

BRIAN GRIMES, Director, Division of Reactor Inspection  
and Safeguards, NRR

E. WILLIAM BRACH, Vendor Inspection Branch Chief, NRR

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

10:00 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen.

Commissioner Roberts will not be with us today.

The purpose of today's meeting is for the staff to brief the Commission on recommended action for substandard parts. This is an area of particular concern to the Commission due to the increased discovery of misrepresented or substandard replacement parts in licensed nuclear power plants during the last few years. The presence of such components in the power plant could significantly degrade the ability of systems and components to operate as designed when challenged. It is important that we continue to aggressively pursue effective methods to detect these misrepresented parts and prevent their use in plant safety systems.

The Commission was last briefed on this subject in February 1989 with specific focus on a proposed rule covering the subject.

I understand the copies of the staff's presentation slide and the associated staff paper, SECY-90-57, are available at the entrance to the

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1 meeting room.

2 Do any of my fellow Commissioners have  
3 opening comments?

4 If not, Mr. Taylor, please proceed.

5 MR. TAYLOR: Good morning. You mentioned,  
6 sir, that the Commission approved an Advanced Notice  
7 of Proposed Rulemaking which was issued in March of  
8 1989 and also mentioned the paper which is available  
9 at the entrance. The briefing today will cover the  
10 public comments on the Advanced Notice of Proposed  
11 Rulemaking and provide a current status of the various  
12 associated staff activities in this area.

13 Although we have not found an imminent  
14 safety hazard to exist from the use of fraudulent or  
15 substandard equipment, I consider the potential safety  
16 problem posed by substandard hardware to warrant  
17 continuing high priority attention by my office, NRR,  
18 the regions and the Office of Investigations. I'm  
19 personally briefed on this subject every two or three  
20 weeks.

21 Although we will not discuss in detail the  
22 work of OI today, Mr. Hayes is here at the table with  
23 us to respond to questions in his area.

24 I must note that OI has been working with  
25 the staff and has made important contributions to our

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1 efforts in this area and the cooperation of OI and the  
2 technical staff continues to be outstanding.

3 As a direct result of the work of the OI and  
4 the staff, one vendor company president just recently  
5 pled guilty to several fraud counts and last week was  
6 sentenced to a jail term and other penalties.

7 We will brief you today on actions the staff  
8 has taken to address the two separate but related  
9 issues involving misrepresented vendor products, and  
10 also problems identified in licensing procurement and  
11 dedication programs. The staff will first provide an  
12 overview of actions taken to address identified cases  
13 of misrepresented vendor products, such as fasteners,  
14 circuit breakers and valves, and the status of our  
15 implementation of the action plan to assure  
16 appropriate safety actions are taken and to share  
17 information with other federal agencies, which we have  
18 continued to do.

19 The staff will also discuss NRC and industry  
20 action to improve licensee programs and capabilities  
21 for detecting misrepresented and substandard products.  
22 NRC concerns on misrepresented products and the  
23 effectiveness of licensees' programs have a common  
24 element in that much of the fraudulent activity of  
25 which NRC is aware has occurred in the commercial

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1 grade product market. The incoming product to a  
2 licensee's dedication program is frequently a  
3 commercial -- or is a commercial grade item and for  
4 these reasons many of the staff actions we will be  
5 discussing today are focused on addressing NRC  
6 concerns over both misrepresented vendor products and  
7 the programs by which licensees both procure and  
8 dedicate commercial grade parts for safety services.

9 I will now turn the details of the briefing  
10 over to Mr. Miraglia and with me at the table are Mr.  
11 Grimes from NRR, Mr. Hayes you know and Mr. Bill Brach  
12 who heads the vendor group in NRR.

13 MR. MIRAGLIA: Thank you, Mr. Taylor.

14 I just have a few opening remarks and then  
15 the briefing will be done by Brian Grimes.

16 (Slide) May I have slide 2, please?

17 Slide 2 is an outline of the briefing that  
18 you're here today. As indicated, the main purpose is  
19 to describe the staff actions that have occurred over  
20 the last year with respect to misrepresented vendor  
21 products. In addition, we're going to report on the  
22 comments received on the Advanced Notice of  
23 Rulemaking.

24 When we last spoke with the Commission, we  
25 indicated that there were many materials, equipment

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1 and components that are subject to counterfeit or  
2 substitution or misrepresentation. As we indicated at  
3 that briefing, the current rules and regulations were  
4 predicated on the integrity of the process, that there  
5 wouldn't be an intent to mislead or misrepresent  
6 materials, and therefore perhaps the regulatory  
7 process was not sensitive enough to screen out that  
8 kind of product. This led to the publication of the  
9 Advanced Notice of Proposed Rulemaking to perhaps  
10 strengthen the process.

11 The area of procurement has become more and  
12 more sensitive, not only because of misrepresented  
13 material, but as Mr. Taylor has indicated, a large  
14 fraction of commercial products are being used because  
15 Appendix B vendors are no longer available and  
16 commercial products are being dedicated and upgraded  
17 for use in commercial and safety grade systems.

18 As a result, dedication of commercial grade  
19 products becomes a very important feature that would  
20 address not only the use of standards, good quality  
21 commercial products, but also can enhance the  
22 detection of fraudulent material. So, there's two  
23 separate but related programs here.

24 We have been encouraging the industry and  
25 working with the industry since the fall of 1988. In

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1 November of '88 they started, under the auspices of  
2 NUMARC, a nuclear plant equipment procurement group.  
3 Many of the issues and programs that they've developed  
4 are addressing some of the concerns expressed by the  
5 staff. Brian will be giving you a synopsis of where  
6 they stand and where their activities are.

7 With that, I'd like to turn the briefing  
8 over the Brian.

9 MR. GRIMES: Good morning.

10 (Slide) Could we have slide 3, please?

11 This slide describes the NRC action plan.  
12 It's the same slide as we used in previous briefings  
13 with the Commission. Staff continues to follow this  
14 plan. The staff has issued a number of generic  
15 communications in the last two years to provide  
16 licensees with timely intelligence in this area.  
17 Since January of 1988, seven bulletins and 25  
18 information notices have been issued in this regard.

19 In addition, we've held numerous meetings  
20 with NUMARC and licensees, vendors, other  
21 organizations such as ASME, IEEE, the National Board  
22 of Pressure Vessel Inspectors and American Nuclear  
23 Society, to distribute information in regard to these  
24 problems.

25 In addition, a number of referrals of  
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1 possible wrongdoing have been made to the Office of  
2 Investigations. They have worked with the staff to  
3 develop these issues and, where appropriate, referred  
4 them to the Department of Justice. As Mr. Taylor  
5 mentioned, some of these have come to conclusion  
6 recently and one has recently resulted in a jail  
7 sentence and other penalties.

8 (Slide) Slides 4 and 5, if I may have slide  
9 4, list the types of vendor products that have been  
10 identified as misrepresented and have been provided to  
11 the nuclear industry. For the first three items on  
12 slide 4, fasteners, the fittings and flanges and the  
13 molded case circuit breakers, we've issued bulletins  
14 requesting specific actions of licensees. These are  
15 the more safety-significant items on the list.

16 (Slide) For the other items, including  
17 metal-clad circuit breakers, plate and piping  
18 material, if we can turn to slide 5, the valves and  
19 valve replacement parts, relays and fuses, we have  
20 issued information notices to provide the relevant  
21 information to licensees and vendors so that they can  
22 take the appropriate action to assess the safety  
23 significance of the application of these materials in  
24 their plants.

25 We've had frequent interaction with NUMARC

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1 regarding the industry actions that are needed. For  
2 example, with regard to fittings and flanges, NUMARC  
3 coordinated an industry effort to analyze a large  
4 number of deficient materials and provided a basis on  
5 which we could stop trying to find every last fitting  
6 in the plants, a very positive outcome both in terms  
7 of resolving the issue and reducing the impact on  
8 industry. Other bulletins that we have discussed in  
9 public meetings before issuance to try to reduce the  
10 impact on the industry and we've got good feedback in  
11 that regard.

12 The underlying causes that in the past have  
13 allowed these materials to enter the nuclear market  
14 appear to me to be related to deficiencies and  
15 licensees' awareness of the problem and their related  
16 inability to detect the products that were coming in,  
17 coupled with the deficiencies we've found in  
18 inspections in commercial grade dedication programs.

19 These are two separate problems. They  
20 converge into one in many cases, the misrepresented  
21 products and the inadequate procurement and dedication  
22 programs for commercial grade parts. Of course, the  
23 misrepresented products involve an intent to deceive  
24 and our existing programs assume that there is vendor  
25 integrity and really are aimed to confirm product

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1 quality.

2 The commercial grade dedication programs,  
3 we've found a number of deficiencies which we think  
4 could improve if corrected inadequate engineering  
5 involvement, acceptance of certification from  
6 unaudited vendors, reliance on simple model number  
7 comparisons and inadequate review, examination or  
8 testing as appropriate before the parts are used in  
9 the plant. These two problems converge because most  
10 of the -- or much of the counterfeit and fraud is in  
11 the commercial market and the incoming equipment then  
12 must be examined through these dedication programs if  
13 it's to be used. So deficiencies there will allow the  
14 equipment to enter the plants.

15 Slide 6 --

16 COMMISSIONER REMICK: Brian, what do we know  
17 about how widespread this is with other industries?

18 MR. GRIMES: We think it's fairly widespread  
19 with other users and a little later I'll discuss the  
20 federal agencies. But as we have gone through  
21 procurement documents, particularly in some of the  
22 search and seizure operations that we've participated  
23 in, we have sorted those that apply to other agencies  
24 such as NASA or FAA, Defense Department, and sent  
25 those to other federal agencies. So, we've identified

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1 a number of other end users that are concerned in this  
2 area also.

3 COMMISSIONER REMICK: So it's not  
4 necessarily targeting the nuclear industry?

5 MR. GRIMES: No. No, especially in the  
6 commercial market. Sometimes the commercial person  
7 who is at fault in providing these is even unaware  
8 sometimes that it is going to a nuclear power plant.  
9 But it arrives there through the chain.

10 MR. TAYLOR: That's an excellent question.  
11 I don't believe anything we've seen would say that the  
12 nuclear industry, as such, is being targeted. Would  
13 you all agree with that? We've been working on this  
14 for a long time, but it is the commercial sector and  
15 the process does, as --

16 CHAIRMAN CARR: But it's fair to say it's a  
17 lucrative market, especially in the safety-related  
18 stuff where the price is a lot higher. So, it --

19 MR. TAYLOR: That is correct.

20 CHAIRMAN CARR: It entices the crook by  
21 value.

22 MR. TAYLOR: Right.

23 MR. GRIMES: There are things tied to the  
24 nuclear industry in terms of falsification of upgrades  
25 or falsification of ASME, but material, that's

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1 specifically tired. But the general inadequate  
2 materials that as passed -- used materials passed off  
3 as new, that's more of a case of just general  
4 commercial grade items.

5 MR. GRIMES: (Slide) Slide 6 indicates some  
6 of the NRC initiatives which address these problems.  
7 We issued a generic letter in March 1989 entitled,  
8 "Actions to Improve the Detection of Counterfeit and  
9 Fraudulently Marketed Products." This shared with  
10 licensees the NRC view of the elements which have been  
11 shown effective in detecting misrepresented vendor  
12 products. These include engineering involvement in  
13 the procurement process, better receipt and inspection  
14 and testing programs, commercial grade dedication  
15 programs which check the important features of the  
16 product, and product-oriented vendor audits rather  
17 than just paper checks of the vendors.

18 The generic letter also provided an  
19 endorsement, with a few exceptions, of the EPRI  
20 guidelines on commercial grade dedication.

21 In addition to the staff -- I'll discuss the  
22 ANPR which was mentioned on the slide a little bit  
23 later. But in addition to the staff reviews of  
24 vendors suspected of misrepresentation, we've  
25 conducted a number of detailed inspections of licensee

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1 and vendor procurement programs and commercial grade  
2 dedication programs. There have been 13 such  
3 inspections in the last three years.

4 The findings of these inspections were that,  
5 as I'd mentioned previously, there were inadequate  
6 controls in place for commercial grade items.

7 (Slide) Slide 7 describes our coordination  
8 with other federal agencies. I had previously  
9 mentioned we provide material as we find it to other  
10 federal agencies. In July 1988, NRC asked OMB to  
11 assist in arranging an interagency meeting to discuss  
12 misrepresentation of vendor products. At the August  
13 1988 meeting of about 20 agencies, Chairman Zech, Mr.  
14 Stello and Mr. Hayes all provided NRC perspectives on  
15 this issue. And the outcome of the meeting was that  
16 OMB and two President's councils, the President's  
17 Council on Integrity and Efficiency and the  
18 President's Council on Management Improvements, have  
19 the lead for the federal government. However, we have  
20 seen little activity from those agencies.

21 Since the OMB meeting, we've taken another  
22 tact and that is through a series of meetings  
23 establish personal staff contacts with other federal  
24 agencies. This has begun to bear fruit. NASA, for  
25 example, sponsored an interagency meeting in January

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1 of this year and a working group meeting on  
2 information exchange will be held in April among a  
3 number of federal agencies. We routinely send all our  
4 information notices and bulletins to other federal  
5 agencies.

6 CHAIRMAN CARR: How about the National  
7 Association of Manufacturers? Has anybody brought  
8 them into it?

9 MR. GRIMES: No, I don't believe so.

10 CHAIRMAN CARR: You might look at that.  
11 It's an organization who probably is as interested in  
12 the problem as we are.

13 MR. GRIMES: Yes. When we dealt with  
14 circuit breakers, we did deal with a couple of  
15 industry groups in terms of the commercial--  
16 controlling commercial area.

17 MR. MIRAGLIA: Underwriters.

18 MR. GRIMES: The Underwriters Laboratory and  
19 what was the electrical --

20 MR. BRACH: That's the National Electrical  
21 Manufacturers Association.

22 MR. GRIMES: So we did involve two industry  
23 groups in the molded case circuit breaker issue.

24 COMMISSIONER REMICK: Is it safe to infer  
25 that the other federal agencies are notifying us when

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1 they become aware of fraudulent parts?

2 MR. GRIMES: The information flow is largely  
3 one way right now and we hope that these meetings will  
4 set up a better mechanism to get that two way flow of  
5 communication.

6 MR. MIRAGLIA: We've joined a process called  
7 Guide Up, which is government information exchange.  
8 Perhaps Mr. Brach could add something to that.

9 MR. BRACH: It's a computer network that's  
10 established under the Department of Defense, U.S. Navy  
11 that a number of federal agencies, as well as  
12 manufacturers belong to. It's a public information  
13 sharing network. We recently joined that this past  
14 year and into that system as well have been putting  
15 information notices in bulletins concerning vendor-  
16 related issues, whether it be a counterfeit and fraud  
17 type of concerns or substandard quality issues. We're  
18 looking at that and, as Brian had mentioned a minute  
19 ago the NASA meetings, one of the focuses of that  
20 meeting and the one coming up in April is to make  
21 better use of that system so that it will be,  
22 hopefully, more a two way street of NRC information  
23 being shared with others and how we're getting more  
24 information from other agencies.

25 As Brian and Jim have mentioned, a number of

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1 the vendors that we have involvement, the nuclear  
2 industry has involvement with, have, as well, major  
3 involvement with NASA and space type activities.

4 MR. GRIMES: (Slide) Slide 8, moving to the  
5 industry initiatives. In July of 1988, NRC asked  
6 NUMARC to coordinate industry activities in these  
7 areas and NUMARC formed a working group on nuclear  
8 plant equipment procurement, which is headed by Bill  
9 Cavanaugh of Surry. NRC management has met with the  
10 working group on several occasions and the NUMARC  
11 initiatives and plans were provided with the SECY  
12 paper as attachments.

13 One noteworthy accomplishment of NUMARC to  
14 date is the endorsement of the EPRI guidelines which  
15 the NRC also endorsed last March and commitment by the  
16 industry for implementation by January 1990. We were  
17 informed by the NUMARC staff that they did a survey  
18 this January to determine the status of that  
19 implementation and all but three utilities indicated  
20 that they had programs now in place to implement the  
21 EPRI guidelines, which is a very good return. And the  
22 remainder of the utilities were scheduled to be done  
23 by this summer with their implementation.

24 Another significant milestone is the  
25 consolidation of two former industry groups which

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1 performed audits. This is now a group called NUPIC  
2 and it has a stronger emphasis on product-oriented or  
3 performance-oriented audits. We've not really  
4 evaluated the effectiveness of these initiatives yet,  
5 but we believe they're certainly in the right  
6 direction.

7 Other areas that were noted in NUMARC's  
8 January letter which were included in the Commission  
9 paper and which we now understand the Board of  
10 Directors at NUMARC may act on this June, relate to  
11 general procurement practices which include the use of  
12 approved suppliers and original equipment  
13 manufacturers, guidelines for product acceptance,  
14 including receipt inspection, and guidelines for  
15 performance-based supplier audits.

16 COMMISSIONER CURTISS: What is the  
17 originally scheduled to be addressed in March, what's  
18 the reason for the delay on the subject?

19 MR. GRIMES: I believe they decided -- they  
20 made a presentation, as I understand it, to the Board  
21 in March but decided not to request action until they  
22 had further discussed impact and got commitments as to  
23 the scale of effort that was to be expected of  
24 utilities. So I think in the next two months there  
25 will be a number of additional working group and

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1 committee meetings to make sure that each utility  
2 understands the full impact of what they're committing  
3 to and the Board would then act in June.

4 COMMISSIONER CURTISS: In June. Okay.

5 MR. GRIMES: (Slide) Slide 9.

6 With respect to the Advanced Notice of  
7 Proposed Rulemaking, which we issued last year, 64  
8 public comments were received and 43 of those were  
9 from licensees. The comments were summarized by the  
10 Office of Research and the summary was provided with  
11 the SECY paper, as an attachment. The industry  
12 responses, particularly those from licensees, were  
13 against any new regulations. Some of the industry  
14 responses did indicate the need for clearer positions  
15 on what utilities and the NRC really expected in this  
16 area from the vendor community.

17 Our conclusions after evaluating the ANPR  
18 comments and considering our findings from inspections  
19 of vendors and licensees are first that while the  
20 current regulations don't specifically address  
21 counterfeit or fraud or commercial grade dedication  
22 programs, they do lay out the general requirement that  
23 suitability for service needs to be determined and the  
24 quality established before use in safety-related  
25 applications.

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1           Second, we've concluded that expectations on  
2 both licensees and vendors quality programs and  
3 implementation need to be better understood and some  
4 aspects could usefully be spoken to more specifically  
5 by either NRC or industry. This is what the industry  
6 initiatives, we believe, can accomplish, is laying out  
7 in more detail the expectations for implementation by  
8 the industry.

9           In this regard, as Commissioner Curtiss  
10 mentioned, the industry efforts have not proceeded as  
11 rapidly as we expected. We're of the opinion that  
12 it's appropriate to continue our efforts to develop a  
13 regulatory basis for rulemaking in this area while we  
14 continue to review and assess the industry progress.

15           (Slide) Slides 10 and 11 describe our  
16 planned activities. Our first priority continues to  
17 be to keep the industry full and timely appraised of  
18 information which may impact on plant safety. This  
19 will be achieved through generic communications and  
20 meetings with NUMARC as the focal point of the  
21 industry. We intend to keep informed of the status of  
22 industry initiatives and progress and work with NUMARC  
23 to make sure there's a common understanding in  
24 important implementation aspects.

25           In this regard, NUMARC has suggested further

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1 meetings on critical characteristics, traceability,  
2 documentation and the role of distributors for  
3 commercial grade items that are to be used in safety-  
4 related applications.

5 (Slide) Slide 11 continues with the staff  
6 activities. Because we have a concern with the timing  
7 and implementation by the industry of improvements in  
8 these areas, the staff will continue to develop the  
9 basis for proposed rulemaking and the elements that  
10 the staff is considering for that development are in  
11 an enclosure to the SECY paper. These include, for  
12 example, more specific attention in the regulations to  
13 the need for engineering involvement in the  
14 procurement activities, specification of preferred  
15 purchase for manufacturers under an Appendix B  
16 program, if that's feasible. Licensee feedback to the  
17 NRC on negative vendor audit findings would be another  
18 possibility.

19 In the area of inspection activities, the  
20 staff is rethinking its approach and a separate  
21 Commission paper has been provided in this regard.

22 In conclusion, staff believes that  
23 significant progress is being made by the industry in  
24 this area of misrepresented and substandard products,  
25 but that further examination of the effectiveness of

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1 industry efforts is warranted. We conclude that the  
2 option of rulemaking should be retained by continuing  
3 to develop the basis for a proposed rule.

4 That's the end of my presentation, if there  
5 are questions.

6 MR. TAYLOR: That concludes our  
7 presentation.

8 CHAIRMAN CARR: Commission Remick?

9 COMMISSIONER REMICK: I have several  
10 questions. What's the status of the large vendor  
11 interest in getting into the spare parts? I think in  
12 the SECY paper you mentioned that Westinghouse was  
13 considering getting into the spare part manufacturing  
14 business.

15 MR. GRIMES: Yes. I don't know if that was  
16 in the SECY paper, but I've seen industry press  
17 material on that and I don't know much more than that  
18 except that it appears to be something that the  
19 industry should seriously look at in terms of being  
20 able to rely on a single source for important  
21 equipment.

22 COMMISSIONER REMICK: I assume that this  
23 gets to be more of a problem as plants get older and  
24 there are fewer vendors available to supply spare  
25 parts. What does this bode for license renewal where

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1 plants might receive license extending out for a  
2 number of additional years?

3 MR. TAYLOR: The spare parts problem will  
4 continue in the renewal term. So this is an ongoing  
5 problem that industry faces. As life extends even,  
6 you know --

7 MR. MIRAGLIA: It's a problem that exists  
8 right now and will exist for most of these plants. I  
9 think that industry recognizes it. One element of the  
10 industry program is an element to look at the question  
11 of obsolescence, how would they handle it. There has  
12 been talk of consortium-type efforts or activities, a  
13 jointly utility sponsored kind of thing to assure a  
14 common base of spare parts where possible. The groups  
15 become different sizes depending upon the nature of  
16 the material. Some parts many plants would have in  
17 common. Others have kind of unique needs. So, it's  
18 an issue that's out there that they're dealing with  
19 and trying to deal with and cope with within the  
20 context of this program.

21 COMMISSIONER CURTISS: Let me pick up on  
22 that. Is the problem more acute for some particular  
23 kinds of parts or is it one that we're seeing across  
24 the board for a whole range of spare parts?

25 MR. MIRAGLIA: In terms of obsolescence? I

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1 don't know if I have a definitive answer. I would say  
2 it's probably discreet kinds of issues. We've  
3 explored with the industry and the staff itself has  
4 taken an initiative to say what group of components  
5 would be more vulnerable to the misrepresentation  
6 aspect of it. We've developed a list to look at areas  
7 to be sensitive to, but they're pretty consistent with  
8 what we've been finding, the circuit breakers, valves,  
9 common components that are used not only in a nuclear  
10 industry but are widespread in the commercial  
11 industry, defense and other areas as well.

12 MR. GRIMES: I would say probably more in  
13 the electrical area, for example, than in the piping  
14 area. Piping doesn't become obsolescent, but a  
15 circuit breaker may well become obsolescent if the  
16 vendor has changed his product line over the last ten  
17 years.

18 CHAIRMAN CARR: Relays.

19 MR. GRIMES: And relays, yes.

20 CHAIRMAN CARR: My experience in this areas  
21 is that if you've done business with what we call a  
22 "onesie, onesies" where you're one of a kind and one  
23 supplier, you've really got some problems.

24 COMMISSIONER REMICK: What's the staff's  
25 view on the extent of the scope and the significance

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1 of the problem compared to what you might have viewed  
2 say two or three years ago? Is the scope as big or is  
3 the safety significance as great as you might have  
4 perceived at that time?

5 MR. TAYLOR: We haven't seen, as I said in  
6 my remarks, an imminent safety issue. But clearly, I  
7 think our knowledge has increased. We've spent a lot  
8 of time in this area in the past few years and, Bill,  
9 I'll let you expand on it. So, we're more aware of  
10 the activities.

11 Bill, do you want to add to that?

12 MR. BRACH: I think there are a couple of  
13 points. One, I believe in the last couple years we've  
14 seen more instances of what I'll call  
15 misrepresentation or counterfeit and fraud and that's  
16 not to say it maybe didn't occur five, ten years ago.  
17 I think though there are a number of, I'll call them  
18 contributing causes, that maybe explain why we're  
19 seeing more today than maybe five, ten years ago.

20 One that we mentioned briefly is that ten  
21 years ago there were more Appendix B or nuclear  
22 quality suppliers in the market than there are today.  
23 So, the availability of an Appendix B quality  
24 assurance pedigree-type item was perhaps more  
25 available ten years ago.

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1           Secondly, as was mentioned, there's a cost  
2           incentive. As the number of nuclear suppliers has  
3           decreased and yet the need for replacement parts is  
4           still there, the demand is still there that supplies  
5           may be going down from the Appendix B supplier  
6           perspective and so that there's more of an arena of  
7           going to the commercial -- or more of a demand for  
8           going to the commercial market for procurement of  
9           items. The potential there for misrepresentation is  
10          there. So maybe in the past few years that's another  
11          reason for the increase in misrepresented parts of a  
12          commercial nature being found in nuclear power plants.

13                Other causes I think Mr. Taylor alluded to  
14           is that we're more alert today perhaps to looking for  
15           misrepresentation than there were five or so years  
16           ago. Today we're more attuned if the part looks  
17           suspect to ask ourselves and start enquiring through  
18           the vendor process, "Is the part as represented or is  
19           it fraudulently provided?" Maybe some years ago the  
20           part would have been identified as being defective or  
21           of a substandard nature and perhaps discarded at that  
22           point and not fully explored to see if it's a case of  
23           misrepresentation.

24                So, I think a few of those items  
25           collectively add up to perhaps a more prevalent

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1 identification of issues today than some years ago.

2 MR. GRIMES: If I could just further comment  
3 on the safety significance aspect, I'd say my  
4 perception has stayed similar in terms of the  
5 potential for a problem. But I think we're probably  
6 in better shape today because people are much more  
7 aware and have looked better. So, I think we are in  
8 better shape today but the potential is still there if  
9 you don't continue close attention to all the material  
10 you purchase, you have the potential for --

11 CHAIRMAN CARR: But it's fair to say the  
12 spotlight of the last two years has made everybody  
13 aware and it's awful hard for somebody to break into  
14 the business, I would think, right now. Also, the  
15 concern we had, for instance, on flanges, I understand  
16 that of all the flanges we tested, we didn't find any  
17 that really weren't adequate for the safety and  
18 service, but they didn't meet the criteria that they  
19 should have met.

20 MR. GRIMES: Yes, it's somewhere as low as  
21 40 percent of the yield strength they should have had,  
22 but still when examined the margins of safety were  
23 adequate to cover all of them.

24 COMMISSIONER REMICK: Am I safe in  
25 characterizing the staff's position on industry

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1 initiatives that you're impressed with those, you're  
2 disappointed that they're not as far along schedule-  
3 wise? Is that a fair characterization?

4 MR. GRIMES: I think that's fair.

5 CHAIRMAN CARR: But they're just starting  
6 and you haven't had a chance to evaluate them yet.

7 MR. GRIMES: Right. We haven't actually  
8 evaluated the success of the implementation by each of  
9 the utilities.

10 MR. MIRAGLIA: But if one looks in terms of  
11 the program that they set out, they started in October  
12 or November of '88 and they gave us a white paper in  
13 the spring of '89 and had certain milestones in that.  
14 We meet with them on a quarterly basis and  
15 Commissioner Remick essentially characterized my  
16 comments every time I go to see them, "You've got the  
17 right topics, it has the right scope, the right depth  
18 as far as what the program should be. We'd like to  
19 see you decide on the program and then start  
20 implementing it at a quicker pace." So, that's a  
21 constant kind of concern. I think they're trying to  
22 address the areas of receipt inspection.

23 They have made progress in the audit.  
24 Getting the joint NUPIC group was a major activity of  
25 getting two auditing groups together and get a

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1 process. We haven't tested the effectiveness of that  
2 yet, but that certainly was a major milestone, the  
3 EPRI guidelines.

4 So, progress is being made but June is going  
5 to decide the programs. So, implementation of those  
6 programs will require time and it will be past June.  
7 So, that's the concern. It's the timing.

8 COMMISSIONER REMICK: Well, putting together  
9 the various things that it's an important problem but  
10 apparently we've gotten industry's attention. We're  
11 impressed with what they plan to do, we don't know if  
12 they're going to carry it out or can and so forth. I  
13 raise the question why are we proceeding with the rule  
14 at this time determining the basis if there are some  
15 indications that things are progressing? I'm thinking  
16 with limited resources and so forth, why is your  
17 recommendation that you continue to develop the basis  
18 versus deferring for six months?

19 MR. GRIMES: I guess it's the old problem of  
20 it's easy to set out what should be done, but it's  
21 hard to do it. Each utility is going to have to  
22 commit the appropriate resources to actually implement  
23 this and that has not been done yet. Part of the  
24 reason, in my view, that we haven't had faster action  
25 is a lot of discussion of should we really expend the

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1 resources in this area by a number of utilities? So,  
2 the industry has a mechanism to decide that jointly  
3 and that mechanism is working rather slowly. I can't  
4 predict for sure the outcome. I'm hopeful that the  
5 outcome will be positive. But if it is not positive,  
6 I think we should be prepared to move ourselves.

7 COMMISSIONER REMICK: But I assume our  
8 continuing to work on a rule is not going to change  
9 the June date when some of those decisions will be  
10 made. So --

11 MR. GRIMES: No.

12 MR. TAYLOR: No.

13 MR. GRIMES: I hope it might influence  
14 whether the decision is positive.

15 COMMISSIONER REMICK: Okay. Fine. That's  
16 all.

17 CHAIRMAN CARR: Commissioner Rogers?

18 COMMISSIONER ROGERS: Just getting a little  
19 bit more of a handle on how effective the OI efforts  
20 are, how many referrals have you had, Ben, on this  
21 for --

22 MR. HAYES: So far, my notes indicate we've  
23 had five referrals, Commissioner.

24 COMMISSIONER ROGERS: Five?

25 MR. HAYES: Yes, sir. Now, we are working

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1 currently. We are working with a couple of grand  
2 juries around the country. We're working with  
3 Department of Justice officials and other cities, not  
4 grand jury material, but other cities coordinating  
5 efforts where other federal agencies are involved,  
6 which may culminate into a grand jury and possible  
7 prosecution.

8 COMMISSIONER ROGERS: Do you think that this  
9 is -- that that five that we've seen presumably over  
10 the 50 some odd utilities or whatever that we're  
11 dealing with is indicative of the size of the  
12 wrongdoing aspects of this?

13 MR. HAYES: Well, the staff touched on it a  
14 little bit earlier in the presentation. That is that  
15 many of the people that we have under investigation  
16 not only do business with the licensees, but do  
17 business with DOD, DOE and NASA and what have you.  
18 So, it's very difficult to say -- to scope it to the  
19 nuclear industry per se. I think as I look across the  
20 last two or three years of investigative effort that  
21 we've undertaken, not one licensee comes to mind--  
22 well, I take that back. A couple of licensees only  
23 out of the 50 some cases that we've had in the last  
24 two years are actually on licensees as opposed to  
25 vendors. We have found very little culpability

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1 directly related to a licensee. So, I think that's a  
2 good trend. We're continually vigilant in that area,  
3 but usually the licensees are taken, if you will.

4 MR. TAYLOR: I must say one single referral  
5 in the molded case circuit breaker area took an  
6 enormous amount of field work because it is a broad  
7 area.

8 COMMISSIONER ROGERS: Yes.

9 CHAIRMAN CARR: But it was turned up by a  
10 licensee, wasn't it?

11 MR. GRIMES: A licensee and a vendor.

12 MR. MIRAGLIA: And a vendor.

13 MR. TAYLOR: But then we got into it and Ben  
14 did a great deal of field work. So, some of them have  
15 been very broad, is I guess the way I'd like to --

16 MR. GRIMES: I guess I'd also remark that  
17 the number 5 doesn't reflect the number of times there  
18 is a joint preliminary look by OI and the technical  
19 staff.

20 COMMISSIONER ROGERS: Well, I guess what I  
21 was trying to understand is to what extent this is  
22 just plain sloppy quality control in the commercial  
23 sector and to what extent that then people just shovel  
24 it out the door and sell it and what extent it is an  
25 actual planned effort to deceive a customer.

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1 MR. TAYLOR: I think that would be hard to  
2 give you a percent.

3 COMMISSIONER ROGERS: Yes.

4 MR. TAYLOR: The fraud is there.

5 MR. HAYES: We have cases where we have  
6 documented false pedigrees, CMTRs and the  
7 documentation.

8 COMMISSIONER ROGERS: Yes. Oh, yes.

9 MR. HAYES: We have cases where we have  
10 speedy printer printing up labels of major vendors,  
11 all that sort of thing.

12 COMMISSIONER ROGERS: Well, I've seen some  
13 of these. I know they're really --

14 MR. HAYES: So, with that kind of  
15 background, obviously the vendor's intent is to  
16 present that product as something that it is not. And  
17 the licensee then, it becomes incumbent upon them to  
18 be able to detect that in the inspection process.

19 COMMISSIONER ROGERS: Well, it's just that  
20 we have a fairly long list of different kinds of  
21 places where these things, where these products have  
22 turned up. And some, one would expect, I know in the  
23 circuit breaker area I've seen these counterfeit  
24 labels myself and they're really absurd in some sense  
25 that anybody would even think that somebody would

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1 accept that, it's so obvious. But in -- and that's  
2 clearly an attempt to deceive.

3 When you talk about the fastener area, I  
4 wonder whether a fair amount of that, isn't it just  
5 poor quality control?

6 MR. GRIMES: Yes. I think we did in the  
7 fastener area finally conclude that there is a bigger  
8 quality problem than fraud problem. But there are  
9 aspects in certain grades of bolt where some are sold  
10 as having heat treatment but did not have heat  
11 treatment.

12 COMMISSIONER ROGERS: Yes.

13 CHAIRMAN CARR: Was that mostly offshore  
14 procurement?

15 MR. GRIMES: I think the source was  
16 offshore. The actual people that may have  
17 misrepresented involved U.S. companies as well.

18 COMMISSIONER ROGERS: Well, it's a question  
19 of just how -- where do you go to stop it, at the  
20 source, as close to the source as possible. And I  
21 guess the concern that I have with respect to a rule  
22 is that we're focusing on the victim in the rule as  
23 much as we are the perpetrator. I'm just a little  
24 concerned about whether there isn't some other way to  
25 go closer to the source of this problem that would be

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1       equally effective and less onerous for the licensees.

2               MR. GRIMES:    I would hope joint industry  
3       efforts might do that, but we do try to hold the  
4       licensee ultimately responsible.

5               CHAIRMAN CARR:  It's his responsibility, by  
6       our rules.

7               COMMISSIONER ROGERS:  Oh, yes, there's no  
8       question about that.  But whether the same effect  
9       couldn't be achieved without an additional burden on  
10      the licensee, I mean they have to have programs and so  
11      on and so forth, but whether it's still -- if we just  
12      stop there, if it stops there whether we're really  
13      rooting this thing out.

14              MR. GRIMES:  We do have a Vendor Inspection  
15      Branch that attempts to go to the source.

16              MR. MIRAGLIA:  But the number of vendors--  
17      I mean it's in the Vendor Inspection Branch, I think  
18      Bill will smile when I say that, I keep saying, "Well,  
19      when are we going to get our arms around it?  When do  
20      we stop?"  We can go off and look at valve parts and  
21      it's like pulling a thread.  It takes you to  
22      Louisiana, back to Tennessee and we've got folks all  
23      over just tracking one piece or various components.  
24      So, the opportunity to misrepresent, the opportunity  
25      just for poor quality, even taking misrepresentation

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1       aside, is large.

2               What we see in terms of upgrade and  
3       dedication of commercial products to use in safety  
4       equipment indicates that we could do better there.  
5       There's a vulnerability. From our perspective of  
6       safety-related material getting in the plant, if we  
7       could upgrade the procurement and receipt product and  
8       protect against that vulnerability, I think that's our  
9       best, from an NRC prospective. We cannot address the  
10      fraudulent material. I think there will be bolts out  
11      there. There's a market. As the Chairman has said,  
12      there's an incentive for people to do that. From our  
13      perspective, I think we want to focus on safety grade  
14      material. I think it's incumbent upon the licensee  
15      saying, "I have a \$5 billion machine," and he ought to  
16      know what he's putting into a commercial product for  
17      safety.

18              CHAIRMAN CARR: We'll it's not only  
19      incumbent, it's a requirement.

20              MR. MIRAGLIA: Yes, sir.

21              CHAIRMAN CARR: I mean we have those  
22      regulations and I don't -- I guess I may miss the  
23      point, but it seems to me like they're in place and  
24      that's how you're catching people. But it's the  
25      responsibility, as I read Appendix B, for the guy

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1 who's buying it to make sure he's getting the right  
2 thing. If he runs a proper inspection program, he's  
3 going to root it out.

4 MR. TAYLOR: Well, we're encouraged the  
5 industry is working on the problem and I think this  
6 NUPIC is an example. There have been attempts through  
7 the years to get these combined auditing efforts into  
8 a top grade operation. I'm hopeful that that's going  
9 to happen. That's been talked about as long as I've  
10 been around.

11 CHAIRMAN CARR: But if the guy that writes  
12 that procurement spec writes it right and then the guy  
13 that goes out and inspects against it inspects  
14 correctly, that will turn up the problem. They won't  
15 end up with the wrong piece of material, in my  
16 opinion.

17 Excuse me.

18 COMMISSIONER ROGERS: No, that's fine. I  
19 don't have anything else.

20 CHAIRMAN CARR: I thought I'd better jump  
21 in.

22 COMMISSIONER ROGERS: Why not?

23 COMMISSIONER CURTISS: I've just got a grab  
24 bag of questions here that I want to cover. First, on  
25 the licensee implementation of the EPRI guidelines,

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1 the commercial grade dedication guidelines, first tell  
2 me who are the three who have not implemented that  
3 yet?

4 MR. GRIMES: I don't have that information  
5 and NUMARC did not communicate that. Typically they  
6 are willing to tell us the results, the gross results  
7 of surveys of this sort, but they don't provide us  
8 with detailed information. There's no specific  
9 regulatory requirement at this point to --

10 CHAIRMAN CARR: But there was no indication  
11 they weren't going to.

12 MR. GRIMES: No, they were --

13 COMMISSIONER CURTISS: This summer, I think  
14 you said.

15 MR. GRIMES: -- slower than the rest of the  
16 pack and --

17 COMMISSIONER CURTISS: When you say they  
18 have implemented the program, what does that entail?

19 MR. GRIMES: To my understanding, they have  
20 the programs in place and they're using them as of  
21 January.

22 COMMISSIONER CURTISS: If you went out to  
23 those utilities that have implemented the program,  
24 you'd expect to have them --

25 MR. GRIMES: Have the procedures in place

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1 and being used.

2 COMMISSIONER CURTISS: -- a full blown EPRI  
3 program.

4 MR. MIRAGLIA: For the commercial?

5 MR. TAYLOR: For commercial grade  
6 dedication, right.

7 MR. GRIMES: It's one aspect.

8 COMMISSIONER CURTISS: Yes.

9 MR. TAYLOR: Very important.

10 COMMISSIONER CURTISS: Give me a feel for  
11 the three that are going to be the subject of the June  
12 meeting. If they approve those after the additional  
13 clarification on what's required, can you give me a  
14 feel for each of those three areas in terms of how  
15 long it takes to implement them?

16 MR. GRIMES: Yes. I don't have any direct  
17 information from NUMARC on that. I would say that  
18 some utilities probably have those things already in  
19 place and others that have to start from scratch, it  
20 may take six months or so to get everything in place.

21 COMMISSIONER CURTISS: Okay. Let me shift  
22 to what happens after the eight areas that the NUMARC  
23 guidance covers are all addressed. Assuming NUMARC  
24 proceeds with the three programs that are going to be  
25 addressed at the June meeting and all the programs are

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1 in place at the utilities, what do you envision in  
2 terms of our role to assess the effectiveness of the  
3 programs and to ensure that they're being implemented  
4 in the way that the program is contemplated? What's  
5 the next step here?

6 MR. GRIMES: For example, in the joint audit  
7 area, I would expect that we would probably go out to  
8 some of the vendors that NUPIC had audited and see if  
9 we come up with similar or different results and look  
10 at their process, perhaps in their offices also, to  
11 get some confidence that that particular initiative is  
12 bearing fruit. And I think we'd later on go in and  
13 look, as we have in the past, at how licensees'  
14 procurement programs are working in terms of taking  
15 specific items, tracking those through and seeing if  
16 we agree that indeed we have looked at the appropriate  
17 characteristics, for example, before they applied a  
18 commercial item in a safety-related area or that they  
19 have used vendors who have been preapproved or that  
20 they've done appropriate receipt inspection to make  
21 sure that they got the product they ordered.

22 COMMISSIONER CURTISS: If you identify  
23 problems at that point, is the basis for enforcement  
24 action the industry programs or is it Appendix B?

25 MR. GRIMES: No. It's Appendix B.

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1           COMMISSIONER CURTISS: I guess that raises a  
2 question that I have. In looking at the comments on  
3 the proposed rule, I gather a number of people have  
4 raised a question about the clarity of Appendix B  
5 itself, that it's not clear what we expect in Appendix  
6 B for these particular programs and hence the need for  
7 additional industry guidance. Is it clear enough in  
8 the context of what the industry has implemented to  
9 take action in the particular areas that they have in  
10 mind?

11           MR. MIRAGLIA: Well, I think with respect to  
12 the generic letter on commercial grade dedication, I  
13 think the guidelines plus the exceptions we took give  
14 you the basis of what expectations in that area are.  
15 I would believe similarly in the other areas they had  
16 a technical document on replacement parts,  
17 characteristics of replacement parts. They would have  
18 those kinds of characteristics.

19           One could look at either making the rules  
20 more explicit or perhaps providing reg guides that  
21 would say, "Here's acceptable ways of demonstrating  
22 compliance with the rules," or you could even endorse  
23 the industry, saying these are acceptable, the  
24 requirements in the regulations.

25           COMMISSIONER CURTISS: I guess I'm trying to

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1 get a handle on whether the --

2 CHAIRMAN CARR: And the clarity comments in  
3 there look to me like they were mostly from the  
4 vendors.

5 MR. GRIMES: Yes.

6 CHAIRMAN CARR: I don't know how much  
7 clearer you can get in Appendix B that says you'll do  
8 it right.

9 MR. TAYLOR: Well, right. Through the  
10 years, Appendix B gives you that broad approach and  
11 you go out and look at the -- there are various ways  
12 that people run programs under Appendix B to meet  
13 those criteria. In the case of commercial -- upgrade  
14 of commercial grade parts, our experience in  
15 inspection show that it was not being done. In many  
16 cases, very little was being done, and that that whole  
17 program needed attention. The efforts by EPRI and  
18 others to work on that now put in place a generally  
19 uniform way of doing it. I hope that will solve this  
20 issue. It's been a long, burning issue.

21 COMMISSIONER CURTISS: I raised that  
22 question because it came up in the context of the rule  
23 itself and the comments on the ANPR as well, I gather,  
24 as in the context of enforcement actions where it's  
25 not clear to some what Appendix B requires. If you're

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1 confident that after obtaining the commitments of the  
2 industry in the eight areas that are covered in the  
3 NUMARC program, that Appendix B is clear enough to  
4 take enforcement action where someone out there hasn't  
5 implemented a program at all or has come up short on  
6 the implementation, I guess I'm comfortable with that.  
7 I just raise that question because it came up in a  
8 couple of different areas that suggest that Appendix B  
9 might not be clear enough.

10 Let me -- a couple other questions.

11 Ben, on the investigations, do you have a  
12 number of pending investigations or can it be  
13 calculated that way here?

14 MR. HAYES: I've got -- I can give you  
15 statistics of that, Commissioner.

16 COMMISSIONER CURTISS: Okay.

17 MR. HAYES: I've got 25 open product fraud-  
18 oriented investigations, five open Part 21-type  
19 investigations for a total of 30 open cases in this  
20 broad area right now. We have closed out since  
21 January of '88 26 vendor-oriented cases, five of which  
22 were referred to the Department of Justice.

23 COMMISSIONER CURTISS: Okay. All right.  
24 Thanks. That's all I have.

25 CHAIRMAN CARR: It seems to me that the

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1 licensees, if they've got a proper receipt inspection  
2 program and recognize that the documentation only  
3 won't prove the safety, that really turns up most of  
4 the problems we find. And it seemed to me that your  
5 13 inspections or whatever it was just turned up the  
6 fact that those programs haven't been very extensive  
7 or adequately implemented. We've got plenty of  
8 enforcement authority, as I read this thing. It just  
9 says, "Measures shall also be established for the  
10 selection and review for suitability of application of  
11 materials, parts, equipment and processes that are  
12 essential to safety-related functions as structures,  
13 systems and components." I don't think anybody's -- I  
14 don't know how many cases you've lost of enforcement,  
15 but I would --

16 MR. TAYLOR: I think we have enough  
17 authority there.

18 CHAIRMAN CARR: But it seems to me that  
19 probably one of the contributing causes was our maybe  
20 not focusing the inspection effort enough or broadly  
21 enough on the programs in the plants so that they  
22 would know what we were looking at. I guess I don't  
23 have any objection to a NUREG if that provide -- I  
24 don't get the impression from reading those comments  
25 that the utilities thought there was any problem with

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1 knowing what to do or how to do it. I think there is  
2 a problem probably in the way they write their  
3 specifications and do their follow-up to make sure  
4 they're getting the product that they ordered.

5 How extensive do you think their receipt  
6 inspection and independent testing programs need to be  
7 in order to detect misrepresented components?

8 MR. GRIMES: It's a case by case decision.  
9 That's why we encourage the engineers to be involved  
10 in the process. A knowledgeable, technical person  
11 needs to look at the specific situation and you get  
12 that confidence both by receipt inspection and knowing  
13 who you're dealing with through audits. So, if  
14 you --

15 CHAIRMAN CARR: Yes. Well, the first clue  
16 is when the guy looks in the catalog that's going to  
17 order it and finds out there's no longer a catalog  
18 number and the guy is out of business. That's flag  
19 one that goes up that says, "Hey, I've got a problem."  
20 And the engineer then comes in the circuit, I would  
21 hope.

22 MR. GRIMES: Right.

23 CHAIRMAN CARR: Do you have a feel now that  
24 you've got through all that, for instance, that we  
25 were discussing on the flange issue, the difference

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1 between the misrepresented and the actually  
2 substandard parts, just because it didn't have the  
3 pedigree? And how many cases of really unsafe  
4 components have we found? I understand the breakers  
5 were really in an unsafe situation.

6 MR. TAYLOR: Yes.

7 MR. MIRAGLIA: Yes.

8 MR. GRIMES: I'd say the flanges were  
9 substantially out of specification, but there were  
10 enough margins in the plant to take care of that. So,  
11 I wouldn't -- we finally concluded after -- it took a  
12 good deal of examination and testing, but we finally  
13 concluded that that was not an unsafe situation. It  
14 was not clear at the outset.

15 The fasteners, we found in all cases, I  
16 believe, that there was adequate margin, even though  
17 there were some deficiencies.

18 The two cases of circuit breakers, the  
19 molded case, which I think you were speaking of and  
20 then I think there are some actual problems with metal  
21 clad breakers also. So, those two cases, I would say,  
22 present actual deficiencies.

23 COMMISSIONER ROGERS: Excuse me. Were they  
24 actually installed?

25 MR. GRIMES: Yes.

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1 COMMISSIONER ROGERS: They were installed?

2 MR. GRIMES: Yes. In some cases they'd had  
3 to be taken out of the plants.

4 Plate and piping material, again, there's  
5 generally enough margin but you don't know that until  
6 you've tracked it down and taken enough samples of a  
7 specific case.

8 Valve and valve replacement parts, I would  
9 say there's a potential there, but I don't think we've  
10 found any specific case where there was an actual  
11 problem.

12 Relays and fuses, again, there's a  
13 potential, but I don't think we've identified any  
14 specific case where misrepresentation has led to the  
15 safety problem.

16 CHAIRMAN CARR: Have you had enough of a  
17 review of the program that they're planning to put in  
18 to determine that if that program is effectively  
19 implemented by the people who've committed to it, that  
20 will really take care of the problem?

21 MR. GRIMES: We haven't seen the final  
22 NUMARC program on these last three issues and we have  
23 commented on some subdocuments where we have some  
24 different views. So, I think there's a need for  
25 further interaction with the industry on the details

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1 of their guidance, that we need to make sure that we  
2 understand their position and they understand our  
3 views. But I think the culmination of that should be  
4 satisfactory by this summer, I would guess.

5 MR. MIRAGLIA: With respect to the generic  
6 letter on commercial grade dedication, we essentially  
7 endorsed that with some exceptions. If they  
8 implemented a program along that line, that --

9 CHAIRMAN CARR: What kind of exceptions were  
10 they? I didn't see -- I read where you said we  
11 endorsed it with exceptions, but I couldn't find  
12 exceptions.

13 MR. BRACH: One of the exceptions, the EPRI  
14 document allows a method for procurement and  
15 dedication of commercial grade parts where part of  
16 that reliance on the quality of that commercial grade  
17 part is based on a long-standing history or  
18 relationship between the vendor and the utility  
19 without audit. Our exception is that while that's  
20 the --

21 CHAIRMAN CARR: He's always given me good  
22 service, he'll probably continue to.

23 MR. BRACH: Yes. Our exception to that  
24 example is while that's a base to give you comfort,  
25 it's not a base under Appendix B to provide a

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1 determination of suitability for use.

2 CHAIRMAN CARR: Okay.

3 MR. BRACH: Audits require this on example.

4 MR. GRIMES: I think there was only one  
5 other exception. I can't remember what it was.

6 MR. BRACH: It was related as well with  
7 audit of vendors providing parts, reliance on  
8 certifications from vendors.

9 MR. GRIMES: The EPRI document provides five  
10 different methods, I believe --

11 MR. BRACH: Four.

12 MR. GRIMES: Four different methods of  
13 qualifying commercial grade.

14 MR. BRACH: And we have an exception on two  
15 of them.

16 CHAIRMAN CARR: Yes.

17 MR. GRIMES: We took two exceptions.

18 CHAIRMAN CARR: Does the staff agree with  
19 that? When I read the comments and then I read  
20 Appendix B, I didn't see what the lack of clarity  
21 really was. Then I noticed it was mostly from the  
22 vendors and I couldn't tell whether the vendor was  
23 trying to become a sole supplier because he had a  
24 completely approved program and therefore his comment  
25 was, "You ought to make it as tough as heck and get

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1 rid of all the competition." I couldn't tell.

2 Do you think that Appendix B is clear enough  
3 that you don't have any trouble understanding what  
4 requirements are on the people? I don't know what the  
5 staff's position on the clarity of Appendix B is.

6 COMMISSIONER CURTISS: Let me just -- just  
7 on that subject, from the other paper, and this is the  
8 reason I raise the question, there have been  
9 differences both within the industry and the NRC staff  
10 as to the expectations of what needed to be done to  
11 dedicate commercial grade parts to meet the basic  
12 requirements of Appendix B. That's the question I  
13 guess I had, is there a difference of opinion within  
14 the staff as to what Appendix B requires or  
15 contemplates?

16 MR. GRIMES: I think in past years there's  
17 been quite a variety of field interpretation of what  
18 Appendix B contemplated in this commercial grade area.  
19 Some areas it was looked at closely and in other areas  
20 it was pretty much left alone. So, I think perhaps  
21 there's been less than uniform staff interpretation of  
22 the past. I think we've tried to have a lot of  
23 discussions internally over the last two years and I  
24 think we now have a pretty even understanding within  
25 the staff of what the expectations are.

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1 CHAIRMAN CARR: Well, does the lack of or  
2 the discussion about whether it's clear or not boil  
3 down to the fact that just because you think it's  
4 clear doesn't mean it stands up for enforcement?

5 MR. GRIMES: No. If I could go back to the  
6 comments, the vendor comments, I think there they were  
7 seeing a lot of different utility interpretations of  
8 Appendix B and so they are --

9 CHAIRMAN CARR: Everybody writes them a  
10 different set of specs.

11 MR. GRIMES: Right. They would like their  
12 life made easier by everyone doing things the same  
13 way. There's a lot of flexibility and a lot of  
14 different acceptable ways of doing things under  
15 Appendix B. I think --

16 CHAIRMAN CARR: I can see that.

17 MR. GRIMES: -- they would like a little  
18 more uniformity in that and we would like a little  
19 more uniformity in that.

20 CHAIRMAN CARR: I see. I may want it  
21 nickel-plated and somebody else may want it chrome-  
22 plated and both cases meet our requirements and the  
23 vendor would like to have just one. I can understand  
24 that.

25 I think that takes into effect all my

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1 questions. Anybody --

2 COMMISSIONER REMICK: I'd like -- several  
3 things have come up that remind me of a point I'd like  
4 that. Jim, you mentioned the industry kind of  
5 coordination on some of this, sharing of information,  
6 the indication that we take a couple of exceptions  
7 because of audit. It reminds me of a case -- I have a  
8 close friend who's a vice president of a small company  
9 that provides scientific calibration equipment. It's  
10 not unique to the nuclear industry. In fact, they  
11 supply this to a broad range of industries  
12 international, although it is a small company.

13 In fact, a few technical professionals that  
14 run the company, they have told me on several  
15 occasions that they're thinking very seriously of not  
16 selling to the nuclear industry because they are  
17 flooded with different utilities coming. They'll send  
18 two inspectors for two days and there are two  
19 technical people in this small company, which has been  
20 highly successful, and then another industry will come  
21 and inspect them. They just feel that they can't  
22 spare that type of effort to justify their continuing  
23 to sell to the nuclear industry. It's a small part of  
24 their overall market.

25 So, there is the danger of too much of the

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1 auditing, inspecting and so forth.

2 MR. TAYLOR: That comment has been heard  
3 from suppliers for many, many years because there  
4 is -- that then -- this NUPIC idea is a good idea  
5 because if they get talent and audit, they can -- and  
6 we acknowledge that that's appropriate.

7 MR. GRIMES: If he can do one five day  
8 inspection in more depth than ten two day inspections.

9 MR. TAYLOR: We have seen that.

10 CHAIRMAN CARR: Well, is the intent then to  
11 come out some list of blessed vendors?

12 MR. GRIMES: NUPIC will provide the audit  
13 information and then utilities can use those audits as  
14 a basis for their --

15 MR. TAYLOR: Their support for that audit  
16 and they've looked at it.

17 MR. GRIMES: And several utilities may put  
18 people on the same audit team.

19 COMMISSIONER REMICK: Good. Good. I hope  
20 it comes about.

21 CHAIRMAN CARR: One other question, I guess,  
22 I'd like to ask you. Has anybody checked with the  
23 automotive manufactures on fasteners? I would assume  
24 they're one of the major users of fasteners.

25 MR. MIRAGLIA: I think because of

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1 Congressman Dingle's interest in the fastener  
2 question, I think --

3 CHAIRMAN CARR: Everybody's into that act.

4 MR. MIRAGLIA: Yes, sir. I don't believe we  
5 on the staff --

6 MR. TAYLOR: Bill, do you have anything you  
7 want to say?

8 MR. BRACH: Not directly with the automotive  
9 industry, no.

10 COMMISSIONER CURTISS: Just a quick  
11 question --

12 CHAIRMAN CARR: Sure.

13 COMMISSIONER CURTISS: -- on the rulemaking.  
14 What's the -- as you indicated in response to  
15 Commissioner Remick's question, you intend to proceed  
16 with that. Can you give us a feel for what the  
17 resources and schedule would be like on that or does  
18 it hinge upon the actions in June?

19 MR. MIRAGLIA: I think at this point in time  
20 we'd like to monitor and see where the industry is  
21 going and the scope and depth of that and report back  
22 to the Commission at a time as to how we think that  
23 progress is going.

24 COMMISSIONER CURTISS: Okay. That's all I  
25 have.

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1 CHAIRMAN CARR: Well, I'd like to thank the  
2 staff for this informative briefing. This effort to  
3 prevent installation of misrepresented or substandard  
4 parts in nuclear power plants is important. Licensees  
5 have the obligation, through their quality assurance  
6 programs, to take reasonable steps to preclude the  
7 introduction of substandard parts in the plant.

8 I urge staff to continue notifications to  
9 industry and other government agencies when specific  
10 examples are identified and to continue monitoring  
11 industry initiatives to establish systems to detect  
12 misrepresented parts and thereby prevent their use in  
13 plants.

14 I would suggest the staff report back to the  
15 Commission in about six months on this issue and the  
16 industry actions to address the problem.

17 Do my fellow Commissioners have any other  
18 comments?

19 If not, we stand adjourned.

20 (Whereupon, at 11:10 a.m., the above-  
21 entitled matter was concluded.)  
22  
23  
24  
25

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FOR SUBSTANDARD PARTS

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: MARCH 20, 1990

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**BRIEFING ON RECOMMENDED ACTION  
FOR SUBSTANDARD PARTS**

**March 20, 1990**

**Brian K. Grimes  
Frank J. Miraglia**

**Contact: E. William Brach, 492-0961**

**- 1 -**

## **AGENDA FOR STAFF PRESENTATION**

- o NRC action plan**
- o Summary of actions since December 1988**
- o NRC coordination with other agencies**
- o Industry activities**
- o ANPR comments**
- o Current and planned staff activities**

## **NRC ACTION PLAN**

- o Develop information to give licensees**
- o Share information with other agencies**
- o Investigate and take appropriate actions**
- o Assess NRC regulatory framework**

## **SUMMARY OF ACTIONS SINCE DECEMBER 1988**

### **1. Misrepresented vendor products**

- o Fasteners**
- o Fittings and flanges**
- o Circuit breakers and parts**
- o Plate and piping material**

## **SUMMARY OF ACTIONS (CONTINUED)**

- o Valves and valve replacement parts**
- o Relays and fuses**
- Procurement issues**

## **SUMMARY OF ACTIONS (CONTINUED)**

### **2. NRC initiatives**

- o Issued Generic Letter 89-02 in March 1989**
- o Issued Advance Notice of Proposed Rulemaking (ANPR) in March 1989**
- o Procurement inspections of licensees**



## **NRC COORDINATION WITH OTHER FEDERAL AGENCIES**

- o OMB is lead federal agency**
- o NRC's Vendor Branch is focal point**
- o Staff contacts established with DOE, FAA, DOD, and NASA**

## **INDUSTRY ACTIVITIES**

- o NUMARC formed Nuclear Plant Equipment Procurement (NPEP) working group**
- o NUMARC endorsement of EPRI guidelines on dedication of commercial grade parts**
- o Joint utility audit program formed**
- o Other initiatives under development**

## **ANPR COMMENTS**

- o Licensee and NUMARC responses opposed to additional regulations**
- o Other Industry and Individual responses indicated need for clearer NRC positions**

## **CURRENT AND PLANNED STAFF ACTIVITIES**

- o Keep industry informed of misrepresented products**
- o Pursue investigations as appropriate**
- o Monitor Industry Initiatives**

## **CURRENT AND PLANNED STAFF ACTIVITIES (CONTINUED)**

- o Proceed with development of basis  
for proposed rule which addresses  
misrepresented products and commercial  
grade procurement/dedication issues**
- o Inspection and enforcement activities**



## **POLICY ISSUE**

**(Information)**

February 21, 1990

SECY-90-057

For:

The Commissioners

From:

James M. Taylor  
Executive Director for Operations

Subject:

ADVANCE NOTICE OF PROPOSED RULEMAKING, "ACCEPTANCE OF PRODUCTS PURCHASED FOR USE IN NUCLEAR POWER PLANT STRUCTURES, SYSTEMS AND COMPONENTS"

Purpose:

To provide an information report to the Commission on the status of the staff's actions to address misrepresented vendor products.

Summary:

In March 1989, the NRC issued, for public comment, an Advance Notice of Proposed Rulemaking (ANPR), "Acceptance of Products Purchased for Use in Nuclear Power Plant Structures, Systems and Components." The ANPR requested public comment on whether or how NRC regulations should be revised to provide increased assurance that counterfeit or misrepresented vendor products are not installed in nuclear power plants. This status report provides a summary of the staff's analysis of the public comments on the ANPR and a summary of NRC and industry actions to address the problem of misrepresented vendor products. The paper also provides a summary of staff efforts and plans to develop a basis for proceeding with a proposed rulemaking to more specifically identify additional regulatory actions to assure that products purchased for use in nuclear power plants will perform the functions necessary to protect the public health and safety.

Background:

Recent experience has shown that some products purchased for use in nuclear power plant structures, systems, and components are substandard, have falsified records, or have been otherwise misrepresented. Current NRC regulations do not specifically address measures for the detection of fraud nor are they intended to detect vendors intentionally misrepresenting their products. Along with misrepresented vendor products, the industry is also faced with another problem. The number of vendors with manufacturing processes that meet

**CONTACTS:**

Stewart Magruder, NRR  
492-0985  
Gregory Cwalina, NRR  
492-3221

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the requirements of Appendix B to 10 CFR Part 50 has diminished; consequently, the number of commercial-grade items procured and dedicated for safety-related applications in nuclear power plants has significantly increased. Further, the regulations do not specifically address the quality requirements for the dedication and use of commercial grade items in safety-related applications. Experience has shown that licensee procurement and dedication programs have not effectively addressed substandard or misrepresented parts. The Commission's recognition of the potential safety significance of these circumstances led to the issuance of an Advance Notice of Proposed Rulemaking (ANPR), "Acceptance of Products Purchased for Use in Nuclear Power Plant Structures, Systems and Components" (SECY 89-010), in March 1989.

The industry now recognizes the magnitude of the resources that are required to perform an adequate dedication of a commercial-grade item for safety-related application. Dedication as used in this context is the process by which commercial-grade equipment is upgraded to safety-related and is thereby considered qualified for use in nuclear safety-related applications. The dedication process must include a technical evaluation to determine the characteristics critical to fulfilling the safety functions and an acceptance process to ensure that these critical characteristics are met. NRC concerns over misrepresented vendor products and commercial-grade procurement and dedication practices have a common element in that much of the fraudulent activity of which NRC is aware has occurred in the commercial-grade product market. The incoming product to a licensee's dedication program is a commercial-grade item. Staff actions discussed in this paper are focused to address NRC concerns over both misrepresented vendor products and dedication programs.

#### Discussion:

#### ANPR Comments

The ANPR solicited public comment on whether or how NRC regulations should be revised to provide increased assurance that counterfeit or misrepresented vendor products are not installed in nuclear plants. The ANPR comment period closed on July 5, 1989, and there were 64 letters of comment. Forty-three letters were from organizations representing licensees and 34 of these letters endorsed the comments provided by the Nuclear Management and Resources Council (NUMARC) without additional comment. A summary of the public comments, developed by the Office of Research, is presented in Enclosure 1. Licensee and NUMARC responses were strongly opposed to additional regulations. Other industry and some individual responses, although not explicitly

favoring regulation changes, indicated that clear NRC positions in several areas would be useful.

#### Current Requirements

Appendix B to 10 CFR Part 50 of the Commission's regulations adopted in 1970 (35 FR 10498) establishes the quality assurance criteria for safety-related structures, systems, and components for nuclear power plants. The criteria are generally structured to confirm the quality of products designed, purchased, inspected, tested, and installed for use in nuclear power plants. The criteria apply to all activities that affect safety-related functions. Procedures and actions by licensees and their representatives conforming to these criteria are expected to detect substandard and poor quality products but may not necessarily detect counterfeit or fraudulently marketed products. As previously noted, the regulations do not specifically state the quality requirement for government and use of commercial grade items in safety-related applications.

#### NRC Actions

The NRC inspection and investigative staff have been pursuing instances of suspected counterfeiting or misrepresentation by vendors. During the past 2 years, the NRC has issued over 25 bulletins, information notices, and supplements to alert the nuclear industry to suspected misrepresentation by vendors. The technical staff has also provided extensive technical support to the Office of Investigations' and the Department of Justice's review of vendors suspected of wrongdoing.

These staff efforts are intended to keep the industry fully informed so that appropriate licensee corrective actions can be taken and to assure that appropriate enforcement and investigative actions against vendors (and, where appropriate, licensees) are also taken. The staff recognizes that vendor misrepresentation is not a unique problem to the nuclear industry in that counterfeiting and fraud can and do occur in other industries. To assure that other Federal agencies are informed of instances of vendor misrepresentation identified by the NRC, copies of NRC's bulletins and information notices are forwarded to other agencies such as Department of Energy (DOE), Department of Defense (DOD), Federal Aviation Administration (FAA) and National Aeronautics and Space Administration (NASA).

The NRC has recently joined the Government Industry Data Exchange Program (GIDEP) which is a cooperative data exchange program intended as a system for interagency and industry sharing of vendor and equipment-related information and for improving users' reliability and for reducing expenditures in the procurement process. All NRC information notices and



bulletins are currently being placed in the GIDEP system as Agency Action Notices. In addition, NRC staff has developed staff contacts in other agencies (DOE, FAA, DOD, and NASA) to facilitate the exchange of this type of vendor-related information. These efforts prompted NASA to volunteer to arrange interagency meetings of FAA, DOE, DOD, NASA, and NRC technical and investigative staff to discuss vendor counterfeit and fraud issues, as well as mechanisms for interagency exchange of such information.

The NRC's interest in encouraging improvements in licensee procurement and dedication programs led to the issuance in March 1989 of Generic Letter 89-02, "Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products," which described to the nuclear industry characteristics of effective procurement and dedication programs and which provided NRC's conditional endorsement of an industry guideline for evaluating the suitability of commercial-grade products for use in safety-related applications.

#### Industry Actions

NRC requested that NUMARC lead and coordinate industry actions to improve licensee performance in procurement and dedication activities. NUMARC formed the Nuclear Plant Equipment Procurement (NPEP) Working Group which is chaired by Mr. William Cavanaugh, President and Chief Executive Officer of System Energy Resources, Incorporated (SERI). The working group was formed to provide industry interaction with the NRC, to coordinate industry activities, and to consider industry initiatives to improve procurement practices. The scope of the working group includes activities to address improvements in licensee procurement programs and in the licensee's ability to detect misrepresented vendor products. The working group has also recognized the need for improvement of programs used to dedicate commercial-grade items for use in safety-related applications. Through NPEP's efforts, the NUMARC Board of Directors has endorsed EPRI/NCIG-07, "Guideline for the Utilization of Commercial-Grade Items in Nuclear Safety Applications." In March 1989, NUMARC reported that its board had approved a commitment that all licensees would implement programs in accordance with the EPRI guidelines by January 1, 1990. A more detailed description of the NPEP activities is provided in Enclosure 2.

The NRC staff has worked closely with the NPEP Working Group and has held several meetings with the working group and NUMARC staff to discuss the progress and status of industry initiatives. In addition, the NRC and NUMARC staffs have

held several public meetings to discuss individual bulletins and information notices. Completion of most of the NUMARC initiatives is now scheduled for March 1990 (previously scheduled for November 1989) with implementation and guidance workshops to be accomplished at later dates. Enclosure 3 contains NUMARC's current status and schedule for the initiatives.

The industry is also working to improve its efforts in the area of vendor audits. The Nuclear Supplier Quality Assurance Committee (NSQAC) and the Coordinating Agency for Supplier Evaluation (CASE) have merged into a joint nuclear utility audit organization referred to as the Nuclear Procurement Issues Council (NUPIC). NUMARC is working with NUPIC to ensure that industry objectives for more effective and technically scoped audits are met. Further, the NUPIC organization provides an effective forum for interchange of vendor audit findings among the nuclear utilities.

#### Current Activities

Despite the NRC staff and industry efforts, problems with product misrepresentation continue. NRC efforts will not eliminate misrepresentation by vendors; rather, NRC efforts are directed toward detection and verification activities to assure that misrepresented vendor products are not installed in nuclear plants.

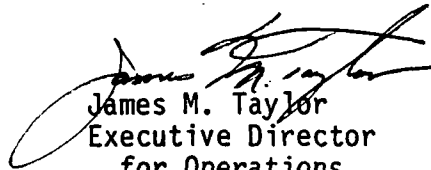
NRC reviews and inspections have uncovered a wide range of products that have been found to be misrepresented, including fasteners, fittings and flanges, plate and piping material, valves and valve replacement parts, metal-clad and molded-case circuit breakers, circuit breaker trip units, relays and fuses. In all of these cases, prompt notice was given to the industry and appropriate action was taken. Although inspections have not found a large additional number of significant hardware deficiencies nor have they caused plant shutdowns, there is concern with the vulnerability of existing procurement and dedication programs to the introduction of substandard items. At this time, the staff believes that the appropriate, resource-efficient course of action is to proceed with the development of a proposed rule to more specifically address licensee actions necessary to assure the quality of procured parts, equipment and material through upgrading of procurement and dedication programs.

The staff's consideration of the proposed rulemaking could result in changes to 10 CFR Part 50, Appendix B, other existing regulations in 10 CFR Part 50, or possibly new regulations to address procurement and dedication programs. Based on past experience, the staff believes that more

regulatory guidance and direction as well as close coordination with the industry may be necessary to assure that (1) the basic requirements for procurement and dedication are clearly stated, (2) licensees are required to meet minimum standards, and (3) existing programs and practices judged to be adequate would be continued. The staff also believes that the proposed rulemaking, in combination with the NUMARC guidelines, would provide greater uniformity among licensee programs. The rulemaking elements under consideration by the staff are provided in Enclosure 4.

If the NUMARC NPEP action plan recommendations are implemented on schedule and followed by the industry, it may not be necessary to proceed with the rulemaking process. The staff will continue to monitor industry initiatives to determine whether progress made warrants a change in the staff consideration of a proposed rulemaking. The staff will also look into developing regulatory guidance to better define for industry the NRC's position. Workshops with the industry to discuss successful programs may prove helpful also.

The Office of the General Counsel has reviewed this paper and has no legal objections to it. The staff will keep the Commission informed of progress in the industry initiatives in this program area and of staff efforts to proceed with rulemaking.

  
James M. Taylor  
Executive Director  
for Operations

Enclosures:

1. Staff Analysis of Public Comments
2. NUMARC Letter to NRC, dated June 26, 1989
3. NUMARC Letter to NRC, dated January 18, 1990
4. Elements under Consideration by the  
Staff for Proposed Rule

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Enclosure 1

## STAFF ANALYSIS OF PUBLIC COMMENTS

Staff analysis of public comments received on the Advance Notice of Proposed Rulemaking, "Acceptance Of Products For Use In Nuclear Power Plant Structures, Systems, And Components" (54 FR 9229).

Attachment A - Contains an introductory summary of public comments, followed by a more detailed analysis of typical public comments. Next to each public comment is a letter/number designator identifying the commentor (key in Attachment B).

Attachment B - Contains a list that identifies the organization and affiliation of each commentor and provides the letter/number designator key used in Attachment A.

SUMMARY OF RESPONSES

SECTION ONE  
PRODUCTS PROCURED FOR USE IN  
SAFETY-RELATED STRUCTURES, SYSTEMS AND COMPONENT APPLICATIONS

1.1.1a *In view of the problems that have been detected with substandard, counterfeit, or fraudulently marketed products, do the Commission's current regulations provide adequate criteria for ensuring the acceptability of purchased products?*

This question was specifically identified by 22 respondents. Twenty of these provided an answer that was more than a one word answer. Some gave one answer to questions 1.1.1a, b and c.

The conclusions of the licensees in general was one of adequacy of the current regulations. In general the non-licensees conclusion also was one of adequacy.

1.1.1b *If the current regulations are considered to provide adequate criteria, how should they be applied to ensure that substandard, counterfeit, and fraudulently marketed products are detected and precluded from use in nuclear power plants?*

This question was specifically identified by 19 respondents. Seventeen of these provided an answer that was more than a one word answer. Some gave one answer to questions 1.1.1a, b and c.

The licensee's consensus was for use of Regulatory Guides and endorsement of industry efforts. Some spoke of better establishment / implementation of quality assurance programs and need for the continual reevaluation and adjustment of those programs. The non-licensees also spoke of these items. Additionally it was stated that new regulations would not achieve the desired results.

1.1.1c *If the current regulations do not provide adequate criteria, should the Commission establish specific requirements or performance-based requirements to ensure that products purchased for use in nuclear power plant structures, systems and components satisfy the operational requirements necessary to protect public health safety?*

This question was specifically identified by 19 respondents. Fourteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 1.1.1a, b and c.

Since most specific respondents had stated adequacy of the regulations in question 1.1.1a this question is somewhat moot. With a choice between specific or performance requirements most of those that made a selection selected performance requirements.

Many recommended the endorsement of the industry efforts.

SECTION TWO  
DEDICATION OF COMMERCIAL GRADE PRODUCTS FOR USE IN  
SAFETY-RELATED STRUCTURES, SYSTEMS AND COMPONENT APPLICATIONS

*2.1.1 Should the Commission establish specific requirements or performance-based requirements to ensure that commercial grade products being dedicated for use in safety-related nuclear power plant structures, systems and components satisfy the operational requirements necessary to protect public health and safety?*

This question was specifically identified by 21 respondents. Twenty of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.1.1 and 2.1.2 and others gave one answer to 2.1.1, 2.1.2, 2.5.1a, 2.5.1b and 2.5.2.

In the portion of the ANPR that dealt with the dedication process, that is section 2, there was not a question of "adequacy" of the current regulations that was similar to question in section 1 for the products procured for use in safety-related structures, systems and component applications. That is question 1.1.1a. In general the answer for licensees and non-licensees was no - don't establish any more requirements. Many stated that the endorsement of NCIG-07 by Generic Letter 89-02 had accomplished the establishment and that action was adequate.

*2.1.2 Should NRC regulations be revised to endorse and incorporate by reference, the industry codes, standards, or guidance documents for dedication programs of commercial grade products for use in safety-related structure, system and component applications?*

This question was specifically identified by 19 respondents. Fifteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.1.1 and 2.1.2 and others gave one answer to 2.1.1, 2.1.2, 2.5.1a, 2.5.1b and 2.5.2.

The general and emphatic response was no change in regulations. Those that favored regulations did so with some conditions. Most favored endorsement of industry documents via a less rigid regulatory document such as regulatory guides, policy statement, or standard review plan section.

*2.5.1a Are there any other agency/organization standards or programs there should be adopted for use in upgrading commercial grade products for use in safety related systems?*

This question was specifically identified by 17 respondents. Fifteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.5.1a and 2.5.1b and

others gave one answer to 2.1.1, 2.1.2, 2.5.1a, 2.5.1b and 2.5.2.

Numerous documents, standards or programs were identified. These included but were not limited to UL (Underwriters Laboratory), FM (Factory Mutual) and foreign systems. The latter may be of more interest when the new European Common Market initiatives become effective. In most responses the industry efforts by NUMARC were identified.

*2.5.1b Should these standards or programs be endorsed by NRC regulations?*

This question was specifically identified by 17 respondents. Thirteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.5.1a and 2.5.1b and others gave one answer to 2.1.1, 2.1.2, 2.5.1a, 2.5.1b and 2.5.2.

In general the answer was a no to the use of regulations. Those commentators that appeared to be aware of the difference of regulatory posture of a regulation and other regulatory documents, for example regulatory guide, were specific in that the vehicle should be by a less rigid regulatory document than a regulation.

*2.5.2 Are there other alternatives that could provide the necessary assurances?*

This question was specifically identified by 17 respondents. Thirteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.5.2 and 2.5.3 and others gave one answer to 2.1.1, 2.1.2, 2.5.1a, 2.5.1b and 2.5.2.

The responses to this question were somewhat blurred with the responses to question 2.5.1a which asked about "other agency / organization standards or programs". Many in responding to this referenced the NUMARC efforts.

*2.5.3 To what extent should any existing controls or any additional controls being contemplated in the ANPR be extended to nonsafety-related applications in "balance of plant" structures, systems and components?*

This question was specifically identified by 16 respondents. Thirteen of these provided an answer that was more than a one word answer. Some gave one answer to questions 2.5.2 and 2.5.3 and others answered the question by reference to another answer.

In general the answer was don't extend to "balance of plant" (BOP). Just what the scope of BOP meant in the ANPR apparently was not clear to the respondents. A minority responded with yes if it had an effect on plant performance. Some said that if BOP meant "non-safety" or "other than safety related" then don't extend the controls. Some stated that if the efforts for the components that were procured via Appendix B or the dedication process were cost effective they would be extended by the



licensees to the BOP items.

TYPICAL RESPONSES

SECTION ONE  
 PRODUCTS PROCURED FOR USE IN  
 SAFETY-RELATED STRUCTURES, SYSTEMS AND COMPONENT APPLICATIONS

1.1.1a *In view of the problems that have been detected with substandard, counterfeit, or fraudulently marketed products, do the Commission's current regulations provide adequate criteria for ensuring the acceptability of purchased products?*

SECY\_005

Licensee

1.1.1a It is believed that the Commission's current regulations provide adequate criteria for ensuring the acceptability of purchased products. Implementation of the existing criteria is the responsibility of the licensed utility. While we believe that the current regulations are sufficient, a Regulatory Guide providing additional interpretations of acceptable implementation of the regulations would be an acceptable approach. This would allow the utilities the latitude to commit to the implementation guidelines of the Regulatory Guide or offer acceptable alternatives.

SECY\_020

Designer

1.1.1a / 1.1.1c . - Presently, 10CFR50, Appendix B is utilized as the controlling quality assurance program document for both utilities and their suppliers. In today's environment, it has become clear that a new governing quality assurance program document is needed for suppliers if the nuclear industry is to assure they are receiving an acceptable product.

On a supplier basis, 10CFR50, Appendix B has the following deficiencies:

1. The overhead costs associated with maintaining such a program are forcing an increasing number of suppliers to drop their 10CFR50, Appendix B programs.
2. Current 10CFR50, Appendix B program requirements are not performance based in many areas. Internal audit and corrective action programs will not be maintained by suppliers when nuclear orders represent less than 3% of their workload.
3. Suppliers' controls over their subtier suppliers can be very weak and still comply with 10CFR50, Appendix B. Many suppliers qualify subtier suppliers strictly on receipt inspection results. Receipt inspection, however, cannot verify many key physical and performance parameters. Normally no source inspections are performed. When audits are performed, supplier auditors except for Section III suppliers, do not have to meet any specific regulatory qualification requirements.

4. Design control requirements do not emphasize that for replacement parts the supplier has to evaluate any design changes to assure the item is either like-for-like or equivalent to the item being replaced.

These new supplier quality assurance program requirements should highlight the necessary controls to have a credible product acceptance program. Suppliers normally would have better capabilities than utilities to have an effective product acceptance program because they:

- (1) Better understand the product
- (2) Know the acceptance criteria
- (3) Have better leverage over subtier suppliers
- (4) Have greater product testing capabilities

If the NRC's goal of preventing the introduction of fraudulent or substandard parts is to be effective, more pertinent controls related to product acceptance must be invoked. Meanwhile, nonperformance related requirements should be eliminated to assure supplier support for the new program.

In cases where a supplier refuses to implement a nuclear quality assurance program, the methods outlined in NCIG/EPRI NP-5652 should be used for product acceptance whether the item is nuclear unique or commercial grade. Thus, for all items intended for safety related applications acceptance should be based on either:

- (1) implementation of the new supplier quality assurance program requirements or
- (2) a product acceptance program based on NP-5652

SECY\_033                      Technical Society (Committee #1)  
 This review by ... committee members is not to be construed as an approval or endorsement of the subject notice by .... Rather, the review was performed and comments are submitted as a constructive public service for the purpose of improving future revisions of the subject document. In the time frame available for review and comment, the opinions and comments generated, by necessity, represent those of the reviewers and the consensus is that of the individual committees rather than that of the .... At this point however, we believe the key issues should deal with the general questions of 1) the need for additional rules and, if rules are determined necessary, what level of detail is appropriate, 2) the need for additional requirements in appropriate codes and standards that could be endorsed in NRC rules or regulatory guides, or 3) the need for more limited-scope guidance or work practice documents produced by standard groups or industry sponsored activities that could be voluntarily adopted. ... The ... Committee believes the current regulatory framework (10 CFR 50, Appendix B and Regulatory Guides 1.28 and 1.33) provides an adequate basis for assuring acceptable quality for the

nuclear industry. New rules for quality programs are not required to address the substandard and fraudulent material issue. Quality programs implementing the current requirements and guidance have proven effective for the vast majority of licensee, contractor or supplier activities. However, it is desirable to take further non-mandatory actions to reduce the risk that substandard or fraudulently marketed products will be undetected. ... The most effective way to assure the quality of the product is for the purchaser to undertake actions that are independent of the supplier. ... The ... Committee believes that the recent cases of substandard or fraudulently marketed products were not caused by the lack of detail rules or inadequate quality standards or codes for nuclear power plants and do not dictate a need for more prescriptive regulations. However; it may require a reemphasis or a stricter adherence to existing regulations and requirements of the applicable codes and standards. Additional rules for quality programs do not appear warranted at this time. Some of these incidents appear to be examples of parties acting in bad faith or criminal actions which would never be totally preventable with any amount of increased rulemaking or increase in prescriptive detail in codes and standards. In lieu of more rulemaking in the quality program area, it would appear that the best deterrent is legislation making these criminal acts more of a risk and less profitable to the perpetrators.

Increased technical involvement in the identification of specific technical requirements during the procurement process, testing of products, auditing, and receiving inspection used in nuclear power plants should be encouraged. ...

#### SECY\_033                      Technical Society (Committee #2)

... However, the concern is not related to the response to a number of questions but rather to the determination of whether or not requirements to preclude recurrence currently exist. Based on the history of nuclear power construction activities and the overwhelming success of the current requirements in assuring the quality of purchased material, items and components, new rules for programs related to procurement and supply are not warranted. What is warranted is a shift in responsibility to reflect the shift in the industry from plant construction to operation, maintenance and modification. ... Basically, the purchaser must recognize that, although documentation is a requirement, the quality of material, items and components is best determined by monitoring the supplier, witnessing supplier activities associated with producing the product and increasing reliance on effective receipt inspection including, as deemed necessary, appropriate testing or verification of item characteristics. The importance of, and a reliance on, the required documentation comes into play when a purchaser determines the quality of supplier product in the above fashion.

#### SECY\_040                      Licensee

1.1.1a, 1.1.1b, 1.1.1c                      10CFR50 Appendix B when utilized with ANSI N 45.2, ANSI N45.2.13 and ANSI/ASME NQA 1 along with their

corresponding regulatory guide endorsement, are felt to contain adequate criteria for ensuring the acceptability of purchased items. The concern with the requirements is not in their content, but in their interpretation, application, and implementation. All nuclear QA procurement programs have been developed based upon these requirements.

These requirements must be implemented to achieve an effective product acceptance program rather than to achieve regulatory compliance. An effective product acceptance program requires continual re-evaluation and adjustment to address current industry issues. (e.g. substandard, counterfeit, fraudulent materials and products). More specific regulations to improve current program effectiveness would have to contain detailed information to address all procurement scenarios with a minimum of interpretations and implementations. Such regulations would significantly limit the flexibility required to maintain the program effective over time. Without this flexibility any program can be only temporarily effective.

As the development and subsequent issue of new requirements can be a time consuming process, it is recommended that the present requirements be supplemented with industry developed guidelines. NUMARC has recently endorsed one guideline on Commercial Grade Dedication developed by EPRI and NCIG. Several additional guidelines on procurement are also in process of development. These activities and guidelines should be supported by the NRC.

Guidelines present the ability to convey and describe more detail on effective implementation than "requirements" generally allow. They also would better maintain themselves current with industry issues through revisions initiated by the industry as appropriate.

SECY\_053            Public Interest Organization

1.1.1a            ... The solution is for the NRC to impose specific, highly prescriptive regulatory requirements to ensure that licensee programs will in fact detect substandard, counterfeit, and fraudulent material before it is used in the plant.

SECY\_058            Licensee

1.1.1a            Current regulations provide criteria for acceptability of purchased products. However, clarification regarding application of the criteria may be advantageous to address utilization of commercial grade materials and to screen out substandard materials.

SECY\_061            Licensee

1.1.1a - 1.1.1c: ... agrees with NUMARC - "Fraud is best detected by vigilant, trained personnel who correctly implement 'requirements' in their day-to-day practices" and that "10 CFR 50, ANSI N45.2.13 and NQA-1 ... contain sufficient requirements."

1.1.1b *If the current regulations are considered to provide adequate criteria, how should they be applied to*

*ensure that substandard, counterfeit, and fraudulently marketed products are detected and precluded from use in nuclear power plants?*

SECY\_003                      Supplier

1.1.1b              Critical characteristics need to be evaluated on a periodic basis by the end user. This is done by performing all necessary tests on statistically similar lots.

SECY\_010                      NISS

1.1.1b              One area that seems to have room for some enhancement concerns the specification of design criteria for the replacement hardware. The original specification seems to be adequate but the backfitting of design changes or hardware changes as they relate to the supply of spare and replacement parts for the original hardware stiff could use some work. It seems that imposing the original requirements on a piece part is sometimes an impossible task. But these are the issues that are addressed by the industry's Nuclear Construction Issues Group (NCIG) and NUMARC program recommendations. The methodologies proposed by the NCIG Group for Commercial Grade Items (CGI) address CGI very well but the same type of dedication and receipt inspection process is essential for both safety-related, quality augmented and non-safety related hardware.

SECY\_020                      Designer

1.1.1b              See response above in 1.1.1a.

SECY\_031                      Licensee

1.1.1b              Utilities should assess the risks posed by such products, and use procurement requirements such as supplier surveillance, supplier audit, special purchase order clauses and receiving inspection techniques believed to effectively alleviate the possibility for using such products where a potential hazard to plant safety may exist. Perspective should be maintained as to the real risk posed to nuclear safety represented by such items when combined with the overall nuclear design, installation and maintenance programs.

The ANPR does not adequately recognize the difficulties posed by the existing nuclear supplier situation and current condition of the nuclear industry which continues to suffer from the imposition of retroactive requirements thereby creating continuing challenges to the design basis and configuration management. Lack of detailed equipment design drawings, proprietary information and equipment obsolescence are some typical complications which create extremely difficult engineering problems at a very intricate level atypical to normal utility engineering projects.

Licensee is undertaking program enhancements, which are applied as deemed warranted by engineering review to reduce the possibility of using SCFMP. {substandard, counterfeit or fraudulently marketed products} licensee is continuing to evaluate additional control mechanisms while the existing control tools are being

implemented based on assessment of risk, cost and capabilities. Based on the dynamic nature of these efforts, utilities will need to focus efforts on the specifically identified problem areas in the near term to address NRC concerns and assess the effectiveness/ costs while Joint industry action initiatives aimed at efficient long-term solutions continue.

SECY\_040                      Licensee  
1.1.1b              See response above in 1.1.1a.

SECY\_042                      NSSS  
1.1.1b              Current regulations should be enforced to ensure that QA programs which fully meet 10CFR50 Appendix B requirements are both developed and utilized by the utilities and all suppliers in the procurement cycle. Emphasis should be placed on monitoring those products that offer incentives to counterfeiters, that is, safety related, out of production/ obsolete, high volume or high dollar parts. Because of the financial incentives, many third parties and others elect to buy commercial grade parts and attempt to dedicate them rather than buy from a supplier who can provide the same part as safety related under a 10CFR50 Appendix B program. Procurement from a supplier with an Appendix B program should be the preferred approach.

SECY\_058                      Licensee  
1.1.1b              Proscriptive criteria should not be established. The NRC endorsement of the Electric Power Research Institute's Nuclear Construction Issues Group (EPRI NCIG) and Nuclear Management and Resources council programs should provide the methodology for detection of substandard or fraudulently marketed products.

SECY\_061                      Licensee  
1.1.1b              See response above in 1.1.1a.

*1.1.1c If the current regulations do not provide adequate criteria, should the Commission establish specific requirements or performance-based requirements to ensure that products purchased for use in nuclear power plant structures, systems and components satisfy the operational requirements necessary to protect public health safety?*

SECY\_001                      Supplier  
1.1.1c              The Commission should establish a performance based requirement for the entire industry, and forbid the industry from moving out of the requirement so suppliers can have a thorough understanding of the entire industry and its requirements.

SECY\_002                      Individual  
1.1.1c              Due to the nature of fraud, specific new regulations will never cover all possible manifestations of this problem. A general requirement, that personnel that specify receipt inspection and dedication criteria, as well as personnel that

perform vendor audits and receipt inspection, be made aware of and trained in the detection of fraudulent products would be the most effective new regulation.

SECY\_012                    NSSS

1.1.1c            Performance based criteria can be a valuable basis for establishing adequacy of parts, however, the wide variety of parts and applications for those parts in nuclear power plants would make it impractical for the Commission to establish general criteria that would be appropriate for all potential users. Licensee incoming inspection/tests should be adequate. Assurance needs to be developed on the compatibility between supplier and licensee tests. As an alternative it is recommended that individual users be advised to develop and apply performance based criteria, appropriate to the intended applications, for safety-related parts.

SECY\_020                    Designer

1.1.1c            See response above in 1.1.1a.

SECY\_021                    Services

1.1.1c            Both specific requirements and performance based requirements will be necessary.

SECY\_040                    Licensee

1.1.1c            See response above in 1.1.1a.

SECY\_042                    NSSS

1.1.1c            Consistent application and enforcement of current 10CFR50 Appendix B programs is paramount to developing acceptable vendors and producing high quality parts. Consider the following situations:

1.    Original Part - Safety Related
  - a) Original part no longer available
2.    Original Part - Commercial Grade Dedicated to Safety Related
  - a) Changes made to design of original part (vintage)
  - b) Original part no longer available
3.    Replace Original Safety Related Part with Commercial Grade
  - a) Changes made to design of original part (vintage)
  - b) Original part no longer available

In each of these situations, any changes in the part from the original must be identified and evaluated for possible effects on capability of the part to perform its intended safety functions or the part must be qualified independently.

Part 50 Appendix B, III, "Design Control" requires the following with respect to any changes:

"Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization."



A major difference exists between the circumstances of procuring parts for a nuclear power plant under construction and procuring replacement parts for a nuclear power plant that is in operation. In the case of a plant under construction, there is a strong engineering design organization intimately involved in the specification, procurement and acceptance of components. After the plant goes into operation, that strong engineering team generally is not intimately involved in the procurement cycle. Most quality assurance programs were established prior to construction with the presumption of intimate involvement of the design engineering organization which by its very nature was knowledgeable of the safety functions performed by each of the components in the plant. Quality assurance programs as they relate to procurement of components which are to be relied upon to perform any safety functions should be amplified to reflect this difference and to ensure that the intent of Appendix B referenced above is met. There must be appropriate involvement of engineering personnel who are knowledgeable in all respects related to, and who have acquired access to any necessary proprietary information needed to perform the evaluations necessary for ensuring that replacement parts are properly qualified.

SECY\_053                      Public Interest Organization

1.1.1c              The NRC should establish specific and prescriptive requirements. Performance-based requirements are too broad and vague, leaving too much discretion to the licensees, thereby creating the potential for licensee programs of varying effectiveness. This is precisely the situation we have now, resulting from the vague, performance-based requirements of 10 CFR 50 Appendix B.

SECY\_061                      Licensee

1.1.1c              See response above in 1.1.1a.

SECTION TWO  
DEDICATION OF COMMERCIAL GRADE PRODUCTS FOR USE IN  
SAFETY-RELATED STRUCTURES, SYSTEMS AND COMPONENT APPLICATIONS

*2.1.1 Should the Commission establish specific requirements or performance-based requirements to ensure that commercial grade products being dedicated for use in safety-related nuclear power plant structures, systems and components satisfy the operational requirements necessary to protect public health and safety?*

SECY\_002                      Individual

2.1.1, 2.1.2              NRC Generic Letter 89-02 by conditionally endorsing the guidelines contained in EPRI NP-5652 "Guideline for the Utilization of Commercial Grade Items in Nuclear Safety-Related Applications (NCIG-07)" has already accomplished this.

SECY\_004                      Services

2.1.1              No. The staff has already conditionally endorsed industry guidance (e.g. EPRI NP 4652) in Generic Letter 89-02. A whole series of comprehensive guidelines and evolving "acceptable" practice is in motion.

Finally, the NRC staff presentation at the NRC Information Conference, Session 2, "Substandard Material and Equipment", held in Washington, DC on April 18, 1989 clearly indicated that the NRC recognizes the positive contribution by industry. An actual quotation from a recent NRC dialog with industry is provided in response/comment 1.1.32.

SECY\_005                      Licensee

2.1.1              As discussed in question 1.1.1a, existing Commission rules and regulations are in fact adequate to ensure that commercial grade products being dedicated for use as well as safety-related products satisfy operational requirements. The question deals with the fact that implementation of existing requirements vary from utility to utility. Therefore, it appears that some level of performance based requirements should be established to more adequately standardize implementation of existing regulations within the nuclear power industry. The performance based requirements should center on an individual product's capability to meet its intended application as defined by specific engineering evaluations.

SECY\_020                      Designer

2.1.1              ... The NRC should emphasize, however, that if suppliers are performing the commercial grade item acceptance process, the suppliers' acceptance/ dedication program shall also conform with NCIG/EPRI NP-5652.

SECY\_028                      Licensee

2.1.1, 2.1.2, 2.5.1a, 2.5.1b, 2.5.2              Although it is agreed that NRC endorsement of industry documents is not necessary,

licensee believes that an NRC position statement on such documents would be beneficial.

SECY\_042                      NSSS

2.1.1        NSSS believes that a policy statement and a subsequent regulatory guide on commercial dedication would be appropriate and could be put in place sooner than any new rule. Consistent application and enforcement of current 10CFR50 Appendix B programs is paramount to developing acceptable vendors and producing high quality parts... After the plant goes into operation, that strong engineering team generally is not intimately involved in the procurement cycle. Most quality assurance programs were established prior to construction with the presumption of intimate involvement of a design engineering organization which by its very nature was knowledgeable of the safety functions performed by each of the components in the plant. Quality assurance programs as they relate to procurement of components which are to be relied upon to perform any safety functions should be amplified to reflect this difference and to ensure that the intent of Appendix B referenced above is met. There must be appropriate involvement of engineering personnel who are knowledgeable in all respects related to, and who have acquired access to any necessary proprietary information needed to perform the evaluations necessary for ensuring that replacement parts are properly qualified.

SECY\_049                      Supplier

2.1.1        Commercial grade products being dedicated for safety-related nuclear power plant applications are generally not supplied in compliance with 10CFR Part 50 Appendix "B" and 10CFR Part 21. As such, it appears that more stringent control, like requirements for traceability and destructive inspection testing of critical components, as well as routine functional testing during product acceptance should be considered.

SECY\_053                      Public Interest Organization

2.1.1        For the reasons stated above, the NRC should establish specific, prescriptive requirements for dedicating commercial grade products for use in safety-related applications in nuclear power plants.

*2.1.2        Should NRC regulations be revised to endorse and incorporate by reference, the industry codes, standards, or guidance documents for dedication programs of commercial grade products for use in safety-related structure, system and component applications?*

SECY\_002                      Individual

2.1.2        See response above in 2.1.1.

SECY\_004                      Services

2.1.2        Yes. Endorsement by NRC precludes the moving target of acceptability and differing interpretations inherent in "regulation by precedent". The NRC conditional endorsement of

EPRI NP5652 (NCIG-07) in Generic Letter 89-02 should be the beginning. Only through a standard set of criteria and acceptable practice will the NRC and industry be cost-effectively and rapidly ferreting out poor performance and improve on overall industry performance.

SECY\_010                      NSSS

2.1.2      No, endorsement of flexible industry developed guidelines is preferred.

SECY\_012                      NSSS

2.1.2      No, regulation is not needed. What would be helpful would be for the NRC to formally endorse, via guidance documents such as SRP's, or Regulatory Guides appropriate industry standards, so that vendors have clear indication of what NRC will find acceptable.

SECY\_031                      Licensee

2.1.2      YES. The NRC's intent would be clarified by this action. The industry actions to improve commercial grade programs via industry consensus documents in cooperation with the NRC are significant advances which will act to improve procurement of commercial grade items for safety related use.

SECY\_042                      NSSS

2.1.2      ... A regulatory guide on commercial dedication will be beneficial to help assure consistent interpretation....

SECY\_053                      Public Interest Organization

2.1.2      Incorporation of industry codes, standards, and guidance documents should be done only if the NRC determines that these documents do in fact embody the activities and actions which the NRC deems to be necessary for an effective upgrade program.

*2.5.1a Are there any other agency/organization standards or programs there should be adopted for use in upgrading commercial grade products for use in safety related systems?*

SECY\_005                      Licensee

2.5.1a      The only standard that currently exists is NCIG-07 generated by EPRI which provides a methodology for commercial grade product upgrade.

SECY\_007                      Committee

2.5.1a, 2.5.1b, 2.5.2      We believe EPRI-NP5652 provides the necessary guidance for the dedication process for the use of \*commercial grade products in safety-related systems. We do not currently envision a need for endorsement of other standards or alternatives.

NRC endorsement of industry documents is not necessary. Because such endorsement by its very nature could not be dynamic enough to respond to rapidly changing situations, such endorsement may not

be beneficial to achieving the goal of providing appropriate protection to public health and safety. Further NRC regulation is not appropriate unless the industry initiatives are unable to satisfactorily address the underlying problems related to procurement activities; those activities are progressing at an appropriate rate and the industry should be given the opportunity to address and resolve those problems.

SECY\_028                      Licensee

2.5.1a, 2.5.1b, 2.5.2      Although it is agreed that NRC endorsement of industry documents is not necessary, licensee believes that an NRC position statement on such documents would be beneficial.

SECY\_042                      NSSS

2.5.1a The industry recommends four methods for commercial dedication.

These methods should compliment the dedicators Appendix B responsibilities A regulatory guide on commercial dedication will be beneficial to help assure consistent interpretation. NSSS endorses NRC comments to the industry as discussed in Generic Letter 89-02, specifically: Acceptance Method 2, "Commercial-Grade Survey of Supplier," should not be employed as the basis for accepting items from suppliers with undocumented commercial quality control programs or with programs that do not effectively implement their own necessary controls. Likewise, Method 2 should not be employed as the basis for accepting items from distributors unless the survey includes the part manufacturer(s) and the survey confirms adequate controls by both the distributor and the part manufacturer.

Acceptance Method 4, "Acceptable Supplier/Item Performance Record," should not be employed alone unless:

- a. The established historical record is based on industry-wide performance data that is directly applicable to the item's critical characteristics and the intended safety-related application; and
- b. The manufacturer's measures for the control of design, process, and material changes have been adequately implemented as verified by audit (multi-licensee team audits are acceptable).

The NRC has further stated that if properly and effectively implemented, the industry methods would satisfy existing requirements.

NSSS has faced the same issues of proper and effective programs and implemented a program in 1984 to solve the problem of diminishing support by the original equipment manufacturers. Based on the knowledge gained by NSSS

in the Commercial Dedication Program over the past five years, the following are some key elements of a proper and effective program.

- o Any changes in a part from its original form, fit and

function must be identified and evaluated for possible effects on the capability of the part to perform its intended safety functions or the part must be qualified independently.

- o The program must include a strong basis for demonstrating qualification of the final item. Significant attention must be given to establishing a tie to previous qualification of the item or to present qualification, if necessary. This effort should reference specific testing reports or analysis, complying with IEEE 323 & 344, and similar documents. Also, a technique for establishing the tested specimen's physical configuration should be developed.
- o The "critical characteristics" of the item must recognize the need for a tie to the original qualification.
- o Dedicators should have a close working relationship with the manufacturer in order to gain access to the necessary information and to affect the necessary changes in the manufacturing operation. Preference should be given to a dedicator with this type of relationship.

As discussed by the NRC at the Regulatory Information Conference in April 1989,

a larger fraction of safety-related equipment and material is being procured by intermediate suppliers and "upgraded" to nuclear-grade for use in safety-related applications. The intermediate suppliers may not necessarily have all the correct engineering, design and material drawings, and specifications for the item being upgraded and, as well, may have no way of knowing with certainty if the item has been altered since original manufacture.

*2.5.1b Should these standards or programs be endorsed by NRC regulations?*

SECY\_005            Licensee

2.5.1b            It would be appropriate for the NRC to endorse NCIG-07 with the additional requirement that alternative methods for dedication proven acceptable by individual licensees would be appropriate.

SECY\_007            Committee

2.5.1b            See response above in 2.5.1a.

SECY\_012            NSSS

2.5.1b No, regulation is not needed. What would be helpful would be for the NRC to formally endorse, via guidance documents such as SRP's, or Regulatory Guides appropriate industry standards, so that vendors have clear indication of what NRC will find acceptable.

SECY\_028            Licensee

2.5.1b            See response above in 2.5.1a.

SECY\_042            NSSS

2.5.1b A policy statement and regulatory guide on commercial dedication will be beneficial to help assure consistent interpretation.

2.5.2 *Are there other alternatives that could provide the necessary assurances?*

SECY\_001 Supplier

2.5.2 In my opinion, the NRC has ignored the military procurement/quality system. This system with its continual monitoring at the suppliers location should provide the necessary quality levels for the industry.

SECY\_004 Services

2.5.2 In recent years we have all seen a return to the realization that engineering involvement is necessary and appropriate. A "cook-book" or "fill-in the blanks" approach is not adequate. prudent, or a basis to ensure technical adequacy. This trend back to reasonable engineering must be encouraged by recognizing application driven engineering differences exist. The review, whether NRC or industry, must be performance based to preclude not "punishing" engineering, which may be excellent, on the basis that it does not fit some one's checklist.

In addition, the implication that the 10 CFR 50 Appendix B vendor which has a product which is superior in quality to a non 10 CFR 50 Appendix B vendor must be corrected. A utility may and should be encouraged to select the best technical product, using a thorough Commercial Grade Item Dedication Process, to demonstrate adequacy. This places control in the hands of the licensees and will minimize (although obviously not completely prevent) fraudulent and counterfeit products provided by a supplier hiding behind a 10 CFR 50 Appendix B, 10 CFR 21, and "Proprietary" programs.

SECY\_012 NSSS

2.5.2 Not all devices sold domestically are manufactured in this country. A potential source of additional guidance is the Canadian Set Enforcing System and Quality Plan. The NRC needs to recognize the existence and applicability of quality standards adopted by foreign manufacturers who produce quality products for application in the U.S. In addition the NRC should closely coordinate its efforts with the principal NSSS vendors, with NUMARC, ANSI, ASQC, etc. to assure high quality inputs and sensible solutions.

SECY\_031 Licensee

2.5.2 YES. The NRC endorsement could be through a generic letter as opposed to formal rulemaking.

SECY\_042 NSSS

2.5.2 Commercial dedication should be implemented in situations only when manufacturers are unwilling or it is impractical to manufacture under an Appendix B program.

Preference should be given to manufacturers or manufacturers' authorized agents for performance of commercial dedication due to their ability to access design and other information beneficial to the dedication process.

*2.5.3 To what extent should any existing controls or any additional controls being contemplated in the ANPR be extended to nonsafety-related applications in "balance of plant" structures, systems and components?*

SECY\_001                      Supplier

2.5.3            If it can be determined that a component would have no impact on the plants performance, the no controls should necessary.

SECY\_004                      Services

2.5.3            The drive to meet the Performance Indicators promulgated by both Industry and NRC and a greater emphasis on engineered solutions to problems will lead to improvements in balance of plant. The addition of regulations to Balance of Plant would lead to disincentive due to:

- . Increased complexity and perceived personal risk to make improvements requiring regulatory oversight driven review.
- . Increased costs and resultant incentives for producers to provide fraudulent and counterfeit products.
- . Diffusion of accountability and responsibility
- . Potential for the economic ruin of the nuclear power plant option in the US.

SECY\_005                      Licensee

2.5.3            We do not believe that extending these controls to non-nuclear-safety or balance of plant items is appropriate at this time.

SECY\_010                      NSSS

2.5.3.           ... Implementation of such guidelines should be voluntary on the part of the various utilities and need not be endorsed or used as an evaluation criteria by the NRC as they expand their inspections to the non-safety related and Balance of Plant structures, systems and components.

SECY\_012                      NSSS

2.5.3            If a structure, system, component, or piece part is determined to be nonsafety-related there appears to be little justification to apply a level of control designed for safety-related structures, systems, components, or piece parts. Non safety-related structures, systems, components, or piece parts are given no credit in accident mitigation and are analyzed to assure that their failure can not contribute to an event. Therefore, the issue of upgrading such hardware should center on economics of operation rather than overstressing some tenuous connection to safety of the public.

SECY\_053                      Public Interest Organization



2.5.3 was answered by reference to 1.1.32. This question really involves the adequacy of the designation of certain portions of nuclear power plants as safety-related with the remainder as non-safety-related. The present designation is widely recognized as being unsatisfactory and too exclusive, as failures in non-safety systems can challenge safety systems. It would be appropriate for the NRC to consider rulemaking to expand the definition of safety-related, or to add a new designation, e.g., potential to affect safety, which would include those systems, failure or malfunction of which could challenge or interact with a safety related system. Before any such rulemaking is enacted, it is appropriate for the NRC to begin to incorporate such a definition into new requirements, such as the instant proposal.

SECY\_058

Licensee

2.5.3 was answered by reference to 1.1.32. The items discussed in paragraphs 1.1.1 through 1.1.31 should relate only to safety related components. Extension of the requirements necessary for safety-related components to the rest of the population is unwarranted and would be extremely expensive. Prior to any action, to extend these requirements to other than safety-related components, a detailed assessment of the economic impact upon the licensees should be performed. The impact upon ratepayers could be extremely adverse.

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Commentors on ANPR 54FR 9229, March 6, 1989  
"Products Purchased for Use in Nuclear Power Plant  
Structures, Systems and Components"

Citizen Group / Individual / Media

Author Affiliation	Author Name	Secy No
Individual	HARRINGTON, M.D.	002
Individual: Bergen Patterson Pipe Support Corp.	QUINN, G.M.	003
Individual: NAMCO Controls Div.- Acme Cleveland Co.	PETTREY, B.B.	001
Individual	LEWIS, M.I.	052
Ohio Citizens for Responsible Energy, Inc.	HIATT, S.L.	053

Engineering / Construction / Consultant / Services

Author Affiliation	Author Name	Secy No
EcoTek, Inc.	SZEGLIN, C.P.	004
Gilbert/Commonwealth	YURICH, F.J.	020
HiTech Engineering Services	RAHMAN, A.	021

Legal / Law Firms / Insurance Companies

Author Affiliation	Author Name	Secy No
Bishop, Cook, Purcell & Reynolds	COTTINGHAM, A.W.	027

Manufacturers / Equipment and Supplies

Author Affiliation	Author Name	Secy No
Automatic Switch Company	SHANK, J.R.	049
Combustion Engineering	SCHERER, A.E.	010
Chicago Bridge & Iron Company	KELLEY, R.E.	008
General Electric: Nuclear Energy-Licensing & ...	MARRIOTT, P.W.	012
General Electric: Nuclear Energy-Quality Audits & .	BAKER, W.L.	006
Quadrex Corporation	MARQUIS, L.	017
Sandvic Special Metals	BOWLES, K.C.	009
Westinghouse Electric Corporation	JOHNSON, W.J.	042

Professional / Industrial Institutions, Societies

Author Affiliation	Author Name	Secy No
American Society of Mechanical Engineers	LING, J.	033
National Electrical Manufacturers Association	SHIPP, D.K.	038

Committees, TF, and Similar External Groups

Author Affiliation	Author Name	Secy No
Nuclear Management & Resources Council (NUMARC)	COLVIN, J.F.	007

## State Governments / Agencies

Author Affiliation	Author Name	Secy No
State of Arkansas	DICUS, G.J.	011

## Utilities / Holding. Co. / Investor Associations

Author Affiliation	Author Name	Secy No
American Electric Power Service Corporation	BARRETT, P.A.	035
Alabama Power Company	HAIRSTON, W.G.	025
Arkansas Power & Light Company	CAMPBELL, T.G.	059
Boston Edison	BIRD, R.G.	063
Baltimore Gas & Electric	CREEL, G.C.	024
Commonwealth Edison	REED, C.	016
Consolidated Edison Company of New York, Inc.	BRAM, S.B.	057
Cleveland Electric Illuminating Company	KAPLAN, A.	040
Consumers Power	COOPER, H.F.	019
Carolina Power & Light	LOFLIN, L.I.	032
Northeast Utilities	MROCZKA, E.J.	039
Detroit Edison	SYLVIA, B.R.	022
Duke Power	MCMEEKIN, T.C.	013
Systems Energy Resources, Inc.	CAVANAUGH, W.	014
Florida Power & Light Company	WOODY, C.O.	060
Georgia Power Company	HAIRSTON, W.G.	023
General Public Utilities Corp. GPU Nuclear Corp.	SULLIVAN, J.L.	046
Gulf States Utilities Company	DEDDENS, J.C.	055
Houston Lighting & Power	MCBURNETT, M.A.	051
Illinois Power Company	HOLTZSCHER, D.L.	058
Long Island Lighting Company	LEONARD, J.D.	062
Nebraska Public Power District	TREVORS, G.A.	050
Northern States Power	PARKER, T.M.	015
Omaha Public Power District	MORRIS, K.J.	044
New York Power Authority	BRONS, J.C.	061
Philadelphia Electric Company	FOGARTY, E.P.	036
Pacific Gas and Electric Company	SHIFFER, J.D.	045
Portland General Electric Company	COCKFIELD, D.W.	041
Pennsylvania Power & Light Company	KEISER, H.W.	064
Public Service of Colorado	CRAWFORD, A.C.	026
Public Service & Gas Company (NJ)	MILTENBERGER, S.	030
New Hampshire Yankee Div of Pub Serv Co of N. H.	FEIGENBAUM, T.C.	037
Southern California Edison Company	NANDY, F.R.	031
South Carolina Electric & Gas Company	BRADHAM, O.S.	005
Toledo Edison Company	SHELTON, D.C.	056
TU Electric	CAHILL, W.J.	034
Tennessee Valley Authority	RAY, M.J.	043
Union Electric	SCHNELL, D.F.	018
Virginia Electric and Power Company	STEWART, W.L.	047
Wisconsin Electric Power Company	FAY, C.W.	048

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Washington Public Power System  
Wisconsin Public Service Corporation  
Yankee Atomic Electric Company

SORENSEN, G.C.	054
STEINHARDT, C.R.	028
EDWARDS, D.W.	029

Enclosure 2

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#1



**NUCLEAR MANAGEMENT AND RESOURCES COUNCIL**

1776 Eye Street, N.W. • Suite 300 • Washington, DC 20006-2496  
(202) 872-1280

June 26, 1989

Mr. Frank J. Miraglia  
Associate Director for Inspection  
and Technical Assessment  
Division of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Miraglia:

The purpose of this letter is to provide you with information regarding the current and planned activities of the NUMARC Nuclear Equipment Procurement (NPEP) Working Group. NUMARC agreed to provide this information in a previous meeting held with you and your staff.

The Working Group is continuing to actively pursue improvements to industry procurement practices. Attachment 1 is the Working Group Position Paper, which describes the current focus of the Working Groups's efforts. As noted in the paper, the Working Group is investigating improvements in the areas of vendor audits, joint vendor audits, receipt inspection, dedication programs, obsolescence, detection of fraudulent activities, and information exchange. In the area of joint vendor audits, the NSQAC and CASE organizations are in the process of merging into a new nuclear utility joint audit organization. NUMARC has established and is continuing dialogue with the new organization to help ensure that its objectives are consistent with the needs of industry.

Attachment 2 provides the current action plan of the Working Group, including schedular milestones. The dates indicated for deliverables are current best estimates. We will continue to keep you informed of further developments in the activities of the Working Group.

If you desire additional information regarding the activities of the Working Group, or have any questions, please contact me or Alex Marion of the NUMARC staff.

Sincerely,

A handwritten signature in dark ink, appearing to read "William H. Rasin". The signature is fluid and cursive, with a prominent "W" and "R".

William H. Rasin  
Director, Technical Division

WHR/reb  
Attachments

Enclosure 2

## NUCLEAR PROCUREMENT ISSUES

### INTRODUCTION

During the past couple of years, the NRC has published, in Information Notices and Bulletins, examples of deficiencies in vendor audits by licensees, receipt inspection and testing, dedication of commercial grade items, and identified examples of ingress of substandard and fraudulent materials. These examples suggest that industry procurement quality programs are in need of reexamination and possible improvement. It is recognized by both utilities and the NRC that the intent of 10CFR50 Appendix B was to assure quality through good faith cooperation between suppliers<sup>1</sup> of products and services and end-user utilities. Appendix B was not developed to detect fraudulent practices.

The NUMARC Nuclear Plant Equipment Procurement (NPEP) Working Group was formed to provide unified nuclear industry interaction with NRC management on concerns relating to procurement activities, coordinate industry activities and consider industry initiatives relating to the improvement of procurement practices. The Working Group concluded that present procurement process controls require changes to address the noted deficiencies and at the same time address the impact of fraudulent suppliers and false certification. Improvements in supplier audit methodology, procurement practices, surveillance/source

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<sup>1</sup> For the purposes of this paper, the term supplier includes manufacturers, vendors and distributors.

inspection, receipt inspection, post-receipt testing practices and dedication programs are warranted for long term resolution of industry concerns and NRC. The key aspects of the procurement process that need to be addressed to ensure the quality of procured items are content of procurement documents, source inspections, audits of suppliers, and receipt inspection and testing.

This position paper offers several considerations relating to elements of the industry procurement and quality programs where improvements are warranted. These considerations represent the current focus of Working Group efforts. Other considerations will be addressed as they are identified for further action and resolution.

## PROCUREMENT

Changes to several key aspects of general procurement practices can significantly improve procurement quality programs and at the same time minimize the impact of fraudulent practices. The Working Group believes that the commitment of proper resources is important to assure product quality is specified and verified. This includes the participation of necessary engineering personnel in the development of meaningful procurement documents, in the receipt inspection and testing process, and in the performance of technical product audits to assure the technical performance capability of purchased items is verified.

Another recommended change is to specify new products and to procure items through normal supply channels. This involves direct procurement and shipment



from the manufacturer, ie. drop shipment, or through authorized suppliers with traceability to the original manufacturer as appropriate. This requires specification of performance characteristics and verification by surveillance and/or testing that the product will perform as required.

## **VENDOR AUDITS**

A comprehensive vendor/supplier audit program focuses on two different types of audit approaches: PROGRAM and HARDWARE audits. PROGRAM audits review administrative controls and implementation. HARDWARE audits assess manufacturing process controls, design, inspection and test activities.

The PROGRAM audit is performed of suppliers of nuclear grade materials and services and has been the primary means for verifying quality activities of suppliers. The frequency of audits is determined by regulatory requirements and by the past performance of the supplier based on the results of past audits. This PROGRAM or HORIZONTAL audit assesses the adequacy of written QA Programs to regulatory requirements, completeness and application of the program to the items being procured. These audits examine the quality program requirements necessary for the supplier organizations providing items and services to the nuclear industry.

The HARDWARE or VERTICAL (PERFORMANCE BASED) audit methodology provides objective evidence of product quality and performance rather than the inferred results based upon PROGRAM audits employed for Appendix B qualification reviews. This VERTICAL method begins with a completed item and, using

certifications and supporting documentation, traces back through the manufacturing process to sub-tier suppliers who provided the components and/or raw materials. By tracing individual items, components or heat numbers through the process used by the suppliers and manufacturers, a technical verification may be achieved which is beyond that typical with the HORIZONTAL audit method. The VERTICAL (PERFORMANCE BASED) audit focuses on specific areas such as design, testing, inspection, material test reports, special processes, personnel qualifications, and material control. Since certain administrative controls are not typically reviewed during a VERTICAL audit, additional time is available to thoroughly examine supporting technical documentation, data sheets, test results, qualification, drawings, inspections and procedures to confirm an item will perform it's intended function.

The scope of the HARDWARE audit is not dictated solely by regulatory requirements but by the quality and performance attributes applied to the item being purchased from suppliers including sub-tier. This narrowing of the audit scope provides a focus on the technical aspects of the program which support acceptance of the item being purchased. The audit team should be augmented with technical expertise, as necessary, to verify the validity of engineering assumptions, design input and the effectiveness of manufacturing and test controls.

These audits should be applied to selected suppliers or sub-tier suppliers of complex items where testing and special processes are critical to the quality and performance capability of the items.

The increase in industry resources to implement **HARDWARE** audits may be minimized by the performance of cooperative utility audits under the auspices of organizations such as the Nuclear Supplier Quality Assurance Committee (NSQAC) and the Coordinating Agency for Supplier Evaluation (CASE). Additionally, successful **HARDWARE (PERFORMANCE BASED)** audits may be used to justify a reduction in the number of **PROGRAM** audits for a given supplier.

The Working Group requested EPRI, NSQAC and CASE to develop guidelines in the area of auditing practices.

#### **RECEIPT INSPECTION**

While receipt inspection and post-receipt testing is a vital part of assuring quality, these constitute an after-the-fact review which at times identifies nonconforming items and materials. Unfortunately, the rejection may result in costly delays when coupled with the unavailability of alternative items. It is important to identify the item's quality and performance requirements to ensure verification at various phases of the procurement process. This can minimize the rejections after the item is received at the utility's warehouse.

The experiences with fraudulent materials have resulted in an increased need to consider appropriate inspection and post-receipt verification testing to assure quality and performance capability of purchased items. For example, the use of metal alloy analyzers and Brinnell hardness testers may be instrumental in verifying the capability of materials when certified

documentation is unavailable or questionable. Other actions taken in understanding the procured item's critical characteristics in support of its performance capability enhances the confidence level that appropriate items are properly designed, procured, verified and installed.

The Working Group believes that the extent of verification implemented at the receipt inspection phase depends upon the complexity of the item, its critical characteristics and the intended application. The verification may require engineering involvement initially in the specification of critical characteristics and later in evaluating test results as part of the receipt inspection phase. The verification can be applied to the appropriate characteristics necessary to ensure quality and performance.

The Working Group requested EPRI, NSQAC and CASE to develop guidelines in the area of receipt inspection practices.

#### DEDICATION PROGRAMS

Consistent implementation of formal dedication programs will contribute to continued assurance that the correct and appropriate quality related items are purchased, received, verified and installed. Well formulated dedication programs will provide significant protection against the ingress of fraudulent materials into nuclear power plants.

Recognizing the need to improve industry practices in the dedication of commercial grade items, the Working Group endorsed the EPRI/NCIG document,

Guideline For The Utilization of Commercial Grade Items In Nuclear Safety Related Applications (NCIG-07, NP-5652), issued June 1988. This document offers four methods for accepting commercial grade items and these are:

1. Special tests and inspections,
2. Commercial grade survey of supplier,
3. Source verification and
4. Acceptable supplier/item performance record.

This guideline focuses on specifying the item's critical characteristics in the procurement process to provide assurance of its quality and performance capability.

The Working Group recommended NUMARC take action on an initiative to address the dedication of commercial grade items. The NUMARC Board of Directors approved an industry initiative requiring the review and, if necessary, the development or upgrade of current utility programs to meet the intent of the guidance provided in the EPRI/NCIG document. Utility actions in response to this initiative are to be completed by December 31, 1989.

#### **OBSOLESCENCE**

It is recognized that the surplus product market offers direct savings in continuing the use of manufacturer's outdated designs while at the same time allowing end-user utilities to sustain previously established design approval. However, this surplus market is a primary arena for fraudulent business practices, namely refurbishing surplus products for resale as new. A clear example of the impact of these practices is provided by recent experience

with molded case circuit breakers where utilities were purchasing outdated models as replacement items.

The Working Group is reviewing a draft guideline being developed by EPRI/NCIG that offers guidance for establishing technical requirements for replacement items that includes like-for-like replacement, alternative replacement, and initial procurement for modifications. This effort complements the commercial grade item dedication guideline and provides specific consideration to critical characteristics, specifications and acceptance requirements. Recommendations from the Working Group for NUMARC action on this final version of this guideline will be proposed as appropriate.

The Working Group believes continued procurement of obsolete products in the surplus market presents a potential for previously used equipment to be resold as new or otherwise misrepresented. Ultimately the availability of many products will diminish with time and upgrades to new designs will become inevitable.

Additionally, the Working Group will pursue with the NRC the idea of removing the regulatory disincentives associated with upgrading equipment to current manufacturer and industry designs. These disincentives may include cost and adequacy of the updated design due to the lack of assurance of successful qualification testing. Also, current regulatory requirements suggest these upgrades must satisfy the latest standards which may be beyond the original plant design basis. A focus on established equipment performance characteristics in support of the end-use application is necessary.

## **DETECTING FRAUDULENT ACTIVITIES**

The recent experiences with fasteners, flanges and molded case circuit breakers provide examples of fraudulent activities and the extent to which questionable suppliers will pursue selling counterfeit and fraudulent products. These activities include false upgrading of materials and equipment, alteration of manufacturer's markings and labels, alteration of certification records, alteration of test records, etc.

The detection of fraudulent activities is typically after-the-fact, when the item is ready for final inspection at the supplier's facility or receipt inspection at the plant site or later. The Working Group believes additional utility and original equipment manufacturer efforts are necessary in preventing fraudulent activities and discovery prior to final inspection or installation. These efforts may include routine/regular examination of the supplier's process inspection activities, routine/regular examination of inspection records and independent inspections and product performance based audits. Additionally, a sampling based examination of supplier rework activities and records combined with independent testing may also be effective in detection and prevention.

Several aspects of the supplier's program may possibly provide a potential for fraud and these may suggest a more thorough examination of the supplier's programmatic and process controls. The more obvious aspects are: lack of management control or involvement; unrealistic production goals given the current inventory and personnel; unrealistic inspection goals to support key

areas of the production process; employer/employee relations in terms of the company providing quality products; and working conditions. Although these aspects are difficult to integrate into an inspection or audit plan, these are considerations that the audit team members should be cognizant of since they may lead to a potential condition resulting in fraudulent activities.

Additionally, bargain pricing and unusually short delivery schedules may warrant further review or investigation on the part of the purchasing organization.

#### INFORMATION EXCHANGE

The Working Group requested NSQAC and CASE to review the process of exchanging audit information between their membership, and to recommend the type of supplier audit information necessary for industry wide dissemination.

Until such time that a decision is made on a more centralized information system, the Working Group recommends INPO Nuclear Network be used in the interim as the mechanism for providing appropriate information to the industry.



## **CONCLUSION**

The Working Group believes it necessary for the nuclear utility industry to implement actions in the areas noted above to improve industry procurement practices. Additional initiatives or resolutions in support of these actions will be developed by the Nuclear Plant Equipment Working Group as necessary. The EPRI activities will be reviewed by the Working Group as these are finalized. It is expected these activities will be completed by the end of 1989.

## **NPEP WG ACTION PLAN**

### **\* AUDITING PRACTICES**

- Establish generic guidelines to include more technical based audits, the vertical performance based audits, and joint utility audits (EPRI/NSQAC/CASE draft guidelines)
- Integrate utility efforts via NSQAC/CASE
- Provide recommendations to NUMARC BOD 11/89

### **\* RECEIPT INSPECTION PROCESS**

- Establish utility focus on performance by test, analysis, etc.
- Review the lessons learned from recent experiences with fasteners, flanges and circuit breakers, and determine what can be done in the future to minimize impact of fraudulent practices
- Establish guidelines to provide more technically based receipt inspection and verification activities (EPRI/NSQAC/CASE draft guidelines)
- Provide recommendation to NUMARC BOD 11/89.

### **\* DEDICATION PROGRAMS**

- Endorsed EPRI/NCIG CGI Dedication Guideline for industry use as a guidance document.
- NUMARC BOD action 3/8/89. Approved an Initiative for programs to be in place by 12/31/89.
- NUMARC/EPRI training seminar 7/89

### **\* UTILITY/DISTRIBUTOR RELATIONSHIP**

- Establish and maintain dialogue with the trade associations for distributors of various electrical/mechanical components.
- Establish an effort to address the relationship between utilities and distributors to ensure a common understanding is achieved in detailing what can/cannot be expected of each. Address aspects such as drop shipments, expected level of documentation, support to quality audits and surveillances, etc.

**\* OBSOLESCENCE**

- Evaluate EPRI/NCIG Technical Evaluation of Replacement Items (TERI) for industry use as a guidance document.
- Resolve disincentives with NRC.
- Establish manufacturer support.
- Provide recommendations to NUMARC BOD 11/89.

**\* GENERAL PROCUREMENT**

- As appropriate, specify new and establish traceability to OEM or define performance characteristics and verify. (Dependent on complexity of item) This is not applicable to procurement of services.
- Recommend procurement through normal channels, ie. directly from the manufacturer or authorized distributor with audit history by individual utility or NSQAC/CASE.
- Recommend commitment of necessary resources to ensure product quality and performance capability is established and verifiable.
- Provide recommendations to NUMARC BOD 11/89.

**\* INFORMATION EXCHANGE**

- Consider central clearing house for supplier/product information, audit/inspection results and list of unacceptable suppliers.
- Share information on audit results, rejections and joint utility activities.
- Obtain recommendations from NSQAC/CASE on type of data to be centralized.
- Employ INPO Nuclear Network in the interim.

**\* GUIDELINES FOR DETECTING FRAUDULENT ACTIVITIES**

- Detail examples of fraudulent activities.
- Identify considerations that have the potential for leading to fraudulent activities.
- Detail programmatic aspects that have a potential for leading to fraudulent activities.
- Provide recommendation to NUMARC BOD 11/89.

Enclosure 3



**NUCLEAR MANAGEMENT AND RESOURCES COUNCIL**

1776 Eye Street, N.W. • Suite 300 • Washington, DC 20006-2496  
(202) 872-1280

January 18, 1990

Mr. Frank J. Miraglia  
Associate Director for Inspection  
& Technical Assessment  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Miraglia:

The purpose of this letter is to provide you with a progress report on industry activities to address improvements in the procurement process for nuclear plant equipment. As you know the industry activities in this area have been led by the NUMARC Nuclear Plant Equipment Procurement (NPEP) Working Group chaired by Bill Cavanaugh, President and CEO of SERI. In our June 26, 1989, letter to you we attached a discussion paper, "Nuclear Procurement Issues," that outlined the areas of procurement improvements under consideration by the Working Group.

The Working Group continued in its efforts and the following actions have been taken by the industry to date:

1. At the March 8, 1989 meeting of the NUMARC Board of Directors an industry initiative was established with regard to programs for the use of commercial grade items (CGI) in safety related applications. This initiative called for the utilities to review CGI programs to meet the intent of EPRI NCIG-07, "Guidelines for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications," and to complete this review and implement any necessary improvements by December 31, 1989. We are currently collecting data from the industry regarding the status of completion of this initiative. We will provide a report on this status to you in February of this year.
2. To facilitate industry wide sharing of information with respect to specific component problems, the Institute of Nuclear Power Operations (INPO) established a new category on the INPO Nuclear Network System. NUMARC communicated by letter to the industry in October 1989, regarding the existence of this category and encouraging its use for expeditious sharing of information regarding specific equipment and material related problems.
3. A new industry organization, the Nuclear Procurement Issues Committee (NUPIC), was formed by the integration of two previously existing industry efforts. This new organization will serve two distinct purposes. The first is to facilitate the sharing of QA auditing information amongst all utilities; and, the second

Mr. Frank Miraglia  
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purpose is to provide for joint QA auditing activities to more efficiently and effectively conduct QA audits with reduced resource impact for both utilities and suppliers. The NUPIC organization is fully functional and is currently undertaking both of these activities.

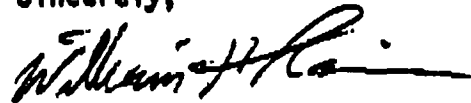
4. The Working Group has reviewed and assessed EPRI NP-5652, "Guideline for Technical Evaluation of Replacement Items in Nuclear Power Plants (TERI)." This guideline provides a process for evaluating the acceptability of replacement items such as those that must be replaced due to equipment obsolescence. The Working Group acknowledged this document as providing a sound process for replacement parts evaluations and we will shortly make this document available industry wide. However, our reviews have identified other established processes already in place for these evaluations that are equally effective and appropriate. We therefore do not intend to make this document the subject of an industry initiative.

In December of 1989 the NPEP Working Group completed assessment of the remaining areas noted in our previously referenced discussion paper, "Nuclear Procurement Issues." The items remaining to be addressed concern guidelines for performance based supplier audits, guidelines for product acceptance including receipt inspection and general procurement practices including the use of approved suppliers and original equipment manufacturers. Actions on these remaining items will be brought before the NUMARC Board of Directors at our next meeting scheduled for March 7, 1990. We will inform you immediately after this Board of Directors meeting on the disposition of these items and provide to you a comprehensive summary of industry actions to affect the improvements in the procurement process that both the industry and the NRC Staff believe appropriate.

To provide you further detail on these specific areas, I have enclosed a copy of the NPEP Working Group's revised action plan for your information.

If you desire additional information regarding the industry activities described herein or the present activities of the NUMARC NPEP Working Group please contact Alex Marion or Biff Bradley of the NUMARC staff.

Sincerely,



William H. Rasin  
Director, Technical Division

WHR/rs  
Enclosure

cc: William Cavanaugh, SERI

## **NPEP WG ACTION PLAN**

### **\* PERFORMANCE BASED AUDITING**

- Establish generic guidelines for the performance based audit process and agreement of industry (individual utilities and NUPIC) to utilize performance based audits where applicable. The guideline document, "Guidelines for Performance Based Supplier Audits" has been produced by EPRI and reviewed by NUPIC.
- Establish utility implementation schedule and training program.
- Provide recommendation for industry initiative to NUMARC Board of Directors at 3/7/90 meeting.

### **\* RECEIPT INSPECTION PROCESS**

- Establish agreement of industry to perform procurement activities in accordance with the "Guidelines for the Procurement and Receipt of Items for Nuclear Power Plants," a guideline document which has been developed by EPRI to address proper determination of technical and quality requirements and the use of acceptance methods, including receipt inspection, to verify these requirements. These guidelines focus on the need for engineering involvement in these phases of the procurement process, and will incorporate lessons learned from recent experiences with substandard and fraudulent products.
- Establish utility implementation schedule and training program.
- Provide recommendation for industry initiative to NUMARC Board of Directors at 3/7/90 meeting.

### **\* DEDICATION PROGRAMS**

- Endorsed EPRI document NP-5652, "Guideline for the Utilization of Commercial Grade Items (CGI) in Nuclear Safety Related Applications" for industry use as a guidance document.
- NUMARC Board of Directors action on 3/8/89. Approved an Initiative for programs to be in place by 12/31/89.
- NUMARC/EPRI training seminars held in 7/89.

## **\* OBSOLESCENCE**

- Evaluate EPRI document NP-6406, "Guideline for the Technical Evaluation of Replacement Items in Nuclear Power Plants (TERI)" for use as industry guidance. This guideline provides a process for evaluating acceptability of replacement items, the need for which may be brought about by equipment obsolescence. The Working Group has completed its evaluation and has recommended acknowledgment of this document as providing a sound process for replacement part technical evaluations. However, other established processes for technical evaluations are effective and appropriate, so use of the TERI document would not be unilaterally required through an industry initiative. This acknowledgement of TERI was addressed in a December 8, 1989 NUMARC letter to the industry.
- Acknowledgement of the TERI document will be discussed in the updated "Procurement Issues" paper.

## **\* GENERAL PROCUREMENT**

- Obtain commitment to apply appropriate resources, including technical resources (e.g., test equipment, engineering personnel) to procurement activities to ensure product quality and performance capability is established and verifiable.
- Provide for increased and improved utility use of joint audits. Establish industry agreement to use and support NUPIC, including provision of auditors and technical personnel to support NUPIC performance based audits.
- Obtain agreement to specify new products and, where appropriate, to establish traceability to OEM or define performance characteristics and verify (dependent on complexity of item). This is not applicable to procurement of services.
- Recommend procurement through normal channels, i.e. directly from the manufacturer or authorized distributor with audit history by individual utility or NUPIC.
- Encourage use of newly developed INPO Nuclear Network category "Parts and Materials Information Exchange" and existing activity "Nuclear Quality Assurance Information Exchange" as clearing house for supplier/product information and audit/inspection results. NUMARC letter to industry of October 24, 1989, notified utilities of NETWORK categories and encouraged use for above purposes.
- Provide recommendation for industry initiative to NUMARC Board of Directors at 3/7/90 meeting.



★ **INFORMATION EXCHANGE**

- Utilize Nuclear Network for communication of procurement information.
- Share information on audit results, rejections and joint utility activities through NUPIC.
- Industry commitment will be integrated into above General Procurement Initiative.

★ **GUIDELINES FOR DETECTING FRAUDULENT ACTIVITIES**

- Detail examples of fraudulent activities.
- Identify considerations that have the potential for leading to fraudulent activities.
- Detail programmatic aspects that have a potential for leading to fraudulent activities.
- These items will be treated as appendices to the "Procurement and Receipt" guideline document (see above) that will be proposed as an industry initiative at the NUMARC BOD meeting on 3/7/90.

★ **UTILITY/DISTRIBUTOR RELATIONSHIP**

- Establish and maintain dialogue with the trade associations for distributors of various electrical/mechanical components.
- Establish an effort to address the relationship between utilities and distributors to ensure a common understanding is achieved in detailing what can/cannot be expected of each. Address aspects such as drop shipments, expected level of documentation, support to quality audits and surveillances, etc.
- Utility/Distributor relationship will be discussed in the updated "Procurement Issues" paper.

Enclosure 4

## ELEMENTS UNDER CONSIDERATION BY THE STAFF FOR PROPOSED RULE

The staff is considering addressing the following elements in possible changes to or additions to existing regulations in 10 CFR Part 50 or to the quality assurance criteria contained in 10 CFR Part 50, Appendix B. The regulatory changes being considered include the following requirements for licensees:

1. Have procurement programs that assure engineering involvement in specification of procurement requirements, definition of testing requirements, evaluation of tests, inspection, and reviews of received items, and assurance of suitability of procured items for each individual application.
2. Have procurement programs for new equipment that require, when feasible, all procurements for safety-related applications be made from an equipment manufacturer (EM) with an Appendix B manufacturing process, or, if it is not possible to procure new items produced under an Appendix B manufacturing process from an EM, require the procurement of an item from an EM with a commercial grade dedication process or an EM authorized source with a commercial grade dedication process. If procurement from an EM or EM authorized source cannot be made, have procurement programs for new equipment that allow commercial grade dedication by the licensee.
3. Have procurement programs for refurbishment of equipment that require procurement from an EM, or if it is not possible to procure the refurbishment activity from an EM, require the procurement from an EM authorized source. Control all refurbishment activities with quality programs commensurate with the safety significance of the item being refurbished and the requirements of Appendix B. If procurement from an EM or EM authorized source cannot be made, have procurement programs for refurbishment of equipment that allow commercial grade dedication by the licensee.
4. Revise receipt inspection programs to include measures specifically designed to detect counterfeit, fraudulent, or otherwise misrepresented vendor products.
5. Establish a basis for accepting a vendor's statement of traceability of procured items to the EM. In many cases, traceability of items to the EM is necessary to establish acceptable product and material quality. In such instances, licensees must develop effective programs for controlling the procurement chain and verifying equipment traceability to the EM.
6. For items not used in safety-related applications but whose failure could initiate plant transients or complicate recovery from an event, establish traceability, commensurate with the safety significance of the item, to the EM.
7. Revise vendor audits of safety-related and commercial-grade items to ensure they are of sufficient scope and technical depth to provide a basis for acceptance of vendor-provided materials and equipment and related certifications.

8. Require reporting to the NRC the results of audits of vendors that cause the licensee to discontinue use of the vendor.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Title: AFFIRMATION/DISCUSSION AND VOTE

Location: ROCKVILLE, MARYLAND

Date: THURSDAY, MARCH 22, 1990

Pages: 4 pages

**SECRETARIAT RECORD COPY**



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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AFFIRMATION/DISCUSSION AND VOTE

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission  
One White Flint North  
Rockville, Maryland

Thursday, April 22, 1990

The Commission met in open session, pursuant to Notice,  
at 3:30 p.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman

THOMAS M. ROBERTS, Commissioner

KENNETH M. ROGERS, Commissioner

JAMES R. CURTISS, Commissioner

STAFF SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary of the Commission

WILLIAM C. PARLER, General Counsel



## P R O C E E D I N G S

3:30 p.m.

CHAIRMAN CARR: Good afternoon, ladies and gentlemen. This is an affirmation session. We have one item to come before us this afternoon. Before I ask the Secretary to lead us through the item for affirmation, do any of my fellow Commissioners have any opening comments they would like to make?

If not, Mr. Secretary, you may proceed. Do we need a recorder?

MR. CHILK: No, we are going to pick it up from the tape in my office.

CHAIRMAN CARR: Okay.

MR. CHILK: The item before the Commission is SECY-90-69 entitled "Fitness-for-Duty Rule Stay Request" filed by several Diablo Canyon employees.

The Commission is being asked in this paper to act on an Order responding to a February 2, 1990 motion requesting a partial stay of the Commission's final rule and statement of policy concerning fitness-for-duty programs as applied to certain employees of the Pacific Gas and Electric Company's Diablo Canyon Nuclear Power Plant.

All Commissioners have approved the Order attached to our March 21st memorandum which denies the motion as essentially moot since the Court of Appeals for the Ninth Circuit has already denied the stay motion pending appeal.

Will you please affirm your votes?

(Chorus of ayes)

CHAIRMAN CARR: Anything else to come before us today?

MR. CHILK: I have nothing.

CHAIRMAN CARR: All right. We stand adjourned.

(Whereupon, the foregoing proceedings was adjourned at 3:35 o'clock, p.m.)

CERTIFICATE OF TRANSCRIBER

This is to certify that the foregoing meeting of the United States Nuclear Regulatory Commission entitled "Affirmation/Discussion and Vote," held in Rockville, Maryland, on Thursday, March 22, 1990, was transcribed by me. I further certify that said transcript is accurate and complete, to the best of my ability, and that the transcript is a true and accurate record of the foregoing events.

Elizabeth Anne Lipton