

ORIGINAL

# **UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION**

**Title:** COMMISSION BRIEFING ON CURRENT STATUS OF INFORMATION  
REGARDING THE POSSIBLE USE OF SUBSTANDARD MATERIAL  
AND EQUIPMENT IN NUCLEAR POWER PLANTS

**Location:** ONE WHITE FLINT NORTH, ROCKVILLE, MARYLAND

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1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

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4 COMMISSION BRIEFING ON CURRENT STATUS OF INFORMATION  
5 REGARDING THE POSSIBLE USE OF SUBSTANDARD MATERIAL AND  
6 EQUIPMENT IN NUCLEAR POWER PLANTS

7 \*\*\*

8 [PUBLIC MEETING]

9 \*\*\*

10 Nuclear Regulatory Commission  
11 One White Flint North  
12 Rockville, Maryland  
13

14 TUESDAY, DECEMBER 20, 1988  
15

16 The Commission met, pursuant to notice, at 10:00  
17 a.m., the Honorable LANDO W. ZECH, Chairman of the Commission,  
18 presiding.  
19

20 COMMISSIONERS PRESENT:

21 LANDO W. ZECH, Chairman of the Commission  
22 THOMAS M. ROBERTS, Member of the Commission  
23 KENNETH ROGERS, Member of the Commission  
24 JAMES R. CURTISS, Member of the Commission  
25

## 1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2

3

S. Chilk

W. Parler

4

V. Stello

B. Grimes

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T. Murley

B. Brach

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B. Hutchison

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

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2 CHAIRMAN ZECH: Good morning, ladies and gentlemen.  
3 Commissioner Carr will be joining us later if he completes his  
4 appointment on time. The purpose of this morning's meeting is  
5 for the NRC Staff to brief the Commission concerning the  
6 current status of the staff actions regarding the possible use  
7 of substandard components in nuclear power plants.

8 The issue of substandard and counterfeit parts and  
9 the potential that these parts could be installed in nuclear  
10 power plants is a very serious one. The NRC is aggressively  
11 pursuing this matter. We have given it a very high priority.  
12 Our staff actions involve our Vendor Branch and our Licensee  
13 Quality Assurance Branch within the Office of Nuclear Reactor  
14 Regulation. They are vigorously pursuing this matter.

15 Additionally, a large element of the NRC organization  
16 is continuing to assess the safety significance in the event  
17 that we determine that any of the equipment may have made its  
18 way into safety systems, and our Office of Investigation is  
19 continuing its investigatory actions also on a high priority  
20 basis.

21 Although there is no indication at this time of a  
22 safety problem, the NRC will take whatever action is necessary  
23 to assure the safety of nuclear power plants. We already have  
24 provided information to the utilities, we've issued bulletins  
25 requiring action and we're following up to require other

1 actions on the part of utilities through generic communication  
2 and possible rulemaking.

3 We are continuing to cooperate with the Office of  
4 Management and Budget to assure that the information that NRC  
5 develops is disseminated through other departments and agencies  
6 of our government. The problem of substandard or counterfeit  
7 materials is neither new nor unique to the nuclear industry.  
8 Whenever something of a value can be duplicated cheaply and  
9 substituted for a valuable item, there is a financial incentive  
10 for such substitution. However, the existence of such  
11 components installed in safety applications at nuclear power  
12 plants may pose an unreviewed safety question for the affected  
13 plant. This is why this is such a high priority item for the  
14 NRC.

15 During the briefing, I would be particularly  
16 interested to hear the staff's evaluation of the safety  
17 significant related to the possible use of non-conforming  
18 fasteners and molded case circuit breakers in safety-related  
19 applications of nuclear power plants. This meeting is an  
20 information meeting, there's no vote scheduled to be taken at  
21 this meeting. I understand that copies of the slides are  
22 available as you enter the meeting room. Do any of my fellow  
23 Commissioners have any comments they'd like to make before we  
24 begin?

25 COMMISSIONER ROBERTS: Just a question. Are the

1 briefing slides any different from the ones that were  
2 circulated earlier?

3 MR. GRIMES: Yes. They have been reformatted  
4 slightly for the teleprompter. Same substance.

5 CHAIRMAN ZECH: Any other comments or questions?

6 [No response.]

7 All right, Mr. Stello, you may proceed.

8 MR. STELLO: Thank you, Mr. Chairman. This is the  
9 second meeting this year, the earlier one was in July of this  
10 year when we briefed the Commission on the status of the use of  
11 substandard material in nuclear plants. As you've already  
12 indicated, we do take this matter very, very seriously and are  
13 devoting substantial resources to assuring that there is not an  
14 untoward safety problem developed from the use of substandard  
15 material, and I think that will be evident as you hear the  
16 briefing this morning.

17 There are some new issues that have developed since  
18 our last briefing and we'll be giving the Commission some  
19 details on those. We are pursuing vigorously all of the issues  
20 of substandard equipment. The issue started with, as you are  
21 aware, substandard fasteners and was principally highlighted in  
22 the Department of Defense problems. We have picked up on that  
23 and it has expanded significantly since that time.

24 We have made, in my view, substantial progress in the  
25 identification of the issue. What remains as a major task

1 force, which you hopefully will be getting something on in the  
2 next month or so, is on how we are going to find a way to solve  
3 this problem once and for all by revisiting the way in which  
4 material goes into the plant to assure that substandard and  
5 counterfeit material no longer will find a way through the  
6 purchasing departments in nuclear plants. We have been working  
7 very hard on this problem and had considerable discussions with  
8 the industry and they, too, are working very hard on how to  
9 deal with this problem, and hopefully we'll have that underway,  
10 at least the start of the process, in the next couple of  
11 months.

12 The primary purpose of what we do is to be sure that  
13 we don't have a safety problem, and I'll ask Dr. Murley to  
14 begin the talk this morning by telling you where we are on the  
15 status of the safety significance of the issues that you  
16 mentioned in your opening remarks as well as some others, and  
17 we'll follow that immediately with a briefing by Mr. Grimes and  
18 Bill Brach, and we have the Office of Investigation here on my  
19 left. Although we do not intend this morning to talk about  
20 ongoing investigations, to the extent that the Commission wants  
21 any status on them in terms of broad, publicly available  
22 information, we'll be happy of course to get into that,  
23 although we don't intend to give any detailed information  
24 because I don't think it would be proper to do so at a public  
25 meeting.



1                   With that brief introduction, let me stop by asking  
2                   Dr. Murley to begin and we'll go right to the briefing with Mr.  
3                   Grimes.

4                   CHAIRMAN ZECH: Before we do that, let me mention or  
5                   refer to your remarks here on the Office of Investigation. I  
6                   would just like to make sure, and the Commission would like to  
7                   make sure, that the Office of Investigation is continuing to  
8                   place this issue as a high priority and pursuing it vigorously.  
9                   Is that correct?

10                  MR. HUTCHISON: Yes, sir. We have 20 open  
11                  investigations right now and they are being handled on the  
12                  highest priority from our office.

13                  CHAIRMAN ZECH: Thank you. I agree with you we need  
14                  not go into the details of the investigatory process. I think  
15                  the Commission just needs to be confident that Office of  
16                  Investigation is putting the priority and the people on this  
17                  job and you're following through aggressively, and I just want  
18                  to make sure that that is correct, and I presume that that's  
19                  what you're telling me.

20                  MR. HUTCHISON: Yes, sir.

21                  MR. STELLO: Let me support that with emphasis. We  
22                  have periodic meetings to go over this about once a month, and  
23                  I assure you that there's no question in our minds that that is  
24                  being done.

25                  CHAIRMAN ZECH: Just let me point out that the

1 Commission would like to be informed directly if you feel that  
2 you need -- if you're not getting the support or if you need  
3 more support. We want to be informed on this directly if you  
4 feel that's appropriate.

5 MR. STELLO: Yes, sir.

6 CHAIRMAN ZECH: Thank you. Dr. Murley, you may  
7 proceed.

8 MR. MURLEY: Thank you, Mr. Chairman. As these  
9 problems of substandard materials and substandard equipment  
10 develop and even unfold, we approach them along the same  
11 general lines. First, we quickly investigate the nature of the  
12 problem and the scope of the problem. We use the Vendor  
13 Inspection Branch plus any other inspection resources that I  
14 have on my staff and in the regions with help from the Office  
15 of Investigations. Once we think we understand the scope and  
16 the nature of the problem, we quickly notify the industry so  
17 that they can take action themselves on their own plants. We  
18 issue bulletins and information notices on the information that  
19 we have developed.

20 In parallel with those two activities, we also assess  
21 the potential safety significance of this substandard equipment  
22 as we learn more information. We ask ourselves what if  
23 questions, for example.

24 Last July, we briefed the Commission on the scope of  
25 the issue of substandard equipment as we understood it at that

1 time. We described the basis for our judgments that there was  
2 not immediate safety problems, although we clearly knew there  
3 was a compliance problem.

4 With regard to flanges, fittings and lugs, we  
5 concluded at that time that there were large margins in the  
6 design, that the material is ductile material so we would  
7 expect that it would leak before it would break suddenly, and  
8 also we knew that the service conditions were such that pre-  
9 service and in-service hydrostatic pressure tests would, we  
10 felt, detect any seriously inadequate materials in the flanges.

11 Since that time, we have required the industry to  
12 conduct tests, and they have conducted several thousand tests,  
13 chemical tests, stress tests and so forth, and the NRC has on  
14 its own at Brookhaven sponsored confirmatory tests. All of  
15 these tests generally confirm the safety assessment that we  
16 made last July. So the staff plans to close out this issue  
17 with regard to flanges, fittings and lugs with a generic safety  
18 evaluation report I believe in the next few months.

19 With regard to fasteners, our judgment then was that  
20 there is substantial structural redundancy in the design; that  
21 is to say, frequently the design calls for many more bolts than  
22 are necessary. In addition, there are large margins in the  
23 design itself so that the stress levels in any given bolt are  
24 lower, substantially lower, than allowable stresses. And also,  
25 for the same reasons we would expect that pre-service and in-

1 service hydrostatic pressure tests would detect any seriously  
2 inadequate weaknesses in the fasteners.

3 In this area, over 3,400 tests have been conducted,  
4 and NRC inspections have followed up on these test results.  
5 They have confirmed our conclusions of last July with regard to  
6 our safety judgments at that time.

7 A newer issue that was unfolding this summer was the  
8 molded case circuit breakers. Our safety analysis was not  
9 completed in July; nonetheless, we gave you our judgment that  
10 we thought it was unlikely that there was an immediate safety  
11 concern. The basis for that judgment was that these breakers  
12 are in redundant safety systems -- excuse me. I should say  
13 that the safety systems that we have in our plants are highly  
14 redundant. We did not know that there was widespread use or  
15 any use of these inadequate circuit breakers, or refurbished  
16 circuit breakers, in safety systems at all. We thought that it  
17 was more likely that they would be in balance-of-plant systems  
18 in fact, than in safety systems.

19 There's also frequent testing of safety systems. And  
20 finally, the operating experience that we've had over the years  
21 was not showing widespread breaker failures.

22 CHAIRMAN ZECH: But we really don't want them in  
23 balance-of-plant systems either.

24 MR. MURLEY: That's correct. But it clearly would be  
25 more safety significant if they found their way into safety

1 systems. We don't want them in the plants at all, that's  
2 correct.

3 The information that we have learned since July has  
4 generally confirmed that conclusion, although our safety  
5 analysis is not yet complete. We have asked the industry to  
6 survey their plants and they will be coming in to us with much  
7 more information in the coming months that should tell us the  
8 extent of the use of these refurbished circuit breakers. We  
9 will be doing our safety analysis as we learn this information,  
10 but as we stand right now our judgment is that we don't think  
11 there is an immediate safety concern with regard to circuit  
12 breakers.

13 So that concludes my introduction and Brian will go  
14 on with the briefing.

15 CHAIRMAN ZECH: All right, thank you. You may  
16 proceed.

17 [Slide.]

18 MR. GRIMES: Today I'll briefly recap some of the  
19 material that we went over in July and then give you, and Bill  
20 Brach will give you, a specific status on some of the specific  
21 technical issues, and then I will wrap up with a description of  
22 the initiatives that we and the industry have underway now.

23 [Slide.]

24 Slide two is an overview --

25 CHAIRMAN ZECH: Before you proceed, during your

1 presentation I'd like somewhere along the line for you to talk  
2 about the difference as you see it between substandard  
3 equipment and refurbished equipment. I recognize that perhaps  
4 refurbished equipment, if it's tested properly or if it can be  
5 confidently used as Dr. Murley just talked of in the balance-  
6 of-plant systems, may be satisfactory. But I'd like somebody  
7 to talk about the difference between that and what we call  
8 substandard components which clearly aren't good enough for the  
9 balance-of-plant or certainly not for the safety systems.

10           Somebody I'd like to address that. Because the  
11 definition of the terms is important I think. We don't want  
12 substandard equipment in our plants at all.

13           MR. GRIMES: That's right.

14           CHAIRMAN ZECH: Refurbished equipment may be  
15 permissible, and repaired equipment. We recognize that. It  
16 may be adequate for certain parts of the plant. So it's  
17 important I think to focus on that, because we don't want the  
18 impression that -- the Commission doesn't want to be told that  
19 the staff is satisfied to have any kind of substandard  
20 equipment in the plants. Do you see what I'm trying to say? I  
21 hope somebody will address that.

22           MR. GRIMES: Yes. I think we should address that now  
23 perhaps. Certainly, controlled refurbishment -- in fact,  
24 maintenance is a kind of controlled refurbishment -- is  
25 certainly acceptable and is a common practice for many

1 components. It's the uncontrolled or unknown refurbishment of  
2 breakers which may result in a substandard product. For  
3 example, circuit breakers, if they are simply blasted with  
4 glass beads to make them look shiny and refurbished with parts  
5 that may not be applicable to that particular design of  
6 breaker, then the uncontrolled refurbishment could well result  
7 in a breaker which cannot accomplish its safety function.

8 CHAIRMAN ZECH: Are our regulations clear enough, our  
9 standards clear enough, our directions clear enough to point  
10 out the difference that you're trying to describe here between  
11 refurbished and repaired parts that may be satisfactory and  
12 those that are not?

13 MR. GRIMES: We don't get into specific detail on the  
14 difference between well refurbished and not refurbished, but we  
15 do set forth the general expectations that all the equipment,  
16 particularly in the safety-related areas of the plant, will be  
17 carefully controlled with respect to manufacture and --

18 CHAIRMAN ZECH: I'd like the staff to look into the  
19 adequacy of our regulations, our requirements, so that it's  
20 very clear that although we certainly may expect repairs and  
21 maintenance and refurbishment, if you will, but those kind of  
22 actions should result in adequate equipment, adequate  
23 components, and if our regulations are not clear enough I think  
24 we should make them clear.

25 MR. STELLO: Mr. Chairman, let me address it

1 directly. There is an area of our regulations where we believe  
2 we're going to have to improve, and that's in the area of  
3 receipt inspection -- those activities that you normally follow  
4 when you are getting a part to be sure that you're getting the  
5 part that you were supposed to get for that application.  
6 That's an area where we do believe we are going to have to do  
7 more work. That will preclude the kind of activity that Brian  
8 has been describing as well as a number of others that we know  
9 of where we had the flanges that Dr. Murley referred to.  
10 Receipt inspection to be sure that you do not get flanges made  
11 of material that's unacceptable.

12 CHAIRMAN ZECH: Will you get back to the Commission  
13 and keep us informed as to what is necessary to make clear that  
14 our regulations and requirements need to be modified so that  
15 it's clear that we don't accept this kind of substandard  
16 material.

17 MR. STELLO: Yes. We will be proposing such a change  
18 to our regulations to the Commission in the very near future.

19 CHAIRMAN ZECH: All right.

20 MR. GRIMES: And I'll describe a little later in the  
21 presentation an advance notice of proposed rulemaking in this  
22 general area, and I think we can make sure --

23 CHAIRMAN ZECH: And it will address this issue that  
24 we're discussing.

25 MR. STELLO: That's correct.



1                   CHAIRMAN ZECH: Just want to make sure it does. You  
2 may proceed.

3                   [Slide.]

4                   MR. GRIMES: Slide two is an overview of the problem.  
5 Many materials and components, replacement components, used in  
6 nuclear power plants are subject to falsification and  
7 substitution. Nuclear power plants use a large volume of  
8 equipment. Probably the major components, such as the pressure  
9 vessels and things, are done through well-established vendors  
10 who use very rigorous quality assurance programs to assure that  
11 this kind of thing doesn't happen for the major components in  
12 the plant. However, the continual refurbishment or maintenance  
13 of power plants does lead to the possibility of counterfeit or  
14 substitution.

15                  COMMISSIONER ROBERTS: Let me make an observation.  
16 Substitution per se is not necessarily bad; it depends on what  
17 the material is substituted with.

18                  MR. GRIMES: Yes, that's correct.

19                  COMMISSIONER ROBERTS: When I was in the  
20 manufacturing business I had a devil of a time with an  
21 inspector. We were using quality plate rather than commercial  
22 grade and he said, Oh, no. You're not using off-the-shelf --  
23 do you understand what I'm saying? So substitution per se is  
24 not necessarily an egregious sin. It depends on what the  
25 substituted material is.

1           MR. GRIMES: That's correct. Substitution with a  
2 proper engineering analysis is certainly acceptable and is a  
3 common practice. It's the uncontrolled or unevaluated  
4 substitution of materials that we're concerned with.

5           The existing quality assurance programs that  
6 utilities have and their audits of vendors are generally  
7 structured to confirm the quality of products and to detect  
8 substandard products, but not to detect fraud and the intent to  
9 deceive. However, any well-executed program of this nature  
10 should have a reasonable chance of picking up gross instances  
11 of fraud.

12           We have recently identified, as you know, a number of  
13 additional instances of counterfeiting or uncontrolled  
14 substitution, and we are going to describe the status on that a  
15 little bit later this morning.

16           As you noted, Mr. Chairman, the cost incentive to  
17 substitute cheap parts for more expensive parts is always  
18 there, and part of the thing that has contributed to the  
19 situation is the shrinking nuclear market has caused the larger  
20 manufacturers to discontinue their Appendix B quality lines,  
21 and instead utilities have turned more and more to commercial  
22 grade products which they ask suppliers to upgrade to a higher  
23 quality standard by inspection and testing, or they themselves  
24 perform inspection testing to qualify them for use in safety-  
25 related parts of the plant.

1           As a final note, I would say that this problem is not  
2 restricted to the nuclear industry and we have been working  
3 with other --

4           COMMISSIONER ROBERTS: I would think NASA and DOD  
5 would have it.

6           MR. GRIMES: Yes. And we have been working with  
7 them, for example, in the circuit breaker -- in the search and  
8 seizure operations, a number of specific purchase orders were  
9 identified which we have supplied to other federal agencies,  
10 including NASA and DOD for their disposition.

11           [Slide.]

12           The overall action plan will be first described, then  
13 we're going to give you a summary of the actions taken since  
14 July and describe our coordination with other federal agencies,  
15 and wrap up with the NRC and industry initiatives.

16           [Slide.]

17           And Slide No. 4 is the overall Action Plan to address  
18 misrepresented vendor products issues.

19           As Dr. Murley mentioned, we first develop the  
20 information and assess its safety significance, provide that to  
21 licensees to allow them to take corrective actions. They,  
22 after all, bear the principal responsibility for the safety of  
23 their plants, and given the information they can then assess  
24 its significance for their particular situation and take  
25 corrective actions.

1           The second aspect of our plan is to share this  
2 information with other federal agencies and to try to establish  
3 some relationship where we may get information also. The  
4 Office of Investigation has contacts in other areas, in other  
5 agencies as well.

6           Given the information, we investigate or perform  
7 inspections to follow up and try to assess the total  
8 significance and extent of the particular issue and may issue  
9 bulletins or information notices based on that, and in specific  
10 cases may make referrals to Department of Justice after the  
11 Office of Investigation examines those cases.

12           The other thing we are trying to do is assess the  
13 overall regulatory framework as to its adequacy, and indeed we  
14 will be describing to you some changes that may be appropriate  
15 in that area.

16           I think I'll just briefly state that we have issued  
17 two bulletins and four bulletin supplements in 1988. There are  
18 other information notices being prepared. About 10 meetings  
19 have been held with NUMARC or other licensees and vendors  
20 regarding these issues. We have had four staff referrals to  
21 the Office of Investigation for further pursuit since July, and  
22 recently, two referrals to DOJ from previous years have  
23 resulted in guilty pleas or verdicts in these areas. One of  
24 those was in the Tubeline materials substitution area, and  
25 another was a case of a falsely certified eddy current

1 calibration situation.

2 The specific details of what we've done so far I'd  
3 like Mr. Brach to now go through and we can then deal with --

4 CHAIRMAN ZECH: Before you go on to that, have those  
5 Department of Justice referrals that you mentioned and you say  
6 resulted in guilty pleas or verdicts, what happened? Do we  
7 know?

8 MR. GRIMES: Those were from previous years. In one  
9 case, I believe the sentencing has been carried out, and  
10 perhaps Mr. Hutchison --

11 CHAIRMAN ZECH: Has it been published or given  
12 widespread -- ?

13 MR. GRIMES: We are in the process of developing some  
14 information to notify the industry of these specific --

15 CHAIRMAN ZECH: Is it appropriate to talk about  
16 those?

17 MR. STELLO: That's public information and Mr.  
18 Hutchison can give you the specifics.

19 CHAIRMAN ZECH: I'd be interested to know what  
20 happened in those cases, and also it's important that that get  
21 disseminated to utilities and others that are involved in this  
22 whole issue.

23 MR. GRIMES: Yes. In some cases we don't get as  
24 stiff a court action as we would desire, but it is some action  
25 in this area.

1 MR. HUTCHISON: On the investigation of the Tubeline  
2 Corporation, the corporation itself and three of the management  
3 personnel pled guilty to mail fraud and conspiracy. Two of  
4 these individuals received three months in community treatment  
5 center, three years' probation, ordered to pay \$11,000 fine,  
6 and serve 100 hours of community service. The president of the  
7 corporation was sentenced to five years' probation, ordered to  
8 pay a \$9000 fine and serve 100 hours of community service, and  
9 the corporation itself was ordered to pay a fine of \$109,000.

10 CHAIRMAN ZECH: Has that information been  
11 disseminated?

12 MR. STELLO: We will make sure it is.

13 CHAIRMAN ZECH: I think we should.

14 MR. GRIMES: I think the second one is the case where  
15 the sentencing has not been carried out.

16 CHAIRMAN ZECH: Still pending, all right. I think,  
17 though, when it's concluded it also should be disseminated.

18 MR. STELLO: We'll do that.

19 CHAIRMAN ZECH: Thank you. You may proceed.

20 MR. GRIMES: This is Bill Brach, Chief of the Vendor  
21 Inspection Branch.

22 MR. BRACH: As Mr. Stello had mentioned, many of  
23 these cases are still under active investigation so that some  
24 of the details will be limited in the public forum we're  
25 discussing this morning, but I'll try to give an overview of

1 the issues and understanding of NRC actions that are presently  
2 underway.

3 [Slide.]

4 The six issues here are the same ones that were  
5 briefed to you on July 21, and also we have three new issues  
6 that have evolved in the past few months that we'll give an  
7 overview on this morning as well.

8 Slide No. 6, please.

9 [Slide.]

10 Dr. Murley has discussed some aspects of the fastener  
11 issue. Just to provide some background to the fastener issue,  
12 in 1986 the Industrial Fastener Institute informed the NRC and  
13 other federal agencies of the existence of a counterfeit market  
14 for fasteners in the U.S. In 1986, NRC issued an information  
15 notice to alert the industry of this issue, and at the same  
16 time the Vendor Inspection Branch initiated sampling of  
17 fasteners as part of our inspection process.

18 Based on results obtained during the NRC's inspection  
19 and sampling of fasteners and the information that was  
20 developed outside of NRC and other federal agencies, also  
21 significant interest as noted through Congress and especially  
22 Congressman Dingell's subcommittee as far as the existence of  
23 the counterfeit market fasteners and the impact both within the  
24 NRC and other federal agencies. These actions all precipitated  
25 into the issuance of an NRC bulletin in late 1987, Bulletin 87-

1 02.

2 That bulletin required licensees to take samples and  
3 conduct tests on 20 safety-related and 20 non-safety related  
4 fasteners. The results are shown on the overhead. These  
5 results are the same results that were briefed to the  
6 Commission last summer, but just to give you a refresher as far  
7 as the issue that we've seen, that roughly 10 percent of all  
8 the fasteners that were tested were non-conforming when  
9 compared to the ASTM, ASME or SAE specifications.

10 Actions taken since the July briefing and actions  
11 that are currently underway within the NRC right now are, one,  
12 we're preparing a NUREG to be issued to the licensees, to the  
13 public, that will provide the results of all the samples and  
14 test that have been carried out so far, and will show the test  
15 results according to both the licensees and the various  
16 manufacturers and suppliers of the fasteners. We met just the  
17 early part of this month with our contractor who's putting  
18 together the tables and summaries and hope to have the NUREG  
19 out in early 1989.

20 We also have been conducting a number of inspections  
21 at licensees and suppliers and manufacturers to follow up on  
22 this issue of non-conforming fasteners. Since July we've  
23 conducted five inspections of manufacturers, we have a few more  
24 that are scheduled to be carried out in early 1989. These  
25 inspections are focused on those suppliers and manufacturers



1       which, based on the test data from Bulletin 87-02, appear to  
2       have a high non-conforming rate as far as their fastener supply  
3       meeting with the stated specifications.

4               One point I want to stress. In the information that  
5       we've identified and developed so far and based on our  
6       inspection of fasteners, the issue that we have within the  
7       nuclear arena appears to be more one of quality control of the  
8       manufacturing process for the fasteners manufactured as  
9       contrasted to indication or evidence that the fasteners in fact  
10      are counterfeit. That is that the differences, the non-  
11      conformances, are ones that you might expect to see in a  
12      manufacturing process where not all the fasteners meet minimum  
13      specifications, as contrasted to fasteners of marked  
14      specification differences. That's not to say that there are  
15      not counterfeit fasteners in the NRC; just the information we  
16      have developed so far points more in the direction of issues  
17      involving quality control of manufacturing as contrasted to  
18      counterfeit or misrepresented fasteners.

19             CHAIRMAN ZECH: What are we going to do about that?

20             MR. BRACH: We have a couple of initiatives underway,  
21      some of which Mr. Grimes will be briefing you on in the last  
22      part of the presentation. We have had discussions with various  
23      standards organizations. One issue that we have identified  
24      that has caused concern to us or raised a question to us is the  
25      adequacy of current sampling programs that are required by the

1     ASTM, ASME or SAE specifications as part of the routine  
2     sampling for assuring that fasteners conform with  
3     specifications. The exact numbers I don't recall but it was  
4     roughly out of, say, a batch or a lot of 30,000 fasteners, the  
5     number of required samples was in the neighborhood of 10.

6             CHAIRMAN ZECH: So you intend to follow through on  
7     that.

8             MR. BRACH: Yes, sir, to follow through.

9             CHAIRMAN ZECH: And whatever actions we need, we  
10    should take them.

11            MR. BRACH: Will do, yes, sir.

12            CHAIRMAN ZECH: You may proceed. Before you go off  
13    that one, could you talk very briefly about the safety-related  
14    non-conformances? And also that .08 -- what is that, eight-one  
15    hundredths of one percent? Not very big, but still safety-  
16    related significantly out of specifications.

17            MR. GRIMES: Fifteen of the fasteners, out of the  
18    3400, were significantly out of specification.

19            CHAIRMAN ZECH: What safety impact did that have?  
20    Did we analyze that?

21            MR. BRACH: Yes, sir. In each of these cases the  
22    licensee, where they identified out-of-specification fasteners,  
23    prepared in essence a justification for continued operation or  
24    for continued use, and in these 15 identified that the margin  
25    or the difference, as far as whether the fastener was out of

1 specification in tensile or hardness or chemical properties,  
2 that the non-conforming element of the fastener did not impact  
3 or affect the operational properties.

4 CHAIRMAN ZECH: Did we review that? Those licensee  
5 programs that -- ?

6 MR. BRACH: We are in the process. As to 100 percent  
7 closure, we're not there yet.

8 MR. MURLEY: Mr. Chairman, in terms of the safety  
9 significance, we have reviewed that and we agree with their  
10 analysis, and it has to do with the redundancy that's built  
11 into the design and the margins that are built into the design.

12 CHAIRMAN ZECH: All right. So far you haven't found  
13 any that would be considered safety significant that you'd be  
14 concerned about.

15 MR. MURLEY: That's right. We have not.

16 COMMISSIONER ROGERS: Was it possible to track down  
17 the vendors of those 15 out of standard?

18 MR. BRACH: The answer should be yes. I do not have  
19 that information with me right now, but for safety-related  
20 procurements through the supplying and manufacturing and  
21 distribution network, that should be traceable. Yes, sir.

22 CHAIRMAN ZECH: Do you have anybody that could  
23 respond more specifically?

24 MR. GRIMES: There is information that gives us the  
25 original manufacturers. We are in the process of asking our

1 field inspectors to check both the root cause analysis -- in  
2 other words, was it a mix-up of bolts in the utility's facility  
3 or was it a problem in the manufacturing of the item, or have  
4 we eliminated the possibility of fraud or substitution. So in  
5 each of those 15 cases we're still in the process of tracking  
6 that back through. So we haven't come to a bottom line yet but  
7 indeed they are traceable to the manufacturer for the safety-  
8 related items and we're still evaluating whether the utilities  
9 have completed an appropriate root cause analysis on each of  
10 those 15.

11 CHAIRMAN ZECH: And each of the safety-related items  
12 that comes up, is the staff analyzing themselves to assure that  
13 you do agree with their conclusion, or do you look at it  
14 objectively to make sure that you agree that there's no safety-  
15 related item there? In other words, what kind of a staff  
16 review of the utility analysis is made?

17 MR. GRIMES: At this point we've done a  
18 reasonableness review based on the information we have. But as  
19 I said, we're going to then follow through in more detail and  
20 make sure that we agree with the statements the utility --

21 CHAIRMAN ZECH: There are two things. You have to  
22 agree with the statement or not agree with it, and the second  
23 thing is, as Commissioner Rogers points out, to follow through  
24 on the manufacturing discrepancy that took place and follow  
25 that right down to the bottom line.

1                   MR. GRIMES: Right. We've completed the first but  
2 not the second.

3                   CHAIRMAN ZECH: All right. You may proceed.

4                   MR. BRACH: Number 7, please.

5                   [Slide.]

6                   At the July briefing as well we briefed you on  
7 Bulletin 88-05 which, if you will recall, there were two firms  
8 in New Jersey, Piping Supplies, Incorporated, and West Jersey  
9 Manufacturing, that were identified as supplying material, ASME  
10 materials, but lacking in many cases a basis for some of the  
11 certifications provided for the fittings and flanges. Dr.  
12 Murley also had characterized the safety assessment.

13                   Just some background as far as what has evolved since  
14 the briefing in July, at the July briefing, a bulletin  
15 supplement to 88-05 had already been issued requiring licensees  
16 to initiate both record review and testing of identified  
17 flanges from these two companies. Over the summer, based on  
18 tests that were being carried out by the industry in response  
19 to the supplement, it was identified based on many of the test  
20 results that while the material was not necessarily in  
21 conformance with the stated certifications, however much of the  
22 material did meet ASME minimum specifications or was very close  
23 to meeting specifications.

24                   Based on initial test data that came in in the  
25 summer, in early August of this summer we issued a supplement

1 to Bulletin 88-05 which temporarily suspended the record review  
2 and testing while NRC and NUMARC, which at that point was  
3 playing a pivotal and coordination role in pulling together  
4 industry tests and analyses, to allow us the time to review the  
5 tests and analyses to determine what the appropriate actions  
6 should be in resolution of Bulletin 88-05.

7 In late October of this year, NUMARC made that  
8 presentation to the NRC of the test data analysis and what  
9 their recommendations are. That information is currently under  
10 review within NRC. We just on the 9th of December have sent a  
11 letter to NUMARC requesting some additional generic analyses to  
12 assist the NRC in coming to completion on the review. These  
13 generic analyses include a request to look at a plant that's  
14 located in a high seismicity area, a plant of what I'll refer  
15 to as an old design in the 1960's design era, and a third  
16 analysis for a plant with many non-conforming parts.

17 Based on our review and information to date, it  
18 appears that, based on the analyses, the NRC may be in a  
19 position of preparing generic SER's to address these issues on  
20 a generic basis. That all is contingent upon, of course, the  
21 results of evaluations and the generic applicability of the  
22 analyses.

23 MR. GRIMES: I'd like to make two positive comments  
24 here, one with respect to the NUMARC coordination and effort in  
25 this particular topic was really excellent, tied together a lot

1 of individual data, arranged for specific tests and did  
2 coordinate the industry effort more efficiently than each  
3 licensee doing it by itself and saved I think both licensee and  
4 NRC resources in that regard.

5 The second thing is that based on the results of the  
6 test, I think with the additional information we've requested  
7 that I would project that we will be able to accept the  
8 material that's now in the plant as meeting its safety  
9 functions. We'll probably require additional work to be done  
10 before things that are maintained as spares can be used in the  
11 plant on each piece, but I think overall we've pretty well  
12 satisfied ourselves as to the safety significance of this  
13 particular item.

14 CHAIRMAN ZECH: Do you have a schedule for completion  
15 of all items regarding this bulletin?

16 MR. GRIMES: As Dr. Murley said, in the next few  
17 months we hope to complete that.

18 CHAIRMAN ZECH: Next few months. This is the same  
19 plan that Dr. Murley mentioned?

20 MR. GRIMES: The flanges and fittings, yes.

21 CHAIRMAN ZECH: How about the bulletin ahead of that.

22 MR. GRIMES: 87-02. I would say that we've got this  
23 down to a few items. I would say within about a six-month  
24 period we will wrap up all the details on this.

25 CHAIRMAN ZECH: On the fasteners?

1 MR. GRIMES: On fasteners, yes.

2 MR. STELLO: Assuming nothing new develops.

3 MR. GRIMES: Assuming this confirms what we think is  
4 there. If we develop new leads, of course, there would be --

5 CHAIRMAN ZECH: All right. Thank you. You may  
6 proceed.

7 [Slide.]

8 MR. BRACH: The issue involving molded case circuit  
9 breakers is one I believe the Commission is very familiar with.  
10 It was discussed extensively at the July briefing.

11 Just as Dr. Murley mentioned, just recently we've  
12 issued Bulletin 88-10 which directs licensees to identify and  
13 test non-traceable or suspect molded case circuit breakers.  
14 Our concern, of course, is that an unknowingly refurbished or  
15 counterfeit breaker may be procured, put into service and/or  
16 perhaps dedicated and put into a safety-related application at  
17 a nuclear power plant.

18 The bulletin has requested that licensees conduct  
19 what I will refer to as a sampling of molded case circuit  
20 breakers. The licensees are requested to do a records review  
21 and subjective testing of those breakers that are still in the  
22 warehouse that were procured before August of this year. In  
23 case where a licensee has fewer than 50 in a warehouse, it  
24 requires licensee to include in that sample a number of  
25 breakers that are presently installed to help reach a minimum



1 sample of 50.

2           There have been a number of questions raised with  
3 regard to the testing that NRC has required as part of Bulletin  
4 88-10, and I want to just kind of summarize the NRC position  
5 that we've taken with regard to the testing required and  
6 expectations.

7           We recognize that the testing required by Bulletin  
8 88-10 is not as complete as has been recommended by other  
9 organizations; notably, UL and NEMA, in letters to the NRC.  
10 The purpose of our testing in Bulletin 88-10 is to verify the  
11 functional performance of all untraceable breakers so as to  
12 provide reasonable assurance that these breakers will work on  
13 demand. The tests that we're requiring are non-destructive  
14 tests and we believe should not degrade those breakers that  
15 pass the test.

16           One aspect in contrast to NEMA and UL tests that were  
17 noted to NRC and suggested to NRC, some of which are  
18 destructive tests and are also conducted on a sampling basis,  
19 our program that we have required in the bulletin would be 100  
20 percent sampling and testing on breakers for which traceability  
21 has not been established.

22           COMMISSIONER ROGERS: UL is Underwriters Laboratory.  
23 What is NEMA?

24           MR. BRACH: NEMA is the National Electrical  
25 Manufacturers Association. That's a trade organization made up

1 of major manufacturers of electrical equipment.

2 COMMISSIONER ROGERS: Thank you.

3 MR. BRACH: So we've noted that while our testing in  
4 the bulletin does not necessarily provide complete verification  
5 of performance characteristics of the breakers, we believe that  
6 the test program provides a reasonable assurance of the  
7 performance requirements that are most important for insuring  
8 operation. And again, let me note that the activities in  
9 testing and record review required by Bulletin 88-10, if you  
10 will, is a sampling of breakers. We have structured the  
11 bulletin to be developing information on which NRC will make  
12 further determinations as to subsequent actions that may be  
13 needed. And that we're looking at this as being preliminary  
14 information coming into NRC to help us characterize and  
15 understand the extent of the non-traceable breakers presently  
16 in service or in possession of nuclear utilities. And as well,  
17 based on testing, the extent of performance issues that might  
18 be outstanding.

19 CHAIRMAN ZECH: Let me see if I understand what  
20 you're saying. In the safety-related systems that you find  
21 suspect circuit breakers, what actions do we take?

22 MR. BRACH: By the bulletin, if a non-traceable  
23 breaker is identified in an installed system, that breaker is  
24 required to be either replaced with one that has appropriate  
25 certifications and demonstrated testing capability, or that

1 breaker is to be subjected to the testing that is specified in  
2 the bulletin.

3 CHAIRMAN ZECH: And must pass the test. So you  
4 either replace the breaker or you test it and it passes the  
5 test in order to be adequate.

6 MR. BRACH: Yes. But these are for installed --

7 MR. GRIMES: I would want to make sure we understand  
8 that we made the overall judgment, as Dr. Murley mentioned,  
9 that the safety significance, given the redundancy of systems,  
10 is not high so we have allowed two refueling outages to perform  
11 these actual replacements.

12 CHAIRMAN ZECH: I understand.

13 MR. GRIMES: However, we want to identify where the  
14 breakers are and assess their significance, and we may change  
15 our mind if it turns out that these are very widely used, and  
16 in redundant applications we may accelerate that timeframe.  
17 But right now we believe that the safety significance, given  
18 the design of the electrical systems and the redundancy of the  
19 systems, would not warrant faster action than that.

20 So it's a concern, we do not want substandard or  
21 fraudulent material in power plants, but we believe that we  
22 can, we must deal with things in proportion to their safety  
23 significance, and this one we think some measured actions are  
24 required to replace or test and show they're adequate over some  
25 period of time.

1           CHAIRMAN ZECH: What you're saying to me means that  
2           you have to make a judgment as regards whether you have the  
3           confidence that even though the margin may have been reduced,  
4           whether there's sufficient margin --

5           MR. GRIMES: That's right.

6           CHAIRMAN ZECH: -- for you to determine that safety  
7           is still there.

8           All I would say on that is I understand that, but you  
9           know, we do build conservatism into our design process, the  
10          construction process, everyone recognizes that. That gives us  
11          some degree of comfort, but the comfort goes away when you take  
12          away that extra factor of conservatism. So if we're running it  
13          down to the margin too close, I would hope that the staff would  
14          make that judgment to replace those breakers or whatever  
15          components seem to be taken you too close to the margin. And  
16          it's a judgment factor. You can't perhaps analyze to the empth  
17          degree and quantify it to the empth degree, but it's a very  
18          important judgment factor to make, and I would say you should  
19          err on the conservative side and replace them whenever you feel  
20          there's even a -- not necessarily a requirement even but when  
21          you feel that the conservative factor that you see is becoming  
22          marginal, then I think you should make the decision to replace  
23          those breakers or other components, and I would hope that's  
24          what you're doing.

25          MR. GRIMES: Yes.

1                   MR. MURLEY: Yes. I would add, Mr. Chairman, that I  
2 don't think we're close to any margins or any cliffs. We  
3 clearly are sensitive to that. Where the trade-off really  
4 comes in and the judgment comes in is how much effort and how  
5 soon must we turn on the industry to find out -- there are  
6 thousands of breakers in any plant, or hundreds, I don't know  
7 the exact amount, probably thousands. But the countervailing  
8 concern is that we don't turn thousands of people loose and  
9 take them away from other work that they're doing that is just  
10 as important and probably more important to safety.

11                   When we, for example, sent out the bulletin on the  
12 flanges which required an enormous effort on the part of the  
13 industry -- I forget the exact numbers but it involved  
14 thousands of people going around and looking at the plants.  
15 And I think it was appropriate, but we did not find there  
16 anything really safety significant.

17                   Our judgment here is that there is not the need for a  
18 crash effort, but as Brian appropriately said, as information  
19 starts to trickle in and we see things that could change our  
20 mind, we'll quickly change the effort that's being required.

21                   CHAIRMAN ZECH: I understand. All I'm saying is that  
22 from my standpoint, if you have suspect circuit breakers in  
23 safety-related systems, it seems to me the first thing you  
24 ought to do is replace them.

25                   MR. MURLEY: Oh, yes.

1           CHAIRMAN ZECH: And if you don't replace them you  
2 ought to have an awful good reason why you're doing that, and  
3 I'd like to know kind of what that reason is, because it seems  
4 to me that if there's any doubt about it, you replace them.

5           MR. STELLO: We have two choices; they replace them,  
6 or we have to take them out and subject it to a testing program  
7 that shows it performs the safety function --

8           CHAIRMAN ZECH: But I'd rather you tell them to  
9 replace them rather than go through a lengthy analysis period  
10 to find out that they're no good.

11          MR. GRIMES: I think the practicalities are part of  
12 what led us to include the testing option. In many cases, the  
13 breakers are --

14          CHAIRMAN ZECH: I understand the practicalities but  
15 you don't have very many, it looks like, that could be  
16 significant as far as safety-related systems are concerned.  
17 You only found very few so far, so why not replace them.

18          MR. GRIMES: I was just about to say that some of the  
19 older breaker models are no longer manufactured so a  
20 replacement may not be readily available, and it would be a  
21 matter of either redesigning the electrical system to  
22 accommodate a currently-manufactured breaker or to test one of  
23 the older breaker models. And so we did provide that option.

24               I expect in most cases people will be replacing  
25 rather than testing, but we will also be watching that.

1                   CHAIRMAN ZECH: All right. I just emphasize the  
2 importance of making a very conservative judgment. The first  
3 indication or first judgment to replace them. If you don't  
4 replace them why not. And you've got to satisfy yourselves and  
5 the Commission that the judgment you make is the correct one.  
6 It's an important judgment; a very, very serious judgment call,  
7 and all I'm saying is I would expect you to make it on the  
8 conservative side. If there's any doubt, replace them.

9                   All right, let's proceed.

10                  MR. BRACH: The record review and testing we've been  
11 discussing, the results are due in to the NRC by April 1. We  
12 expect those to be coming in in the March timeframe.

13                  Just an overview. Since we met in July, the Office  
14 of Investigation and NRR technical staff have been fairly  
15 heavily involved in inspections. We've conducted almost 30  
16 inspections of manufacturers, suppliers, distributors and  
17 licensees over the past five months.

18                  And again, stressing that the concern here is the  
19 installation and use of any suspect or counterfeit breaker at  
20 the nuclear power plant, specifically in those areas where they  
21 maybe were bought commercial grade by the utility and dedicated  
22 for safety-related application. That's one door or avenue --

23                  CHAIRMAN ZECH: What slide are we on now?

24                  MR. BRACH: Still on Slide No. 8.

25                  MR. GRIMES: I'd like to add one other thing on the

1 circuit breakers and that is that NUMARC has underway an  
2 initiative in the area of non-safety related circuit breakers  
3 which they are developing and will present to us. The bulletin  
4 at this time has withheld action in the non-safety area, and if  
5 the industry action is not adequate in the non-safety area then  
6 we would probably take some additional action ourselves. But  
7 at this point, the industry has volunteered to develop a  
8 program in this area and we're awaiting their proposal.

9 COMMISSIONER CURTISS: I have one quick question on  
10 this slide. The three inspections of original equipment  
11 manufacturers, are those entities that we have direct  
12 regulatory authority over?

13 MR. BRACH: Yes, from the standpoint of --

14 COMMISSIONER ROGERS: What was the question and  
15 answer?

16 COMMISSIONER CURTISS: Are the three original  
17 equipment manufacturers listed on this chart under NRC  
18 Inspection Activities either licensees or vendors or in some  
19 manner entities that we have direct regulatory authority over?

20 MR. BRACH: Under Part 21, certain vendors of  
21 equipment for safety-related systems are required to do both  
22 defect evaluation and satisfy reporting requirements to the NRC  
23 for equipment that they provide to the nuclear industry, under  
24 10 CFR Appendix B, Quality Assurance Programs and Requirements,  
25 and through that avenue and those regulations, NRC has what I



1 will consider appropriate regulatory authority to conduct  
2 inspections and take actions as may be appropriate.

3 So for the manufacturers that are providing to  
4 nuclear power plants under 10 CFR Appendix B and/or under 10  
5 CFR Part 21, the answer is yes.

6 COMMISSIONER ROGERS: The dedication programs,  
7 there's a comment here that they potentially open the door for  
8 use of misrepresented products. Can you say just a little bit  
9 about that? I'm not quite clear on what the significance of  
10 these dedicated programs means.

11 MR. BRACH: Yes. Many of the issues that we've seen  
12 where there are suspect or unknowingly refurbished and/or  
13 counterfeit equipment introduced at nuclear power plants, it's  
14 been in what I'll refer to as the commercial market or the  
15 commercial grade providing of material. As Mr. Grimes  
16 mentioned a minute ago, a number of pieces of equipment are no  
17 longer newly manufactured, and utilities are forced into a  
18 situation of looking around on the market for a particular  
19 model breaker that maybe they can procure as a commercial grade  
20 item from a local supplier or distributor, and then perhaps the  
21 intended application of that item at the nuclear power plant  
22 may be a safety-related function or application and the  
23 licensee then is in the mode of taking the commercial grade  
24 item and subjecting it to what I'll refer to as a dedication  
25 program, a program which should go through and test all the

1 required critical characteristics of that item to perform its  
2 intended function. Which includes operability as well as  
3 perhaps seismic or environmental, depending on the application,  
4 to assure its use for intended applications.

5 The reason that we noted on this slide under what was  
6 referred to as talking points on molded case circuit breakers  
7 our concern about adequacy of dedication programs is that is an  
8 avenue or path for commercial grade items where, if you will,  
9 the potential for misrepresenting the equipment may be a little  
10 bit greater. An avenue for that type of equipment to be  
11 procured by nuclear utilities and then perhaps subjected to a  
12 dedication and eventual application to a safety-related service  
13 where if it's been unknowingly refurbished, some of the  
14 internal parts may not necessarily conform with the original  
15 design material specifications or engineering requirements for  
16 that part as originally manufactured.

17 MR. GRIMES: This has been of concern partly because  
18 we believe current dedication programs aren't as rigorous as  
19 they perhaps should be, and so --

20 COMMISSIONER ROGERS: Isn't that really the big  
21 problem, that the programs themselves are not adequate?

22 MR. BRACH: As summarized on this same page, we've  
23 conducted roughly 30 inspections and one concern that has  
24 evolved from a number of our reviews at various suppliers,  
25 distributors, manufacturers at licensees is that the

1 rigorousness or the extent of completeness of their dedication  
2 programs has caused us concern that this pathway could be a  
3 pathway for introducing misrepresented material into nuclear  
4 power plants.

5 COMMISSIONER ROGERS: What is your thought there?  
6 I'm a little concerned about this problem of a lack of  
7 availability of replacements just because the manufacturer has  
8 phased something out, and I want to come back to that later on  
9 sometime before we close. But what avenues does a licensee  
10 have except to go through a dedication program to replace  
11 something if there's no original source available anymore?

12 MR. GRIMES: That is essentially the choice they  
13 have, is to do that.

14 COMMISSIONER ROGERS: And what are we doing to look  
15 at the quality of those dedication programs?

16 MR. GRIMES: We've been working with the industry  
17 over the last couple years on a general framework for how  
18 things are dedicated, and there is an EPRI document that has  
19 been issued which we have been considering and NUMARC is  
20 considering whether some variation of that could be used as  
21 guidance to the industry on a general framework.

22 Then beyond that, each specific component has to be  
23 looked at for what are the appropriate parameters to test for,  
24 say, a molded case circuit breaker or a metal clad breaker or  
25 some other valve or some other component. So each material or

1 component has to be looked at separately in terms of what are  
2 the critical things that should be looked at. So there's two  
3 different problems. We are approaching I believe an overall  
4 framework now for what is a good way, or what are alternative  
5 acceptable ways of doing this --

6 COMMISSIONER ROGERS: Where do we stand on that?  
7 What's the timing and timetable for coming to a closure on that  
8 activity?

9 MR. GRIMES: We're in the process now -- I would say  
10 within months -- of doing that. NUMARC also has an effort to  
11 review the EPRI work and come to a recommendation of their own  
12 on that, and I believe their schedule is in the March timeframe  
13 to be able to do that. We're looking at whether we need to  
14 take sooner action than that, and we haven't made that decision  
15 yet.

16 COMMISSIONER ROGERS: Thank you.

17 CHAIRMAN ZECH: Proceed.

18 [Slide.]

19 MR. BRACH: This past spring, Diablo Canyon, Pacific  
20 Gas and Electric, identified to the NRC the case of an  
21 apparently counterfeited valve that they had procured from a  
22 local supplier. This was a valve used in a non-safety related  
23 application. It was a valve that was indicated to be a Vogt  
24 valve and based on further review, identified it to be in fact  
25 a misrepresented valve provided to Diablo Canyon. We issued an

1 information notice on this particular issue or case in July,  
2 and the status of our efforts presently is that we have not  
3 identified at any other facility the existence of such a valve  
4 as supplied by the company. The original supplier, local  
5 supplier, is no longer in business. It appears to be an  
6 isolated case; however, there is some information still  
7 currently underway within the NRC right now that is the subject  
8 of ongoing NRR and Office of Investigation review. But at this  
9 point in time it appears to be a limited case. That's all I  
10 have on Vogt valves.

11 [Slide.]

12 I have grouped together two allegations that we just  
13 briefly mentioned to the Commission last summer. These are  
14 separate allegations. One involves an allegation concerning a  
15 pump company misrepresenting their pumps to the industry. The  
16 second involves a separate company that manufactured pipe  
17 fittings and questions with regard to the certification and the  
18 basis for those certifications. As well, these are presently  
19 under review by technical and investigative staffs. Our  
20 initial reviews of both of these allegations has not  
21 substantiated the allegations; however, there is again, as  
22 similar to the Vogt valves, information which is still  
23 presently under review, although at this point in time it  
24 appears to be going toward closure.

25 There has been identified to us in the past few

1 months a case involving -- these are now new issues -- a case  
2 involving valve replacement parts. This is Slide No. 11.

3 [Slide.]

4 A new issue involving valve replacement parts. This  
5 includes items such as valve stems, plugs, seat rings, retainer  
6 pins. The licensee, Consumers Power Company, Palisades,  
7 identified to us this fall that they had procured I believe  
8 it's roughly around 63 or 65 items from a local supplier, these  
9 items being valve replacement parts, for use in, again, non-  
10 safety related systems. Based on their review and review by  
11 Masoneilan-Dresser, the manufacturer of the valves, it was  
12 identified that some of the parts they had procured turned out  
13 to be misrepresented and/or counterfeit parts. Based on review  
14 by Masoneilan-Dresser, they identified in a letter to NRC in  
15 the middle part of November that in fact there appeared to be a  
16 counterfeit market for valve replacement parts for the  
17 Masoneilan-Dresser valves.

18 With that information we proceeded to notify both  
19 NUMARC and other agencies, DOE, DOD, Defense Department, and  
20 NASA, of this case and subsequently issued just last week an  
21 information notice to alert the entire nuclear industry of the  
22 existence of this counterfeit market of Masoneilan-Dresser  
23 valves, and noted as well that it may not be limited solely to  
24 Masoneilan valves, that it may involve potentially other valve  
25 manufacturers as well.

1           We currently have underway as some of the issues as  
2 well, a high priority effort within the technical and  
3 investigatory staff to be pursuing this issue. As I mentioned,  
4 the application identified at Palisades was for a non-safety  
5 related application, but a concern is that -- we were talking  
6 beforehand about refurbishment of equipment. Valves are quite  
7 frequently refurbished as part of ongoing maintenance and  
8 surveillance, and the concern as to the authenticity and, if  
9 you will, genuine aspect of replacement parts used in all  
10 valves, both safety and non-safety.

11                   [Slide.]

12           This past fall as well, Commonwealth Edison Company,  
13 Quad Cities site, identified to the NRC that they had what was  
14 referred to as a substandard, refurbished metal clad breaker.  
15 The identification of this being substandard was jointly  
16 identified by both the utility and the original equipment  
17 manufacturer, that some of the parts involved in the  
18 refurbishment appeared to be both non-genuine replacement parts  
19 as well as non-conforming in physical dimension.

20           I'd like to stress, earlier we were talking about  
21 molded case circuit breakers and now we're talking about  
22 larger, metal clad circuit breakers. A distinction we need to  
23 keep in mind is that quite often metal clad circuit breakers  
24 are structured in such a way as to be refurbished and/or  
25 maintained through ongoing maintenance and surveillance as part

1 of the routine for periodic servicing of the large metal clad  
2 breakers. This is in contrast to the molded case circuit  
3 breakers which are generally not structured to be opened;  
4 they're generally a single item oftentimes sealed to prevent or  
5 to identify if in fact they have been opened.

6 This is a case that is, again, currently under review  
7 within the staff, it's one that has just been recently  
8 identified and we've had a number of activities underway to  
9 identify the source of the refurbishment and to identify if  
10 there are generic aspects associated with this activity as  
11 well.

12 [Slide.]

13 The last issue we want to raise, and this one also is  
14 a new issue, involving piping materials. NRC received an  
15 allegation that piping materials being supplied to a vendor by  
16 a supplier may not have in fact been as attested to by what's  
17 referred to as the certified material test reports, the  
18 certifications that accompany the material. It appears that in  
19 fact the certification may not have been soundly based and that  
20 some of the test data may have been falsified. This is one as  
21 well that has a very high priority attention within the  
22 investigative and technical staffs to determine the extent to  
23 which this is either an isolated or broader issue, and it's  
24 currently under investigation and review by the staff right  
25 now.



1 [Slide.]

2 I want to move to the next topic in the outline of  
3 our presentation. That involves our coordination with other  
4 federal agencies on the identification of substandard,  
5 misrepresented and/or counterfeit vendor products. The  
6 Commission recalls at the July briefing at that point NRC,  
7 Chairman Zech, had requested OMB to organize an interagency  
8 meeting of other agencies who have interest and involvement in  
9 assuring the quality of vendor products. That meeting OMB did  
10 arrange the meeting and occurred on August 3. Chairman Zech,  
11 Mr. Stello and Ben Hayes, Director, Office of Investigation,  
12 were keynote addressers at the presentation with the other  
13 agencies.

14 Following the meeting with OMB, it was identified to  
15 the NRC by OMB that two president's councils have been charged  
16 with the responsibility for taking the lead in interagency  
17 coordination on vendor issues, and those president's councils  
18 are listed on the viewgraph; the Council on Integrity and  
19 Efficiency and Council on Management Improvements.

20 [Slide.]

21 Within the NRC, the Vendor Inspection Branch in the  
22 Office of Nuclear Reactor Regulation is the focal point for  
23 staff-level interagency interactions. As noted, we have  
24 established staff contacts and liaisons in Department of  
25 Energy, Department of Defense and NASA. I would point out that

1 this is in part an outcome of the August OMB meeting where  
2 roughly I think 25 to 30 federal agencies were represented at  
3 that meeting, and a number of contacts were initiated. So this  
4 is in part an outgrowth of that August meeting.

5 And it was mentioned earlier by Mr. Grimes that some  
6 of our investigatory activities we've had cooperation with  
7 other federal agencies, two being noted here, NASA and DCIS.  
8 And as well, I had noted earlier on our discussion of the  
9 Masoneilan-Dresser valve issue that we've had coordination on  
10 that topic with Departments of Energy and Defense and NASA as  
11 well.

12 At this point, I believe Mr. Grimes has some  
13 discussion on current NRC and industry initiatives underway.

14 [Slide.]

15 MR. GRIMES: I think I'd like to just finish up with  
16 some remarks on what we have ongoing, and particularly NRC  
17 activities include an advance notice of proposed rulemaking  
18 which will solicit comments on a number of detailed questions,  
19 both in the procurement area and in the dedication of  
20 commercial grade components for safety-related purposes. And  
21 we have some general questions on whether we should adjust our  
22 regulations in this area, and go into specifics of metallic  
23 products and non-metallic products, components. There's a  
24 large variety of forms of everything from material to very  
25 complex components that have to be considered if we were to

1 make regulatory adjustments.

2 And also I think we want to solicit are there other  
3 ways of accomplishing this end without prescriptive regulations  
4 in this area, but we believe a good way to initiate that  
5 discussion would be an advance notice of proposed rulemaking,  
6 and I expect next month we will be bringing the Commission a  
7 paper on that subject for their consideration.

8 In the shorter term action actually requesting  
9 licensees to take some action, we have underway a generic  
10 letter which will address some near-term elements, things that  
11 we think should be addressed in terms of improved inspection  
12 and receipt testing of components. Although this is not a  
13 detailed or prescriptive request it will be a request for  
14 licensees to address these issues in their own programs.

15 CHAIRMAN ZECH: But these bulletins that you've  
16 already issued have already required action on the part of  
17 licensees.

18 MR. GRIMES: Yes, on specific components. Now we're  
19 saying take a look at your whole program; when can we say that  
20 this isn't happening anymore? Can we get better confidence by  
21 adjusting the program elements to take into consideration the  
22 experience that we've had on these specific cases so that we do  
23 influence vendors to either not deal with the utilities in this  
24 area or catch those that do supply substandard parts.

25 CHAIRMAN ZECH: I understand that's very appropriate

1 and I think that's the proper thing to do. But what I really  
2 want to make sure is that we do have bulletins out already that  
3 require specific actions that we know of, and we know that it's  
4 appropriate.

5 MR. GRIMES: Yes.

6 MR. STELLO: As soon as we see the need for action --  
7 that action is being taken as soon as we are aware of the need  
8 for it. What we're now talking about is a longer-term program;  
9 how can we now or at some point in the future say we believe  
10 this problem is behind us. No more of this will happen in the  
11 future. That's the action that Brian is speaking to.

12 CHAIRMAN ZECH: I'm not so sure we can ever think  
13 that no more will happen in the future.

14 COMMISSIONER ROGERS: That's an ambitious program.

15 CHAIRMAN ZECH: I'd like to think that's possible,  
16 and I understand what you're saying, but I think we've always  
17 got to be alert for this kind of possibility of either  
18 counterfeit or substandard parts in the future, and maybe this  
19 is the first time it has come to the fore in our agency in this  
20 significant a manner, but I think it's a warning that we've got  
21 to watch it forever.

22 MR. STELLO: That's presently what our goal is, Mr.  
23 Chairman, and we're going to try to meet it.

24 CHAIRMAN ZECH: Sure, I understand that but I don't  
25 think you can ever say it's over with and now we've finished

1       that problem, on to the next one. That's what I mean.

2               MR. STELLO: We're going to try very hard to say  
3       that.

4               CHAIRMAN ZECH: Well, you can't say that and I hope  
5       that you won't say that because you've got to recognize that  
6       there's always going to be the potential for this kind of a  
7       problem. Certainly you'll address it to the extent you can and  
8       I think that's what you're saying.

9               MR. STELLO: Yes.

10              CHAIRMAN ZECH: But you've got to recognize that the  
11       potential is always there and we've got to be alert to it.

12              MR. STELLO: Absolutely. What we hope to have is a  
13       very aggressive program on the part of the industry where they  
14       develop a mechanism to share information and cooperate in  
15       getting out to look at where is this equipment being  
16       manufactured or refurbished to be sure that it is done  
17       according to the proper procedures and rules so that at least  
18       they will have available to them those places they know they  
19       can go to where they will get equipment that they can count on.  
20       And at least I see that as something that's doable, but you're  
21       right, we will always be diligent and look for it. But our  
22       goal is to try to find a way, to the extent we can, to  
23       eliminate the problem.

24              CHAIRMAN ZECH: Recognizing you never can eliminate  
25       it. That's all I mean.

1 MR. STELLO: That's correct.

2 MR. GRIMES: Just to finally mention the industry's  
3 major initiative in this area is the formation of a NUMARC  
4 working group to review the overall adequacy of licensee  
5 programs and to propose some actions in this area. And to the  
6 extent that that reflects licensees taking care of their own  
7 problem, we encourage that and think it's a good way to go  
8 overall.

9 [Slide.]

10 Finally, the slide on proactive initiatives being  
11 considered by the NRC and the industry. I'll just go over a  
12 few of the items and I think I've probably mentioned some of  
13 these in July also. We think improved vendor audits are  
14 required by licensees in terms of more technical focus and  
15 substance. In this regard the whole aspect of engineering  
16 involvement in the procurement process is important, both in  
17 procurement and in the overview of the vendors and determining  
18 what types of tests need to be done on what types of equipment.

19 More comprehensive in terms of spending enough time  
20 at a vendor's shop to really understand what's going on rather  
21 than a day or two by one or two people.

22 Joint utility audits we encourage in the sense that  
23 if the utilities could combine their resources and do fewer but  
24 more significant audits with the same resources, we think that  
25 would be a much better application of the available resources

1 in the utility industry.

2 We think improved material receipt testing and  
3 inspection is warranted. I think we mentioned in July the DoD  
4 experience of announcing the intent to test fasteners that  
5 caused 68 out of 400 current contractors to withdraw their  
6 supply of fasteners to DOD. So just the knowing that people  
7 are going to test a product may influence the vendor  
8 environment.

9 [Slide.]

10 This slide continues. On sharing of vendor audit  
11 results, we found certain cases where negative information is  
12 known to utilities -- either they've done an audit and have  
13 rejected the vendor or taken them off the list, but this  
14 information has not been provided generally to others in the  
15 industry and there are some liability concerns on the part of  
16 licensees in this area. So we think some mechanism needs to be  
17 looked at to allow sharing of both audit results and rejection  
18 information when a component is found substantially inadequate  
19 on a receipt test or inspection.

20 We have talked before about improved dedication  
21 programs, the specific things that are done to make sure that a  
22 component is adequate for safety-related service. One thing  
23 utilities are looking at is common quality standards so that  
24 they can jointly procure, say, a large batch of circuit  
25 breakers that might warrant a manufacturer setting up an

1 Appendix B line and bidding on a proposal to provide quality  
2 components over some time period which the manufacturer might  
3 not do for a single utility customer.

4 Finally, Mr. Brach mentioned initiatives to try to  
5 upgrade provisions in the codes and standards where we see  
6 inadequacies in assurance of quality, and this is not so much  
7 directed to falsification or fraud but to making sure that we  
8 get the product that is needed to provide the margin we desire  
9 in the nuclear power plant application.

10 That concludes my remarks.

11 MR. STELLO: There's one more thought which isn't  
12 represented here which I think represents a substantial effort  
13 by the NRC, and that's pursuit of the investigations of  
14 wrongdoing of manufacturers engaged in this activity so that we  
15 can get the facts and refer them to department of Justice and  
16 have a vigorous enforcement program and prosecute vendors that  
17 are doing this kind of thing, and I think making an example.  
18 And as you already pointed out, making that kind of information  
19 widely known as a deterrent -- I think that offers substantial  
20 benefit to stopping this kind of activity as well.

21 MR. GRIMES: I might mention also that I think there  
22 has been excellent cooperation between the technical and  
23 investigatory sides. We've done a number of joint operations  
24 where they've accompanied us or we've accompanied the Office of  
25 Investigation, and it's been very valuable to have both the



1 technical and investigatory perspective.

2 CHAIRMAN ZECH: Thank you very much. Questions from  
3 my fellow Commissioners?

4 COMMISSIONER ROGERS: Yes. With respect to industry  
5 initiatives, is there anything, any kind of industry  
6 coordination that's going on to look at the possible  
7 discontinuance of a line of products that is important for the  
8 future and to try to see if there's some way that just by  
9 accident in a certain sense everybody who manufactures  
10 something suddenly decides not to do it anymore and there just  
11 is a gap there that perhaps if they somehow or other analyzed  
12 jointly one of them might decide to stay in the business rather  
13 than all of them get out of it, or something of that sort? I  
14 recognize that's not an activity that we can probably  
15 participate in very much but I wonder if the industry has seen  
16 that as a kind of activity that they might try to foster  
17 because it seems to me with the notion that the nuclear  
18 business is a declining one, people start to just bail out.  
19 And we recognize the necessity of maintaining high quality  
20 replacement parts and it shouldn't be that it's just the  
21 problem of each individual plant to deal with; I would think  
22 somehow industry-wide there could be some kind of an effort to  
23 identify potential parts that might become scarce in the future  
24 and that there be some kind of a coordinated effort within the  
25 industry to guarantee that those replacements will be there for

1 the life of the plants.

2 That's one kind of activity, and part of that could  
3 be some kind of a list of critical components that are likely  
4 to become unavailable in the future that is generated so that  
5 there's some systematic way of looking at this problem of  
6 phase-out of replacement parts.

7 MR. GRIMES: Yes. Let me give you one specific  
8 example and also say that is one of the things that the NUMARC  
9 working group will be considering overall. But I have a  
10 specific example where a number of utilities have gone together  
11 recently to ask a manufacturer to design a specific breaker  
12 that will fit multiple applications so that from now on they  
13 won't be dependent on the exact same part number but will be  
14 able to use that sort of thing. And I think that is a healthy  
15 indication. But I hope the NUMARC working group will -- we  
16 expect them to address this general area.

17 COMMISSIONER ROGERS: Are there any initiatives we  
18 could take with respect to this? For example, such a part  
19 would have to be acceptable to meet our standards so we're a  
20 player in that, to that extent, and I wonder if we see this as  
21 something that we might at least encourage by thinking through  
22 that whole thing with respect to what our requirements are and  
23 how flexible they might be to accept an interchangeable  
24 replacement part of some kind.

25 MR. GRIMES: Generally our requirements don't get

1 down to that level of detail and it becomes a matter of  
2 engineering of each subsystem, and there have to be engineering  
3 judgments made, then we often overview the judgment that was  
4 made. But we don't have prescriptive requirements that would  
5 prevent that.

6 MR. STELLO: I think that's a good point. We'll want  
7 to pursue that further with the industry. I think there  
8 probably are some things maybe we can do. It sure looks like  
9 there's a great deal they can do. We will pursue that with  
10 them.

11 COMMISSIONER ROGERS: Good. Thank you.

12 COMMISSIONER CURTISS: Just one quick question. Do  
13 we have, in your view, sufficient statutory authority to  
14 pursue, to the extent that you would like, the original  
15 manufacturers of equipment and suppliers and distributors and  
16 so-called middlemen in a manner that would address this problem  
17 in the way you think needs to?

18 MR. STELLO: At the moment we are able to do whatever  
19 we need, one way or the other. Working together with the  
20 General Counsel, we are able to accomplish what we need. It's  
21 always nice to have more but is it absolutely necessary or not,  
22 I don't think the answer is yes.

23 COMMISSIONER CURTISS: Do we need to have the  
24 authority to issue orders to non-licensee individuals or firms,  
25 or do we have that authority now? A middleman, for example,

1 would we have the authority to issue an order today?

2 MR. PARLER: I don't know what kind of order you're  
3 talking about. If there is a safety concern or what have you,  
4 we can find a way to proceed, as we did in this particular  
5 case. Our basic authority, as I'm sure you know, beyond the  
6 materials and the facilities that we have direct control over,  
7 is found in Section 206 of the Energy Reorganization Act, which  
8 is further implemented by Part 21 in our regulations.

9 We don't have unlimited authority so that if there is  
10 something commercial grade that is being made in the factories  
11 through the land we could issue orders willy-nilly across the  
12 board. I wouldn't think this agency would want that authority.  
13 But whenever there is some basis to believe that there might be  
14 a problem out there, I think we have sufficient authority to  
15 pursue that lead. At least that's what has been done in the  
16 area thus far. If we encounter a problem such as that we need  
17 the authority for perhaps administratively to do this, that or  
18 the other, we will seek such authority, I will recommend to the  
19 Commission that the Commission seeks this authority.

20 COMMISSIONER CURTISS: That's all I have.

21 CHAIRMAN ZECH: Let me just thank all of you for an  
22 excellent presentation. The safety impact of possible use of  
23 substandard counterfeit components in nuclear power plants is a  
24 very serious issue and we must continue to pursue with high  
25 priority our efforts, both on the technical staff and the

1       investigatory staff, this issue. And I think it's important  
2       that we ensure that the industry also and the utilities also  
3       have this high on their priority list.

4               I think they have done this and I appreciate the  
5       remarks that the staff has made about the efforts of the  
6       industry because it's my view, too, that they are pursuing this  
7       vigorously.

8               I think the discussion of safety and non-safety  
9       related always concerns me a little bit because as far as I'm  
10      concerned, everything in a nuclear power plant involves safety.  
11      I recognize that we have special responsibilities for the so-  
12      called nuclear steam supply system, but we all recognize too  
13      that the balance-of-plant is very important and in many cases,  
14      almost half the cases that I'm aware of that we concern  
15      ourselves about, the balance of plant is involved.

16              So generally speaking, I think we should start out  
17      with the premise that everything is safety-related until it's  
18      proved otherwise. I recognize a drinking fountain or things  
19      like that in the plant certainly may not be as important as  
20      many other components but in general, I like to think that we  
21      view everything in a nuclear power plant as involving safety.

22              COMMISSIONER ROGERS: I was going to make a smart-  
23      alecky comment about drinking fountains but I won't.

24              [Laughter.]

25              CHAIRMAN ZECH: Well, they're important, too, we all

1 know that.

2 I think your efforts to initiate prompt generic  
3 action through a generic letter is important, and also your  
4 efforts towards advance notice of proposed rulemaking I believe  
5 is timely. I would ask the staff to keep the Commission  
6 informed on those initiatives.

7 I'd also agree that it's important to try to come up  
8 with a final solution for this problem, but I also do believe  
9 that the message that we all should take away is that constant  
10 vigilance is always important, and as commendable as it is to  
11 try to come up with something that will make this problem away,  
12 I think realistically speaking we've got to recognize that that  
13 effort, as commendable as it is, may not ever achieve 100  
14 percent success and therefore we should remain vigilant.

15 I think that the staff and the investigators both  
16 working together is showing a very coordinated effort on the  
17 part of the staff, which the Commission appreciates. I would  
18 certainly commend you to continue that kind of coordinated  
19 effort in this very important safety matter. What we're trying  
20 to do, of course, is to stop the intrusion of substandard  
21 components into the plants, and we recognize that we've got a  
22 very serious issue in front of us, but I think that the efforts  
23 the staff is making with our investigators, working closely  
24 together, is an important effort and certainly I commend your  
25 vigorous effort and your priority that you're giving this

1       important matter.

2                   Are there any other questions from my fellow  
3       Commissioners?

4                   [No response.]

5                   If not, we stand adjourned. Thank you very much for  
6       a fine presentation.

7                   [Whereupon, at 11:30 a.m., the Commission meeting was  
8       adjourned.]

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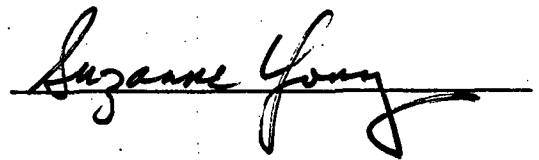
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**CERTIFICATE OF TRANSCRIBER**

**This is to certify that the attached events  
of a meeting of the U.S. Nuclear Regulatory Commission  
entitled:**

**TITLE OF MEETING:** COMMISSION BRIEFING ON CURRENT STATUS OF  
INFORMATION REGARDING THE POSSIBLE USE OF  
SUBSTANDARD MATERIAL AND EQUIPMENT IN NUCLEAR POWER PLANTS  
**PLACE OF MEETING:** Washington, D.C.  
**DATE OF MEETING:** TUESDAY, DECEMBER 20, 1988

were transcribed by me. I further certify that said  
transcription is accurate and complete, to the best  
of my ability, and that the transcript is a true and  
accurate record of the foregoing events.

A handwritten signature in cursive script, reading "Suzanne Young", written over a horizontal line.

**Ann Riley & Associates, Ltd.**



BRIEFING ON CURRENT STATUS OF  
INFORMATION REGARDING THE POSSIBLE  
USE OF SUBSTANDARD MATERIAL AND EQUIPMENT  
IN NUCLEAR POWER PLANTS

DECEMBER 20, 1988

### OVERVIEW OF THE PROBLEM

- \*MANY TYPES OF EQUIPMENT ARE SUBJECT  
TO COUNTERFEIT OR SUBSTITUTION
- \*EXISTING QA PROGRAMS AND VENDOR  
AUDITS
  - \*CONFIRM PRODUCT QUALITY
  - \*ASSUME INTEGRITY
  - \*NOT FOCUSED ON INTENT TO DECEIVE

### TALKING POINTS ON OVERVIEW OF THE PROBLEM

- MANY MATERIALS, EQUIPMENT, AND COMPONENTS ARE SUBJECT TO COUNTERFEIT OR SUBSTITUTION
- EXISTING QA PROGRAMS AND VENDOR AUDITS ARE GENERALLY STRUCTURED TO CONFIRM QUALITY OF PRODUCTS AND TO DETECT SUBSTANDARD PRODUCTS, BUT NOT TO DETECT FRAUD AND INTENT TO DECEIVE
- RECENTLY MORE INSTANCES OF COUNTERFEITING OR SUBSTITUTION HAVE BEEN IDENTIFIED BY BOTH THE NRC AND LICENSEES
- SHRINKING NUCLEAR MARKET HAS CAUSED LARGER MANUFACTURERS TO LEAVE NUCLEAR MARKET OR REDUCE PRODUCT LINES OFFERED UNDER NUCLEAR QA PRODUCTION STANDARDS
- A LARGER FRACTION OF SAFETY-RELATED COMPONENTS ARE BEING PROCURED COMMERCIAL GRADE BY INTERMEDIATE SUPPLIERS AND "UPGRADED" TO NUCLEAR GRADE FOR USE IN SAFETY-RELATED APPLICATION
- THE DIFFERENCE BETWEEN NUCLEAR AND COMMERCIAL PRICES OR BETWEEN REFURBISHED AND NEW COMPONENT PRICES PROVIDES AN INCENTIVE TO MISREPRESENT PRODUCT
- PROBLEM IS NOT RESTRICTED TO NUCLEAR INDUSTRY

OUTLINE OF PRESENTATION ON  
MISREPRESENTED VENDOR PRODUCTS  
ISSUE

- \*NRC ACTION PLAN TO ADDRESS MISREPRESENTED  
VENDOR PRODUCTS ISSUE
- \*SUMMARY OF ACTIONS TAKEN SINCE JULY 1988  
BRIEFING FOR COMMISSION
- \*NRC COORDINATION WITH OTHER FEDERAL AGENCIES
- \*NRC AND INDUSTRY INITIATIVES TO ADDRESS  
THE PROBLEM

OVERALL ACTION PLAN TO ADDRESS  
MISREPRESENTED VENDOR PRODUCTS ISSUE

- \*DEVELOP INFORMATION TO GIVE LICENSEES TO  
FACILITATE CORRECTIVE ACTIONS
- \*SHARE INFORMATION WITH OTHER FEDERAL  
AGENCIES
- \*INVESTIGATE AND TAKE APPROPRIATE ACTIONS
- \*ASSESS NRC REGULATORY FRAMEWORK TO  
PREVENT FUTURE PROBLEMS

TALKING POINTS ON OVERALL ACTION PLAN TO ADDRESS  
MISREPRESENTED VENDOR PRODUCTS ISSUE

- ° Develop Information To Give Licensees to Facilitate Corrective Actions:
  - ° Generic Communications in 1988, to date:
    - ° Two Bulletins and 4 Bulletin Supplements Issued
    - ° Three Information Notices (IN) and Two IN Supplements Issued
    - ° Two INs Being Prepared
  - ° Approximately 10 Meetings With NUMARC and Licensees/Vendors
- ° Share Information With Other Federal Agencies:
  - ° OMB/Interagency Coordination
  - ° Staff Coordination With DOE, DOD, NASA
- ° Investigate and Take Appropriate Actions:
  - ° Four Staff Referrals To OI Since July 1988
  - ° Department of Justice (DOJ) Referrals As Appropriate
  - ° Two DOJ Previous Referrals Resulted In Guilty Pleas or Verdicts
- ° Assess NRC Regulatory Framework to Prevent Future Problems:
  - ° Advanced Notice of Proposed Rulemaking
  - ° Generic Letter
  - ° NUMARC Working Group

VENDOR ACTIONS TAKEN SINCE JULY 1988  
BRIEFING

- \*PREVIOUSLY IDENTIFIED ISSUES (JULY 1988)
  - \*FASTENERS
  - \*FITTINGS AND FLANGES
  - \*MOLDED CASE CIRCUIT BREAKERS
  - \*VALVES
  - \*PUMPS - ALLEGATION
  - \*PIPE FITTINGS - ALLEGATION
- \*NEW ISSUES
  - \*VALVE REPLACEMENT PARTS
  - \*METAL CLAD CIRCUIT BREAKERS
  - \*PIPING MATERIALS

FASTENERS  
BULLETIN 87-02

\*LICENSEES CONDUCTED TESTS ON OVER 3400  
FASTENERS

\*8% SAFETY-RELATED NONCONFORMANCES

\*10% NONSAFETY-RELATED NONCONFORMANCES

\*0.08% SAFETY-RELATED SIGNIFICANTLY OUT  
OF SPECIFICATION

\*TEST RESULTS TO BE PUBLISHED IN NUREG

\*NRC INSPECTIONS OF LICENSEES AND VENDORS



TALKING POINTS ON FASTENERS  
BULLETIN 87-02

- ° Licensees Requested To Conduct Tests Of Safety And Non-Safety-Related Fasteners
- ° Results Received For Over 3400 Tests
  - ° 8% Safety-Related Fasteners Were Nonconforming (168)
  - ° 10% Non-Safety-Related Fasteners Were Nonconforming (150)
  - ° .08% Safety-Related Significantly Out Of Specification (15)
- ° NUREG Being Prepared To Present Test Results For Manufacturers And Suppliers
- ° NRC Inspections To Followup On Licensee Testing
- ° NRC Inspection Of Selected Fastener Suppliers And Manufacturers
  - ° Five Inspections Completed Since July 1988
  - ° Problem Appears To Be Quality Control of Manufacturing Process Rather Than Counterfeit Issue

ASME FITTINGS AND FLANGES  
BULLETIN 88-05

- \*LICENSEES REQUESTED TO IDENTIFY AND TEST  
SUSPECT FITTINGS AND FLANGES
- \*EXCEPT FOR NTOLS, TESTING AND RECORD  
REVIEW SUSPENDED IN AUGUST 1988
- \*NUMARC COORDINATED LICENSEE RESULTS OF  
IN-SITU AND LABORATORY TESTING
- \*NUMARC PRESENTED DATA TO NRC ON  
OCTOBER 27, 1988
- \*NUMARC REQUESTED TO PERFORM ADDITIONAL  
GENERIC ANALYSES FOR EVALUATING DESIGN  
MARGINS

MOLDED CASE CIRCUIT BREAKERS  
BULLETIN 88-10

- \*LICENSEES REQUESTED TO REVIEW RECORDS  
FOR TRACEABILITY AND TO CONDUCT TESTS
- \*RESULTS TO BE REPORTED IN MARCH 1989
- \*NRC CONDUCTED NUMEROUS INSPECTIONS OF  
SUPPLIERS AND DISTRIBUTORS

TALKING POINTS ON MOLDED CASE CIRCUIT BREAKERS  
BULLETIN 88-10  
INFORMATION NOTICE 88-46

- ° Licensees Requested To Identify and Test Suspect Molded Case Circuit Breakers
- ° Results To Be Reported In March 1989 (Depending On Required Number of Tests, Some Data May be Reported At Later Date)
- ° NRC Inspection Activities:
  - ° 3 Inspections of Original Equipment Manufacturers
  - ° 5 Inspections of Vendors Selling Safety-Related Equipment
  - ° 16 Inspections of Suppliers and Distributors
  - ° 3 Inspections of Licensees
- ° Dedication Programs Potentially Open Door For Use of Misrepresented Products In Safety-Related Applications

VOGT VALVES  
INFORMATION NOTICE 88-48

- \*LICENSEE REPORTED INSTANCE OF APPARENTLY  
COUNTERFEIT VALVE
- \*NRC REVIEWS UNDERWAY

PUMPS AND PIPE FITTINGS  
(ALLEGATION)

- \*NRR AND OI STAFF PURSUING
- \*INITIAL REVIEWS DID NOT SUBSTANTIATE  
ALLEGATIONS
- \*NRC REVIEWS UNDERWAY

NEW ISSUES  
VALVE REPLACEMENT PARTS

- \*LICENSEE (PALISADES) IDENTIFIED  
SUBSTANDARD UNAUTHORIZED VALVE  
REPLACEMENT PARTS
- \*"COUNTERFEIT MARKET" IDENTIFIED TO NRC  
BY MASONEILAN-DRESSER
- \*NRC ISSUED INFORMATION NOTICE
- \*NRC NOTIFIED NUMARC, DOE, DOD, NASA
- \*NRC REVIEWS UNDERWAY

### METAL CLAD CIRCUIT BREAKERS

- \*LICENSEE (QUAD CITIES) IDENTIFIED  
SUBSTANDARD REFURBISHED METAL  
CLAD BREAKER WITH NONCONFORMING  
REPLACEMENT PARTS
- \*METAL CLAD CIRCUIT BREAKERS CAN BE  
REFURBISHED AS CONTRASTED TO  
MOLDED CASE CIRCUIT BREAKERS WHICH  
GENERALLY ARE NOT TO BE OPENED
- \*NRC REVIEWS UNDERWAY



PIPING MATERIALS

- \*ALLEGATION THAT A PIPING MATERIAL  
SUPPLIER FALSIFIED TEST DATA AND  
TRACEABILITY DOCUMENTATION
- \*NRC REVIEWS UNDERWAY

COORDINATION WITH FEDERAL AGENCIES

- \*REQUESTED OMB TO ORGANIZE INTERAGENCY  
MEETING AND OFFERED ASSISTANCE
- \*OMB MEETING ON AUGUST 3, 1988
- \*PRESIDENT'S COUNCIL ON INTEGRITY AND  
EFFICIENCY AND COUNCIL ON MANAGEMENT  
IMPROVEMENTS HAVE INTERAGENCY LEAD

(CONTINUED)

\*NRC'S VENDOR INSPECTION BRANCH IS FOCAL  
POINT FOR STAFF LEVEL INTERAGENCY  
INTERACTIONS

\*STAFF CONTACTS ESTABLISHED WITH DOE,  
DOD, NASA

\*OTHER AGENCIES (NASA, DCIS) COOPERATED  
WITH NRC ON INVESTIGATIONS

NRC AND INDUSTRY INITIATIVES

\*NRC ACTIVITIES

\*ADVANCE NOTICE OF PROPOSED RULEMAKING  
(ANPR)

\*GENERIC LETTER

\*INDUSTRY INITIATIVES

\*NUMARC WORKING GROUP

## TALKING POINTS ON NRC AND INDUSTRY INITIATIVES

- ° NRC Activities
  - ° Advance Notice of Proposed Rulemaking (ANPR)
    - ° Receipt Inspection and Testing Programs
    - ° Dedication Programs
    - ° To EDO By End-December
  - ° Generic Letter
    - ° Near Term Implementation of Certain Elements of Receipt Inspection Testing And Dedication Programs and Audit Improvements
    - ° To NUMARC (and Public) For Comment December 6, 1988
    - ° Expect January 1989 Issuance
- ° Industry Initiative
  - ° NUMARC Working Group Formed To Review Overall Adequacy of Licensee Programs For Procurement and Dedication

PROACTIVE INITIATIVES BEING  
CONSIDERED BY NRC AND INDUSTRY

- \*IMPROVED VENDOR AUDITS BY LICENSEES
- \*MORE TECHNICAL PARTICIPATION
- \*MORE COMPREHENSIVE AUDITS
- \*JOINT UTILITY AUDITS (2 OR MORE  
LICENSEES)
- \*IMPROVED MATERIAL RECEIPT INSPECTION  
AND TESTING

(CONTINUED)

- \*SHARING OF VENDOR AUDIT RESULTS
- \*SHARING OF RECEIPT REJECTION  
INFORMATION
- \*IMPROVED DEDICATION PROGRAMS
- \*JOINT UTILITY PROCUREMENT OF COMMODITY  
ITEMS
- \*UPGRADE TESTING PROVISIONS IN CODE/  
STANDARDS