

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

**Title:** BRIEFING ON THE STATUS OF THE OPERATOR REQUALIFICATION  
PROGRAM

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**Ann Riley & Associates**

*Court Reporters*

1625 I Street, N.W., Suite 921

Washington, D.C. 20006

(202) 293-3950

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1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON STATUS OF OPERATOR REQUALIFICATION PROGRAM

5 \*\*\*

6 PUBLIC MEETING

7 \*\*\*

8 Nuclear Regulatory Commission

9 One White Flint North

10 White Flint, Maryland

11 Thursday, May 5, 1988

12 The Commission met in open session, pursuant to  
13 notice, at 2:00 p.m., the Honorable LANDO W. ZECH, Chairman of  
14 the Commission, presiding.

15  
16 COMMISSIONERS PRESENT:

17 LANDO W. ZECH, Chairman of the Commission

18 KENNETH CARR, Member of the Commission

19 KENNETH ROGERS, Member of the Commission  
20  
21  
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23  
24  
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## 1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

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S. CHILK

W. PARLER

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V. STELLO

T. MURLEY

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J. HANNON

G. ROE

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

[2:00 p.m.]

CHAIRMAN ZECH: Good afternoon, ladies and gentlemen.

Commissioner Roberts and Commissioner Bernthal will not be with us this afternoon.

Today, the Staff will brief the Commission concerning actions they've taken and results they've achieved to date in improving the administration of the NRC requalification examinations for license of reactor operators.

After a public meeting on the 10th of September 1987 between the NRC Staff and industry representatives, the Staff decided to suspend further NRC involvement in the administration of requalification examinations for NRC reactor operators. This decision was made to assure that there was no adverse impact on the safety of licensed power reactors as a result of the NRC requalification examination process.

Since that date, the Staff has been working to improve the requalification examination process and to demonstrate its effectiveness. I understand today will be an update, a briefing, a progress report, and that pilot programs are still being conducted.

One subject I hope will be addressed is that of the credibility and the experience, the capability of our NRC licensing examiners.

1 I understand that copies of the slides to be used  
2 today during the presentation are available as you entered the  
3 room.

4 Do any of my fellow Commissioners have any opening  
5 comments to make?

6 [No response.]

7 CHAIRMAN ZECH: If not, Mr. Stello, will you proceed,  
8 please?

9 MR. STELLO: Thank you, Mr. Chairman.

10 I want to make, I think, basically two points at the  
11 outset. One is the requalification program, as you will see  
12 this afternoon, is an extremely large program as you look at  
13 the number of licensed operators that would be subjected to  
14 requalification over the years, and, in fact, would represent  
15 essentially 50 percent of the workload for our licensing  
16 activity.

17 That led me to think about how we got to where we are  
18 today, and we had a number of discussions a number of years  
19 ago, and it raises, at least conceptually, the question of  
20 whether the Commission might wish for us to reexamine some of  
21 those old alternate approaches to requalification.

22 One of them that was particularly interesting, I  
23 think, to the Commission, as I recall, that offered a potential  
24 is the equivalent of a check pilot concept, where we could have  
25 the industry get senior, experienced equivalent pilots, which

1 would be equivalent good SROs to go out and enter into the  
2 equivalent of a check program for requalification.

3           You will see a lot of what we're doing gets us closer  
4 to making sure that we have that kind of experience and  
5 expertise in the requal program, and I didn't want to start the  
6 discussion today with should we do that, but rather to at least  
7 have the Commission be thinking about it as we go through this  
8 presentation, and perhaps we could at the end spend maybe a few  
9 minutes thinking about whether that's a useful subject for us  
10 to even give any further consideration to, and if we can at the  
11 end of it, I'll come back to that.

12           With me today at my immediate left is Dr. Murley, who  
13 I will turn to in a moment and Jack Roe and Mr. Hannon, who  
14 will do the briefing, and Mr. Murley has some -- Dr. Murley has  
15 some introductory remarks, and then we'll get into the  
16 briefing, and if we could, I'd appreciate if we could at least  
17 discuss that particular issue at the end of the briefing.

18           CHAIRMAN ZECH: All right. Thank you very much.

19           Dr. Murley, you may proceed.

20           MR. MURLEY: Thank you, Mr. Chairman.

21           In addition to the operator requalification exam  
22 program for currently licensed operators, we do have a program  
23 for examining new operators, as you know, and they are closely  
24 tied together. There have been some recent events and  
25 indications that tell me that we've got some areas in our new

1 operator licensing program that we need to look at to see if we  
2 need to improve that as well.

3 I don't intend to discuss that program today, except  
4 to say that I have asked Jim Sneizak, my Deputy, to look into  
5 it. He has put together a small team, and he expects to have  
6 some recommendations at the end of this month for me. It's  
7 likely, though, that some of the lessons that we've learned on  
8 our requal program that you'll hear today might very well carry  
9 over into the new operator licensing program.

10 To go back a few years, NRC increased its inspection  
11 attention on utility requalification training programs probably  
12 about four years ago. I was in Region I at that time, and this  
13 increased attention, I felt, caused quite a bit of  
14 consternation among the operators and the utilities. They did  
15 tighten up their requal programs, but in my rounds around all  
16 the plants in Region I, I began to hear concerns from the  
17 operators that they felt that we were being, I guess, too  
18 theoretical and too difficult in our requal program.

19 One question that comes to mind, for example, was:  
20 I've been a licensed SRO for ten years or fifteen years, and  
21 why do I need to restudy Bernoulli's equation? And apparently  
22 that was one of the questions that was being asked on the  
23 requal exam -- not by us, but by the utilities themselves. And  
24 apparently they felt that they were being driven to that.

25 Last year, of course, Part 55 was revised, and this



1     resulted in a stepped-up NRC intention and direct involvement  
2     in administering the requal exams. We again began to hear  
3     concerns, and I'd say the intensity of those concerns stepped  
4     up even, and the information that was coming in to me was along  
5     the following line, that the exams were too theoretical. They  
6     were not operationally oriented; they were similar, if not the  
7     same as exams for initial operators.

8             Second was that we were giving too short notice for  
9     the exams, and we were doing random selection of operators for  
10    the exams, and these together resulted in too much personal  
11    disruption. People had to cancel vacations, that sort of  
12    thing. But it was also an organizational disruption because it  
13    would take people who were then standing shift and make them --  
14    take them -- almost literally rip them out of their team and  
15    begin training and studying for our exam.

16            Another area that was of concern was that operators  
17    were not allowed to be examined with their regular team on the  
18    simulator.

19            And then there were -- I think because of the nature  
20    of those exams, we also began to get questions about the  
21    experience and qualifications of the NRC operators who were  
22    giving the exam. I personally think we have a good cadre of  
23    licensed examiners. I think the problem lies in the exams, and  
24    you'll hear about what we're doing about that in a minute. But  
25    I think that the people that we've hired and trained and sent

1 out to do this are qualified people, and I have high confidence  
2 in them.

3 Some of the manifestations of these concerns were  
4 that senior licensed operators began leaving for other work.  
5 The would be transferring to fossil stations within a same  
6 utility. The morale dropped, and the training people in the  
7 utilities were highly concerned.

8 This information was coming in to me last summer and  
9 last fall, and as you said, Mr. Chairman, it was on September  
10 11th that at that time I suspended NRC's regual examination  
11 program, so we could stand back, reexamine how we were going  
12 about it, and how we could achieve our goals without impacting  
13 safety.

14 So with that background, John Hannon is going to  
15 discuss what we've done and where we're at today.

16 MR. HANNON: Thank you. I just want to point out  
17 before I begin that the operator licensing program in general  
18 is going through some rather dynamic changes, not just in the  
19 requalification area. We're talking about some initiatives for  
20 a generic fundamental exam in the initial licensing process.  
21 We're talking about some major structural changes to the  
22 training for our examiners, both the initial training and the  
23 continuing refresher training, and we are revamping our appeals  
24 processing. So the entire operator licensing activity is being  
25 -- undergoing some rather major changes, and we're going to be

1 focusing on the ones in particular today that deal with the  
2 requalification part of the program.

3 The description of the program, if I could have the  
4 next visual --

5 [Slide.]

6 It's basically in four major areas. We'll be talking  
7 about the written examination, the simulated portion of the  
8 operating test, and the walkthrough portion of the operating  
9 test, and then a little on how we intend to administer this  
10 examination.

11 We'll be talking about -- the next visual, please --

12 [Slide.]

13 In the area of the implementation of this program,  
14 the fact that we have selected five pilot plants to engage in  
15 the experimental process of the methodology evaluation. We'll  
16 talk about where we are with that pilot program, what kind of  
17 training we've given to the examiners in the field that are  
18 executing this new methodology, what our plan for resuming  
19 full-scope requal examinations is, some of the advantages that  
20 we see accumulating to the NRC and to the industry from the  
21 adoption of this new methodology, and some of the lessons that  
22 we have learned already in the pilot programs that we have  
23 administered, and Dr. Murley will talk a little bit about the  
24 NRC resource implications.

25 The next visual, please.

1 [Slide.]

2 The written exam basically is designed to focus on  
3 the individual operator's job, what it is that he is expected  
4 to do. We're trying to get to proficiency issues. Is he  
5 current? That's particularly important for an individual  
6 that's standing as a Staff licensee. It may not be an  
7 operating facility on a day-to-day basis, and we want to verify  
8 in this examination that he's keeping current in the requal  
9 program.

10 We intend to use the input from the facility in the  
11 creation of this examination, that that input should be based  
12 on the facility's continuing training program, which we expect  
13 to be based on a systems approach to training. We will have  
14 plant-specific exam question banks developed from which we can  
15 sample and create an exam in a non-compromised format.

16 [Slide.]

17 The exam itself, the written part, will be geared to  
18 an open-book reference format. I also provided some handouts  
19 that we're -- an excerpt from the examiner's standard guidance.  
20 I believe it's Attachments 10 and 11 which go to the creation  
21 of these open-book questions, and you can see from glancing  
22 through that material that this is not a trivial aspect of the  
23 program. We've found it to be very difficult to produce good,  
24 solid open-book questions, and that's one of the areas that  
25 we're expending a lot of resources on, both in the NRC and the

1 industry.

2 Another portion of this -- aspect of this written  
3 examination, it's basically given in two parts, one in a static  
4 stimulator and another in a classroom setting. The classroom  
5 is designed to evaluate the operator's ability to use his  
6 reference materials, his tech specs, his administrative  
7 procedures, and his emergency operating procedures.

8 The static simulator portion as written is again  
9 attempting to evaluate the operator's diagnostic skills. He  
10 will have the simulator there. It puts him in his real-time  
11 job setting. So it's an attempt for us to construct a written  
12 exam that has more meaning to the people that are taking it.

13 COMMISSIONER ROGERS: What do you mean by "static?"

14 MR. HANNON: A scenario has been run for a certain  
15 period of time, and then it's frozen at that point in time, and  
16 the questions all gear towards the scenario that's been run.

17 COMMISSIONER ROGERS: Oh, okay.

18 MR. HANNON: The operating test, as before, consists  
19 of two portions, one done in the simulator and one in the  
20 walkthrough. Both of these portions of the examination are  
21 going to be parallel graded. We have experimented with that a  
22 little bit, and we're about halfway through the experimentation  
23 right now. We're going to try having the facility administer  
24 the walkthrough in the three remaining pilots to run and see if  
25 we can get any effective program review from that technique.

1 We're going to have our examiners in effect observe the  
2 facility, give the walkthrough.

3 That's what we have done already in the simulator.  
4 We gain a dimension by doing that that we hadn't had before.  
5 We are able to look at how well the facility can evaluate  
6 itself. We're actually evaluating their evaluators as part of  
7 this examination process, which we believe strengthens the  
8 credibility of our final result and gives us another dimension  
9 we didn't have before.

10 As Dr. Murley mentioned, one of the concerns was that  
11 we in the past had been sampling crews on a random basis and  
12 caused a perturbation in the facility's training program. Our  
13 intent with the new methodology is to basically sample the  
14 crews in the configuration that they are trained and operated  
15 by the facility.

16 We also intend to use the facility-generated  
17 scenarios to the extent we can. We asked upfront as part of  
18 the administration of the exam that they supply us with both a  
19 sampling plan that they've used in their regular training and a  
20 set of scenarios for our use in creating the exam.

21 We intend to use passive observations, don't  
22 interfere with the operators as they're going through the  
23 scenario, and then, as I said, we'll parallel grade along with  
24 their evaluators.

25 The walkthrough is different in that it goes towards

1     what we call job performance measures, which is a tool that is  
2     used to evaluate an operator's ability to conduct a task.  
3     Maybe the task is startup auxiliary feedpump at a local  
4     operating station, and he's got some critical things he has to  
5     accomplish to get that task done correctly, and the walkthrough  
6     is -- one of the things that will be looked at in the  
7     walkthrough is how well he can perform that task.

8             It requires an in-depth systems knowledge on the part  
9     of the examiners, and we intend to have the facility supply us  
10    with those tasks which are important for their facility, so  
11    that we can assure ourselves that the exam is content valid,  
12    that it does relate to the operator's job at the facility.

13            It will be scripted in advance. Any questions that  
14    would be expected to be asked during the walkthrough would both  
15    have the question written out and the expected response from  
16    the operator. So it's well documented. We will have the  
17    opportunity to have it reviewed by the facility representatives  
18    on the exam team in advance of the actual administration.

19            [Slide.]

20            Regarding the actual administration of this exam --  
21    if I could have the slide moved up, please -- we intend to  
22    provide a 90-day advance notice to the facility. They would be  
23    asked to supply us with their crew configurations that they  
24    would like us to sample. We would make that selection within  
25    the first 30 days and advise them -- or within the first 60

1 days, and advise the facility of the actual crews that we will  
2 be sampling 30 days prior to the exam administration.

3 We've asked for all their exam materials. They  
4 supply that to us and allow us to start the creation process.

5 Then we'd also ask that they supply two facility  
6 technical assistants to work with the NRC exam team. These  
7 folks are -- on one, we are asking for an SRO, who is an actual  
8 operator at the facility who has a current valid operator's  
9 license. Another individual from their Training Department  
10 would ideally have an SRO license, but at least he's certified  
11 as an instructor. These folks would add credibility. They  
12 would be effectively serving as technical advisors to the NRC.

13 Also we've asked that the facility have one of their  
14 Operations Managers observe the simulator exams in progress, so  
15 we'll have an individual there from the Operations staff at the  
16 time the exam is conducted. And also this allows for the first  
17 time an opportunity -- it's an institutionalized opportunity  
18 for the facility to feed back to the NRC their critique of the  
19 exam process, particularly as it regards the operating test.  
20 There has always been the capability to take comments from the  
21 facilities in the past on the written exams, but we haven't  
22 really had a process for getting feedback on the operating  
23 test.

24 If I could have the next visual?

25 [Slide.]



1           The plants that we have visited so far include in  
2   Region II, the first facility we visited, H.B. Robinson, and  
3   we've been through part of the Fort Calhoun exam. We still  
4   intend to complete the non-plant reference simulator portion of  
5   the exam at Fort Calhoun later this month at CE, at the Windsor  
6   Locks simulator up there. They don't have a plant reference  
7   simulator at Fort Calhoun, so we're experimenting with the use  
8   of a non-plant reference simulator to get a crew evaluation.

9           We're intending to go to Perry in Region III and  
10   Salem in Region I later this month, and then San Onofre -- I'm  
11   sorry -- Salem is in June and also San Onofre in Region V in  
12   June.

13           Next visual, please.

14           [Slide.]

15           The training has been conducted for all the examiners  
16   in the Region. It basically consisted of a team from  
17   Headquarters and folks from Region II who got their training on  
18   the job and helped us prepare the guidance that we went out and  
19   used for the training. As you can see, we've been able to get  
20   out to all the Regions and conducted training for both their  
21   examiners and their supervisors.

22           If I could have the next visual?

23           [Slide.]

24           We're right now in the middle of Phase II with regard  
25   to resuming the full-scope administration of NRC examinations

1 in the regual area. We fully expect to complete the exams in  
2 June, as I indicated, and have the results, which are ongoing -  
3 - we're continuing to evaluate the results of these pilots. We  
4 intend to complete that in the July timeframe and -- next  
5 visual.

6 [Slide.]

7 And would expect to issue the final examiner's  
8 standard guidance in September and be prepared to start the  
9 administration of these exams full-scope in all five Regions  
10 beginning in October.

11 Next visual.

12 [Slide.]

13 There are a number of advantages that we are going to  
14 be able to obtain from this new approach. One, as I've  
15 indicated, there are a number of dimensions that we're gaining  
16 that we didn't have before, and we believe as a result that it  
17 will be a very powerful discriminator against a weak program.  
18 We're going to find problems if they're out there, and we  
19 believe the approach will allow both us and the facility to see  
20 where their weaknesses are.

21 We also intend long-term, steady-state, to get some  
22 efficiencies from this new methodology, principally in the area  
23 of exam creation. If we're able to use the facility-generated  
24 plant-specific materials effectively without experiencing a  
25 compromise situation, such that we can say this is really,

1 truly an NRC administered examination, we're going to gain  
2 something in the labor rate from the production of these exams.

3 We will effectively eliminate facility-generated  
4 comments on the written examination and most likely any  
5 problems with the operating test because of the working  
6 relationships that will be developed with the facility  
7 representatives on the exam team. We'll have an opportunity to  
8 interface with these people and have their technical expertise  
9 brought to bear on the creation of the exam, so that everybody  
10 is comfortable that we're really getting a good evaluation of  
11 the operators.

12 We expect -- we hope ultimately to be able to apply  
13 these new techniques to the initial examination process. We  
14 believe there's a lot of benefit that we can bring to bear in  
15 the initial examinations, and hopefully long-term there we'll  
16 also be able to achieve some reduction in the labor rate.

17 I believe it will significantly enhance the  
18 examiner's credibility. Not only is he getting more thorough  
19 in-depth training on the facility, but he's also has the  
20 benefit of working with the facility SROs in the creation of  
21 the examination, so that we believe the end result will be that  
22 the results of our exam, when the NRC makes its final  
23 determination, that those results will be more readily  
24 acceptable by the industry.

25 [Slide.]

1           We believe there's some advantages that will  
2       accumulate to the industry here as well. I mentioned the  
3       transition to a systems approach for training that's being  
4       sponsored by INPO in the accreditation process. I really  
5       believe that this new exam methodology will be a forcing  
6       function that will cause the industry to more expeditiously  
7       move to the SALP-based continuing training programs that INPO  
8       is sponsoring.

9           Secondly, it is compatible with the second-round  
10      accreditation that INPO is engaged in right now. As you know,  
11      they have been through the first round and got everybody  
12      accredited, and now they're going back for the second look, the  
13      second four years, and the emphasis in the second-round  
14      accreditation is on the ability to do self-evaluation. It  
15      quite nicely fits, couples closely with the new methodology  
16      that we're talking about. We're really looking closely at the  
17      facility's own ability to evaluate itself, both in the ability  
18      to create good written materials, to give good job performance  
19      related examinations, their ability to evaluate their crews in  
20      the simulator, and their ability to give good walkthroughs. So  
21      we're really getting down to the heart of the thing for its  
22      being compatible with INPO's process.

23           We expect to see that they will get some improved  
24      training in their simulators, and overall it will have an  
25      improved impact for the training -- for continuing training

1 programs.

2 The creation of these plant-specific questions at the  
3 high cognitive levels that we're talking about here for the  
4 open-book reference -- open-reference format, it's going to  
5 enhance their examinations and our evaluations. And further,  
6 it does allow them for the first time to have an opportunity to  
7 feedback to us if they have problems with the way we're  
8 proceeding.

9 Next slide.

10 [Slide.]

11 I would like now -- we indicated one of the lessons  
12 that we've learned here is that it does have a very high start-  
13 up cost for us. We're basically performing, as we move into  
14 this area in the pilot phase, a very strong consulting role  
15 with the industry. They were not geared up to do open-  
16 reference type questions, and they were not geared up to do  
17 what we called true scenario -- or simulator evaluations.  
18 Their simulator scenarios were more geared towards training  
19 functions and only secondarily picked up on the evaluation part  
20 of it, where ours are geared really towards evaluating crews.  
21 And likewise, they don't have a lot of experience in giving the  
22 walkthroughs. So all these areas are very cost-intensive to  
23 get started on.

24 Other lessons that we have learned include the  
25 utilities' transition to the systems approach, recognizes that

1 we've identified the fact that they have made a lot of  
2 progress, and it's going to require them to devote some  
3 resources and attention to that, to move toward that goal  
4 expeditiously. If they don't have a systems approach in place,  
5 it's very difficult for us to adapt this new methodology to  
6 their program. Basically what we're going to have to do in  
7 those cases, we'll just have to go back and write the exam  
8 ourselves.

9 We think we're going to get better walkthrough  
10 evaluations and better simulator evaluations from this new  
11 emphasis, and we have caused the utilities to really look hard  
12 at their job task analyses. What is it that they ought to be  
13 training their operators on for continuing training needs?

14 They've had to go back, and they've had to look --  
15 we'll have to look carefully at what they're doing, if they  
16 haven't evaluated what their present continuing -- or their  
17 continuing training needs are for their present set of  
18 operators. They're going to have to do that. So this will  
19 require them to identify their systems they need to have  
20 trained and their -- what their particular weaknesses are, and  
21 it may vary from cycle to cycle, from crew to crew.

22 Finally one of the big lessons is that the difficulty  
23 we've encountered in creating these exam materials, it's very  
24 resource-intensive. It requires a lot of work on the part of  
25 the industry and the NRC, so it's a very resource-intensive

1 process.

2 [Slide.]

3 And that leads into the final slide I had, which was  
4 the discussion of the implications to the NRC resources, and  
5 I'd like to defer to Dr. Murley for that discussion.

6 MR. MURLEY: Okay. I've got some numbers that go a  
7 little bit beyond what's in the chart to tell you the magnitude  
8 of what we're facing.

9 For example, we will be giving -- planning to give  
10 2200 exams --or examine 2200 examinees per year, and that's  
11 roughly 1100 new examinees and 1100 requal examinees. Assuming  
12 we can manage it in such a way that we keep the group that  
13 we're examining up to a level of ten per visit, then that means  
14 we would need 220 site visits per year.

15 Taking an average of six weeks per visit, that means  
16 we need about 30 exam teams, each made up of 30 examiners per  
17 team. So that leads me to, we will need about 90 examiners to  
18 meet our commitments.

19 Our intention would be to have that mix be 50 NRC  
20 employees, examiners, and 40 contract examiners to make up the  
21 90. Where we're at today is, we have 37 NRC examiners, instead  
22 of 50, what we need, and we have 24 certified contract  
23 examiners instead of 40. So the total is about 61 instead of  
24 90, so we'd have to increase the number of certified examiners,  
25 both NRC and contract employees, by 50 percent.

1           The attrition rate, Jack Roe tells me, is about 20  
2     percent, NRC employees, which makes it very difficult to keep  
3     attracting and much less increasing up to 50. So we're  
4     committed to do it, to do our best, but I think I owe it to you  
5     to say that it's like a 60-40 proposition that we're going to  
6     be able to get enough people to meet these 2200 examinees per  
7     year. Our first priority, of course, will be what we call the  
8     new exams or replacement exams, because those are needed by the  
9     utility to run his operation. We will then do all the requal  
10    exams that we can do with our resources.

11           Were there any other highlights on resources that we  
12    need to talk about?

13           MR. ROE: I think that covers it.

14           COMMISSIONER CARR: Where do we lose the examiners  
15    to?

16           MR. MURLEY: Well, a lot of them move on to be  
17    resident inspectors, or they move to other places in the  
18    Region. That was my experience.

19           COMMISSIONER CARR: Then we don't lose them. They  
20    move --

21           MR. MURLEY: We don't lose them to the agency, no,  
22    but it depends on the circumstances. But being sometimes an  
23    examiner is not the choicest job in the Regions. Frequently  
24    they get promotions for other jobs, so we really can't stand in  
25    their way for job progression. And then sometimes they leave



1 the agency, too. I know some of the senior people are much  
2 sought after, and I think all the senior people who are in  
3 Region I that I can remember have probably left and have gone  
4 on and are now training people for utilities.

5 MR. STELLO: Mr. Chairman, as I said, when we finish  
6 the resources, that was the issue that caused me to at least  
7 raise the questions again: Do we need to look at other ways to  
8 accomplish this? And I could -- you may recall again the idea  
9 that we kicked around as having something equivalent to what  
10 the FAA uses. They have the same kind of problem with pilots.

11 CHAIRMAN ZECH: Well, before we get into that -- we  
12 will get into that, but are you finished with your briefing?

13 MR. STELLO: Yes, we are.

14 CHAIRMAN ZECH: Okay. Let me just see if there are  
15 any questions from my fellow Commissioners, and we will get  
16 back to you, Mr. Stello.

17 MR. STELLO: Okay.

18 CHAIRMAN ZECH: Commissioner Carr?

19 COMMISSIONER CARR: Well, I want to compliment you  
20 first on coming as far as you have. It's a long way down the  
21 pike from where it was when you shut it down.

22 The question of when you get through with the five  
23 pilot exams, are you planning to have another public meeting to  
24 see if you can get the same kind of comments you did before, or  
25 are you going to just proceed on the basis of your pilots and

1       their comments?

2               MR. MURLEY: I don't think we planned for a public  
3 meeting. We're getting a lot of feedback now from not only the  
4 utilities where we try the pilot out, but from NUMARC, so I  
5 don't really think we need to --

6               MR. ROE: We've had a lot of discussion with the  
7 industry in meetings that are associated with various parts of  
8 the requal program, so we've been having pretty much continuous  
9 feedback from the program, from meetings especially with INPO  
10 and NUMARC and workshops that they've invited us to, so it's  
11 quite wide open with the discussions.

12              MR. STELLO: We're certainly not, you know -- don't  
13 object to it. of there's a --

14              COMMISSIONER CARR: No, no. We got a lot of good  
15 comments out of that first one.

16              MR. STELLO: Yes.

17              COMMISSIONER CARR: And you get different comments  
18 from the operators sometimes than you do from the utilities or  
19 from NUMARC per se, so you might give it some thought.

20              MR. STELLO: If we need one, we'll have it.

21              COMMISSIONER CARR: I've been trying to recruit you  
22 some more examiners as I wander around out of retiring SROs,  
23 and I must say I've had zero luck.

24                       [Laughter.]

25              COMMISSIONER CARR: The interesting comments were,

1 one of them says, "Your standards aren't high enough," and the  
2 other one said, "You don't do it the way I would do it." But I  
3 still maintain there is a group of people out there that ought  
4 to be giving it some thought. It would be a nice second career  
5 for them if they move over. So you might keep that in mind.

6 MR. STELLO: We're pursuing that.

7 COMMISSIONER CARR: You can advertise in their  
8 publications or something.

9 In reading over some of the scenarios, it looked to  
10 me like you had a lot of multiple failures in the same  
11 scenario, which I would way is unrealistic to say the least.  
12 So you might be careful that your scenarios are not designed  
13 just to throw in a lot of things to test because you want to  
14 test them. And I still maintain that the best scenarios are  
15 the ones that have happened, and they're realistic. Nobody  
16 ever argues with them because it has happened somewhere.

17 On the numbers of people and how many exams you're  
18 doing, I would hope that what we're really trying to do is to  
19 check and see if the utility can train their own operators and  
20 keep them trained, and I would hope that we could get to the  
21 point where we could examine the site training program rather  
22 than the individual operator, and if we blessed the site  
23 training program per se, we could bless the individual operator  
24 they turn out, which would reduce the number of visits you made  
25 and still perhaps give us the same degree of confidence.

1 Certainly on the requalification, that's a possibility, rather  
2 than the initial licensing, but that would cut down on the  
3 manpower.

4 MR. HANNON: That's an approach we could take, but it  
5 would require us to change the Commission's regulations. The  
6 Commission's regulations --

7 COMMISSIONER CARR: That's what we're here for. We  
8 changed it the first time, so I guess we can change --

9 MR. HANNON: Change it the second time.

10 MR. MURLEY: Well, that gets to Vic's conceptual  
11 question that he raised, and I'm receptive to that.

12 COMMISSIONER CARR: And as you say, there is a lot of  
13 validity that may be getting operators from other sites to go  
14 along with us as a part of the team. I would not want to get  
15 in the position of them examining each other with us watching,  
16 but -- that's all I've got.

17 CHAIRMAN ZECH: Okay. Commissioner Rogers?

18 COMMISSIONER ROGERS: Just going back to your list of  
19 advantages to NRC, you mentioned that this is a powerful  
20 discriminator of a weak program.

21 Can you just indicate why you feel that way? What  
22 have you identified in this approach that would be more  
23 effective in putting your finger on weak programs? What is it  
24 about this that pops that, gives you confidence?

25 MR. HANNON: Well, first is that we have an

1 opportunity to look at the materials that the facility is using  
2 in their own evaluations, both the written materials and their  
3 simulator evaluations. We can easily spot weaknesses and  
4 deficiencies in that review.

5           Next is, when you finish the simulator scenario,  
6 you've made your passive observation using the NRC criteria for  
7 crew evaluation. You then watch the facility do their self-  
8 critique. You look and you see -- you have an opportunity to  
9 look at their evaluators. Did they pick up the same  
10 deficiencies that you picked up? Did they identify the same  
11 problem areas? Or maybe they omitted something that you picked  
12 up. Maybe they picked up something you didn't. So you get  
13 another dimension there.

14           And then finally in the walkthrough execution, when  
15 you're observing the facility evaluator, the facility examiner  
16 give the walkthrough, you're not only looking at the operator  
17 and his ability to perform that job performance measure; you're  
18 also looking at their own ability to evaluate their people.  
19 How do they -- do they question them in-depth enough? Is it  
20 superficial? Are they really getting to the individual's  
21 higher cognitive level, his ability?

22           So I believe if you take all that in sum, you come  
23 away with a better program evaluation than we would have gotten  
24 before when all we were looking at was pass/fail results on an  
25 NRC-administered, effectively an initial examination.

1                   COMMISSIONER ROGERS: Are there -- these are all  
2 advantages. Have you found any disadvantages to this approach?

3                   There's the cost, of course, which presumably is a  
4 lot higher than before. Anything else besides that?

5                   MR. HANNON: I would like to be able to tell you  
6 there's one, but I have not had --

7                   COMMISSIONER ROGERS: It's really rare that one finds  
8 a totally, you know --

9                   MR. HANNON: I've not had any articulated, and I've  
10 been to several meetings with NUMARC. What we're doing is,  
11 we're working -- when they uncover a problem -- one example was  
12 we've asked in the preliminary materials for 500 questions on  
13 each -- both the plant proficiency section and the  
14 administrative section of the written, and that's an awful lot  
15 of questions. And the comment was, you know, is that a real  
16 hard, fast criterion, you know; can we work towards that goal  
17 and give you something less in the interim? And, of course,  
18 we're willing to work with them.

19                   We're looking to have a large enough bank of  
20 questions, so that we can sample and get a non-compromised  
21 examination, and so in that light, we're working with the  
22 industry in trying to resolve the problems, the hard spots.

23                   So as yet, we haven't -- aside from the fact it  
24 requires a lot of their resources -- haven't heard any real  
25 negative comments.

1                   COMMISSIONER ROGERS: Just an observations, that  
2 open-book examinations can be a lot more demanding than closed-  
3 book exams, although students very often think that it relieves  
4 them of all that problem of memorizing things. It still -- a  
5 closed-book exam is much more defined than an open-book one.  
6 An open-book, anything goes. You have access to all reference  
7 information.

8                   And I wonder just on this criticism, you know, I've  
9 heard this as I've been around and talked to people in the  
10 Regions about the exams being too theoretical and trying to  
11 probe that a little bit.

12                   Do you think that going to an open-book exam takes  
13 that complaint out -- I mean, that as it affected that in some  
14 way? You know, the example that you gave, Dr. Murley, of, you  
15 know, having to know Bernoulli's equation. Well, you don't  
16 have to know Bernoulli's equation, but you'd better understand  
17 the Bernoulli principle.

18                   MR. MURLEY: Principle, yes.

19                   COMMISSIONER ROGERS: And it's that kind of a working  
20 scientific knowledge that I think is terribly important when  
21 you're stuck in a situation that's a new situation, to be able  
22 to understand what the basic principles are that are at work  
23 there in that situation.

24                   I hope that somehow we aren't losing that, testing in  
25 some sense that working knowledge of how the physical world

1 behaves. It isn't necessary to be able to sit down and do a  
2 calculation, but it is necessary to have an intuitive feeling  
3 about how nature behaves, particularly the kinds of fluid  
4 systems that we're doing.

5 MR. MURLEY: I'd like to defer to John on that. But  
6 let me give my impressions, and they stem from quite a bit of  
7 talking with operators in Region I.

8 I used to make a point of giving out certificates to  
9 each licensed operator. I think we still do that. And as a  
10 result, I'd always open it up after the ceremony -- I'd open it  
11 up for questions. And so I probably have talked with well over  
12 a thousand operators there in my years in the Region, and I got  
13 back from them, I think, what was really on their minds.

14 And this was a very common thought, was that we were  
15 forcing them -- it's almost as if I had to go back and do some  
16 differential equations every year, so I could keep my job here.  
17 That's how they felt. And it was very, I guess, discouraging  
18 to them and wearing, is the best way to say it, and when I  
19 looked at some of the exams, I had to agree with them. There  
20 was stuff there -- I've taught graduate courses in nuclear  
21 engineering, and some of the stuff that they were being asked  
22 on delayed neutrons and Bernoulli's equations and God knows  
23 what, I thought was really too theoretical.

24 And these, in many cases, were utility-given exams,  
25 not our own, but apparently they must have felt that this was



1        what we were demanding, because they were doing it.

2                Now what we're moving to is to test, as I understand  
3        it, the ability to reason through a problem using the operating  
4        procedures, and in there, you know, they go to wherever they  
5        have to go to, and if they know that they've got to do  
6        something that accounts for Bernoulli's principle, where really  
7        it's, you know, conservation of energy where you just look up  
8        heads and that sort of thing, that's what we're looking for, is  
9        the ability to use the resources they've got, so that they can  
10       do their job and not memorize a lot of stuff.

11               But, John, you might want to add.

12               MR. HANNON: That's a good answer. Effectively,  
13       we're looking to the utilities to supply us with -- if their  
14       theory, applied theory information that their operators need to  
15       know to be able to operate that plant, it ought to be part of  
16       their job task analysis and would be eligible to being examined  
17       on at least one mode of our exam. It might not be appropriate  
18       to be in the written exam, but it could be something that would  
19       be examined in the walkthrough, for example.

20               So it goes to the application of the theory in a job  
21       setting, based on the job task analysis done by the facility.

22               COMMISSIONER ROGERS: Well, just this whole business  
23       of writing open-book exams and giving this kind of exam, much  
24       more demanding in the preparation of those materials, orders of  
25       magnitude more demanding. Everything has to really be thought

1 through very carefully, and it's clear that it's going to take  
2 a lot more resources to do that, to prepare those questions,  
3 and I guess the way you're going about it, by soliciting them  
4 from the utilities as well, is important that they share in  
5 that burden, because it's a very big one.

6 MR. MURLEY: They see the benefit to doing it, and I  
7 think that's why they're willing to put the resources in to  
8 help us prepare those exams, yes.

9 COMMISSIONER ROGERS: In fact, their participation in  
10 that, I think, is all part of keeping themselves on their toes,  
11 because having to do that really represents sitting down and  
12 thinking through situations again to reconstruct them that is  
13 very valuable, and it's really more valuable for them to do it  
14 than it is for us.

15 CHAIRMAN ZECH: You mentioned in the briefing  
16 technical assistants, I presume applied by the utility in the  
17 examination process. Could you tell us how you expect they'd  
18 be used?

19 MR. HANNON: Yes. We asked for two people, two  
20 representatives, one from their Operations Department with an  
21 SRO active license and another from the Training Department.  
22 These people would be incorporated into the examination team.  
23 They would be taken off their regular duties, so that they  
24 could be involved full-time in the examination creation and be  
25 asked to sign a statement that they are not going to compromise

1 the examination, won't share the information with their --

2 CHAIRMAN ZECH: They don't conduct the examination  
3 though?

4 MR. HANNON: They might be part of the walkthrough.  
5 They could be part of the exam team that's conducting the  
6 walkthrough part of it. They could be used as proctors. They  
7 could be in the simulator when the exam, you know --

8 CHAIRMAN ZECH: What does the NRC examiner -- what is  
9 his role, then?

10 MR. HANNON: The NRC examiner is there to, one,  
11 verify that the exam is comprehensive, and we augment the exam.  
12 We may add our own questions. We may change some of the ones  
13 we got from the facility. We have the final decision on when  
14 the exam is ready to be adopted as NRC's. We might want to  
15 restructure some of the simulator scenarios. We may want to  
16 provide some of our own.

17 CHAIRMAN ZECH: Do we conduct the examination?

18 MR. HANNON: Yes.

19 CHAIRMAN ZECH: They are conducting it.

20 MR. HANNON: Absolutely.

21 CHAIRMAN ZECH: What do the technical assistants then  
22 do?

23 MR. HANNON: They provide --

24 CHAIRMAN ZECH: During the examination process, I  
25 mean.

1           MR. HANNON: They provide -- if we had decided to  
2 provide a question on the exam that we thought was important,  
3 based on our generic knowledge and ability catalogue, that  
4 might not even be pertinent at that particular facility, which  
5 has happened in the past, that we'd expect the technical  
6 expertise from those representatives to come back and tell us,  
7 hey, that's not appropriate for our plant, and here's why.

8           COMMISSIONER CARR: So it's specific advice and  
9 counsel.

10          MR. HANNON: Exactly. Plus when we develop the  
11 evaluation criteria, where do we identify a weakness in the  
12 simulator, we would like to have that individual's input. We  
13 think if this particular -- if the SRO in this particular  
14 scenario doesn't acknowledge that he's had a partial failure of  
15 his ECCS, that that's a significant weakness. Do you agree or  
16 not? And we get all those criteria ironed out up front, and  
17 that's why we use the -- one way we use these folks.

18          CHAIRMAN ZECH: I'm sure they can be used and used  
19 effectively. But if the NRC is conducting the exam, then we've  
20 got to be in charge. We've got to be the conductor; those  
21 people are assistants. That's the proper --

22          MR. ROE: We will make the final determination on  
23 whether the person passes or fails.

24          CHAIRMAN ZECH: Okay. Well, I, too, have heard, as  
25 other Commissioners have and as Dr. Murley indicated, too,

1 complaints from the operators about these exams at plants I've  
2 visited. I've heard it now for some time, and I, too, commend  
3 the Staff for taking on this initiative. I think it's probably  
4 overdue, but I do think it's important that you're doing it,  
5 and I think you're going about it the right way.

6 The complaints I got were similar to Dr. Murley's and  
7 others in that they were too theoretical. Why do I have to  
8 know all this business that I learned one time and all that?

9 Also in recent requal examination procedures in the  
10 Commission, the little advance notice was a complaint and the  
11 too much pressure and taking them off the shift and all that.  
12 Those were all things that you've heard about, too.

13 I think they're legitimate, and I think it's  
14 commendable that the Staff is looking at this very carefully.

15 I think most of you have heard my views before on  
16 this, expressed over the past year or so at various times, but  
17 let me just very briefly go over them, because I think it's  
18 important, and I appreciate the fact that I think you're  
19 hitting on the things that I've been concerned about.

20 I think most of you have heard me say before that I  
21 think the requalification examination should be an advanced  
22 type of exam. It really should be kind of like a graduate  
23 level exam. It shouldn't be a fundamental, basic theory type  
24 exam, although I do think a little theory is good. It doesn't  
25 hurt, especially if it's on principle type uses of theory.

1           But so -- but I think the exam should be systems  
2 oriented, and that's what you've done, and that's what you're  
3 doing, I think, and that's very important. You ought to talk  
4 about, for example, the operator should know about what happens  
5 in the various modes of operation of the plant. They should  
6 know about the fluid systems in the plant. They should be able  
7 to tell you what's going on when they throw this switch or they  
8 turn this pump on or off, what really does happen in the plant.  
9 You should ask them, and they should be able to describe, well,  
10 what happens is this: The pressure goes here; the water goes  
11 here, ends up here. And they should be able to describe the  
12 flow through the systems of the facility, not only what we call  
13 the primary systems, the nuclear steam supply system, but the  
14 balance-of-plant and the auxiliary systems that support the  
15 whole facility.

16           They should have a very good knowledge, in my view,  
17 of the whole facility and how the systems relate to each other.  
18 They should indeed know about all the serious incidents that  
19 ever happened in our country and in other countries. They  
20 ought to know what happened at Chernobyl, as best we can. We  
21 put out our own NUREGs on it. There are other publications.  
22 They ought to certainly know all about Three Mile Island. The  
23 ought to know about the other incidents we've had that we've  
24 considered significant. Every operator, in my view, should  
25 know about those. They certainly should know about all those

1 in detail in his own plant or his own type plant.

2 In other words, is he staying up to date? Is he  
3 current? To me, that's important.

4 When we give a requalification exam, I think we can  
5 assume we're giving it to an operator who certainly was once  
6 qualified, who passed the basic licensing examination, and  
7 therefore we're dealing with someone who has been operating the  
8 plant, and we should, I think, try to assess whether he has  
9 gained experience and understanding, knowledge, confidence of  
10 his plant. And so we're looking for proficiency; we're looking  
11 for currency; we're looking for his real understanding and  
12 commitment to operational safety. We're trying to see, in his  
13 world of operational experience which he lives in on a daily  
14 basis, has he got some real understanding of what he would do  
15 in case of certain emergency procedures, and how would he react  
16 with his other shift personnel? How do they work together as a  
17 team?

18 And those are the kind of things that I think a  
19 requalification exam should focus on.

20 I agree with some of the comments, too, that would  
21 suggest that perhaps we don't need to examine individual  
22 operators in a requalification exam. It's been suggested we  
23 might even examine the whole site.

24 Well, I would submit that we might even examine the  
25 whole shift in a package, and at the same time, you can examine

1 individuals in the shift to a degree, but you're really  
2 examining the shift as they perform. Are they a safe shift to  
3 operate? Are they experienced? Are they strong, or do they  
4 need strengthening up?

5 In other words, in an advanced exam, which I presume  
6 this requalification is supposed to be, it seems to me that  
7 those are the kinds of things that we should at least be  
8 thinking about. And I agree, too, if we need to change the  
9 regulations, we should give a lot of thought to that, but  
10 perhaps we should do so.

11 Our examiners are the heart of the whole process, in  
12 a sense. They need to be credible; they need to be competent.  
13 I appreciate the realistic challenges of keeping good  
14 examiners, because there's a lot of travel involved, as we  
15 could all figure out very quickly from the numbers that were  
16 given to us.

17 Perhaps we don't pay them enough. Perhaps they  
18 should have a special bonus or something. We ask a lot of  
19 them. It's a very responsible role we're giving them, and we  
20 need more SROs from the industry in the NRC organization.

21 The Navy provides a lot of pretty good basic training  
22 for our civilian nuclear power industry. I've talked to an  
23 awful lot of operators out there who got their initial training  
24 in the Navy. But also, there are a lot of them that have been  
25 out there quite awhile now in the commercial nuclear field.



1 Perhaps they're getting to the retirement stage; a number of  
2 them are. There's no reason at all we shouldn't have, in my  
3 view, perhaps a more vigorous campaign to recruit some of those  
4 people, especially those who have served a long time, and maybe  
5 they're about ready to retire, or maybe they're retired. And  
6 we'd want to be selective, too. We don't want to take just  
7 anyone, but we'd want to be -- we want to get the best, if we  
8 could.

9 I think it's a field that we should perhaps pursue a  
10 little bit more aggressively, a program that would bring in  
11 experienced senior reactor operators. I know it's not easy,  
12 but that doesn't mean we shouldn't try to do it a little more  
13 aggressively perhaps.

14 There is nothing, in my judgment, my experience, that  
15 is more important than a really strong, credible examiner. I  
16 might say, as some of you know, in our Navy program,  
17 Commissioner Carr was the Navy examiner for the Atlantic Fleet  
18 of all of our submarines. He knows what he's talking about in  
19 the examination field, and I hope the Staff will listen to him  
20 carefully. I know you have, and I hope you continue to do  
21 that. But he's been through it. He's conducted exams, and I'm  
22 sure he was credible as an operator in the Navy himself.

23 But it's that kind of credibility we need in our  
24 agency, and I think that your working with the utilities, with  
25 INPO and the industry, has been very commendable, because they

1 have the experience out there, and we need some of that  
2 experience in this agency, more than we have.

3 So I think we ought to continue what you're doing. I  
4 know you're not finished with this whole assessment yet, but I  
5 hope perhaps some of those thoughts -- you can use some of that  
6 and that we can take another look at how we can get a stronger  
7 pool of examiners, and I certainly think we ought to consider a  
8 recruiting effort and also perhaps looking at the payscale. If  
9 that's what it takes, maybe that's what we should do, see how  
10 we could do that.

11 But it's very important, and I think that -- I  
12 commend the Staff for the progress you've made so far.

13 Now, Mr. Stello, you wanted to talk about the FAA-  
14 type examiner, process. Why don't you talk about that briefly,  
15 and then we'll see if we can't discuss it a little bit.

16 MR. STELLO: I don't have a proposal for the  
17 Commission, but rather it was a question of whether the  
18 Commission feels that we ought to be broadening the kind of  
19 thinking with respect to requalification examination processes  
20 to something back as fundamental to that kind of question.  
21 We're coming close with the idea of trying to make it an  
22 assessment of the facility.

23 CHAIRMAN ZECH: Have you talked to the FAA examiners?

24 MR. STELLO: Yes. We've had conversations with them  
25 in terms of how they go about it, how FAA does do it. We, I

1 think, provided a study of that, one of the reports a long time  
2 ago. I can dig it out.

3 But my question was really a simple question: Should  
4 our thinking be really getting back to things as fundamental as  
5 that as we're looking at how to do a better, better job with  
6 the requalification program?

7 It is a very demanding program in terms of resources  
8 and looking at how to accomplish it, so that we have the  
9 highest assurance that the operators are the best operators we  
10 know how to get into the industry, and we find a way to make  
11 sure that they stay that way. I'm sure that's the industry's  
12 objective as well as ours.

13 I don't have a specific plan to present as much as  
14 should we raise the issue? Should we be looking at it? Should  
15 we have discussions with INPO?

16 I could see advantages to INPO where if they were  
17 involved in this program, as they're going back and revisiting  
18 facilities as part of their accreditation program, if they were  
19 coupled rather directly to requalification. They could make an  
20 assessment of how training programs ought to be reshaped to  
21 make sure that all of the kind of events that have happened and  
22 the thought process of what constitutes a real good retraining  
23 program. It would be, I see, potentially of significant  
24 benefit.

25 CHAIRMAN ZECH: Well, I think you should look at

1 everything, frankly. My view is, you shouldn't close the door  
2 on any of those thoughts, and you should explore the  
3 possibilities.

4 I don't think the Commission has made up its mind at  
5 all about what we want to do in this regard. All we see is a  
6 need to improve our requal program, make it more credible, make  
7 it stronger, make it such that the operators themselves say,  
8 yeah, that's what it's supposed to be about. I should be able  
9 to pass that exam, yeah. And everybody really, at least an  
10 extremely high percentage of the operators should feel lots of  
11 very realistic -- an exam that's meaningful, and I ought to  
12 know that. And frankly, my feeling is that most of them ought  
13 to pass it. We shouldn't have too many that fail, and I  
14 suppose there's going to be always a very small percentage, but  
15 it seems to me, at least my experience with the operators I've  
16 seen out there is, it leads me to believe that they're all  
17 pretty good, and they're all pretty sincere and pretty serious  
18 about their business, and they want to do a good job.

19 So I think that if we had an examination that was  
20 credible and realistic that they would be accepted fully, and I  
21 know that's what we're aiming for.

22 Commissioner Carr, do you have any comments on this  
23 FAA concept?

24 COMMISSIONER CARR: I guess I'd prefer to keep an in-  
25 house capability if we can make it work. I certainly wouldn't

1 be averse to doing whatever we've got to do if we can't get it  
2 done ourselves, but I think we need to keep the capability if  
3 we can.

4 CHAIRMAN ZECH: I feel very strongly about the same  
5 thing. I guess for the time being, I mean if we have to do  
6 something, fine, but I really do feel we ought to have our own  
7 in-house capability. I support that fully.

8 COMMISSIONER CARR: There may be a problem with using  
9 the technical assistants for site-specific. I think you need  
10 to do that until we get enough experience with our examiners  
11 that they won't need it anymore hopefully.

12 On the exam itself, I think that when you leave the  
13 site, the operator ought to realize he's had a learning  
14 experience as well as an examining experience. He ought to  
15 learn from the exams, so they can say, well, I got about as  
16 much out of it as I gave. So we ought to make sure that in  
17 addition to examining, we're passing on whatever we know that  
18 they don't seem to know.

19 On your 500 exam questions, I would advise you to  
20 separate those into compartments, so that if you want to pull  
21 ten questions out of five different compartments to make up  
22 your exam, you can do that quickly, because that will make --  
23 lend itself to focusing on those things you learned in the  
24 simulator and the walkthrough that you want to follow a little  
25 deeper and see whether it was a generic problem, of there's

1 just an isolated case, and if you don't have them  
2 compartmentalized, you have to look through a whole lot of  
3 exams to follow up on something.

4 I also would like to say, I think we need a rebrief  
5 after the five pilots are done. If you would come in and tell  
6 us what the results were and what kind of comments you got, and  
7 then you'll have a little better of idea of which way we want  
8 to go from there. I think we ought to do that.

9 CHAIRMAN ZECH: I agree. I agree.

10 Commissioner Rogers, anything else?

11 COMMISSIONER ROGERS: Well, just that if you think of  
12 -- if you want to think of new ways of going about this, it  
13 seems to me you ought to try to think -- it's very difficult --  
14 of measures of how that would work. So many of these things,  
15 we can think of new ways of doing it, but it's very difficult  
16 to measure whether it's better or worse, and it's a tough  
17 challenge, but I would think that you want to think about a new  
18 approach, that you ought to back that up with some thoughts  
19 about how to test whether it's good or bad, not just that it's  
20 different or cheaper. How can we measure outcomes of some of  
21 these things? It's very tough, not easy.

22 Just coming back to your examiners, what interactions  
23 are there among the examiners between the time that they are  
24 actually functioning in giving these exams? What happens to  
25 them? How do they reinforce each other, and how do we

1 reinforce them in between the times when they're actually, you  
2 know, conducting exams?

3 Do you have a program there? There's a way of  
4 building a kind of esprit de corps and self-stimulation that  
5 could be encouraged through your programs in some formal way,  
6 and maybe you do that. I just don't know. I would like to  
7 hear --

8 MR. HANNON: We do have a formal certification  
9 process that's administered in each Region, and annually we  
10 have a training conference where we bring all the examiners  
11 together for two or three days to go over recent events and  
12 upgrade their skills.

13 And then there's a bi-annual, every two years the  
14 examiners go to their TTC for a refresher course on their areas  
15 of expertise. They may be multiply certified, but they'll go  
16 once every two years to Chattanooga for simulator training  
17 where they meet with five other examiners from other Regions  
18 and maybe some of the contract labs. So there's an opportunity  
19 for them to share ideas and --

20 MR. ROE: We also have two other programs. The  
21 responsible division directors meet on about a six-month basis  
22 to talk about the policy and the programs, and additionally in  
23 the Operator Licensing Branch, we have a rotational program  
24 where we always try to have a Region-based licensed examiner in  
25 the headquarters office, so that he or she can provide

1 perspective of what's going on in the field and take back to  
2 the field a perspective of what headquarters is working on. So  
3 we try to keep that cross-fertilization in.

4 COMMISSIONER ROGERS: Right after they've finished  
5 with a round of -- an exam, do they get together and review the  
6 process at that point, or do they, you know, once they've done  
7 what they have to do, do they disband or --

8 MR. HANNON: I think that discussion goes on  
9 informally. It's not a formalized process.

10 COMMISSIONER ROGERS: It's a good time to do it,  
11 right after, you know; there are a lot of fresh things at that  
12 time.

13 CHAIRMAN ZECH: Well, let me just say, I hope you'll  
14 look into the possibility of perhaps some kind of an  
15 invigorated recruiting program for these examiners.

16 MR. STELLO: We're already doing that.

17 CHAIRMAN ZECH: I know you're doing it, but let's see  
18 if we can do it a little bit better. We're not getting much  
19 results. So let's see if we can do it better, and maybe we can  
20 -- and look at the payscales. We don't have to get into all  
21 that right here, but look at the payscales and bonuses or  
22 whatever. I'm serious about it, because this ought to be a  
23 strong, first-rate -- it ought to be attractive. If we ask  
24 people to do as much traveling as we've got to do, it's got to  
25 be attractive. You're not going to get good people unless we



1 make it attractive.

2 So I would ask you to keep an open mind and give us  
3 some recommendations in that regard.

4 As far as the FAA --

5 COMMISSIONER CARR: As a matter of curiosity, do our  
6 consultants make more than our examiners?

7 MR. MURLEY: Oh, I'm sure they do. The contractors  
8 that we pay?

9 COMMISSIONER CARR: Yes. Should they?

10 MR. MURLEY: They probably make more money than you  
11 and I do, Commissioner.

12 COMMISSIONER CARR: I know.

13 [Laughter.]

14 COMMISSIONER CARR: Well, there's an opportunity if  
15 we go single administrator.

16 [Laughter.]

17 CHAIRMAN ZECH: I think we'd rather have them on our  
18 payscale and our Staff and, you know, on our team. And perhaps  
19 we can get people to do that who are at that stage in life  
20 where they would like to do something a little different.  
21 Maybe they've already got a retirement from one of their  
22 utilities that they would feel the added money we could give  
23 them might be attractive to them.

24 Anyway, let's keep an open mind to it, see what we  
25 can do.

1           Again, I'd just like to conclude, unless there are  
2   any comments from my fellow Commissioners, let me conclude by  
3   telling the Staff that I really think you've done an excellent  
4   job in this regard. I know we've given you some other things  
5   to think about here, but I think you can see that the  
6   Commission is willing to listen to what you might have and give  
7   you kind of a -- a lot of leeway in this regard, because we do  
8   feel it's an important issue to resolve properly.

9           I also commend the utilities that have been working  
10   with you, the NUMARC organization and others who have worked  
11   together in this regard.

12          I think that we would appreciate another briefing  
13   when you've finished your pilot programs and before we go  
14   ahead. In the meantime, let's see what we can do to get some  
15   of our thoughts together on perhaps an invigorated recruiting  
16   program or whatever else we can do in this regard. And again,  
17   I think the Commission is telling you that we're willing to  
18   listen to any proposals within reason that you make.

19          Pursue the FAA concept, Vic, and see what we can  
20   learn from that and try to keep an open mind about the whole  
21   issue.

22          Are there any other comments?

23          [No response.]

24          CHAIRMAN ZECH: If not, thank you very much for an  
25   excellent briefing. We stand adjourned.

1 [Whereupon, at 3:15 o'clock, p.m., the Commission  
2 meeting was adjourned.]  
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This is to certify that the attached events  
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TITLE OF MEETING: Briefing on the Status of the Operator  
Requalification Program

PLACE OF MEETING: Washington, D.C.

DATE OF MEETING: Thursday, May 5, 1988

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Suzanne B. Young

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