

ORIGINAL

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

**Title:** BRIEFING ON STATUS OF POLICY STATEMENT ON TRAINING AND  
QUALIFICATION

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1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON STATUS OF POLICY  
5 STATEMENT ON TRAINING AND QUALIFICATION

6 \*\*\*

7 PUBLIC MEETING

8 \*\*\*

9  
10 Nuclear Regulatory Commission  
11 One White Flint North  
12 Rockville, Maryland

13 Friday, October 7, 1988  
14

15 The Commission met in open session, pursuant to  
16 notice, at 2:00 p.m., the Honorable LANDO W. ZECH, Chairman  
17 of the Commission, presiding.  
18

19  
20 COMMISSIONERS PRESENT:  
21

22 LANDO W. ZECH, Chairman of the Commission

23 KENNETH M. CARR, Member of the Commission

24 KENNETH C. ROGERS, Member of the Commission  
25

1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:  
2  
3 A. BATES  
4 W. PARLER  
5 J. TAYLOR  
6 S. SHANKMAN  
7 T. MURLEY  
8 J. ROE  
9 B. REGAN  
10  
11  
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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. This is an information briefing this afternoon in which the Staff will brief the Commission on the status of implementation of the Commission's policy statement on training and qualification of nuclear power plant personnel.

The Staff has provided the Commission with a policy paper, SECY-88-281, for consideration of an amendment to the policy statement on training and qualification which will also be discussed today.

I understand that copies of the slide presentation are available as you enter the room.

Do my fellow Commissioners have any opening comments before we begin?

(No response.)

CHAIRMAN ZECH: If not, Mr. Taylor, you may proceed.

MR. TAYLOR: Good afternoon, sir. With me at the table are Doctor Murley and Jack Roe, responsible for this area, to my right, and to my left are Doctor Susan Shankman and Bill Regan. Bill Regan is the Branch Chief and Doctor Shankman is the Section Chief for this area.

The briefing from the Staff will be given principally by Doctor Shankman.

CHAIRMAN ZECH: Thank you very much. You may

1 proceed.

2 MS. SHANKMAN: Thank you. Mr. Chairman,  
3 Commissioners, we are here to brief you on the Commission  
4 policy statement on training of nuclear power plant  
5 personnel.

6 (Slide.)

7 MS. SHANKMAN: As you may recall, the policy  
8 statement that was issued in 1985 was a clear endorsement of  
9 the INPO accreditation process.

10 CHAIRMAN ZECH: Excuse me a moment. Can the  
11 reporter hear all right?

12 COURT REPORTER: Yes, sir.

13 CHAIRMAN ZECH: Thank you very much. You may  
14 proceed.

15 MS. SHANKMAN: I'm sorry.

16 CHAIRMAN ZECH: You have a soft voice. I just want  
17 to make sure that you are heard properly.

18 MS. SHANKMAN: Thank you.

19 CHAIRMAN ZECH: You may proceed.

20 MS. SHANKMAN: Thank you, sir. At that time, the  
21 Commission deferred rulemaking to allow the INPO program to  
22 become established and the statement -- the policy statement  
23 -- when it was issued did say that the NRC would continue its  
24 responsibility in the training area and that the Staff would  
25 monitor the INPO progress.

1           The next slide, please.

2           (Slide.)

3           MS. SHANKMAN: As you know, and I guess you heard  
4 a great deal about this morning in relation to the requal  
5 program, the INPO program is based on the systematic approach  
6 to training, the so-called SAT. The SAT is the system that  
7 is used throughout the military and throughout most industries  
8 for technical training. At the heart of the system are the  
9 analysis of job requirements, a frontend analysis, and then the  
10 feedback from job performance to the training program.

11          The next slide, please.

12          (Slide.)

13          MS. SHANKMAN: Since 1985, the Staff has in fact  
14 monitored INPO's progress and the industry's progress in  
15 implementing the accreditation program. We have observed  
16 22 INPO team visits. That is the visit when INPO goes out  
17 to gather data to determine whether the facility is ready  
18 for accreditation.

19          We have also observed every national nuclear  
20 accrediting board until recently and now we are going to  
21 about one in three. The regions have inspected training  
22 but mostly operator requalification programs. Headquarters  
23 staff reviews LERs, SALPs, operator evaluations, operator  
24 examination reports and other inspection reports for trends  
25 in training data. We have also conducted ten post-

1 accreditation visits, headquarters led but with region-based  
2 experts in various areas. In training of maintenance workers,  
3 we use a maintenance person from the region, and things like  
4 that. And, in that way, we have been keeping tabs on INPO's  
5 progress.

6 The post-accreditation audits are conducted using  
7 NUREG-1220. This NUREG really parallels the five elements of  
8 the SAT. We look for detail evidence of implementation of  
9 the elements within the SAT. For example, in the learning  
10 objectives, we look for learning objectives that are there,  
11 first of all, and then we look to see that they have the  
12 conditions, actions and standards statements.

13 (Slide.)

14 MS. SHANKMAN: The standard of performance -- the  
15 standard statement of the learning objective is very important  
16 because it is used by NRC examiners to develop examinations.  
17 I would like to read an example of a learning objective that  
18 we would find acceptable.

19 It would go like this. Given the disassembled  
20 parts of a service order pump -- that would be the conditions  
21 -- proper tools also part of the conditions, and the approved  
22 procedure the third part of the conditions -- reassemble the  
23 pump in accordance with the steps of the approved procedure.  
24 That would be the action statement and the standard of  
25 performance. We looked that all three parts were there in



1 the learning objectives. That is how we have been looking  
2 at the post-accreditation process.

3 (Slide.)

4 MS. SHANKMAN: We also look at trainee evaluation  
5 when we go out. We have found that all the programs have  
6 criteria for passing the trainee programs. We also have found  
7 that most of the trainee evaluations though are paper and  
8 pencil and a good many of them also have pass/fail performance  
9 evaluations such as assemble the pump.

10 The program evaluation level though has been the  
11 weakest area. That is because it is the feedback loop from  
12 performance on the job back to the training program. And,  
13 at those plants where OPS and the training department have  
14 a very good relationship, that feedback loop works exceedingly  
15 well. At those plants where that relationship breaks down,  
16 then the feedback loop sometimes breaks down.

17 Slide six, please.

18 (Slide.)

19 MS. SHANKMAN: In SECY-87-121, we gave a two-year  
20 status report to the Commission about INPO accreditation. At  
21 that time, we recommended that the Commission continue to  
22 endorse accreditation. We also recommended at that time that  
23 accreditation should be extended to QA/QC programs and  
24 emergency response functions.

25 We also raised a concern about the upfront analysis

1 of job tasks, the development of knowledge, skill and ability  
2 statements or KSAs, the shorthand. We thought that perhaps  
3 they should be done in greater detail.

4 We were also concerned in 87-121 about contractor  
5 training and contractor qualifications and that perhaps they  
6 were not being held to the same standard as utility-produced  
7 programs.

8 The next slide.

9 (Slide.)

10 MS. SHANKMAN: We have had continuing discussions  
11 with INPO about our recommendations in 87-121. Based on  
12 those discussions, there is an attachment to the SECY paper,  
13 88-281, that recalls that in QA/QC and emergency response  
14 functions, both NRC and INPO feel that those areas are  
15 undergoing their own changes right now and have deferred the  
16 issue of extending accreditation to those areas.

17 In terms of contractor training, INPO will on the  
18 second round of accreditation look to see that procedures are  
19 in place at utilities for contractor training. In regard to  
20 the development of KSAs, INPO also has said that they will  
21 emphasize the need for KSA development in sufficient detail  
22 for any new tasks that are added to jobs that are currently  
23 under the accreditation program.

24 Slide eight, please.

25 (Slide.)

1 MS. SHANKMAN: That brings us to today and SECY-  
2 88-281. We believe the industry has had sufficient time to  
3 establish the accreditation program. Therefore, we have  
4 proposed amendments to the policy statement that will do the  
5 following: continue to endorse INPO accreditation with the  
6 five SAT elements; recognize that INPO has added an eleventh  
7 program, continuing training for licensed operators or  
8 requalification. I think you heard a great deal about that  
9 this morning.

10 We expect all remaining programs to be accredited  
11 in a timely fashion. INPO has met all their previous  
12 timetables, so we believe that they will continue to  
13 vigorously pursue that.

14 (Slide.)

15 MS. SHANKMAN: We will continue to use Part 55 to  
16 evaluate applications for operators' licenses. We will  
17 continue to monitor both the process of accreditation and  
18 the results. And, because we believe that the program is  
19 established, we have proposed an amendment to the enforcement  
20 policy that would allow enforcement actions to be made through  
21 the normal routine processes.

22 So, in summary, the Staff believes that the  
23 amended policy statement will continue the Commission's  
24 endorsement of INPO accreditation and at the same time will  
25 normalize the NRC inspection and enforcement in the training

1 area.

2 That concludes my presentation. Questions.

3 CHAIRMAN ZECH: Thank you very much. Any questions?  
4 Commissioner Carr.

5 COMMISSIONER CARR: Yes. In 87-121, there was a  
6 couple of comments that accreditation may have had a negative  
7 impact on non-licensed training, and it doesn't appear or it  
8 hasn't had a positive impact on inspection training. Have you  
9 all looked at that?

10 MS. SHANKMAN: I think overall there has been an  
11 influx of money and attention to the training area because of  
12 INPO accreditation and I don't think that that conclusion  
13 would hold at this point.

14 COMMISSIONER CARR: Well, there was one other  
15 comment that said the Staff questioned INPO's mechanism for  
16 following up on those items that gave them a promissory note  
17 on their accreditation programs.

18 MS. SHANKMAN: Yes, sir.

19 COMMISSIONER CARR: And, you didn't like their  
20 tracking system. Have you cleared that up?

21 MS. SHANKMAN: I don't know that we have cleared it  
22 up. It's problematic always when you have such a complicated  
23 program. As you know, INPO has a four-year accreditation  
24 cycle and they are now in the second round of accreditation.  
25 I believe that most of the open items, they received a two-

1 year status report from every facility, and in the second  
2 round of accreditation my understanding is that they will pay  
3 particular attention to any open items.

4 Is four years timely? I think with such a  
5 complicated program --

6 COMMISSIONER CARR: Have we audited any other  
7 second time around accreditations?

8 MS. SHANKMAN: No, we have not to this date but  
9 they have just begun their second round of accreditation.  
10 So, we plan on attending -- just as we did with the first  
11 round, we will be on team visits and we will go to the  
12 Accreditation Board and we will do post-accreditation audits  
13 and we intend to do inspections.

14 COMMISSIONER CARR: Okay.

15 CHAIRMAN ZECH: Commissioner Rogers.

16 COMMISSIONER ROGERS: Well, the area that continues  
17 to give me a little discomfort, maybe because I don't know  
18 enough about it, is what the checks are on the ongoing  
19 quality of the instructors themselves and how they assign  
20 grades that would affect that function, just what the  
21 monitoring of that is.

22 Programs are accredited as programs and presumably  
23 with certain people in place to produce those programs, but  
24 then the next go-around, the next time they are offered, maybe  
25 that person or some of those people aren't available right

1 then to do it, and so there is somebody else who is put in  
2 there to do it. Now, maybe they are very qualified and maybe  
3 they are not qualified. Maybe their standards are the same  
4 and maybe they are not the same. And, there is always the  
5 possibility of gradual drift away from what was the initial  
6 judgment or conditions for judgment of approval.

7 I haven't heard enough to give me or make me really  
8 comfortable about how INPO follows up on the delivery system  
9 of the programs. The programs are there, the basic structure  
10 facilities and of course content, but that is only half of  
11 the job. The other half is what actually happens between  
12 the instructor and the students.

13 I haven't heard enough about what the quality  
14 assurance is on an ongoing basis of any of these programs,  
15 particularly INPO-accredited ones, because I haven't heard  
16 something that really tells me that there is a QA function  
17 or a QC function on the instructors that has made me feel  
18 entirely comfortable.

19 Obviously if they are offered, they have to be  
20 offered with someone who knows something about it, but how  
21 do we know that quality is being maintained and it is not  
22 drifting away in some fashion, the quality of the instruction  
23 itself and the standards that are being used to judge that  
24 a student has done adequately well?

25 MR. ROE: I think the premise of your comment is

1 the fact the focus of the INPO program so far has been to  
2 set up an accreditation program and put the process into  
3 being and then allow that to be implemented, and that is true.  
4 We have also in the recent past focused our attention on the  
5 process to assure that it has been set up.

6 As Doctor Shankman has commented, we are now going  
7 to evolve from our review of the INPO process to one more of  
8 the implementation of the process. And, when we go from a  
9 post-accreditation review to an inspection program, there we  
10 will be looking not so much at the program but to see that  
11 it is fully implemented. We also have a desire to work with  
12 INPO to see if we can develop a measure of effectiveness of  
13 the training. That is something we have on our schedule. We  
14 haven't yet addressed it but we plan to. We think that is  
15 very important but it is a very complex matter, one that is  
16 going to be difficult to deal with.

17 MR. TAYLOR: Our next round is really to get into  
18 that effectiveness area in the next series; is that not right?

19 MR. ROE: Correct.

20 MR. TAYLOR: That's our plan. Then perhaps we will  
21 be able to better address by looking at that on training  
22 effectiveness your specific concerns.

23 COMMISSIONER ROGERS: Well, the only problem I have  
24 with that -- that is important to do that but that is after  
25 the fact in a certain sense. If, for example, you go through

1 a cycle of poor instruction and then you will find that it  
2 wasn't effective, but it would be nice to know that there is  
3 some check that could be applied at any time to see that the  
4 instruction that is being delivered is being delivered by  
5 adequately competent, capable and effective teachers without  
6 waiting until the final outcome.

7 In other words, you want to find out whether it is  
8 necessary to change the instructor after the first semester,  
9 rather than to wait until June comes around and the students  
10 all fail. So, I would like to know that there is some  
11 mechanism for a regular review of that that isn't just by the  
12 people, by the licensees themselves.

13 MR. ROE: We plan that as a part of our program  
14 of goals that we inspect.

15 COMMISSIONER ROGERS: The inspection program should  
16 take care of that.

17 MR. ROE: We shouldn't give you the impression  
18 that that will be comprehensive across the utilities. It will  
19 be like many of our other inspection programs. We will take  
20 an audit of particular activities at selected facilities and  
21 see that post-accreditation. Audits have looked at some of  
22 those things and have found that, for example, some of the  
23 evaluation techniques that are being used are really not  
24 appropriate, and we have fed that back to the processing and  
25 also to the utilities that we did those reviews. We plan to



1 continue that.

2 COMMISSIONER ROGERS: Well, you know, one  
3 possibility might be -- I don't know how difficult this is  
4 or how complex it will be -- that you are informed whenever  
5 there is a change in instructors. So, you know, you may  
6 have a list of instructors that are all qualified and so on  
7 and so forth and in a particular program they are all right,  
8 but if that list gets changed in some way and someone else  
9 gets added to it, that then you are informed about that so  
10 that then you have an opportunity to be alert to the  
11 possibility that this might be a makeshift arrangement that  
12 isn't really satisfactory or one that is perfectly all right.

13 MR. ROE: We can look into the feasibility of that.

14 MS. SHANKMAN: Right.

15 MR. TAYLOR: That gives us a selective sample then  
16 to look at too.

17 MR. ROE: Uh-huh.

18 MS. SHANKMAN: INPO does have a whole process  
19 instructor certification and they have delineation of the  
20 qualifications of instructors in different areas and that is  
21 part of their program and part of their good practices. As  
22 you know, we did do instructor certifications of their  
23 technical competency many years ago as an agency. We stopped  
24 doing that because INPO did have this elaborately laid out  
25 instructor certification process.

1 COMMISSIONER ROGERS: Okay.

2 CHAIRMAN ZECH: I have a question on your first  
3 amendment to the policy statement. I just wonder why you  
4 need to have the eleventh program for continuing training of  
5 licensed personnel? Is that really a program? Does it have  
6 the same connotation as the other ten? What does it mean?

7 MR. ROE: That is an interesting point that we have  
8 had some controversy with INPO. We believe in the classical  
9 fashion that the eleventh program really is part of the  
10 program for the licensed operators. Continuing training is  
11 part of a SAT-based program.

12 INPO has brought up some points that are debatable  
13 but we have agreed to allow them to take their approach which  
14 says they want to put an enhancement on requalification. In  
15 the past, there was a requalification program that was  
16 regulatory-driven specifically in Part 55, and there has been  
17 an evolution away from that Part 55 to one that is truly SAT-  
18 based and they want to focus on that.

19 So, we have agreed that that was a reasonable  
20 approach. We may have taken the approach to call it an  
21 enhancement of a previous program.

22 CHAIRMAN ZECH: But it is their initiative that  
23 they want this amendment. Is that what I would understand  
24 from what you have told me?

25 MR. ROE: No, I think this amendment just states

1 the facts --

2 MS. SHANKMAN: Recognizes.

3 MR. ROE: -- that they have established eleven  
4 programs.

5 MS. SHANKMAN: Right.

6 CHAIRMAN ZECH: But they do have an eleventh  
7 program.

8 MR. ROE: Yes, sir.

9 MS. SHANKMAN: Yes.

10 CHAIRMAN ZECH: Is it going to be accredited too?

11 MR. ROE: Yes.

12 MS. SHANKMAN: Yes.

13 CHAIRMAN ZECH: It has substance to it then.

14 MR. ROE: Oh, yes, it does. It parallels the  
15 efforts we have in the requal program, so we can understand  
16 the rationale.

17 CHAIRMAN ZECH: I see. All right. Well, a good  
18 training program of course begins with good instructors that  
19 have a good solid foundation on not only what they are  
20 supposed to teach but how to teach it and how to get it  
21 across, and a good curricula.

22 Could you tell me just a little bit about how the  
23 curricula is designed for just any program?

24 MS. SHANKMAN: It is based on job performance.

25 That's the difference between the SAT program and perhaps

1 one that is content-driven, subject-driven.

2 CHAIRMAN ZECH: Okay. On job task analysis, just  
3 what is the job? Will you describe the steps for me just  
4 quickly if you could?

5 MS. SHANKMAN: Okay. You say what is the job? What  
6 are the tasks that need to be done? In those tasks, what  
7 kind of knowledge? That would be content knowledge, theory,  
8 any kind of background information that you need.

9 CHAIRMAN ZECH: Who decides on what knowledge is  
10 necessary?

11 MS. SHANKMAN: Usually you use several people who  
12 do the analysis.

13 CHAIRMAN ZECH: Who are those people?

14 MS. SHANKMAN: Job incumbents are the primary  
15 people, then perhaps supervisors and trainers and people who  
16 deal with the job on a daily basis.

17 CHAIRMAN ZECH: Somebody who has done the job.

18 MS. SHANKMAN: Yes.

19 CHAIRMAN ZECH: That's what you mean by job  
20 incumbent.

21 MR. ROE: Yes.

22 MS. SHANKMAN: Yes.

23 MR. ROE: Subject matter experts.

24 CHAIRMAN ZECH: Fine.

25 MR. ROE: Which means if we are talking about a

1 reactor operator position, we would ask the reactor operator.

2 CHAIRMAN ZECH: Yes.

3 MS. SHANKMAN: Right.

4 CHAIRMAN ZECH: Fine. And, it is also then looked  
5 at by educators and others who --

6 MS. SHANKMAN: Yes.

7 CHAIRMAN ZECH: -- might look at it from that  
8 standpoint.

9 MR. ROE: Yes, sir.

10 CHAIRMAN ZECH: But you do involve the subject  
11 matter experts.

12 MR. ROE: It's essential.

13 CHAIRMAN ZECH: And, the SRO --

14 MR. ROE: It's essential.

15 MS. SHANKMAN: Right.

16 CHAIRMAN ZECH: And, the SRO looks at it.

17 MR. ROE: Yes.

18 MS. SHANKMAN: In fact, if you had to pick one  
19 group of people, job incumbents would be the major.

20 CHAIRMAN ZECH: Yes, fine, but they work together  
21 as a team.

22 MS. SHANKMAN: Yes.

23 CHAIRMAN ZECH: So, they work together and they  
24 establish what the curricula should have -- the course should  
25 have.

1 MS. SHANKMAN: Yes.

2 CHAIRMAN ZECH: Then what?

3 MS. SHANKMAN: Then the trainers or educational  
4 instructional technologists --

5 CHAIRMAN ZECH: Uh-huh.

6 MS. SHANKMAN: -- will decide the best forum in  
7 which to teach them. They use subject matter experts.

8 CHAIRMAN ZECH: How do you decide whether to make  
9 it a theory course or a hands-on or practical course or lab  
10 course?

11 MS. SHANKMAN: I think you use job requirements.  
12 If you use hands-on on the job, then you try to make it as  
13 much a hands-on process. If it is something that you need  
14 as background information, you can teach it as a knowledge  
15 base. That's why they call them knowledge, skills and  
16 abilities. I'll have to be frank, I have never understood  
17 the difference between abilities and skills. It's a  
18 distinction made by several instructional technologists.  
19 But the idea is that the knowledge is very distinct from  
20 skills and abilities and that it is information as opposed  
21 to practical ability.

22 CHAIRMAN ZECH: Okay. Then after you get the  
23 course designed and the curricula designed, then what happens?

24 MS. SHANKMAN: Once you have set up, then you need  
25 to derive the learning objectives. Those learning objectives

1 are usually two-kind, one that will talk about training  
2 objectives, in-term objectives, things that will tell you  
3 that you are at the end of this part of the training, and  
4 then the jargon is terminal objectives.

5 CHAIRMAN ZECH: Right.

6 MS. SHANKMAN: The job performance level, just as  
7 I read.

8 CHAIRMAN ZECH: Fine.

9 MS. SHANKMAN: It is very important that the  
10 instructional materials and the mode of instruction be  
11 appropriate to the learning objective. Then, once the  
12 learner has done whatever process is considered the training,  
13 they are tested against the learning objective. That's the  
14 trainee evaluation. If they are supposed to be able to  
15 disassemble something, they should be given it and disassemble  
16 it. If they are supposed to be able to recall something,  
17 then they should be able to recall it without any prompting.

18 CHAIRMAN ZECH: And, they are tested on that.

19 MS. SHANKMAN: Yes. If they on the job use the  
20 procedure as the basis of their information, they should be  
21 given the procedure and then told to do the task.

22 CHAIRMAN ZECH: How do you decide on the length of  
23 the courses?

24 MS. SHANKMAN: I think that has to be done with  
25 instructional technologists who are used to passing learning

1 out into a process, a stepwise process. Some things are  
2 easily learned. Some things are not easily learned. The  
3 difficulty in learning them isn't necessarily the difficulty  
4 of the task itself.

5 CHAIRMAN ZECH: The length of the courses that we  
6 have vary.

7 MS. SHANKMAN: I would hope so, yes.

8 CHAIRMAN ZECH: Do they? Do we know?

9 MS. SHANKMAN: Yes.

10 CHAIRMAN ZECH: They are not all ten weeks.

11 MS. SHANKMAN: Oh, no, sir.

12 CHAIRMAN ZECH: Some of them have different lengths  
13 to them.

14 MS. SHANKMAN: Exactly.

15 CHAIRMAN ZECH: Okay. When the student graduates  
16 from the course and he goes to his position in the  
17 organization, what kind of feedback do you get from how he  
18 performs and whether his supervisors are satisfied with his  
19 performance?

20 MS. SHANKMAN: In some plants, they have a very  
21 elaborate training feedback process from both the learners  
22 and the supervisors. In some plants, it is not as elaborate.  
23 But it can either be done both through the paper process and  
24 also in meetings and looking at trends across job types. If  
25 the maintenance department is having a problem with a



1 particular kind of valve, then that would be fed into the  
2 training and that would be included in the maintenance  
3 continuous training.

4 CHAIRMAN ZECH: Do you have any kind of a formal  
5 feedback system? Do you require any kind of feedback?

6 MS. SHANKMAN: INPO requires it.

7 MR. ROE: Yes, if it is --

8 CHAIRMAN ZECH: INPO does require it.

9 MS. SHANKMAN: Yes.

10 MR. ROE: If it is accredited or SAT-based, it will  
11 have a feedback process. That is a requirement, one of the  
12 five steps.

13 MS. SHANKMAN: Yes.

14 CHAIRMAN ZECH: Okay, good, because that is  
15 important for several reasons. Of course it keeps your  
16 course updated but also it gives you confidence that what  
17 you are teaching is the right thing. Also, another valuable  
18 part of a good feedback system, it has been my experience,  
19 it forces those who are the receiver of the product -- in  
20 other words, the senior supervising officials -- to not just  
21 say that training isn't any good. It forces them to say what  
22 is wrong with it and what specifically are the weak points  
23 in the individual that they see, and it forces them to  
24 participate in the whole process. That is important. So, a  
25 good feedback system is important.

1 I would hope you look at the INPO feedback system.  
2 I would kind of be interested in perhaps at some time being  
3 informed as to exactly how that does work because, as I say,  
4 there are very valuable parts to a feedback system but one  
5 of the most valuable is to force the supervisor to give us,  
6 you know, his views or her views on what kind of a product  
7 is being put out from the training system. It is very  
8 important and very useful. Also, it is much more useful than  
9 having them give those general comments that are not useful.  
10 But put the onus on them to say, okay, what should we do  
11 better.

12 It gives your training program, in my experience,  
13 kind of a participatory arrangement so that everybody is  
14 training. Everybody ought to be part of training, you know,  
15 at least in my view, and those people who are receiving the  
16 product of the training organizations should feel some  
17 responsibility to try to make the training better, rather  
18 than just complain about it if it isn't as good as they think  
19 it is.

20 Do you have a system of updating the training or  
21 does INPO, as you know, have any kind of a system of updating  
22 training with new equipment or new procedures? In other  
23 words, how is the training updated?

24 MS. SHANKMAN: As part of the continuous training  
25 for all the ten training programs, there is an analysis that

1 should be done on a periodic basis. That is part of the SAT  
2 system, that you continuously feed into your training program  
3 modifications to the plant, new equipment, new procedures, any  
4 new information that should be disseminated. It is the  
5 vehicle for getting new information out to everybody over  
6 time.

7 CHAIRMAN ZECH: It is a system that works.

8 MS. SHANKMAN: (Nodding head up and down.)

9 CHAIRMAN ZECH: Is that right, do you think?

10 MS. SHANKMAN: Yes.

11 CHAIRMAN ZECH: All right. The accreditation  
12 program -- once a course at a utility say or all the courses  
13 are accredited, what happens? Is there any further  
14 accreditation action?

15 MS. SHANKMAN: Yes.

16 CHAIRMAN ZECH: Could you elaborate on that a  
17 little bit?

18 MS. SHANKMAN: Yes, sir. At the two-year mark --  
19 it's a four-year accreditation, so you are blessed for four  
20 years -- at the two-year mark you are required to send in a  
21 status report detailing any open items, how they have been  
22 completed, what has been done with them. That's a paper  
23 report. Then four years later, you are up for re-  
24 accreditation.

25 CHAIRMAN ZECH: Can you tell us about that process?

1 I think it is very interesting.

2 MS. SHANKMAN: Okay.

3 CHAIRMAN ZECH: Because, as I understand it, the  
4 utility executives themselves appear before the Accreditation  
5 Board.

6 MS. SHANKMAN: Yes.

7 CHAIRMAN ZECH: Could you elaborate on that just a  
8 little bit?

9 MS. SHANKMAN: Yes. INPO in the first round of  
10 accreditation and partially in the second round has been very  
11 forthcoming in giving assistance visits to the facility. They  
12 have gone out and worked with the facilities in getting ready  
13 for accreditation. The facility has to do a self-  
14 evaluation for each of the programs that it wants to have  
15 accredited and look at where they are and what they need to  
16 do. Then they develop their job task analysis and proceed  
17 with developing the training. They put that in place and  
18 they come out with a team visit which is an extensive visit  
19 in which the team looks at training that is going on, the job  
20 task analysis, how it was developed. They look at the  
21 qualifications of the instructors. It is a comprehensive  
22 team visit and it goes on for several weeks.

23 That becomes the basis of a report. That report  
24 from the INPO evaluators -- and they use evaluators from  
25 other plants, people who have experience doing the same

1 thing -- that report becomes the basis for the Accreditation  
2 Board in which the plant is then presented to the  
3 Accreditation Board by the team chair and the utility  
4 executives participate. The Accreditation Board then decides  
5 whether to give the specific program at the specific plant  
6 accreditation.

7 CHAIRMAN ZECH: What role do the utility executives  
8 play in that accreditation process?

9 MR. ROE: I think that from what I have seen by  
10 attending those particular meetings and having a good  
11 understanding of the process is they are pretty much  
12 thoroughly involved all the way through. Many of them are  
13 quite knowledgeable about the programs and about the  
14 development of the programs and about the plans for full  
15 implementation of the programs. So, they look like they are  
16 fully onboard with that particular approach.

17 CHAIRMAN ZECH: All right, good.

18 COMMISSIONER CARR: It is my understanding, Mr.  
19 Chairman, some of them haven't been accredited because their  
20 senior management wasn't involved.

21 CHAIRMAN ZECH: Well, that's a good healthy sign  
22 as far as I'm concerned. Senior management should be  
23 involved. This was part of my question, that I think they  
24 should be involved. I hope that they will continue that  
25 policy of not accrediting unless the management is

1 involved.

2 MR. ROE: We have seen that the accreditation  
3 process by the Board is not a ministerial function, that there  
4 are some very probing analyses of it and that there is not  
5 a 100 percent accreditation rate on the first time.

6 CHAIRMAN ZECH: Well, I have understood and I  
7 believe you are telling me that you believe the accreditation  
8 program is very effective.

9 MR. ROE: Yes, sir.

10 CHAIRMAN ZECH: I think, frankly, it provides the  
11 real professionalism to the training program. The  
12 accreditation process I think is an excellent one and I  
13 commend INPO for their initiative in that regard.

14 Well, let me just commend the Staff for the  
15 excellent initiatives that you have taken, that you have  
16 undergone and taken aboard in the whole training world. I  
17 think you really have done an excellent job in this regard.  
18 You know, a few years ago when we initially discussed whether  
19 we should permit INPO to take on this training responsibility  
20 under a policy rather than a rule as I recall, and they made  
21 a commitment to do it and to do it right, I think they should  
22 indeed get a lot of credit for a very fine program.

23 It has been my observation, having visited so many  
24 plants in our country, that I really do believe the recent  
25 visits that I have made to our plants show a considerable

1 improvement in training than my earlier visits some years ago.  
2 So, I think this has been a very effective program and I think  
3 it is something that we can be proud of and we certainly can  
4 be proud of the way that INPO has fulfilled their commitment  
5 in this regard.

6 Also, with the accreditation program that they have  
7 brought into the whole training process, I think it really has  
8 made it a professional program. Training, as we all know, is  
9 about as important as you can get to the operation of the plant  
10 itself. If you are not well-trained, you can't operate it  
11 very well. And, as I say, I think the efforts we have made  
12 not only in the requalification program that we discussed  
13 this morning but in the overall training program that we  
14 discussed here this afternoon are really contributing directly  
15 to the improvements that we do see in the operations of our  
16 nuclear power plants.

17 That doesn't mean that there isn't room for more  
18 improvement because I think there is but there clearly is  
19 improvement that has been made and I do think that our  
20 emphasis on training and the people part of the training --  
21 the instructors, the examiners, all of those who participate  
22 in the training program -- should be looked on as a very  
23 important part of our responsibilities for safe operations.

24 So, I commend the Staff for the efforts you have  
25 taken. I commend INPO for the excellent way they followed

1 through on their commitment. At least it has been my  
2 obsevation crawling around as many plants as I have in our  
3 country that we have indeed increased the training of our  
4 people and I do think that has made a direct contribution to  
5 the improvements that we have seen and to safety.

6 MR. TAYLOR: May I --

7 CHAIRMAN ZECH: Mr. Taylor.

8 MR. TAYLOR: Mr. Chairman, I would like to say that  
9 I have observed INPO functioning since its early days and  
10 since this program got started I have sensed and I have  
11 continued to sense a very strong commitment to this whole  
12 program by the INPO staff and by the responsible officials  
13 at INPO. I think I echo what you said in how strongly they  
14 feel about the importance of this program and their dedication  
15 to do it.

16 CHAIRMAN ZECH: Good. Well, I certainly agree,  
17 however, I would also charge the Staff with continued  
18 monitoring of the program because that is one way we can be  
19 confident that it is continuing to improve and continuing to  
20 be carried out effectively.

21 So, I think it is awfully important that we  
22 continue our involvement in the training program to the  
23 extent that the Staff can keep assuring the Commission that  
24 the training is effective and it is getting better.

25 MR. TAYLOR: Yes, sir.



1 CHAIRMAN ZECH: Because that is important I believe.

2 MR. TAYLOR: Yes, sir.

3 CHAIRMAN ZECH: All right. Anything else from my  
4 fellow Commissioners?

5 (No response.)

6 CHAIRMAN ZECH: If not, thank you very much again  
7 for an excellent briefing. We stand adjourned.

8 (Whereupon, at 2:40 p.m., the Commission meeting  
9 was adjourned.)

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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:      Briefing on Status of Policy Statement  
                 on Training and Qualification

TITLE OF MEETING:      Public Meeting  
PLACE OF MEETING:      Washington, D.C.  
DATE OF MEETING:      October 7, 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.

  
\_\_\_\_\_  
JOHN TROWBRIDGE, CVR

Ann Riley & Associates, Ltd.

COMMISSION POLICY STATEMENT ON TRAINING  
& QUALIFICATIONS OF NUCLEAR POWER PLANT  
PERSONNEL [50 FR 1147, MARCH 20, 1985]

- °ENDORSED INPO ACCREDITATION

- °DEFERRED RULEMAKING (2 YRS)

- °INPO ACCREDITATION INCLUDES  
ELEMENTS OF PERFORMANCE-BASED  
TRAINING (SAT)

- °EMPHASIZED NRC'S CONTINUING  
RESPONSIBILITY FOR TRAINING

### SYSTEMATIC APPROACH TO TRAINING (SAT)

- ° ANALYSIS DETERMINES JOB PERFORMANCE REQUIREMENTS AND TRAINING NEEDS
- ° TRAINING OBJECTIVES DESCRIBE DESIRED PERFORMANCE AFTER TRAINING
- ° TRAINING DESIGNED TO MEET OBJECTIVES
- ° MASTERY OF OBJECTIVES EVALUATED IN TRAINING
- ° TRAINING REVISED/UPGRADED BASED ON JOB PERFORMANCE

## STAFF EVALUATION OF INPO ACCREDITATION

- °OBSERVE INPO TEAM VISITS
- °OBSERVE NATIONAL NUCLEAR ACCREDITING BOARD
- °TRAINING INSPECTIONS
- °TRAINING PERFORMANCE DATA (SALP, LERs, EXAM REPORTS)
- °POST-ACCREDITATION AUDITS (NUREG-1220)

## POST-ACCREDITATION AUDITS (NUREG-1220)

### ° ANALYSIS

- IDENTIFICATION OF TASKS FOR  
CONTINUING TRAINING

### ° LEARNING OBJECTIVES

- AVAILABILITY FOR TASKS REVIEWED
- CONDITIONS, ACTIONS, STANDARDS

### ° DESIGN/IMPLEMENTATION

- EVALUATION OF INSTRUCTIONAL SETTINGS
- ORGANIZATION AND SEQUENCING OF  
INSTRUCTIONAL MATERIAL
- APPROPRIATENESS OF EXISTING MATERIAL

## AUDITS (CONT'D)

### °TRAINEE EVALUATION

- APPROPRIATENESS FOR JOB PERFORMANCE REQUIREMENTS AND OBJECTIVES
- CONSEQUENCES OF INADEQUATE PERFORMANCE

### °PROGRAM EVALUATION

- EVALUATION OF EXAMINATION RESULTS
- TRAINEE AND INSTRUCTOR FEEDBACK
- SUPERVISORS' ON-THE-JOB EVALUATION
- INTERNAL & EXTERNAL EVALUATION OF TRAINING PROGRAMS

SECY 87-121

°TWO YEAR STATUS REPORT ON ACCREDITATION

°RECOMMENDATIONS:

- CONTINUED ENDORSEMENT OF  
ACCREDITATION
- ENHANCE EXISTING ACCREDITATION  
PROGRAM, I.E., TECHNICAL STAFF &  
MANAGERS, CONTRACTOR TRAINING,  
DEVELOPMENT OF KSAs
- EXTEND ACCREDITATION TO QA/QC AND  
EMERGENCY RESPONSE PERSONNEL
- GREATER EMPHASIS ON TRAINING AND  
QUALIFICATIONS OF CONTRACTOR  
PERSONNEL



## RESPONSE TO RECOMMENDATIONS

- ACCREDITING QA/QC & EMERGENCY  
RESPONSE FUNCTIONS DEFERRED WHILE  
POSITIONS ARE REDEFINED BY NRC &  
INPO
- INPO TO ENSURE THAT STANDARDS  
APPLY TO CONTRACTOR TRAINING
- DEVELOPMENT OF KSAs TO BE  
EMPHASIZED FOR NEW TASKS

## AMENDED POLICY STATEMENT - 1988

- ° CONTINUES TO ENDORSE INPO ACCREDITATION WITH 5 SAT ELEMENTS
- ° RECOGNIZES THAT ACCREDITATION NOW INCLUDES ELEVEN TRAINING PROGRAMS
- ° EXPECTS ALL REMAINING PROGRAMS TO BE ACCREDITED IN TIMELY FASHION

AMENDED POLICY STATEMENT (CONT'D)

- ° 10 CFR 55 STILL BASIS FOR EVALUATION OF APPLICATIONS FOR OPERATORS' LICENSES
- ° NRC CONTINUES TO CLOSELY MONITOR PROCESS AND RESULTS
- ° ENFORCEMENT ACTIONS THROUGH ROUTINE PROCESSES.