

# Official Transcript of Proceedings

## NUCLEAR REGULATORY COMMISSION

Title: Petition Review Board  
Category 2 Public Meeting

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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PETITION REVIEW BOARD

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CATEGORY 2 PUBLIC MEETING

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DOCKET NO.

PRM-34-06

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WEDNESDAY,

AUGUST 15, 2007

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The Board convened via teleconference at 1:00 p.m.

PETITION REVIEW BOARD PRESENT:

GEORGE PANGBURN, Deputy Director, FSME

(Chairman of PRB)

FRANCIS (CHIP) CAMERON, OGC

MICHAEL LESAR, ADM/DAS/RDEB

DENNIS RATHBUN, FSME/DILR

JANET SCHLUETER, FSME/DMSSA

ORGANIZATION OF AGREEMENT STATES, INC. PRESENT:

PAUL SCHMIDT, Chairman, State of Wisconsin

CINDY CARDWELL, State of Texas

1       REGISTERED MEMBERS OF THE PUBLIC PRESENT:

2       WALT COFER, Consultant

3       ROY PARKER, Consultant

4       JARED THOMPSON, State of Arkansas

5       CLAYTON BRADT, State of New York

6       JIM MULL, State of New York

7       BILL VARCASIO, State of New York

8       RICHARD RATLIFF, State of Texas

9       NRC STAFF AND SUPERVISORS PRESENT:

10       BRUCE CARRICO

11       KEVIN HSUEH

12       JAMES KOTTAN

13       JAMES LYNCH

14       JOAN OLMSTEAD

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16       THOMAS YOUNG

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

1:04 p.m.

CHAIRMAN PANGBURN: This is George Pangburn from NRC headquarters. I'm a Deputy Director of the Office of Federal and State Materials and Environmental Management Programs.

This is a meeting on a petition for rulemaking from the Organization of Agreements States. Before we get into the purpose of the meeting, I thought it would be useful to go around the room here, then to the petitioners then to members of the public, and then to NRC folks on the phone, to introduce who's on.

So, to my left here in the room?

MEMBER CAMERON: Chip Cameron, Office of General Counsel.

MR. HSUEH: Kevin Hsueh, NRC headquarters.

MEMBER RATHBUN: Dennis Rathbun, FSME.

MEMBER SCHLUETER: Janet Schlueter, FSME.

MEMBER LESAR: Mike Lesar, Rules Directors and Editing.

MR. YOUNG: Thomas Young, FSME.

MS. OLMSTEAD: Joan Olmstead, OGC.

MR. CARRICO: Bruce Carrico, FSME.

CHAIRMAN PANGBURN: And from the

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1 petitioners?

2 MS. CARDWELL: Cindy Cardwell, OAS, Texas.

3 MR. SCHMIDT: Paul Schmidt, OAS Chair,  
4 Wisconsin.

5 CHAIRMAN PANGBURN: Okay. Thank you.

6 Members of the public on the call,  
7 identify yourselves.

8 MR. THOMPSON: Jared Thompson, Arkansas.

9 CHAIRMAN PANGBURN: Okay. Thanks Jared.

10 MR. RATLIFF: Richard Ratliff, Texas.

11 MR. COFER: Walt Cofer, Radiation Control  
12 Incorporated.

13 CHAIRMAN PANGBURN: Walt.

14 MR. PARKER: Roy Parker.

15 CHAIRMAN PANGBURN: Hello, Roy.

16 MR. PARKER: Hello.

17 MR. BRADT: Clayton Bradt, New York.

18 CHAIRMAN PANGBURN: Okay.

19 MR. MULL: Jim Mull, New York.

20 CHAIRMAN PANGBURN: Okay.

21 MR. VARCASIO: Bill Varcasio, New York.

22 CHAIRMAN PANGBURN: I'm sorry could you  
23 repeat that please?

24 MR. VARCASIO: Bill Varcasio of New York  
25 State Health.

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1 CHAIRMAN PANGBURN: Okay. Thank you.

2 And NRC representatives not here in  
3 headquarters?

4 MR. KOTTAN: This is Jim Kottan, Region I.

5 CHAIRMAN PANGBURN: Hi, Jim.

6 MR. KOTTAN: Hi, George.

7 MR. LYNCH: Jim Lynch from Region III.

8 CHAIRMAN PANGBURN: Jim, How are you doing?

9 MR. LYNCH: Good.

10 CHAIRMAN PANGBURN: Region IV?

11 I trust they'll join us in progress.

12 And we do have a court reporter on, this  
13 is being transcribed.

14 The purpose of the meeting today is to  
15 hear from the Petitioner regarding a November 2005  
16 petition sent by the Organization of Agreement States.  
17 And I'll paraphrase here from the letter that was sent  
18 to us. That the petition is to strengthen the  
19 regulation of radioactive materials by requiring that  
20 an individual receive at least 40 hours of radiation  
21 safety training prior to using sources of radiation  
22 for industrial radiography, by clarifying the  
23 requirements for at least two individuals to be  
24 present at a temporary job site, and by clarifying how  
25 many individuals are required to meet surveillance

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1 requirements.

2 In particular, the petition proposed to  
3 make four amendments if you will, to various parts of  
4 Part 34:

5 To amend 34.41, which is on conduct of  
6 industrial radiography operation, and the proposal  
7 there would be to strike out language having to do  
8 with what the additional qualified individual is  
9 required to do;

10 To modify 34.43 on training to mandate at  
11 least 40 hours of training on applicable subjects as  
12 laid out in paragraph G of that section, but remove  
13 some other language related to that;

14 To make a similar requirement in 34.43  
15 that would require a radiographer's assistant to have  
16 at least 40 hours of training on the subject in  
17 paragraph G, and finally;

18 Amend 34.51, surveillance, to strike out  
19 language that would have the other individual present  
20 as required by 34.41, ensure continuous direct visual  
21 surveillance.

22 In the process of looking at this petition  
23 the Petition Review Board, which are primarily the  
24 members you heard around the table here in  
25 headquarters, were briefed by a working group that

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1 looked at this petition. We had a couple of questions  
2 that came to mind. And the purpose of this meeting  
3 today really is to hear from the Petitioner on those  
4 questions so that we might better understand what  
5 appeared to be some inherent conflicts or questions  
6 with the petition itself. And we'll speak to those in  
7 a few minutes.

8 We have about two hours budgeted for this  
9 call. We cut off automatically at 3:00 p.m. Eastern  
10 Time. If you've seen the agenda for this, the  
11 schedule is pretty robust. Our purpose in doing this  
12 is to hear from the Petitioner and to ask such  
13 questions as the Board needs to clarify the statements  
14 the Petitioner might make.

15 And towards the end of the call, at about  
16 2:40 p.m., or earlier than that or later than that  
17 depending on how the conversation goes, we will allow  
18 for comments by members of the public on the phone on  
19 what they've heard from the Petitioner. And we'll  
20 close the meeting up at around 3:00 p.m.

21 And that's generally how we'll go today.  
22 But I was going to turn it over to Tom Young to talk  
23 a little bit about the receipt of the petition and the  
24 petition review process to date.

25 Tom?

1 MR. YOUNG: Yes. Thank you, George.

2 The letter from the Petitioner was dated  
3 November 3, 2005. And it was processed through and  
4 docketed on November 16, 2005 as Docket No. PRM 34-06.  
5 And *Federal Register* Notice was published on receipt  
6 of the petition on December 28, 2005. And it  
7 requested comments from the public, and the comment  
8 period closed on March 13, 2006.

9 Last summer then a working group was  
10 established, and they met during the fall months  
11 . And in January, then they met with the  
12 Petition Review Board. And the Petition Review Board  
13 has been evaluating the working group's information  
14 during January through May. They decided then to have  
15 a session with the Petitioner today on these two  
16 issues.

17 So that's the process and the milestones  
18 that we have been involved with.

19 CHAIRMAN PANGBURN: Okay. This is George  
20 again. Before I start on the specific question, did  
21 any other members of the PRB want to make a statement  
22 at this point in time?

23 Okay. So, I'll address this to Cindy and  
24 to Paul on the first question, which is what we called  
25 the training issue.

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1           What we're seeking to understand a little  
2 bit better is what appears to be an apparent  
3 inconsistency within the request. In our looking at  
4 it and the PRB's discussion, you know the Petitioner  
5 appeared to request that NRC would amend the  
6 regulation to relax an existing requirement that would  
7 have the practical effect of allowing industrial  
8 radiography personnel to do things other than  
9 surveillance, and potentially unrelated to safety,  
10 during radiographic operations. But at the same time  
11 also requested that the regulations be amended to  
12 include additional radiation safety training  
13 requirements for the personnel. And our sense was  
14 that these things seemed to conflict.

15           Specifically, the Petitioner requested in  
16 34.41 that paragraph A be amended to remove the  
17 requirement that the additional qualified individual  
18 shall observe operations and be capable of providing  
19 immediate assistance to prevent unauthorized entry.  
20 And also requested that 34.43 be amended to limit a  
21 licensee from permitting an individual to act as a  
22 radiographer or radiographer's assistant until an  
23 individual has successfully completed an accepted  
24 course of at least 40 hours.

25           Our first question was, what's the

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1 rationale in your minds for requiring more radiation  
2 safety training for a radiographer's assistant who  
3 would not be required to observe operations and  
4 provide assistance to prevent unauthorized entry?

5 MS. CARDWELL: I'll take that. This is  
6 Cindy.

7 And I guess to explain this, let me just  
8 say from the front, I think we still have some  
9 misunderstanding and miscommunication in terms of the  
10 industrial radiography safety requirements and  
11 training requirements as a whole package.

12 And so if you'll indulge me a little bit,  
13 let me give you some background for the purpose of the  
14 fact that we've got a court reporter transcribing  
15 this. And of course this originally originated within  
16 the state of Texas. And our requirements have been  
17 picked up obviously by many other agreement states and  
18 non-agreement states.

19 What were looking at way back when we  
20 started this in the very early 1980's, we were having  
21 issues with what our current rules and at the time  
22 NRC's current rules required in terms of training. We  
23 were having what we considered an inordinate number of  
24 incidents. Many of them serious incidents in which we  
25 had burns. Not only radiation overexposures, but

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1 actual burns.

2           And we started looking at the regulations  
3 as a whole. What we came up with in essence, was that  
4 one of -- and let me emphasize, one of the root causes  
5 of some of the problems we were having in Texas, and  
6 I guess       I'll back up a little bit further and say  
7 that it was important to us because the industrial  
8 radiography industry in Texas is very, very closely  
9 tied to the oil and gas industry. We are a very large  
10 oil and gas state. So we have probably more than our  
11 fair share and more than most of the other states in  
12 terms of industrial radiography licensees. So this  
13 was indeed an issue for us and a public health and  
14 safety issue.

15           Going forward with that. We identified  
16 what one of the root causes was that individuals who  
17 were out there performing radiography lacked a basic  
18 radiation safety training. Now by this, I don't mean  
19 training in how to use the equipment, training in the  
20 licensees license conditions or their operating and  
21 safety procedures. We mean basic radiation safety  
22 training.       What is radiation?       What are the  
23 consequences of exposure to radiation? Down basically  
24 to -- we identify through some of our incident  
25 investigations that there were actually individuals

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1 who received overexposures and burns who weren't even  
2 aware of what part of the equipment they were working  
3 with was the actual radioactive portion of the device.  
4 So it was fairly clear that we didn't have that  
5 radiation safety training.

6 What we embarked on back in the early '80s  
7 was a five year process of rulemaking, heavily  
8 involving our industrial radiography licensees in our  
9 Radiation Advisory Board here in Texas.

10 It was a five year process. We went  
11 through 13 draft rules, several public meetings, many  
12 meetings with our licensees. And came up with what we  
13 considered at the time, a comprehensive package of  
14 regulatory changes, one of which was the training  
15 components. And that's when we came up with the  
16 classifications of our radiographer. What we call a  
17 radiographer trainee, and I will get to that at a  
18 future point in time when we start talking about  
19 training. It is not the same as what NRC's rules have  
20 as the radiographer assistant and the radiographer  
21 trainer. So there were three different classes there.  
22 A certification program that involved a test --

23 CHAIRMAN PANGBURN: Just a second, Cindy.  
24 Could you go over what those three are?

25 MS. CARDWELL: Yes. They are a

1 radiographer trainee --

2 CHAIRMAN PANGBURN: Okay.

3 MS. CARDWELL: -- starting at the lowest  
4 level, a radiographer and a radiographer trainer.

5 CHAIRMAN PANGBURN: Okay.

6 MS. CARDWELL: And those are different.  
7 I'll explain those when we get more specific into the  
8 training here.

9 Another component that we looked at were  
10 the requirements that had to do with the manufacturing  
11 of the equipment and the sources as well.

12 And then we looked at the requirements for  
13 actually doing industrial radiography out in the  
14 field. And that's where the two person crew was born,  
15 if you will.

16 So we have always, from day one,  
17 maintained that it was an entire package of changes  
18 and regulatory scheme that we needed to address what  
19 had identified as root cause issues of the  
20 overexposure incidents that were happening in this  
21 particular industry.

22 I will skim through the history, because  
23 most of you know it. Over time other states -- CRCPD  
24 became heavily involved with a specific committee on  
25 industrial radiography that looked at certification.

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1 Other agreement states became involved with this,  
2 adopted rules prior to NRC's rule revision that  
3 incorporated some of the issues that we're talking  
4 about today. And we started working on what we  
5 considered a national certification for radiographers  
6 in which they could meet our certification  
7 requirements. And that could be used, you know from  
8 state to state to state, and be recognized.

9 And we've over time through many efforts,  
10 we have evolved to where we are today. Where we've  
11 got certifying entities that are -- I hope I'm not  
12 quoting wrong here, but I believe we have eight or  
13 nine states that are certifying entities right now,  
14 all of which contract with the state of Texas for  
15 their questions for the industrial radiographer  
16 certification exam.

17 We also all have consistent requirements  
18 in terms of the training and with the certification  
19 requirements in that they are required to have the  
20 test and OJT. And then that's looked at -- that's an  
21 ongoing program. And we have an individual  
22 specifically set aside in our program to handle the  
23 industrial radiological certification program.

24 Now, to get more to your question, I think  
25 as I read the question it seems to me that there's

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1 still a misunderstanding in that somehow the training  
2 is tied to that second person. The way I read your  
3 question, it seems to imply that if a second person is  
4 required to observe, what's the rationale for  
5 providing them more training? And let me ask --  
6 clarify if I've got that right?

7 CHAIRMAN PANGBURN: I think the question  
8 is, on the one hand we seem to be taking away a  
9 function of that person by the change that's proposed  
10 at 34.41, that would allow them to be in the dark  
11 room. But at the same time making the argument that,  
12 well because of the history that you just went  
13 through, we need to give them radiation safety  
14 training because otherwise they could end up handling  
15 sources.

16 MS. CARDWELL: Okay. I see where we may  
17 have some confusion. It appears that we may be going  
18 from -- and I have to say "we" -- that NRC may be  
19 looking at this as going from step A to step C and we  
20 are leaving out step B.

21 CHAIRMAN PANGBURN: Possibly, but --

22 MS. CARDWELL: Okay. What the petition  
23 means is that we feel strongly -- the states feel  
24 strongly that anyone who is allowed to be on site  
25 working with radioactive materials, meaning NRC's

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1 assistant and in most of the states a trainee, should  
2 have radiation safety training. NRC's rules do not  
3 require that currently. They require --

4 CHAIRMAN PANGBURN: I would disagree.

5 MS. CARDWELL: They require training in the  
6 licensee's operating and emergency procedures. They  
7 require training in the rules and regulations, and  
8 they require a practical type of training with the  
9 equipment itself. None of those requirements  
10 specifically state that they should have any kind of  
11 -- they don't necessarily have to have safety in any  
12 of those.

13 CHAIRMAN PANGBURN: Yes.

14 MS. CARDWELL: Whereas the states do  
15 require a course, many of which say 40 hour course and  
16 it specifies the topics that are supposed to be in  
17 that course. This is what we did again, years ago to  
18 get back to the root cause that they weren't having  
19 the safety training. They knew how to use the  
20 equipment.

21 They've been given in various -- how  
22 should I say this -- varying degrees of training in  
23 their own licensee's operating and safety procedures.  
24 But they were missing the safety training. And that  
25 is still missing in NRC's rules.

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1           That's the reason for requiring the  
2 training. So what we see in terms of petition is that  
3 we are putting a focus on having a second person be  
4 there to observe operations, when indeed it's almost  
5 as if we're providing in NRC's interpretation of this,  
6 a false sense of security, in that that person under  
7 NRC's rules could be somebody that has had no  
8 radiation safety training.

9           And it seems to be that's designed there  
10 for surveillance, if you will, which again gets into  
11 another section of rules under the surveillance  
12 requirement. And we're thinking that there's an  
13 inappropriate focus on that second person being there  
14 for surveillance when in fact that second person,  
15 under NRC's rules, could be an assistant that does not  
16 have radiation safety training.

17           And so we're thinking the bigger picture  
18 here. Stepping back and looking at the bigger picture  
19 is, there really should be that radiation safety  
20 requirement there. Whether you call them an assistant  
21 or a trainee, that should be before anybody is able to  
22 get out there and use sources.

23           Now the surveillance issue, which we think  
24 that the NRC's wording inappropriately focuses on, is  
25 covered more appropriately under the surveillance

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1 section.

2 So what you're looking at is an  
3 interpretation of the rule, and which we have allowed  
4 and it was found during our impasse and we freely  
5 admit that, that when we have a team -- now there are  
6 several components of this, so let me say this  
7 carefully. When we have a team that consists of just  
8 two radiographers and that those two individuals have  
9 been deemed appropriate to satisfy the surveillance  
10 requirement -- and for the surveillance requirement,  
11 it may require more than that, but at least the two;  
12 that if those two are fully certified radiographers  
13 and they can meet this surveillance requirement while  
14 one of them is in the dark room, that we consider that  
15 meeting the requirement.

16 And I'm a little worried that may have  
17 been some of the misinterpretation. In other words  
18 we're getting at an argument here of there's more than  
19 one way to skin a cat. There's more than one way to  
20 achieve the goal.

21 We're worried that may have been  
22 interpreted as an assistant under the NRC verbiage, a  
23 trainee under our verbiage and many of the other  
24 agreement states. Being allowed to be outside  
25 operating the sources, and of course there are other

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1 rules within the whole section that do not allow that.  
2 Or that we've got an inappropriate combination of  
3 someone that's not fully trained, meaning not fully  
4 certified as a radiographer. Because NRC doesn't have  
5 the stages of certification that many of the states'  
6 rules have. Meaning the trainee that has the 40 hour  
7 safety course and/or a radiographer and then there is  
8 an allowance to allow a trainer to supervise a  
9 trainee. In no way would we consider that acceptable  
10 to allow a trainee, because of the supervision  
11 requirement there, to be operating alone.

12 MEMBER SCHLUETER: Yes, Cindy. This is  
13 Janet.

14 I guess this discussion is helping me  
15 certainly because I wasn't familiar with there are  
16 three categories of individuals. So I am trying to  
17 wade through that and digest it as you discuss what  
18 those individuals, under the Texas set of regs, are  
19 required or allowed to do.

20 So I guess I am still a little unclear as  
21 to whether or not we're interpreting the petition  
22 correctly to mean that -- well I guess in our terms,  
23 this radiographer assistant that you believe needs  
24 basic radiation safety training, would have acquired  
25 that. And under your scenario would be allowed to be

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1 in some on site but remote location that would not  
2 allow them to be in direct surveillance of the  
3 radiographer operations at the time, would be an  
4 acceptable scenario under the Texas set of regs?

5 MS. CARDWELL: You were right up until that  
6 last statement.

7 MEMBER SCHLUETER: Okay.

8 MS. CARDWELL: We're really talking apples  
9 and oranges but together they make the whole complete  
10 fruit basket, if you will. The training --

11 MEMBER SCHLUETER: I'm feeling like a nut  
12 right now.

13 MS. CARDWELL: The training course is  
14 something that we have always viewed -- and again, we  
15 are not just talking Texas here, we happen to be the  
16 first ones to do it. Many of the other states adopted  
17 very, very similar rules prior to NRC ever adopting  
18 theirs.

19 MEMBER SCHLUETER: Right.

20 MS. CARDWELL: They've adopted the same  
21 scheme that we have in terms of the three different  
22 levels of certification. We think that the fact --  
23 and we commented on this during NRC's rulemaking in  
24 1997 when they put most of this in. It really needed  
25 to have the safety training. MSHA at the time and NRC

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1 chose not to do so.

2 So what we ended up with back then was an  
3 inconsistency with NRC rules versus many of the  
4 agreement state rules in that the assistant is not an  
5 equivalent in terms of training to what many of the  
6 states have in their rules as trainees. And for those  
7 states that are certifying entities, and we have the  
8 contacts through CRCPD in the agreements drawn, all  
9 of those have been reviewed, all of the rules have  
10 been reviewed. And they're all equivalent in terms of  
11 the safety training they're required.

12 So the states are doing more already with  
13 regard to the safety training. So we see that as an  
14 issue. We see this as a separate issue.

15 MEMBER SCHLUETER: This is Jan again.

16 Let me see if we can try it this way.  
17 Sort of paint a mental image of what under the Texas  
18 rules a scenario that you would find acceptable. Can  
19 you describe for us if there were radiographer  
20 operations going on, what would be the minimum number  
21 of persons and the minimum qualifications that they  
22 would have to have to conduct those operations  
23 consistent with your regs? In other words, I am still  
24 am not clear on the trainer, trainee and fully  
25 certified radiographer and what those individuals

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1 would all be doing on site at the time during  
2 radiographic operations that under your rules you  
3 would find an acceptable scenario.

4 MS. CARDWELL: Okay. Let me back up and  
5 see.

6 And, Richard, you're here. So chime in if  
7 I again get too wrapped around any axles here and try  
8 to make this clear.

9 We require as a minimum, two people. We  
10 do not have the additional language in our rules that  
11 NRC has that says second person must observe the  
12 operation. Because there are many, many different  
13 circumstances in which radiography is performed. As  
14 a minimum, we believe that one person is never enough  
15 for a field --

16 MEMBER SCHLUETER: Okay. I'm confused  
17 right there then. That's two statements.

18 CHAIRMAN PANGBURN: Yes. What's the  
19 function of that second person? I guess if you  
20 require that in all instances?

21 MS. CARDWELL: It depends on the  
22 qualifications of the second person. The function of  
23 the second person is to help meet the surveillance  
24 requirement in another portion of the rules. One  
25 person may be sufficient. Say on a pipeline operation

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1 out in West Texas, you can see for miles and miles and  
2 miles. If you're in a refinery or a chemical plant or  
3 in some other construction type situation, you may  
4 need three, four and on, on and on individuals to meet  
5 the surveillance requirement.

6 Now the surveillance requirement is not a  
7 component of how many people must constitute a team.  
8 It's an additional requirement, an overarching  
9 requirement, if you will.

10 Let me get back to what Janet asked.  
11 Here's what we consider acceptable on a site as a  
12 minimum. If we go to a temporary job site, they're  
13 working out in the field, and there are two fully  
14 qualified radiographers, meaning they have met our  
15 certification requirements. Now keep in mind it also  
16 meets the overarching surveillance requirement, and  
17 there are just the two of them. One of them could be  
18 in the darkroom developing film while the other one is  
19 with the source. The second person that's in the dark  
20 room to provide assistance if there is any kind of  
21 emergency assistance. As long as the one that's  
22 outside the darkroom is enough to meet the  
23 surveillance requirement that requires they've got to  
24 be able to detect any intrusion into the radiation  
25 area.

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1 MEMBER CAMERON: This is Chip, Cindy.

2 A small clarification is that the  
3 surveillance requirement is almost like a performance  
4 objective and it's going to differ depending on what  
5 the job site is like?

6 MEMBER SCHLUETER: That's correct, Chip.  
7 You're right. And that's what I think is getting  
8 meshed into this and mixed up.

9 MEMBER SCHLUETER: Well I guess if  
10 someone's in the darkroom that's maybe, let's say 400  
11 yards away or something or farther and they're  
12 basically in some sort of temporary facility and they  
13 have no visual ability to see the operator, okay? You  
14 know, no window, nothing. The guy has a heart attack,  
15 the guy in the darkroom is standing there working,  
16 doing whatever, talking on his cell phone, whatever.  
17 How can we be comfortable that he has that immediate  
18 direct observational ability, that surveillance  
19 ability if he's not directly observing? I mean I'm  
20 just having trouble from a logic perspective.

21 MS. CARDWELL: It all goes back to  
22 performance based inspection. And to use the scenario  
23 you just said, Janet, that's exactly right. Four  
24 hundred yards away he would not be able to, as the  
25 rules say, provide immediate assistance. So if our

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1 inspector went out and found that type of scenario,  
2 let's just use your example, 400 yards away. They're  
3 going to look at that and say, "Okay. You can't  
4 provide immediate assistance." And therefor, that's  
5 not an appropriate crew. You're not performing  
6 radiography appropriately.

7           However, if that darkroom is across the  
8 parking lot --okay. You know it goes back to  
9 performance based inspection. So the rule itself is  
10 permissible enough to require that they be there to  
11 provide assistance, but it does not dictate must have  
12 two people have eyeballs on the source at all times.  
13 And that's where we have seen the conflict between  
14 NRC's interpretation and what many, many of the  
15 agreement state rules actually say. And how they're  
16 actually being enforced.

17           CHAIRMAN PANGBURN: It seems to me we are  
18 potentially asking two people to do four things. And  
19 that is: Observe operations; be capable of providing  
20 immediate assistance; direct visual surveillance to  
21 prevent against unauthorized entry, and other duties  
22 as assigned in the darkroom or whatever. And I think  
23 that's where we, you know have difficulty with this  
24 because it appears as if we would be potentially  
25 reducing safety by eliminating that requirement in

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1 34.41.

2 MS. CARDWELL: Okay. Well let me go back  
3 to, again it's a performance based process. There is  
4 more than one way to skin a cat and accomplish that.

5 MEMBER CAMERON: Hey, I like cats, Cindy,  
6 can you stop saying that? I keep thinking of my poor  
7 little kittes at home.

8 MS. CARDWELL: Not a cat person.

9 MEMBER CAMERON: All right.

10 MS. CARDWELL: There are situations that  
11 you run across in the field where that may indeed be  
12 adequate. Again, if and only if, those two people in  
13 that specific situation are fully qualified  
14 radiographers. It will not work in our case -- let's  
15 put it this way, let me go back to trying to explain  
16 Janet's confusion with what the different levels of  
17 certification are.

18 A trainee, which in our rules and many  
19 states' rules, requires more training than what NRC's  
20 assistant is. So those are not equivalent terms.  
21 Let's all remember that.

22 Two trainees together do not constitute a  
23 good team under the rules. Three, four, five trainees  
24 don't. They may be able to meet the surveillance  
25 requirement, but trainees are not allowed to operate

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1 the source without a trainer present.

2 The rules go on to say that the trainer  
3 must visually observe operations of the trainee while  
4 they're using the source. In other words, under the  
5 scheme of our certification, a trainee has received  
6 and documented to us, a 40 hour safety training  
7 course. We've looked at that, you know they have  
8 received under the rules their familiarization with  
9 the licensees, they worked for other licensees  
10 operating emergency procedures and the license  
11 conditions.

12 And that gives us the assurance that  
13 they've had at least a radiation safety course so that  
14 when they get out there they are aware of safety  
15 issues, they're aware of radiation exposure  
16 consequences, they know what part of the equipment is  
17 radioactive, but then they've got that knowledge base  
18 while they're obtaining their OJT.

19 CHAIRMAN PANGBURN: But is there a  
20 difference? You know, 34.43(g), which lists subjects  
21 that the assistant has to be trained in, there's no 40  
22 hour requirement there. But it lists the subjects and  
23 it seems to me it's wrapping into them the very  
24 concepts that you were hoping. The difference is we  
25 don't have 40 hours there.

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1 MS. CARDWELL: You don't require that it be  
2 a safety training course.

3 CHAIRMAN PANGBURN: But we've talked about  
4 fundamentals of radiation safety, radiation detection  
5 instruments, equipment to be used and case histories  
6 of accidents of radiography, along with regulations.

7 MS. CARDWELL: And you allow the licensee  
8 to give that course?

9 CHAIRMAN PANGBURN: That's what the  
10 regulations provide. Yes. I mean again --

11 MS. CARDWELL: I'm sorry, George. But I  
12 think we have proof that you --

13 MR. CARRICO: George, I'm sorry, but (g) is  
14 the paragraph on radiation safety topic that the  
15 radiographer has to complete. But the radiographer  
16 assistant does not have to have those topics.

17 MS. CARDWELL: Right.

18 MR. CARRICO: Our regulations don't require  
19 40 hours. These are things that we take a firm and  
20 safe approach for the radiographer as part of our  
21 licensing process, which usually it's about 40 hours  
22 but --

23 CHAIRMAN PANGBURN: Thanks for  
24 clarification, Bruce. Thank you.

25 MS. CARDWELL: Thank you. Okay. So you

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1 see the difference?

2 MEMBER SCHLUETER: Yes.

3 CHAIRMAN PANGBURN: Yes.

4 MS. CARDWELL: Okay. So, under our scheme  
5 that trainee can't work with anybody else other than  
6 a trainer. Under our rules a trainer has met the  
7 qualifications of being a fully certified  
8 radiographer, and has documented an additional year's  
9 worth of experience with this agency. And again, many  
10 of the other states' rules are written the very same  
11 way.

12 So, if you have a trainee -- when our  
13 inspectors go out they're going to look at several  
14 things. First of all, is the person a trainee? And  
15 if so, is there a qualified trainer there with them?  
16 And therefore, they're okay that way. Then they've  
17 got to go look at the surveillance requirement and see  
18 that they're appropriately maintaining the area to  
19 prevent immediate intrusion.

20 When you've got a team that has a trainer  
21 and a trainee, it could take additional people because  
22 that trainer, according to the rules must have, and I  
23 will paraphrase here, eyeballs on the trainee while  
24 the trainee's operating the source at all times.

25 Now backing away to the situation that we

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1 run across quite often is that you may have teams that  
2 consist of two fully qualified radiographers. And  
3 that's the case where we're talking about there may be  
4 some leeway in that one of them could be in the  
5 darkroom, they could still meet their surveillance  
6 requirements, and that would be acceptable under the  
7 performance based concept of inspections, in certain  
8 scenarios.

9 Certain scenarios. We are not talking  
10 about all of the time, by any means. Because again,  
11 you've got to look at the regulations as a whole  
12 package. You've got not only the training here,  
13 you've got what constitutes a team, and then you've  
14 got the surveillance requirement that may require more  
15 than just those two.

16 MEMBER CAMERON: Cindy, this is Chip.

17 I think the answer to the training issue  
18 that perplexed us is because of the fact that it's a  
19 performance based rule so that you don't know what  
20 exactly you're going to have at a particular site. So  
21 you want to make sure that there's a radiation safety  
22 training for everybody out there. I think that's the  
23 answer to the training question.

24 MS. CARDWELL: That's right. We think that  
25 it is missing a necessary factor. If you allow

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1 somebody to be an assistant that doesn't have  
2 radiation safety training, and then you take it the  
3 one step further and the way that the NRC rules are  
4 written in terms of the two person rule, that that  
5 second person can be an assistant.

6 So what you've done is actually reduced  
7 the safety factor by allowing somebody who's not had  
8 radiation safety training at all to be that second  
9 person, who under NRC's rules must be there to provide  
10 assistance. And now your allowing somebody who  
11 doesn't have that kind of training to possibly be the  
12 only person out there. To use Janet's example, what  
13 if they have a heart attack? They have to do  
14 something with the source.

15 So we see the NRC rules as actually a step  
16 back from where the states' rules are because that  
17 safety training's not required.

18 Over time those two have become entangled.  
19 And I see why people are wrapped around the axle. And  
20 I think that's why, when I'd read that first question  
21 here that was put out with this agenda, I thought,  
22 okay, we're wrapped around the same axle then and that  
23 we're trying to tie those two together when in fact we  
24 are talking about separate issues that altogether make  
25 up the package of safety regulations.

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1 MR. RATLIFF: And this is Richard Ratliff.

2 Under our access control, it has "during  
3 each radiographic operation, radiographic personnel  
4 shall maintain visual surveillance of the operation to  
5 protect against unauthorized entry into radiation or  
6 high radiation areas."

7 The radiographic personnel are defined as  
8 a radiographer, a radiographer trainer, or  
9 radiographer trainee. So in some cases you may have  
10 to have two or three trainees, who are at a  
11 petrochemical plant, especially because you have so  
12 many means of access to the areas. But in other cases  
13 you have a site where you have guards who lock it off  
14 and they do it after hours where no one can get in.  
15 So it really depends on the situation.

16 Back in 1984, I served with Anthony Fee  
17 and Steve Baggis from NRC, and Ronnie Wascombe from  
18 Louisiana and Don Honey from California. We looked at  
19 the whole issue and went around to every radiography  
20 company source manufacturer. Really determined that  
21 it was equipment problems and then human error. And  
22 the human error basically was people not doing surveys  
23 or untrained people picking up sources. And that's  
24 what we had seen from the states with the major  
25 radiation incidents.

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1           An assistant radiographer who had no  
2 training, had never seen the source outside of the  
3 camera, picked it up when it disconnected and had a  
4 whole in his hand, lost his fingers, was sterilized.  
5 So it was really a training issue. If those people  
6 knew what the source looked like and what they did in  
7 an incident situation.

8           MS. CARDWELL: So you're looking at, as you  
9 said someone mentioned earlier, and maybe it was you  
10 Chip, multiple scenarios. When you go out to inspect  
11 one of these teams or you find them out in the middle  
12 of nowhere, many scenarios and several combinations,  
13 all different levels of radiographic personnel. And  
14 by "all" I mean many of the states' radiographic  
15 personnel will be acceptable and will meet the  
16 requirements for surveillance. And that's because at  
17 the very least, the lowest level of radiographer  
18 certification, if you will, is that they've had the 40  
19 hour safety course. And that's what the petition is  
20 asking is that we solve this training issue first.

21           CHAIRMAN PANGBURN: This is George.

22           I think we've probably heard enough on the  
23 first question. I'm not seeing any other questions  
24 around the table here. And I think I know the answer  
25 to this, but I would like to move the second question

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1 there. And that is, does an individual who completes  
2 a course to become a radiographer's assistant under  
3 the construct that you've provided, i.e. the 40 hours,  
4 need to take another course before a licensee would  
5 permit them to act as a radiographer?

6 I think the answer to that is no. Because  
7 you're looking for equivalent level of training, i.e.  
8 40 hours of radiation safety training.

9 MS. CARDWELL: Right. What we're looking  
10 for there, in the way that Texas rules and many of the  
11 other states' rules, again because we look at them to  
12 see that they are equivalent when we sign contracts  
13 with other states to be certifying. So I can say that  
14 they are equivalent to ours.

15 The safety training course is the  
16 essential for a trainee. Then the next level they  
17 want to go for is to be a fully certified  
18 radiographer. That requires the hours of OJT.

19 CHAIRMAN PANGBURN: Yes.

20 MS. CARDWELL: Trainers by the way, have to  
21 document their additional years of experience.  
22 Trainers are listed in our database program as such so  
23 that they are easily verifiable by our inspection  
24 staff through a database program.

25 MEMBER RATHBUN: I think you broke up there

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1 for a second, Cindy. You were talking about what's  
2 required when somebody wants to go on to be a fully  
3 certified radiographer.

4 MS. CARDWELL: And it's not an additional  
5 course. They satisfied the safety requirement.

6 CHAIRMAN PANGBURN: So the 40 hours of  
7 basic radiation safety training would cover both the  
8 assistant and the radiographer?

9 MS. CARDWELL: Correct. Because that's the  
10 first thing they have to do.

11 CHAIRMAN PANGBURN: Okay. I just wanted to  
12 make sure we were clear on that point.

13 MS. CARDWELL: You can't get to the  
14 radiographer status until you've been a trainee,  
15 essentially.

16 CHAIRMAN PANGBURN: No. I understand.

17 MS. CARDWELL: Okay. So then what we do we  
18 feel that that gives us a level of comfort with regard  
19 to their radiation safety training. Which then allows  
20 us that level of comfort that they can go out and get  
21 their OJT, meaning they're actually out there  
22 operating the sources under the supervision of a  
23 trainer. And those are the guys and gals who've had  
24 their additional years of experience documented with  
25 us. And then the third step they have to do, is to

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1 pass the exam.

2 CHAIRMAN PANGBURN: Right.

3 MS. CARDWELL: Okay. That verifies that  
4 they know their safety training. That verifies that  
5 they know the regulation, verifies that they know  
6 probably the basics of most people's operating  
7 emergency procedures. So they can be a trainee if  
8 they have the 40 hour safety course.

9 CHAIRMAN PANGBURN: Okay.

10 MS. CARDWELL: Don't even allow them to  
11 work around radiation, period, if they don't have  
12 that. That's just not allowed at all. So we don't  
13 allow what NRC calls an assistant right now.

14 MEMBER RATHBUN: So basically it's like  
15 getting a learner's permit to drive and the rest of it  
16 you learn to drive under the supervision of your  
17 parent or --

18 COURT REPORTER: This is the court  
19 reporter. Please identify yourself.

20 MEMBER RATHBUN: Dennis Rathbun.

21 MS. CARDWELL: Yes, Dennis. That's a good  
22 analogy.

23 MEMBER RATHBUN: But anyway then through  
24 the OJT you get your driving experience and ultimately  
25 you pass your driving test --

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1 MS. CARDWELL: Correct.

2 MEMBER RATHBUN: -- with your certification  
3 thing, do I have that right?

4 MS. CARDWELL: You have that right.

5 MEMBER RATHBUN: Thank you.

6 MS. CARDWELL: So that's a long-winded  
7 answer to does it require another course? And you're  
8 correct. No, it does not require another course.

9 CHAIRMAN PANGBURN: I see no other  
10 questions here from the PRB. I'm going to move on to  
11 the second question. When we get to the part for  
12 members of the public, we'll ask members of the public  
13 to address these in sequence and we'll talk about the  
14 first issue and the second issue. But for right now  
15 I'd like to move on, Cindy, to the economic impact  
16 issue.

17 I think we're trying to get a little bit  
18 of information here about the economic impact of  
19 implementing the rule. When we put the notice of  
20 receipt published in the *Federal Register*, we got two  
21 comment letters. One from CRCPD and the other from  
22 Texas that were in support of the petitioner's  
23 request. But there was no comments from the  
24 industrial radiography community, and we were a little  
25 bit surprised by that. Because the industry had a

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1 fairly high interest in this in the past and obviously  
2 are a bottom line; they are interested in making a  
3 buck. So we were a little bit surprised by that. In  
4 the past the industry supported 34.41(a), and  
5 indicated the additional cost of safety would be  
6 something that would be borne by the customers, not  
7 necessarily by the licensees.

8 I understood that you contacted certain  
9 licensees that operate in the state of Texas and in  
10 NRC jurisdiction to look at the cost of implementing  
11 those requirements, and obtained some general  
12 information that the additional person would cost  
13 about \$200 a day. And the cost of additional time  
14 would be \$10 to \$12 an hour.

15 I guess the first question is: What is  
16 the actual economic impact on a licensee in the  
17 current environment where NRC and agreement states  
18 don't implement the rule in an essentially identical  
19 manner?

20 MS. CARDWELL: Without speaking dollars,  
21 because obviously those dollars are now old luggage.

22 CHAIRMAN PANGBURN: Right.

23 MS. CARDWELL: The difference is, for  
24 instance, any company that works here in Texas has the  
25 possibility of being able to utilize two people, and

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1 two fully qualified radiographers. And I will tell  
2 you from years and years and years of speaking with  
3 all of our radiographer licensees and the  
4 radiographers through various venues, include up to  
5 and including enforcement, they prefer -- the company  
6 to have as many radiographers fully certified on their  
7 payroll as possible. Because they don't have to then  
8 do the additional work it takes to make sure they've  
9 got a qualified crew out in the field. Especially  
10 when industry is good, like it is right now. It's  
11 booming again right now.

12 Because what happens is just here recently  
13 we've seen a rash of them being cited for having  
14 inappropriate teams out there. Meaning they've got  
15 trainees and no trainer.

16 CHAIRMAN PANGBURN: Okay.

17 MS. CARDWELL: Because that requires some  
18 addition oversight on their part, if you will, to make  
19 sure they've got the right teams going to the right  
20 places and they don't have the freedom to switch folks  
21 around and send them here and there for different  
22 shifts and different places across the state.

23 So in terms of the difference, our  
24 licensees tend to handle it that way. They really  
25 like to have fully qualified radiographers. As many

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1 as possible, it gives them the greatest freedom.

2 If they were to go into a non-agreement  
3 state, with the way that NRC has interpreted that two  
4 person rule, what could suffice for a two person team  
5 here, again depending upon the circumstance, if you  
6 had the identical circumstance in a non-agreement  
7 state, NRC would require three people if they wanted  
8 to have somebody in the darkroom at all times as well.

9 CHAIRMAN PANGBURN: That was our thinking  
10 as well, and we're nodding our heads around here.

11 MS. CARDWELL: So again, please emphasize  
12 the caveats. Same circumstances, because just two  
13 people may not work here every time either depending  
14 upon what scenario you find at the job site. And that  
15 again is because of the surveillance requirement.

16 MEMBER CAMERON: This is Chip Cameron.

17 Without really doing a survey of the  
18 different types of job sites, it would really be hard  
19 to quantify, or even doing it in a less quantitative  
20 manner, to give an estimate of what the impact would  
21 be --

22 MS. CARDWELL: I agree with you, Chip.  
23 Because, for instance, you've got a refinery site  
24 that's pretty well static in a lot of cases. You've  
25 got a pipeline job, but as you get closer to a

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1 populated area, your surveillance requirements may  
2 change in terms of the people you need to be able to have  
3 appropriate surveillance at the area.

4 You know two may work out in the middle of  
5 the field, but when you get closer to a metropolitan  
6 or populated area, you're going to have more people to  
7 keep an eye on them.

8 MEMBER RATHBUN: This is Dennis Rathbun.

9 I think what you're saying is basically  
10 you get some workforce flexibility that you wouldn't  
11 otherwise have if you did it, let's say, the Texas way  
12 as opposed to -- you have this pool of trainees and  
13 you can adapt to whatever the needs of the job are.  
14 And maybe it is harder to quantify the economic  
15 benefits of that flexibility. But the sense is that  
16 it's real and it's there, based upon experience in  
17 your home state, is that correct?

18 MS. CARDWELL: That's correct. That's a  
19 fair assessment.

20 MR. RATLIFF: And this is Richard Ratliff.

21 Dennis, on that as well, since a real  
22 majority of radiographers are in Texas, Louisiana,  
23 Oklahoma, California who have real similar programs,  
24 the impact's got to be a little less just because of  
25 that.

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1                   MEMBER RATHBUN: Right. You've got  
2 interstate flexibility.

3                   MR. RATLIFF: Right.

4                   CHAIRMAN PANGBURN: Were you at all  
5 surprised that none of the firms commented positively  
6 on the petition? Because if this is clearly a  
7 favorable situation for them, that is if your petition  
8 were granted, you'd think they might want to argue for  
9 it or at least express some degree or level of support  
10 for it.

11                   MS. CARDWELL: This is total speculation on  
12 my part, let me just state that for the record, but --

13                   CHAIRMAN PANGBURN: Sure.

14                   MS. CARDWELL: -- since we have not changed  
15 the way we do things because finding for compatibility  
16 were held in advance upon this petition, ours are  
17 operating the same way we've been operating since  
18 1985. So until they are impacted negatively, meaning  
19 we came down on them and said no, now you've got to do  
20 things differently, in this case the NRC way, to get  
21 the job done you have to have a minimum of three  
22 people, then we're going to hear from them.  
23 Otherwise, it's status quo, business is very good,  
24 business is booming, they're not going to take the  
25 time.

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1 MR. PARKER: This is Roy Parker  
2 May I interject myself on one point here?

3 CHAIRMAN PANGBURN: Roy, if you wouldn't  
4 mind, this is George, could you hold until we get to  
5 members of the public?

6 MR. PARKER: I could, but I think I could  
7 answer the question on the floor. But go ahead I'll  
8 wait.

9 CHAIRMAN PANGBURN: I appreciate if you  
10 could just hold. I want to try to maintain some  
11 structure here. Thank you.

12 Cindy, on the second question that we have  
13 posed there, and maybe you have already answered this,  
14 I think you might have. And that is, has there been  
15 any changes in industry practice since '97 that may  
16 have minimized the effectiveness of 34.41 on the  
17 conduct of radiography operations?

18 MS. CARDWELL: Well that question I really  
19 didn't know how to answer, because the states haven't  
20 changed what they are doing.

21 You know I can't speak as a whole for that  
22 because we just haven't changed anything since we  
23 implemented this.

24 CHAIRMAN PANGBURN: Yes.

25 MS. CARDWELL: Those were the training

1 requirements. We still have the three tiered training  
2 OJT classroom training kind of scheme that's been  
3 operating. That's again -- certainly I can speak to  
4 the rules we've reviewed for the other states that are  
5 certifying entities, theirs' are the same. So being  
6 an NRC -- and I'm not the one to speak for most  
7 licensees in an NRC state.

8 Because we were doing that before even the  
9 existence of -- nothing's changed for our licensees.

10 CHAIRMAN PANGBURN: Okay.

11 MS. CARDWELL: And maybe I just don't  
12 understand where the question's coming from or what  
13 the intent behind the question was. So any  
14 clarification, if you have any, would be appreciated.

15 CHAIRMAN PANGBURN: Well, I give it a try.  
16 Since you haven't changed how you're doing business,  
17 the question probably doesn't apply to the situation.

18 MS. CARDWELL: Well that's kind of what I'm  
19 thinking.

20 CHAIRMAN PANGBURN: Yes. Okay.

21 MR. RATLIFF: And, George, this is Richard  
22 Ratliff.

23 If I may, I think the biggest issue we've  
24 seen since those times are the improvements in  
25 equipment coupled with the training have drastically

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1 reduced an industry that had many severe radiation  
2 burns. I think the two combined is what you have to  
3 take credit for. Without the two, even with just the  
4 training, you still have the problem of people not  
5 using their survey meters, even though they've been  
6 fully trained. And the fact that the equipment has  
7 gotten so much better, the combination has really  
8 helped.

9 MS. CARDWELL: Again, back to the entire  
10 package of regulatory changes, not just the focus on  
11 two people with eyeballs on the source.

12 CHAIRMAN PANGBURN: Okay. Questions here?

13 Okay. I think we may be slightly ahead of  
14 schedule here, and that's a good thing. At that point  
15 unless, Cindy or Richard, do you have any additional  
16 comment you want to make? I was going to offer the  
17 opportunity to members of the public who are on the  
18 line to speak to what they heard from you on first the  
19 training issue and second the economic impact issue.  
20 Is there anything else you wanted to say?

21 MR. RATLIFF: That's all I have.

22 MS. CARDWELL: Yes. Same here.

23 CHAIRMAN PANGBURN: Okay. On the first  
24 issue, the training issue. Any comments from members  
25 of the public on the phone?

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1 MR. COFER: Oh, I have lots -- this is Walt  
2 Cofer.

3 I've got lots of comments. But you're  
4 going to have to give me enough time to say them. But  
5 I suggest you let Roy go first.

6 CHAIRMAN PANGBURN: That's an interesting  
7 perspective --

8 MR. PARKER: Go ahead, Walt.

9 MR. COFER: No, Roy, I really think you  
10 should go first.

11 MR. PARKER: Well one of the points that I  
12 wanted to make a few minutes ago was, the question was  
13 asked, why no industry comments? If you go back to  
14 the point that most of the radiographers are in Texas,  
15 Louisiana, Oklahoma, California, so forth and so on.  
16 Recognize those are agreement states, those  
17 radiography companies, they're not even paying any  
18 attention to rulemakings from the NRC on this. So I  
19 think that is one big factor in the fact that you  
20 don't have comments.

21 CHAIRMAN PANGBURN: Okay.

22 MR. PARKER: All right. Next thing is, on  
23 the training. Let me get in a point of personal  
24 privilege. Let me point out this is not a new issue.  
25 The two man concept in the rule was first proposed to

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1 the agreement states at the NRC meeting, at the NRC  
2 headquarters in Bethesda at the annual meeting there  
3 before any formalities by Louisiana. And I have to go  
4 back to my notes, the two man rule was proposed either  
5 in 1969 or 1970, I forget which at the point. At that  
6 point you proposed in Louisiana the two man rule, and  
7 we got absolutely no support for it whatsoever. And  
8 unfortunately, Cindy and Richard, including Texas at  
9 the time.

10 MS. CARDWELL: You're right.

11 MR. PARKER: All right. Then --

12 MS. CARDWELL: Say why you didn't take your  
13 idea and run with it?

14 MR. PARKER: Well, because I was young and  
15 I didn't really have enough courage to do so at the  
16 time, to be quite honest with you. Otherwise, with  
17 respect, I wished I would have.

18 Okay. Back to the training thing. One  
19 point that has always bothered me on the training is  
20 this issue about the 40 hour training. I won't bore  
21 this group. I'll be happy to put it in writing, if  
22 anybody really is interested and wanted the history of  
23 the 40 hours and its faults, quite honestly.

24 If you look at it, previously to this, the  
25 40 hours came in out of a course out LSU on the first

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1 NRC radiography manual. That course, that week, that  
2 40 hour course was designed only for radiation safety,  
3 but it was also designed to teach people how to make  
4 radiographs, how to interpret radiographs, darkroom  
5 techniques and the whole bit about industrial  
6 radiography. How to operate a radiography -- it was  
7 training for most industry at the particular time.  
8 Only a portion of that 40 hours was radiation safety,  
9 when you really go back and look at it.

10 When the 40 hours got involved, those of  
11 us that were teaching the course -- and I got out of  
12 it at the time -- we recognized what we would have to  
13 do was to spend the additional time, which was about  
14 an additional two days -- because you could teach the  
15 course in about two and a half to three days -- the  
16 additional time was actually used up by having the  
17 class sit there and work problems, which industrial  
18 radiographers don't do. Except to pass the  
19 certification test, quite honestly.

20 So at any rate, I would like to see some  
21 sort of reconsideration of this false 40 hour course.  
22 I think it could be done much shorter, and much more  
23 effective on it.

24 The two man rule. Cindy, you have a lot  
25 of points but basically when we looked at it, I think

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1 there's something to be said about having two people  
2 with the eyeball on the source. I think there is some  
3 room to compromise. But our experience, and what I've  
4 seen since then, the experience is that when you have  
5 a person working out there, even with that second  
6 person, even though he is qualified in the darkroom,  
7 problems do happen. Because one person is not  
8 checking against another in that particular case.

9 I don't want to monopolize this so I'll  
10 stop now, although I can make many more points. So,  
11 let me end at this point.

12 Thank you.

13 CHAIRMAN PANGBURN: Thank you, Roy.

14 Walt, did you want to go ahead?

15 MR. COFER: Okay. Are you all ready for  
16 this?

17 CHAIRMAN PANGBURN: Well I don't know. I  
18 said we only had until 3:00.

19 MR. COFER: First of all, I would like to  
20 qualify this by saying I have a very great respect for  
21 the Texas program and the personnel. And I think they  
22 have the greatest sincerity in their objectives. I  
23 think we all -- everyone who's on the phone, on the  
24 teleconference today has the same objective, which is  
25 to do something about the poor safety record of this

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1 industry.

2 We all recognize this industry has the  
3 worst safety record of any people that work with  
4 radiation sources. So it comes down to what can we do  
5 about that.

6 CHAIRMAN PANGBURN: Walt, this is George.

7 What I want to be clear on is our focus  
8 today is really to focus on the petition and those  
9 specific questions in an effort --

10 MR. COFER: Okay. So let me get straight  
11 to the point.

12 CHAIRMAN PANGBURN: Thank you.

13 MR. COFER: I adamantly disagree with every  
14 aspect of this petition. I think its intentions are  
15 good, but misplaced. I believe that the current  
16 language used in Part 34 is appropriate. I believe  
17 there is an economic impact associated with requiring  
18 a two person group consisting of two certified  
19 radiographers and only allowing a trainee to be out  
20 there as a third person. Just because we haven't seen  
21 a lot of complaints from the industry does not mean  
22 that there is not an impact there. There is one, and  
23 I believe that is why the NRC declined to adopt that  
24 requirement in the mid 1990s.

25 Okay. As far as the personal supervision

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1 aspect. I do believe, just as Roy stated, that there  
2 is an incredible value of having two eyes at the job  
3 set up, not in the dark room. And I speak from this  
4 from years of experience as an industrial radiographer  
5 and as an assistant and as a radiographer, where you  
6 need both people out there with survey meters in hand  
7 watching each other's back. And that cannot be  
8 accomplished, even in a remote field site. I don't  
9 care if there's not -- if you can see for miles in any  
10 distance. An individual working alone is unsafe when  
11 working with the strength of the sources we're talking  
12 about.

13 So I disagree with changing the language  
14 regarding personnel supervision.

15 The gist of the whole thing is I really  
16 believe that Texas is wanting to impose their  
17 regulatory approach to industrial radiography on the  
18 NRC and the rest of the states because they believe  
19 it's been successful in Texas. But I don't believe  
20 that safety can be prescribed.

21 If you want to look at that approach, just  
22 look at Florida's rules. I helped write the most  
23 prescriptive rules on industrial radiography that  
24 currently exist in the country. And now we did not  
25 adopt the two radiographer trainee approach but we do

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1 have the requirement for personnel supervision and we  
2 have extremely prescriptive requirements including the  
3 only set of rules that requires a reference survey,  
4 which I think was the only thing I did right in that  
5 rule revision.

6 What I found was prescriptive rules did  
7 nothing to enhance safety. The only way we can really  
8 enhance safety is to enforce the regulations that are  
9 currently in play.

10 But now let me get back to the main point  
11 I wanted to address, which was Cindy's statement that  
12 we currently do not have any requirements for  
13 assistants to have any radiation safety training. I  
14 definitely disagree with that. Because what I would  
15 like to refer everyone to Part 19, Instructions to  
16 Workers, which applies to all licensees who must  
17 provide the individuals who are likely to receive  
18 greater 100 millirem a year, the topics listed one  
19 through six. And that does include, kept informed  
20 about -- we all know those topics.

21 What I find to be the problem is that no  
22 one is enforcing Part 19 in equivalent state  
23 regulations, which are all compatible, on industrial  
24 radiography licensees. Because if we were, then we  
25 can say hey, you don't have to just train on

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1 procedures and equipment use. You also have to train  
2 them on the subjects in Part 19. And the amount of  
3 that training shall be commensurate with the hazard in  
4 the workplace. And we all know that we're talking  
5 about a hazardous workplace.

6 So then it comes down to what is the  
7 adequate amount of training, amount of time or  
8 attention to be devoted to Part 19, Instructions to  
9 Workers Training. That's very subjective, and I do  
10 not believe that there should be a specified number of  
11 hours to say that. I think that we should have  
12 inspectors out there. The regulators should be out  
13 there verifying that the subjects covered in Part  
14 19.12(a) should be -- you see one of the problems  
15 about rules is that there is there is no requirement  
16 to document it.

17 If we were going to make any changes to  
18 Part 34, I would include a specific reference to Part  
19 19 saying that assistants must receive the training  
20 covered under Part 19 and it must be documented. And  
21 maybe there needs to be a work group to decide what is  
22 the adequate amount of instructions that should be  
23 p r o v i d e d t o a s s i s t a n t s .

24 See, I do believe we do have rules in a  
25 place to address radiation safety for assistants.

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1 We're just not enforcing them. And we don't have any  
2 consistency in how to enforce them because the vague  
3 language of Part 19.

4 I personally believe that at least the  
5 equivalent of a day of training is adequate to show  
6 them what the source looks like. If you look at Part  
7 19, it clearly says they must be instructed in the  
8 health protection problems associated with exposure to  
9 radiation rad material and precautions and procedures  
10 to minimize exposure. We're talking about ALARA  
11 practices, purposes and functions of protective  
12 equipment.

13 We've got it covered in Part 19, we're  
14 just not enforcing Part 19. And I don't believe we  
15 should specify a certain number of hours because that  
16 negates the vast array of teaching methodologies that  
17 are at our disposal today. I think we should do away  
18 with all prescriptions on number of hours of training.  
19 Because we should allow for self paced training,  
20 computer based training and to acknowledge the fact  
21 that people come into this industry with a varying  
22 degree of knowledge.

23 As we all know, many of these people come  
24 in with barely a high school education. But that's  
25 not always true, some of them come in with quite

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1 extensive educations and we shouldn't be arbitrary on  
2 how we decide what is the minimum acceptable amount of  
3 time for these people to gain knowledge in these  
4 instructions under Part 19 or under Part 34. We  
5 should allow flexibility.

6 The regulators should be out there  
7 verifying doing real performance based inspections to  
8 see if they actually have been trained under Part 19  
9 and Part 34. And if they're actually doing  
10 performance based inspections, then the licensee  
11 should be able to demonstrate that.

12 So I don't think we need to be more  
13 prescriptive. If I had it to do all over again in  
14 Florida when I rewrote the Florida radiography rule,  
15 I would have gone in the opposite direction I went in,  
16 which is to be less prescriptive. Right now Florida  
17 prescribes a minimum 8 hours of training for any  
18 procedures and equipment use, a minimum of 40 hours of  
19 training to be a radiographer. We never did specify  
20 how to address Part 19, but we covered it in our  
21 inspections.

22 What I find is very few if any states are  
23 out there enforcing Part 19 when it comes to  
24 industrial radiographers. So I think if we went out  
25 there and were much more diligent in enforcing the

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1 rules we have in place now, that would go way farther  
2 than trying to prescribe safety, or to engineer  
3 safety. It's the same rationale for my opposition to  
4 the petition to add GPS units to cameras. Because I  
5 think we can't engineer safety away.

6 And my last comment will be, we talked  
7 about why are we not getting comments from industry.  
8 Well I can say the industry had a bad leftover feeling  
9 from all the strong effort that the NRC made in the  
10 mid '90s with the workshops and soliciting comments  
11 from industry. We had a lot of industry turn out. I  
12 participated in all those workshops. And our feeling  
13 -- we had consensus among the agreement states, among  
14 industry and among the manufacturers regarding the  
15 NRC's proposed rules. And for the most part the NRC  
16 disregarded the opinions of the industry and the  
17 states. And that left a really sour taste in the  
18 industry's mouth where they feel like, "Well our  
19 comments aren't being listened to anyway, so why  
20 should we even continue to participate in this  
21 process?"

22 I think there's a lot of apathy because of  
23 what happened in the '90s when you all imposed alarm  
24 rate meter rules on us, and other things, you know the  
25 requirements. We didn't adopt the reference survey

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1 rule, which I think was one of the key things we could  
2 have done as a prescriptive rule to improve safety.  
3 Whereas, we keep trying to engineer our problems away.  
4 But if we would just get out there and do enforcement  
5 of the existing rules, get out in the field where  
6 these people are working, that would go way farther  
7 than any rule change that we can sit here and discuss  
8 today.

9 CHAIRMAN PANGBURN: I'm just going to say,  
10 yes, to take a deep breath for a second. And I think  
11 Chip Cameron had a question for you here.

12 MR. COFER: Okay. I think I've made my  
13 point.

14 CHAIRMAN PANGBURN: Okay. Possibly, yes.

15 MEMBER CAMERON: Hi, Walter.

16 I would just note one thing is that Part  
17 19 is referenced in Part 34 as applicable. But my  
18 question is what do you think about -- you heard Cindy  
19 Cardwell talking about the performance based framework  
20 of Part 34 and well of the surveillance requirement.  
21 What do you think about that concept in regard to your  
22 support of the two person rule as it's expressed by  
23 the NRC?

24 MR. COFER: I'm not really sure what you're  
25 trying to ask. If you're asking do I support the

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1 performance based inspection, my answer is 100 percent  
2 yes.

3 My problem is, you've got to remember, I'm  
4 recently out of the regulatory profession. So it's  
5 hard for me to separate speaking to you as a regulator  
6 versus as a private sector consultant. So when I say  
7 "we," I often talk as though a regulator.

8 So let me say from a regulator's  
9 perspective, I believe the real problem with  
10 performance based inspections is that the regulatory  
11 community has been talking the talk and not walking  
12 the walk. That we have not gone out and done adequate  
13 performance based inspections to actually enforce the  
14 rules.

15 And what this has wound up doing is  
16 rewarding the bad players in the industry. Because  
17 the lack of enforcement means that the companies that  
18 don't properly train their people, and go out there  
19 and work, you know either violate the two person crew  
20 rule, or if they have two people out there they have  
21 one person in the darkroom versus one working alone.  
22 Because they know the odds of a regulator ever showing  
23 up at that job site is slim to none.

24 In my four years of radiography and well  
25 over 2000 hours of experience, I never once saw an

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1 inspector in the field. And I can tell you in my 16  
2 years as a regulator for the state of Florida, the  
3 number of unannounced field inspections, I could  
4 literally count them on both hands. That's how few  
5 and far in between they are.

6 And when they do get conducted, they're  
7 done by inspectors who lack adequate knowledge and  
8 understanding of how to do a competent field  
9 industrial radiography inspection.

10 I think if we really want to do something  
11 about the problems with the safety related to this  
12 industry, we should be devoting all our time,  
13 attention, resources to improving the training of our  
14 inspectors and getting them out in the field,  
15 unfortunately when they don't want to go out there  
16 which is on nights and weekends and holidays. Nobody  
17 wants to do it, but that's when radiographers are  
18 working, and that's when we need to be out there  
19 inspecting them.

20 The best analogy I can give you is you've  
21 got two shippers, FedEx and Mom and Pop Shipping  
22 Company. FedEx spends a ton of money training their  
23 people, following all the rules, doing everything  
24 right, and they have to pass those costs onto their  
25 customers. Whereas Mom and Pop Shipping Company,

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1 doesn't train their drivers, and speeds down the road  
2 and delivers their packages quicker, and they undercut  
3 FedEx's prices. So guess who gets all the business?  
4 Mom and Pop. So FedEx gets penalized by following the  
5 rules, doing the right thing and being in compliance,  
6 and loses business to Mom and Pop, because Mom and Pop  
7 knows there's no cops on the road that are going to  
8 give them a ticket and take away the driver's license  
9 of their driver.

10           Because look at certification. We've had  
11 certification in place for all these years, and we can  
12 count on the fingers of one hand with fingers to spare,  
13 of how many radiographers that have had their  
14 certification suspended and revoked. We're not out in  
15 the field checking them, and even when we find them  
16 doing wrong we still don't suspend them.

17           We had a recent incident in Florida where  
18 we had a radiographer in the darkroom. Two assistants  
19 working alone, they've admitted to it, Florida cited  
20 them for it. We had an incident where they didn't get  
21 overexposed, they got an excessive exposure that  
22 didn't exceed the limit. But the bottom line is this  
23 licensee admitted that the radiographer was in the  
24 darkroom while two assistants were shooting alone,  
25 they had an incident, we had an exposure. They

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1 admitted it and since these guys were ASNT certified,  
2 no suspension has taken place, because ASNT is  
3 unwilling -- for reasons we need to get into here --  
4 not to take action.

5 A similar situation where we had a Georgia  
6 certified radiographer in Florida, commit major  
7 serious violations that violated the code of conduct  
8 for radiographer certification. The state of Georgia  
9 declined to take action because it occurred in the  
10 state of Florida.

11 The certification program is deeply  
12 flawed. And that's another -- I know that's not our  
13 topic of discussion here, but it goes hand-in-hand of  
14 our failure to do enforcement of existing rules. That  
15 is where our time and attention and resources should  
16 be devoted.

17 CHAIRMAN PANGBURN: I understand that  
18 having just spent 10 years doing that kind of thing in  
19 King of Prussia, Pennsylvania.

20 MEMBER CAMERON: Just in summary, Walter,  
21 you're saying because of the poor enforcement, poor  
22 inspection record for these types of licensees, that  
23 we need to follow a very prescriptive approach, such  
24 as what's in the NRC rules now. Is that basically  
25 what you're saying?

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1 MR. COFER: I believe the current language  
2 of the rules of Part 34 are perfectly adequate. I  
3 don't think they need to be any more prescriptive than  
4 they are now. I just believe they should be enforced.

5 MEMBER CAMERON: Okay. All right.

6 CHAIRMAN PANGBURN: I have to interject  
7 here, I can't resist it. There's no class of licensee  
8 that gets more inspection effort than this group.  
9 There just --

10 MR. COFER: And you know what? They should  
11 be quadrupled, based on -- if we are really going to  
12 do risk based efforts, we should stop devoting our  
13 time and attention to GL and gas chromatographs and  
14 portable gauges, and devote those resources -- they  
15 should be inspected two field inspections a year based  
16 on their safety record.

17 MR. PARKER: Roy Parker again. Let me put  
18 one thing in.

19 Rather than the surveillance issue,  
20 there's also a small problem inasmuch as some  
21 regulatory jurisdictions require direct surveillance  
22 of the high radiation area, other regulatory  
23 jurisdictions require direct surveillance of the so  
24 called radiation or possibly restricted area.

25 CHAIRMAN PANGBURN: Okay. Walt, let me go

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1 ahead to -- so the other folks, members of the public,  
2 comments on --

3 MR. COFER: Yes. I think I've said my  
4 piece.

5 CHAIRMAN PANGBURN: I thought that might be  
6 the case. But others? New York?

7 MR. CLAYTON: I had one question for Cindy,  
8 just an item of information. As far as your  
9 requirement for the 40 hour course, do you allow that  
10 to be taught by the licensee or does it have to be an  
11 outside?

12 MS. CARDWELL: The way our rules are  
13 written is that it's a 40 hour agency accepted course,  
14 which means we look at it. Typically it's outside,  
15 but some of the larger companies have submitted their  
16 training course material to us -- accepted that.

17 And just because Roy brought it up, we  
18 have been approached about reducing that to 24 hours.

19 MR. CLAYTON: Thank you.

20 CHAIRMAN PANGBURN: Jared, any questions on  
21 this training issue?

22 MR. THOMAS: No questions on the training  
23 issue. I just want to touch on something that Walter  
24 said, though.

25 I don't know where he gets his numbers on

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1 the number of field inspections. Now I know here in  
2 Arkansas we do several. I realize what he is saying,  
3 it is true. We do need to be more aggressive on our  
4 inspection programs.

5 That's all.

6 CHAIRMAN PANGBURN: Okay. Thank you.

7 I think that's it as far as training.

8 On economic impact? Comments from members  
9 of the public?

10 MR. COFER: I think -- well I've already  
11 mentioned that I believe that it is very difficult to  
12 quantify -- oh, here's another thing I wanted to  
13 mention.

14 Okay. I do a lot, see, I'm very in tune  
15 with what's going on in the industry. I'm at an NDT  
16 testing lab right now in Tampa, Florida. And I do  
17 direct consulting for several industrial radiography  
18 licensees. And let me just say one thing about what  
19 we're talking about when we are requiring 40 hours of  
20 training for an assistant.

21 The problem is with assistants is, you're  
22 talking a major investment every time one of these  
23 companies hires someone to be an industrial  
24 radiographer. Because they're not really just hiring  
25 them to be a radiographer, they are hiring them to be

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1 a NDT technician, and training them in multiple  
2 disciplines to work in industrial environments.

3 So when you bring in a new individual,  
4 you've got to give them OSHA training, maybe MSHA  
5 training, HAZMAT employee training, radiation safety  
6 training, O&E procedures training, drug tests,  
7 background test; it's a big investment.

8 And the point is -- right now in Florida,  
9 the training for rad safety is eight hours for O&E  
10 procedures. But I can tell you, my clients, we go  
11 ahead and do another eight hours of instructions to  
12 workers. Because we believe that's the bare minimum  
13 they need to have a good understanding of the health  
14 hazards and to be safe working in the field. So we  
15 basically do the equivalent of 16 hours of training.

16 And if we wanted to put a number on it,  
17 that would be a number I would be more supportive of,  
18 except that I've already told you that I don't it  
19 should be a hard and fast number because I think some  
20 people can do it in 12 hours and some people need 24.  
21 So I don't think a hard and fast number's appropriate.  
22 I just think you make sure they get trained in that  
23 material by coming out and inspecting them, and  
24 interviewing them, and watching them work.

25 But the point I'm saying is right now a

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1 company, such as my brother's who hires these  
2 assistants -- my brother owns a testing lab, he is  
3 radiography licensee. And the problem I see is he has  
4 to invest all this money in these assistants before  
5 they can ever even go out into the field for the very  
6 first time.

7 And that's with an eight hour training  
8 requirement, which, as I've told you before, is really  
9 more like 16 hours. But that doesn't count the OSHA  
10 training, which is 24 hours, and all the other  
11 training they have to get; the drug testing, the  
12 background checks. It's a huge investment to bring in  
13 a new employee to a testing lab.

14 And what you're talking about is  
15 increasing that to 40 hours. And I'm telling you a  
16 lot of these guys wash out within a month. So you're  
17 talking about before you can even get them out in the  
18 field and assess whether they are going to work -- and  
19 a lot of these guys decide this work just isn't for  
20 them, this is brutal work we're talking about; long  
21 hours, hard hours, bad working conditions, not great  
22 pay. Because the whole pay scale is pushed down by  
23 the bad players I told you about.

24 So a lot of these guys wash out. So my  
25 brother and these other companies lose that investment

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1 and have to go out and start all over again. So now  
2 your talking about with a 40 hour training, increasing  
3 his up front investment. Believe me, he doesn't want  
4 to send these guys out in the field unless he's  
5 confident they're safe. That's why he pays me as his  
6 consultant. And believe me, we consultants are not  
7 cheep are we, Roy? We could train these people, it  
8 costs these companies a lot of money.

9 And you're talking about a 40 hour  
10 requirement for every individual when they hire these  
11 guys one at a time maybe every few months. How are  
12 they going to get these guys trained? They don't have  
13 ten people to put on a class cost effectively. So  
14 they either have to send them off somewhere to do it.  
15 And if you have a 40 hour training requirement, you  
16 are giving them no flexibility to do it as a self  
17 paced training module or computer based or the  
18 flexibility they need to train their people  
19 economically.

20 So that's really -- if I had to fight  
21 anything in this petition, it would be the 40 hour  
22 rule. Because I think it really imposes a major  
23 economic impact on licensees.

24 CHAIRMAN PANGBURN: Okay. Thank you for  
25 that, Walt.

1 Anything else on economic from others?

2 MR. RATLIFF: This is Richard Ratliff  
3 again.

4 It think that the issue you have that  
5 Walter doesn't see in Florida or in Texas, we have  
6 many more radiographers. As the market increases,  
7 they tend to have a harder and harder time keeping  
8 radiographers. But if they don't give them the basic  
9 training, then they slip. Then you have people out  
10 there who have not had the appropriate training who  
11 handle the sources.

12 And we do a lot of field inspections. In  
13 fact that's a first priority. If we see a field  
14 radiographer, you stop everything else you're doing  
15 and do those. So we do them, and we find that they  
16 still run into the same problem. If they are pushed  
17 for jobs, they will try to send people out there not  
18 trained. And that's where we use enforcement and we  
19 have enforced them.

20 But you really do have to look at the fact  
21 that when the business is so good they want to send  
22 people out there untrained who haven't had that basic  
23 training, and that's where you run into the radiation  
24 problems with these highly radioactive sources.

25 MR. COFER: I just believe that if you

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1 required them to do the training under Part 19 and  
2 equivalent state rules, you could ensure that they  
3 have that training. To me, once again it comes down  
4 to enforcement.

5 I applaud Texas. I agree, you probably do  
6 a better job of field enforcement than the NRC and all  
7 the other states, possibly combined. I have seen how  
8 little it's done. And I honestly think that that is  
9 where our resources should go. Not on prescribing  
10 additional rules. And I certainly don't think that  
11 allowing them to go into a darkroom -- I just think  
12 that opens the door for more abuse.

13 CHAIRMAN PANGBURN: Cindy, this is George.

14 Questions for you, your thoughts on the  
15 Part 19 issue that Walt raised a few moments ago, the  
16 training under that, and -- yes, any thoughts on that?

17 MS. CARDWELL: Yes. I will just say that  
18 he absolutely is correct and that that's the case for  
19 any radioactive material licensee, that retraining is  
20 required.

21 I will just say that training was required  
22 to us by rule changes in 1985, and it was ineffective.  
23 It required us to come up with a certification program  
24 to specify the kind of training and then to follow up  
25 with the enforcement. And we have actually taken

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1 action against -- I don't know the exact numbers and  
2 I wish I did, but it's certainly more than just a  
3 handful, and that included fines as well as suspension  
4 or revocation of certificates or their radiography  
5 certifications.

6 You've got to follow up with the enforcement or,  
7 I agree, it means nothing if you don't do that.

8 MEMBER SCHLUETER: Okay. Cindy, this is  
9 Janet.

10 So if I'm understanding you correctly.  
11 The Part 19, let's call it Basic Radiation Safety  
12 Training Requirements, they are in Part 19 already  
13 when you promulgated your ruling. You believe for  
14 radiographers those were not adequate and so you  
15 supplemented that with your current scheme?

16 MS. CARDWELL: That's correct.

17 MEMBER SCHLUETER: Okay. Thank you.

18 MR. COFER: If I could just make one more  
19 comment. There was a comment that Part 19 is  
20 referenced in Part 34. I agree it is, but I don't  
21 think the language carries the weight that's needed.  
22 All it says in 34.43(c) is that "Licensees shall not  
23 permit any individual to act as a radiographer's  
24 assistant until the individual has received copy of  
25 and instruction in the applicable sections of Part

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1 19." Actually, you know, I do think that language is  
2 okay upon another read. It just comes down to lack of  
3 enforcement of it.

4 The inspectors aren't going out there and  
5 interviewing the assistants and making them  
6 demonstrate that they have the knowledge -- that they  
7 have an adequate understanding of the rad material  
8 they're working with. When I go out and do  
9 inspections I would say tell me what kind of rad  
10 material you work with? What kind of hazard does it  
11 present? I don't expect them to feed me back health  
12 physics. I expect them to say yes, this is a high  
13 energy radiation that can really hurt me and cause  
14 burns.

15 If they can explain it to me in a basic  
16 language, and they can tell me how they would respond  
17 if the source got disconnected or if their pocket  
18 dosimeter went off scale. If I can interview them and  
19 they can demonstrate to me that I believe they have an  
20 adequate knowledge and understanding of both their  
21 procedures and Part 19 subjects, then they pass that  
22 inspection. I do find consistently they're unable to  
23 do that.

24 CHAIRMAN PANGBURN: That's a view, and I  
25 appreciate that. It's not one necessarily that I

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1 think is shared unanimously. My own experience is  
2 somewhat different from that. I think that's one of  
3 the benefits of performance based inspection is that  
4 rather than going as in the past, and whether it be  
5 NRC or state in mining records to look for violations  
6 or issues, the focus now is really on doing just that.  
7 Interviewing people and focusing on how they do their  
8 jobs so we have a sense that they understand those  
9 jobs and can do them safely.

10 Others on the economic impact?

11 Okay. I think that will probably conclude  
12 what we're going to do here today. I appreciate  
13 everyone taking the time to participate in this, both,  
14 Cindy, Richard and Paul, from the standpoint of the  
15 petitioners, and everyone who's on the phone and  
16 provided their views. We appreciate those, we value  
17 them.

18 We got to a point there I think, Walt,  
19 where you mentioned something about you know, the  
20 industry being upset about how NRC may have done  
21 things in the '90s.

22 And my own view on this kind of thing. We  
23 can't guarantee the outcome, but we can guarantee a  
24 process. And this is the process for dealing with a  
25 petition.

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1           The benefit of hearing these views, it  
2 gives us additional insight into what the petitioners  
3 were thinking about as well as other members of the  
4 public who have legitimate concerns or bring different  
5 experiences to bear on this. So we will consider  
6 those in our decision making as we go forward on this.

7           MR. COFER: Can I just say one last thing  
8 to validate what Parker said? I do believe the better  
9 issue is not apathy as is much as lack of notice. I  
10 do agree with Roy. There are so few radiographer  
11 licensees that are NRC licensees that the word just  
12 doesn't get out to them.

13           And that's why, like this GPS petition,  
14 most people never heard of it. Because they just  
15 aren't NRC licensees and agreement states don't send  
16 out notices of rule making for NRC rules. So  
17 therefore the vast majority of licensees are never  
18 informed about it until it's already become an NRC  
19 rule and then it becomes a compatibility requirement,  
20 and then it's really too late, because the states are  
21 required to oppose it. So the licensees can comment  
22 all they want and it's already NRC's compatibility  
23 requirement.

24           CHAIRMAN PANGBURN: Okay. Thank you.

25           MR. COFER: Thank you.

1                   CHAIRMAN PANGBURN: As I mentioned, we've  
2                   had the petition for some time. We are going to be  
3                   reviewing it and working expeditiously to address the  
4                   issues contained there.

5                   Unless there are other comments from the  
6                   members of the PRB here, I think we are closed for  
7                   today. And thank you for your time everyone.

8                   (Whereupon, at 2:32 p.m. the  
9                   teleconference was adjourned.)

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