

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

**Title: BRIEFING ON BPR PROJECT ON REDESIGNED
MATERIAL LICENSING PROCESS - PUBLIC
MEETING**

Location: Rockville, Maryland

Date: Wednesday, July 3, 1996

Pages: 1 - 60

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2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON BPR PROJECT ON
5 REDESIGNED MATERIAL LICENSING PROCESS

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7 PUBLIC MEETING

8
9 Nuclear Regulatory Commission
10 One White Flint North
11 Rockville, Maryland

12
13 Wednesday, July 3, 1996

14
15 The Commission met in open session, pursuant to
16 notice, at 10:00 a.m., Shirley A. Jackson, Chairman,
17 presiding.

18
19 COMMISSIONERS PRESENT:

20 SHIRLEY A. JACKSON, Chairman of the Commission
21 KENNETH C. ROGERS, Commissioner
22 GRETA J. DICUS, Commissioner

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1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 ANDREW BATES, Acting Secretary

3 KAREN D. CYR, General Counsel

4 HUGH THOMPSON, Deputy ED, NMSS and Operations
5 Support

6 CARL PAPERIELLO, Director, NMSS

7 DONALD COOL, Director, Division of Industrial and
8 Medical Nuclear Safety, NMSS

9 PATRICIA RATHBUN, BPR Core Team Leader, NMSS

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P R O C E E D I N G S

CHAIRMAN JACKSON: Good morning, ladies and gentlemen. Today the Commission will be briefed by the staff on the business process redesign of the materials licensing and inspection program.

It has been more than a year since the last Commission briefing on the subject, and of course the Commission has changed. In June of last year the Commission approved a staff proposal to proceed with phase 2 of the BPR project. At that time the Commission provided the staff with specific guidance on matters that it should consider and address in moving into phase 2 of the project.

We look forward to hearing from the staff today on how those issues have been addressed during the past year. The Commission believes that the Business Process Redesign project holds tremendous promise for increasing the efficiency and effectiveness of the NRC's materials licensing program as well as providing insights that could be used elsewhere at the NRC.

In today's environment of shrinking resources, we must continually search for methods that will increase and improve our productivity. We hope that the Business Process Redesign project will provide at least some of that increased improvement. So we look forward to hearing what you have to say.

1 Do any of my fellow Commissioners have any
2 comments?

3 [No response.]

4 CHAIRMAN JACKSON: Mr. Thompson.

5 MR. THOMPSON: Thank you, Chairman Jackson,
6 Commissioner Rogers and Commissioner Dicus. We look forward
7 to today's briefing. Indeed, you are correct. This is an
8 exciting part of the program and we have some interesting
9 things to tell you today, some side benefits and some
10 difficulties. Every road has a bump or two in it.

11 I think one of the reasons this is so important,
12 as you said, is the decreasing resources that we all face.
13 The ability and the commitment that Carl has put on this
14 effort will show that to achieve the success and the
15 benefits of this you have to have talented people, you have
16 to have commitment by management to do it, and you have to
17 have people who can think outside the box and be open to new
18 and innovative ideas. I think we have been able to achieve
19 this with the team that Dr. Paperiello has put together led
20 by Pat Rathbun and others.

21 Carl, I will turn it over to you to get to the
22 details.

23 DR. PAPERIELLO: Good morning, Chairman Jackson,
24 Commissioner Rogers and Commissioner Dicus.

25 Can I have the first slide?

1 [Slide.]

2 DR. PAPERIELLO: Today I am going to report to you
3 the status of our efforts to revise our byproducts material
4 licensing process using business process redesign. I will
5 discuss the progress to date, provide information requested
6 in the Commission's staff requirement memorandum of June 16,
7 1995, and discuss some midcourse corrections.

8 Can I have the next slide?

9 [Slide.]

10 DR. PAPERIELLO: Let us recall why and how we
11 initiated the process. In 1993, when I became director of
12 the Division of Industrial and Medical Nuclear Safety, I
13 found the NRC had 1,800 material licensing and about 500
14 sealed source and device certification actions pending.
15 This was about a half a year's work.

16 If one looked at the resource expenditures, one
17 found that 50 percent of the licensing FTE effort expended
18 went into license renewal, 35 percent into amendments, and
19 15 percent into new applications.

20 From the earlier regulatory impact survey work
21 that I had done at the Commission's direction, I found that
22 practically all NRC licensing guides were out of date. Many
23 had been issued in 1984 and 1985 as drafts and were never
24 issued in final, and these as well as others were not
25 revised as regulations were changed.

1 For example, due to the changes in 10 CFR 20, all
2 references in the licensing guides to this regulation are
3 wrong. Some references to radiation protection guides are
4 in error because the reference material is based on the old
5 Part 20, and particularly ICRP 2 dosimetry system and not
6 the ICRP 2630 dosimetry system on which the current Part 20
7 is based.

8 Standard review plans that existed were issued as
9 internal policy and guidance memoranda, informally revised,
10 and not readily available to the public.

11 Finally, budget plans prepared in 1994 showed
12 significant reduction in licensing resources in the fiscal
13 year 1998-1999 budget year.

14 So this sets the stage of why we had to do what we
15 did. We were in trouble and it wasn't going to get any
16 better.

17 Next slide.

18 [Slide.]

19 DR. PAPERIELLO: This slide shows the relationship
20 between licensing and other key areas in the materials
21 program. The BPR process has concentrated on the licensing
22 area because its problems appeared to be the greatest. The
23 inspection program has almost never had a backlog since the
24 late 1980s. However, it does consume the most resources.

25 I have revised the inspection procedures and

1 program as division director for routine inspections and
2 upgraded the incident response activities.

3 As office director, I am in the process of
4 upgrading the operational data evaluation area and the
5 incident response activities outside of the BPR process.

6 NMSS has not addressed issues within the area of
7 regulations for efficiency improvements, and we recognize
8 that fundamental shifts may occur in that area as a result
9 of ongoing strategic assessment efforts. In the regulation
10 area, we all recognize that medical regulations are an
11 outstanding issue. Yesterday afternoon I received a report
12 from the NRC Agreement State operations group on general
13 licensees. I have not had a chance to read that report. So
14 there are additional areas where regulations may have to be
15 changed.

16 We are concentrating our efforts to improve the
17 current licensing process, and I believe that the tools we
18 are developing and the lessons learned will help us quickly
19 implement Commission decisions in the area of regulations as
20 a result of strategic assessment.

21 Can I have the next slide?

22 [Slide.]

23 DR. PAPERIELLO: We extended on a one-time basis
24 qualified licenses by five years. This became our first
25 challenge when we found we had to do this by rulemaking.

1 This delayed this action by about eight months and took
2 somewhat more resources than expected. However, it is
3 essentially complete and 90 percent of the licenses have had
4 their expiration dates extended by five years.

5 COMMISSIONER DICUS: Carl, could I ask a question
6 at this point?

7 DR. PAPERIELLO: Yes.

8 COMMISSIONER DICUS: You said qualified materials
9 licenses. Would you explain to me what qualified is?

10 DR. PAPERIELLO: Certain licensees we did not
11 extend. If they required an emergency plan -- these are big
12 licenses -- we did not extend them.

13 If there was a problem with financial assurance
14 for decommissioning, they weren't extended.

15 If they were on the SDMP list, they weren't
16 extended.

17 If their licensing involved an environmental
18 assessment or an environmental impact statement; if they had
19 enough SNM to trigger a criticality accident requirement; if
20 there was an outstanding order, CAL or severity level 1, 2
21 or 3 violation at the last inspection, they weren't
22 extended.

23 If they had never received an NRC inspection, they
24 weren't extended.

25 If they were under timely renewal prior to July 1,

1 1995, they weren't extended.

2 So anything that could potentially be a problem,
3 they were not extended.

4 COMMISSIONER DICUS: When this was coming down I
5 was disinvolving myself a little bit in some of my state
6 activities. The Agreement States could be encouraged to do
7 the same things. Has this gone on to them together with
8 what these criteria are for licenses that they might not
9 want to extend, particularly for the states that have a
10 backlog?

11 DR. PAPERIELLO: What we did was discussed at
12 great length with the Agreement States. They commented on
13 the rulemaking and the like. I frankly don't know whether
14 we encouraged them to do the same thing or not.

15 Don.

16 MR. COOL: We have not formally sent out something
17 strongly suggesting or urging or otherwise. We provided the
18 information but have not in a sense gone in and made a
19 formal suggestion that you do likewise. On the other hand,
20 we haven't attempted to discourage it either. Frankly, it
21 didn't receive a whole lot of discussion in the times at
22 CRC, PD or OAS. Certainly the topic was on the table;
23 everyone was interested in it; the criteria were out there;
24 and, having gone through those sorts of discussions, we went
25 on to some of the other topics.

1 MR. THOMPSON: But part of our basis for doing
2 this was to free up resources to do the business process
3 reevaluation. The states weren't required to do that,
4 although we obviously at the Commission's suggestion
5 included them in the process.

6 I think the longer term aspect is that as we go
7 through and decide what is the proper length of licenses
8 themselves, I think that would be the appropriate time for
9 us to encourage states. If we extend the license period to,
10 for example, ten years or some other time period rather than
11 having renewals as frequently as we currently do, that would
12 be a time that we would really want to encourage the states
13 to follow up on that.

14 COMMISSIONER DICUS: I guess where I was coming
15 from, at least in part on this, is for those states that
16 have a licensing backlog, and some of them do, if they went
17 on and did this and then at the time of the review of the
18 state program that would be raised one way or the other as
19 an issue.

20 MR. THOMPSON: We certainly do look at the issues
21 of backlog and what programs are available within the
22 Agreement States programs to do that. This is something we
23 could identify to them as essentially a way to address their
24 problem. Obviously we had to go through a rulemaking
25 problem and it took a lot longer. In some state programs it

1 may not be quite as difficult to extend the licenses as
2 maybe what we had to go through.

3 DR. PAPERIELLO: I would point out that actually
4 the idea came from them. I had a discussion before we got
5 into this with the Agreement States on how long they license
6 for. What I found out is that a lot of states do it
7 differently than we do. In fact, a lot of states use a
8 variable licensing, which is what we expect to recommend to
9 you within the month when we talk about how long a license
10 ought to be. Different states told me different things, but
11 some states license for seven and eight years.

12 I started exploring the background of our own
13 five-year license. It has no history. It was made up by
14 somebody at a relatively low level. It wasn't a big agency
15 policy. I'm going to change that. We are going to have a
16 policy that you will have seen and approved, but it just
17 happened.

18 When I started talking to Agreement States and
19 found out what they do, I had different things, and a lot of
20 states did a variable. In other words, if it was a big
21 license and it was new, you give them a short license, two
22 or three years. When performance is shown to be okay, then
23 they lengthen it out to a longer period of time. So it kind
24 of went the other way around. This was discussed heavily
25 with them.

1 I will talk about all our interactions with the
2 Agreement States, but some of these ideas came from the
3 Agreement States.

4 COMMISSIONER DICUS: Thank you.

5 CHAIRMAN JACKSON: I was going to ask you a
6 question about that. I had asked, in fact, that you consult
7 with the Agreement States on how this process could be made
8 even more effective and efficient. Did you do that?

9 DR. PAPERIELLO: Yes.

10 CHAIRMAN JACKSON: And how the process itself
11 might affect the Agreement States. Did you do that?

12 DR. PAPERIELLO: I think we have.

13 CHAIRMAN JACKSON: Third, that you discuss with
14 them what role they might be called upon to play in the
15 development of them? Did you do that?

16 DR. PAPERIELLO: Yes.

17 CHAIRMAN JACKSON: And you are going to be
18 speaking to all of these?

19 DR. PAPERIELLO: Yes.

20 CHAIRMAN JACKSON: Fine.

21 DR. PAPERIELLO: Next slide.

22 [Slide.]

23 DR. PAPERIELLO: In addition to reducing future
24 renewal applications for the next five years, there was an
25 immediate reduction in pending renewals of about 70 percent.

1 This slide shows the pending caseload is the smallest since
2 1988 and actually is the lowest since the program was
3 regionalized in 1985. You can see we have about 200
4 renewals pending.

5 . Anecdotal information would suggest to me this is
6 the smallest number of pending. This is not just backlog;
7 this is total number of licensing actions that we have in
8 house for any time in the agency's history.

9 Besides doing what we are doing under BPR, I am
10 doing other things that I can do to beat the backlog down.
11 For example, we used contractor assistance and our own
12 in-house. The things we do here in headquarters with sealed
13 source and devices, we have gone from 500 actions down to
14 100 actions over the last two years.

15 I don't want the fact that we are doing BPR to
16 distract us from what we are trying to do. A large number
17 of pending actions isn't good. I just want to point that
18 out.

19 COMMISSIONER ROGERS: Before you leave that graph,
20 which is an interesting graph, what happened between 1989
21 and 1991? What was going on?

22 DR. PAPERIELLO: That was the fees. When the fee
23 rule went through all kinds of licensees filed for
24 amendments, some to give up a license. A number of people
25 had a license not because they were doing anything, but just

1 in case they wanted to. And other people got amendments to
2 put themselves in the lower fee categories.

3 COMMISSIONER ROGERS: In other words, swamped by a
4 whole flood of them.

5 DR. PAPERIELLO: Yes. In fact, that is what
6 happened in sealed source and devices. They had a jump up
7 to 800 actions in one year, because people were paying for
8 the certificate and decided "I'm not selling these things."

9 [Slide.]

10 DR. PAPERIELLO: The saved resources will help the
11 rest of the BPR process and continue to reduce the backlog
12 and pendings further.

13 One outcome of this effort in a sense to lower the
14 water level was to reveal regulatory problems. We had each
15 region inform us of their five oldest cases. We found
16 backlog cases that had been pending for five to eight years
17 due to decommissioning funding problems, continued use, in
18 one case, of the WESF capsules, inability to meet Part 36
19 requirements for conductivity in the pool water for an
20 irradiator, and disposition of incinerator ash, to name only
21 a few problems.

22 I am not convinced I have my hands around all the
23 problems. Actually, getting ready for this presentation and
24 looking at what we had found, I have directed the staff to
25 go out to the regions and identify all pending licensing

1 actions that have regulatory problems, not just time
2 problems, but problems because licensees appear to be unable
3 to meet regulations, which is some of these things that are
4 sitting out there that we have to get our hands around and
5 that haven't been brought to my attention.

6 Within about a month we will have a paper to the
7 Commission on license duration. This is another area that
8 was more complicated than we originally thought. In most
9 parts of 10 CFR there is no license duration stated for
10 materials licensing. It appears to have been set by policy
11 at the division director level some years ago. However,
12 Part 35 states medical licenses will be issued for five
13 years. If you look at the words, it reads like all the
14 other sections but it just says a license will be issued if
15 the applicant can do the following, and Part 35 just says a
16 license will be issued for five years if an applicant can do
17 the following. So it's in there.

18 We will be proposing a policy of ten-year material
19 licenses. I had thought that for some licenses we could go
20 even longer, because there are things like gauges and the
21 like which don't have a major technical change. What we
22 looked at is the average life of a gauge licensee isn't ten
23 years. Most companies and businesses don't stay in business
24 that long. So we would not gain that much, and it made life
25 a lot simpler to have one number.

1 Except we are going to provide for shorter
2 licensing periods for special cases. What do I mean by
3 that?

4 Right now there are no mobile irradiators in this
5 country. I don't think anybody will build one, but I know
6 we have consulted with DOE on one in China. If we ever
7 license something like that, I think the first one I
8 licensed I would want to license for a couple years and then
9 take a look at performance rather than losing sight of it.
10 We would like to make a provision that for something
11 extraordinary like that we would go with a shorter licensing
12 period to give us an advantage to think about the activity.

13 We propose to develop a standard license condition
14 for broad scope materials licensees functionally equivalent
15 to 10 CFR 50.59. Since we have decided, and this is
16 interaction with the Commission, to revise 10 CFR 33, the
17 broad scope licensing regulations, as one of the follow-up
18 actions for the NIH and MIT events, we are planning to
19 include this effort in the rulemaking process rather than
20 doing what we proposed to do, offer people an amendment to
21 do this. I think it would be in some ways better to do it
22 within the rule process. The ANPR for the total revision of
23 Part 33 is in concurrence, and this should be at the
24 Commission in about a month also.

25 Can I have the next slide?

1 CHAIRMAN JACKSON: Before you get into the details
2 of the process, I remember that in the previous briefing you
3 mentioned a graded approach in the new license review
4 process that would match the review level to the safety
5 hazard and that more complex applications would be handled
6 by individuals or teams with specialized expertise. I think
7 at the time you indicated that a fuller explanation would be
8 needed on how the safety significance of the license
9 application or the activity is factored into how that
10 application is processed.

11 DR. PAPERIELLO: Yes.

12 CHAIRMAN JACKSON: Will you speak to that today?

13 DR. PAPERIELLO: We will be, yes.

14 [Slide.]

15 DR. PAPERIELLO: As noted earlier, a major
16 licensing problem has been the multiplicity of guidance
17 documents supporting the licensing process. Many of these
18 are out of date. Resources for maintaining them were the
19 lowest priority in the budget, and responsibility for some
20 were shared with the Office of Research, which had similar
21 resource problems.

22 Furthermore, as part of the BPR effort we looked
23 at ways of using modern information technology to
24 consolidate the guidance for ease of maintenance and to use
25 computer assistance to perform reviews and document the

1 review process, particularly intermediate steps in the
2 process, which the IG in one of their reports stated was not
3 well documented.

4 We have gathered all of the existing guidance
5 documents and have begun to consolidate them into an
6 electronic library accessible from the NRC World Wide Web
7 home page. Since we like acronyms, the system is called
8 MEL.

9 This has not been an easy task, and we are behind
10 schedule. Producing products and teams has worked well when
11 the team was in one location. One of the concepts that we
12 had attempted to implement in developing MEL is writing in
13 virtual teams so that, using group ware, individuals in
14 headquarters and the regions at their normal work stations
15 can work on the same document.

16 This has proven difficult. The problem is not
17 group ware but the apparent need for face-to-face
18 communications to coordinate products. We got a lot of good
19 written material but not precisely coordinated and with
20 varying levels of detail. We are looking at how to make
21 such teams work better. In part, it may just be a matter of
22 experience.

23 With the need to reduce supervisor-to-staff ratio,
24 it is going to be necessary to make self-directed teams
25 work. Additionally, if we wish to reduce travel costs and

1 include Agreement States, we are going to have to make
2 virtual teams work.

3 One possible technique that was demonstrated to me
4 last week is teleconferencing over the NRC network and the
5 Internet using a computer and a relatively inexpensive
6 camera. I don't know precisely how to solve the problem,
7 but we are going to work on the problem.

8 CHAIRMAN JACKSON: Let me ask you this question.
9 Are you doing this on a pilot basis, or are you trying to do
10 the full scope implementation? Remember, in the previous
11 SRM the Commission suggested that you do this on a trial
12 basis.

13 DR. PAPERIELLO: We are trying to do it on a pilot
14 basis. Essentially what we tried to do was create a modular
15 licensing manual, which in some ways we bit off the whole
16 thing. It turned out to have been extremely difficult to
17 do. I am going to talk about the midcourse correction.

18 CHAIRMAN JACKSON: Is the midcourse correction
19 going into the realm of a pilot?

20 DR. PAPERIELLO: Yes, piece by piece.

21 CHAIRMAN JACKSON: The point that was in the
22 previous Commission SRM is that it costs money, it's a net
23 investment to do these things, and because of just the kinds
24 of issues that you have run into, that was the whole point
25 in asking the staff to do it that way.

1 DR. PAPERIELLO: We were working on the pilot. I
2 can't find a right analogy. Actually it was along the lines
3 that you and I once discussed about a generic standard
4 review plan. We will eventually get there, but we are going
5 to have to do it piecemeal.

6 CHAIRMAN JACKSON: Let me let you go ahead.

7 DR. PAPERIELLO: This is one area in which a
8 midcourse correction is underway. Instead of continuing to
9 create a single modularized document, we are going to
10 proceed in two steps.

11 First, all the existing information is being made
12 available electronically. A lot of it is being scanned and
13 put into our database.

14 For each area license, that is, portable gauges,
15 small academic and research facilities, irradiators,
16 radiography, and so forth, the information previously
17 contained in the regulatory guides, standard format and
18 content guides, standard review plans, and the relevant
19 generic correspondence will be combined in a single
20 document. This document will be published as a draft NUREG
21 for comment and provided on the NRC network.

22 We completed the construction of the BPR
23 laboratory just in May and within the past several weeks
24 completed the first document using a team which included
25 Agreement State representatives. This guide for portable

1 gauges is undergoing internal management review and will be
2 issued in August.

3 At the same time, based on that guide, we are
4 creating the automated review that will be used on the
5 computer so that a reviewer can then take the application
6 and using the computer can have computer assistance review.
7 We are going to show you a videotape to see how that works.

8 I think it will solve a lot of the concerns that a
9 computer is going to do the review. The computer is not
10 going to do the review. The computer will be the check list
11 that will walk the reviewer through the review, make
12 available all the guidance immediately, and then the
13 reviewer will essentially check yes, it's here, yes, it's
14 here, here's a problem. It will document the review and
15 will provide an opportunity for a manager or another
16 reviewer to check the first reviewer's work. It is not a
17 machine doing the review; it's a person doing the review
18 with the computer assisting.

19 Similar documents for about 40 to 50 percent of
20 all licensing actions will have been consolidated and
21 updated by next February. However, it does not make sense
22 at this time to spend resources to consolidate and update
23 guidance in the medical areas or for broad scope licenses
24 when major rule changes are likely to occur. For these
25 areas, the guidance will be made available electronically

1 with the correct regulatory references and updates closely
2 coordinated with the rule changes.

3 The second, ultimate step, not likely before 1998,
4 will be to create the modular document. This will depend on
5 resources.

6 I am looking over the long term to create either a
7 generic standard review plan or a modular system that will
8 allow a team to create a customized review plan in a short
9 period of time. My intent is to go beyond just byproduct
10 material issues and include criticality control, chemical
11 safety, fire protection, and external hazards, and to make
12 it encompass fuel facilities too.

13 We are making the NMSS newsletter available over
14 the Internet, and that has been done with internal
15 resources. In other words, our own people, not consultants,
16 who have actually been able to produce the text and all that
17 kind of good stuff.

18 The regions and headquarters staff have electronic
19 access to all responses to regional technical assistance
20 requests now.

21 Next slide.

22 CHAIRMAN JACKSON: The two midcourse corrections
23 were what now?

24 DR. PAPERIELLO: Basically, the one midcourse
25 correction at this point is to instead of trying to create

1 one modular document to cover all the licensing manual, to
2 break it up into essentially strips.

3 In other words, we will create separate documents
4 for each kind of thing we license, one for radiography, one
5 for a portable gauge, one for a fixed gauge, one for
6 teletherapy. Essentially just like we have our current
7 licensing guides except there will be one document rather
8 than a licensing guide, a standard review plan, three or
9 four other guides that are relevant, and all the generic
10 correspondence that has been issued to date that deals with
11 that licensee. There will be one NUREG that will cover that
12 area both for what you put in a licensing application and
13 how we review it. It will be available both in paper and
14 electronically.

15 It will go out for comment. So I will have the
16 input of comment of Agreement States and the public and the
17 licensees on "this doesn't make sense," which is what I am
18 looking for. Then we will go out in final.

19 Every three years we are going to revise these
20 things and make sure they are current. Since they will be
21 in electronic format, if you change a reference to a rule,
22 you will be able to make a global fix.

23 MR. COOL: If I can elaborate just a little bit on
24 that. It's a focus sort of from our perspective of what all
25 do we have in the pot to a perspective of either my

1 individual reviewers or the licensee in terms of what do
2 they actually need to either apply for the license or review
3 the license.

4 It also has a benefit in terms of what you
5 mentioned a minute ago about the pilot, because now that I
6 have generated the first licensee-specific piece which has
7 all of it in, I can put that into a prototype information
8 technology system, and while it is out for comment the
9 reviewers can be testing the system to see where all the
10 glitches are. If we do that with some of the simpler pieces
11 early on in the process, it lets me be able to develop that
12 system before we get into the bigger things, the
13 radiographies, the large irradiators, the broad scope
14 licenses and otherwise. So that in fact is a change made
15 not only to get the proper focus back into it, but in order
16 to be able to properly prototype and test the IT systems
17 that need to go along with it.

18 [Slide.]

19 DR. PAPERIELLO: The system being developed to
20 automate the licensing process we call the licensing
21 inspection on-line system, or LIONS.

22 Currently we are working on the first two
23 components, the application entry and the review component.

24 The third component, the licensing tracking
25 system, already exists, but it exists as a very old and by

1 today's standard inadequate mainframe system. My staff
2 tells me the proper term is a legacy system. It's running
3 on a combination of a mainframe and a minicomputer both here
4 and at NIH. If we never did do a BPR, we would be forced to
5 move it to a network-based system before the current system
6 dies. It's hard to find anybody who can tell you how it
7 works, and I haven't been able to find out how much it costs
8 even to maintain. Nobody quite knows because there are
9 other systems that work this way too. If we never did this,
10 we would have to move this to our network.

11 We plan to test prototypes of the first three
12 systems later this month and pilot test the first integrated
13 set of applications by February 1997.

14 CHAIRMAN JACKSON: This is going on here?

15 DR. PAPERIELLO: Yes.

16 MS. RATHBUN: Yes.

17 CHAIRMAN JACKSON: Maybe we will arrange a little
18 visit for the Commission.

19 DR. PAPERIELLO: I couldn't bring the equipment
20 here, but I would invite you over there.

21 CHAIRMAN JACKSON: Why don't we set that up so you
22 can educate us directly.

23 MS. RATHBUN: We would be very excited to have you
24 come there.

25 CHAIRMAN JACKSON: I don't know how I should take

1 that.

2 [Laughter.]

3 MS. RATHBUN: What is your favorite kind of
4 cookies.

5 [Laughter.]

6 DR. PAPERIELLO: Can I have the next slide,
7 please?

8 [Slide.]

9 DR. PAPERIELLO: Since we can't bring the BPR
10 here, we would like you to see a video on how the automated
11 review process would work. I think it will answer some of
12 the questions raised in the Commission SRM on automated
13 reviews.

14 I would also like to point out this was made by
15 the NRC staff with NRC resources and video equipment, and I
16 would like to thank Gary Armstrong in admin who is going to
17 run this tape for us, who gave us advice, did the taping,
18 and did the editing. I think it was a very professionally
19 done piece.

20 [Videotape shown.]

21 NARRATOR: Some of us can remember the good old
22 days of materials licensing, and we all know what the
23 present day licensing system is like now.

24 The BPR team has prototyped a virtually electronic
25 process. At the head of the new process is the materials

1 electronic library, or MEL, and the licensing and inspection
2 on-line information system, or LIONS, the successor to LTS
3 and other aging systems.

4 MEL and LIONS are the primary information
5 resources regarding materials licensing. This information
6 is available to licensees and license reviewers as well as
7 NRC managers, state personnel, and members of the public.
8 The LIONS application preparation and review system offers
9 custom tailored features for applicants, license reviewers,
10 and NRC staff who are performing license QA reviews.

11 The system offers license applicants a tool that
12 provides a structured approach for preparing an application
13 using customized screen features and comprehensive on-line
14 help.

15 This application is modeled after popular tax
16 software that guides the user through a series of easily
17 answered questions particular to their program. That
18 information includes name and address, a description of the
19 places that radioactive materials will be used and stored, a
20 description of licensed material and devices to be used,
21 including the manufacturer name and model number.

22 A feature on this screen allows the applicant to
23 select the sources and devices they wish to use from a list
24 derived from the sealed source and device catalog of NRC and
25 Agreement State approved devices. This tool will

1 automatically calculate the requested quantities of
2 radioactive materials as the applicants make their
3 selections; the details of the applicant's radiation safety
4 program, including, for example, radiation dosimetry.

5 Immediate on-line help is available to answer the
6 applicant's questions as they come up. The information
7 supplied by this help feature comes directly from the MEL
8 guidance database.

9 After completing and reviewing the application,
10 the applicant then submits either a paper or electronic
11 version of the completed application to the NRC for review.
12 Once at the NRC, the submission is available for technical
13 safety and QA review using another part of the LIONS system
14 designed for use by the license reviewer.

15 License reviewers have several tools to assist
16 them in their review of the applicant's submission,
17 including a split screen review feature that displays the
18 application data side by side with the pertinent evaluation
19 guidance for the subject being reviewed. This allows
20 deficiencies in the application to be noted for resolution
21 with the applicant.

22 Like the applicant, the reviewer has immediate
23 access to the same detailed information in the MEL to help
24 evaluate and resolve issues as they come up in the review.

25 The reviewer system automatically creates a record

1 of decision documenting the resolution of issues and the
2 basis for that resolution. This feature allows license
3 reviewers to record comments for consideration by
4 inspectors, QA reviewers and managers.

5 Completion of the review automatically triggers
6 either an inquiry to the applicant for additional
7 information or a draft license ready for QA review.

8 LIONS provides QA reviewers with a customized set
9 of tools to review the application, the record of decision
10 created during the technical review as well as the same
11 MEL-based guidance relating to each portion of the
12 application.

13 Comments from the QA review are recorded and
14 forwarded to the reviewer and managers for resolution. Any
15 outstanding issues or needed changes are then recorded and
16 forwarded to the Regulatory Product Development Center so
17 that applications can be created or modified to meet the
18 needs of the staff, licensees, or the public.

19 This QA review along with the automatic creation
20 of the record of decision are two of the means used to
21 ensure consistency among individual reviewers as well as
22 teams of license reviewers. Consistency is further enhanced
23 by the use of a single source of information by licensees,
24 reviewers and NRC managers.

25 The BPR core team along with the steering and

1 executive oversight committees are continuing work on this
2 prototype with a goal to begin field testing in regional
3 offices in the near future.

4 CHAIRMAN JACKSON: Let the record show I like your
5 music.

6 [Laughter.]

7 DR. PAPERIELLO: It shows you how the system we
8 are planning works. The initial uses are going to be simple
9 applications. They are going to be things like gauges and
10 the like. Actually, it turns out we do a lot of them. The
11 reality is we issue very few brand new, broad scope
12 licenses, but we issue a whole lot of the smaller licenses.
13 So we can gain a lot of help and experience at a relatively
14 simple level.

15 CHAIRMAN JACKSON: Let me ask you a question about
16 that. Would it be fair to say that in a sense your initial
17 application of the methodology to, as you would call it,
18 simple applications, can we call that your pilot?

19 DR. PAPERIELLO: Yes, that's my pilot.

20 MR. THOMPSON: That's exactly correct.

21 DR. PAPERIELLO: We are not creating this thing
22 right now for doing a broad scope application or something
23 complicated.

24 CHAIRMAN JACKSON: Have you laid out metrics for
25 yourself in terms of what you hope to achieve? Remember,

1 there was an issue in terms of cutting down the processing
2 time, and again the SRM said that you should try to lay out
3 some goals for yourself to measure whether in fact you are
4 going the way you want to go. In doing these initial
5 applications have you laid out metrics?

6 DR. PAPERIELLO: Not yet. I haven't.

7 MS. RATHBUN: Let me speak to this. We have begun
8 working on that. Because of the immense resource
9 considerations of MEL, which was beyond your wildest dreams
10 and way more than we thought, and because of the necessity
11 to work so hard on the IT development, because that is where
12 we were spending the bulk of the contractor money, we had to
13 defer the traditional BPR, the working, the values, the
14 beliefs, the measurements, the metrics. We simply didn't
15 have the resources.

16 We have re-begun to do that and convened a group
17 of managers from the regions -- I guess it was last week
18 -- to begin to work all the different metrics. So we are
19 doing that, but it did have to lag behind.

20 CHAIRMAN JACKSON: How much has this cost you?

21 MS. RATHBUN: The total to date, including
22 contractors and equipment, about \$2 million over the
23 two-year period.

24 CHAIRMAN JACKSON: When do you expect to start
25 this prototype application?

1 MS. RATHBUN: The prototype is actually up and
2 running in the lab.

3 CHAIRMAN JACKSON: When do you actually expect to
4 start initially processing?

5 MS. RATHBUN: Piloting?

6 CHAIRMAN JACKSON: Yes, piloting.

7 MS. RATHBUN: We hope to be piloting in regions in
8 February. We are doing portable gauge, fixed gauge, gas
9 chromatograph. As each module emerges from MEL it goes to
10 the IT team and then to the region.

11 CHAIRMAN JACKSON: When you tell me a time here,
12 that gets incorporated as a milestone.

13 MS. RATHBUN: Did I say '97?

14 [Laughter.]

15 DR. PAPERIELLO: You did, and I offered that up
16 earlier. The IT aspects of this thing have been
17 considerably harder than we anticipated. I am going to
18 address some of the lessons learned on that later.

19 Next slide.

20 [Slide.]

21 DR. PAPERIELLO: Fees were shown to have hampered
22 timeliness of processing licensing actions. So actions have
23 been taken to streamline fees. Actually, some of these
24 streamlining efforts have helped the fee staff.

25 You can see, as laid out on this slide, as of the

1 fiscal year 1996 fee rule fees for inspection and license
2 renewal have been incorporated into one annual fee, and the
3 fee is due on the anniversary date of the license. So we
4 space out the collection of fees.

5 The fee staff is looking at, I think mostly legal,
6 the ability to collect fees concurrently with amendment
7 application. What I am envisioning is many of the small
8 amendments are a couple hundred dollars. Our problem was
9 you would get a simple amendment in and you couldn't really
10 work on it until the agency assured that it had the money.
11 If the sum was wrong, then there would be correspondence.
12 Therefore, that would hold the whole thing up. My belief,
13 putting aside the legal aspects of what we have to do, is
14 licensees who want their license and request and amendment
15 will pay the bill. The fee staff is still working on that
16 aspect of the issue.

17 COMMISSIONER ROGERS: On the streamlining of fees
18 question, in the background of this whole business of course
19 is the possibility that the number of Agreement States will
20 increase and the number of non-Agreement States will
21 decrease and the fee-based problem starts to come up.
22 Dealing with that issue in some way, is that in your
23 thinking here at all, or is that just totally separate?

24 DR. PAPERIELLO: It is mostly totally separate.
25 It is in my thinking when I make references to the Agreement

1 States. In the comments that I submitted on strategic
2 assessment I addressed one potential way where the more we
3 could get Agreement States into assisting in the development
4 of rules and any of the other things that we do that are in
5 common, that might help pay some of the cost.

6 As long as the NRC has the ultimate responsibility
7 -- I'm probably using the wrong legal words -- under 274 of
8 the Atomic Energy Act and we are the ones who are, you might
9 say, holding the standard of rules and the like, we have a
10 tremendous overhead, and the overhead stays no matter how
11 many licenses we have. To me that is the problem.

12 Insofar as we can get the Agreement States to help
13 us maintain the overhead, pay for it, that will help.
14 That's why I make the allusion to virtual teams. It's hard
15 for Agreement States to travel here. Somebody has to pay
16 the cost, but if I can have Agreement States assist us in
17 working on documents that we can use together, that would in
18 fact help spread the overhead out.

19 That's my long-term goal as long as we are in our
20 current mode of operating. Obviously if we made changes
21 that changed the fundamentals of what we would do, that
22 would be one way to get around it. I understand where the
23 problem is. I just don't have all the answers.

24 COMMISSIONER ROGERS: To follow on, you should be
25 mindful that you are not locked in by whatever software you

1 have designed to deal with this, that if somehow our
2 policies with respect to how fees are assigned changes in
3 some dramatic way, that that doesn't give us a big problem
4 because we have already selected the software and it is very
5 hard to change.

6 DR. PAPERIELLO: I was just trying to tell within
7 the area right now of a certain amount of discretion how I
8 am trying to solve it.

9 CHAIRMAN JACKSON: You talked about your
10 interactions with Agreement States. Do you intend to have
11 them be able, perhaps for a fee or some other mechanism, to
12 make use of this system to help ensure consistency?

13 DR. PAPERIELLO: Yes. I certainly expect what we
14 develop and put on line to be available for the Agreement
15 States on what they wish to use. If I could run the world
16 the way I wanted to run it, we would have common rules and
17 common procedures. I'm not sure I can make that happen.

18 CHAIRMAN JACKSON: It's not a question of that.
19 It's more their having access.

20 DR. PAPERIELLO: It is my intent that they would
21 have access to it. Definitely.

22 Next slide, please.

23 [Slide.]

24 DR. PAPERIELLO: We completed our BPR laboratory
25 in May of this year. That is behind schedule. We expected

1 to have it done in January.

2 In some of our documents it's called the
3 Regulatory Products Development Center. It's the same
4 facility. I would invite you over to Building 2, on the 8th
5 floor to see it.

6 We built the facility to develop and prototype the
7 automated parts of our systems and as a place for teams to
8 work to develop documents such as standard review plans and
9 licensing guides in a short period of time.

10 We have conference space, work stations and two
11 team rooms. The computers in the facility allow teams to
12 work on the same document simultaneously and have on-line
13 access to existing guidance.

14 The team is supported by a facilitator and a
15 coordinator, currently contractors.

16 I want to emphasize that it is intended to be used
17 for more than BPR. It will be a facility to create standard
18 review plans, rules and guidance for all the program areas
19 that I have in my office.

20 NRR is visiting it today?

21 MS. RATHBUN: No. NRR visited it yesterday. So
22 they are probably going to want one too now.

23 [Laughter.]

24 DR. PAPERIELLO: Somebody came up to me today and
25 told me in another area that a rulemaking plan was going to

1 take five months to develop. I hit the ceiling. You get a
2 group of people together and you make it happen in two
3 weeks. We know how to do that. That is my goal, to be able
4 to have a facility where I can get a document created, a
5 licensing guide or a standard review plan or a NUREG, in two
6 to three weeks. Then it's on a system that I can
7 immediately spread it out in the agency to anybody else to
8 have everybody review it and compress the times down.

9 I expect this will be a major tool for any
10 rulemaking needed to implement Commission strategic
11 assessment decisions.

12 [Slide.]

13 DR. PAPERIELLO: We have had numerous interactions
14 with Agreement States in accordance with the SRM. We made
15 presentations at all Agreement State meetings. In fact, I
16 know we had one here -- I can't remember when -- where
17 almost the whole meeting was devoted to this process.

18 We have made visits to several Agreement States.
19 We held extensive interactions with the Agreement States on
20 the five-year extension.

21 We held one public meeting here in Washington with
22 licensees and the public on BPR. North Carolina and
23 Illinois have participated on various teams, North Carolina
24 most recently on the portable gauge guide.

25 We issued two NUREGs, 1539 to describe the BPR and

1 what we did, and 1541 for comment on how we were going to
2 make information available on the Internet.

3 The State of Washington will be involved in the
4 review of the portable gauge guide that we just developed,
5 and perhaps New Hampshire. We are not sure about their
6 availability.

7 The State of Illinois, you should be aware, is a
8 major contributor to the proposed revision of Part 33,
9 because they had already been in the process of revising
10 their equivalent regulation for broad scope licensees, and
11 we made use of a lot of the work they had done. This
12 process has been discussed in the NMSS newsletter.

13 We feel we have had a lot of interactions with the
14 public, affected licensees, and the Agreement States in what
15 we are about to do.

16 CHAIRMAN JACKSON: If you could lay out one to
17 three major kinds of concerns that have come out of these
18 interactions, or comments or suggestions, what would they
19 be?

20 DR. PAPERIELLO: Can you address that, Don?
21 You've held most of the meetings.

22 MR. COOL: There have been a number of concerns
23 raised although not nearly as many as I would have expected
24 actually. Fundamentally, the comments we have been getting
25 back are, this is a very interesting process; we'd like to

1 see how it plays out; we would like to be more involved with
2 it.

3 That is part of the reason we have been able to
4 get what I think has been some very good participation of
5 individuals. There have been concerns about costs; there
6 have been concerns about their access to it.

7 Commissioner Rogers, you mentioned a minute ago
8 whether we are tied to particular software or not and trying
9 to move to an Internet base with its relatively standardized
10 kinds of file formats to allow other systems. There are in
11 the development process where you are using a particular
12 kind of group were certain circumstances like that.

13 There were some concerns raised about consistency
14 of approach, particularly as we start to consolidate these
15 and look once again at the measure of performance
16 orientation versus prescriptiveness: exactly what are you
17 going to ask for? How many things are you going to ask for?
18 Which things are you going to tie down?

19 There is a wide variation of views. Certainly
20 that variation of views also exists in our staff but becomes
21 yet more apparent when you are within the state program.
22 Some measures of tracking the traditional comment about what
23 becomes a matter of compatibility or adequacy within this
24 particular program. In other words, how far would they be
25 forced to play down this if they only had a very small

1 program. Certainly some of the Agreement States are small
2 and it perhaps doesn't make sense to take all of the bits
3 and pieces.

4 That is some flavor of some of the variety of
5 things coming from both the meetings themselves and from the
6 individual interactions we have had with individual state
7 folks who have participated on some of the teams.

8 COMMISSIONER DICUS: What about comments from the
9 public?

10 MR. COOL: The public in general has been very
11 favorably inclined at this point. We have received a lot of
12 good feedback from the public meeting which we had here in
13 the auditorium. Again, it was a measure of having access to
14 the materials, when those materials would come on line. A
15 lot of the comments were in the form of suggestions: Have
16 you thought about this kind of input being received? What
17 about faxes? What about the Internet? What about various
18 and sundry things?

19 My recollection is there were very few of the
20 "you're headed in entirely the wrong direction." Generally
21 very, very positive. A little more receptivity than in fact
22 I would have initially guessed in terms of people being
23 ready to move forward to use more electronic application
24 type modes and move in that direction.

25 DR. PAPERIELLO: Next slide.

1 [Slide.]

2 DR. PAPERIELLO: We have reviewed past
3 recommendations from the GAO, internal reviews and
4 congressional interactions. I find currently there has been
5 no deviation from those policies and practices explicitly
6 resulting from these reports. In fact, most of what has
7 occurred in the past three years has been to improve NMSS
8 adherence to the various recommendations.

9 It's fascinating. One of the things I got to read
10 is a 1976 GAO report, which I think has had a major
11 influence on the program before my time. I looked at the
12 recommendations:

13 Require license applicants to describe detailed
14 radiation safety programs. That's what we do now and we
15 have been doing it for quite sometime. Apparently back in
16 1976 we didn't do that; we relied primarily on the
17 qualifications of the applicant and not any detailed review
18 of the program.

19 Improving communications between the separate
20 licensing and inspection staffs. When we regionalized the
21 licensing process in 1985 we took a major step toward
22 putting the inspectors and the license reviewers in the same
23 place.

24 Improving management reviews of licensing actions
25 for uniformity and completeness. I think we made a major

1 step when we instituted the IMPEP program.

2 The Commission should encourage the 25 Agreement
3 States to effect similar improvements in their programs.
4 Well, in a sense IMPEP is now applied; we have uniform
5 evaluations in the regions and the Agreement States. So I
6 think there are a lot of the things we have done.

7 However, I would say that in implementing the
8 current program we have adopted the same intensive review
9 process for all license applications. Everybody gets the
10 same very, very hard, in-depth look. We review radiation
11 protection procedures, training programs, material security
12 programs, and the like to the same depths for all applicants
13 regardless of risk. Although the programs are not required
14 to be the same, we still apply them, we still dot the i's
15 and cross the t's on what is submitted.

16 As we in time move to a more graded approach based
17 on the intrinsic risk of what is being regulated, NMSS may
18 deviate from the existing practices. We will proceed
19 cautiously and I will be watching the inspection results and
20 the event reports closely as we make changes to detect
21 adverse outcomes. We are not going to rush into this. We
22 are going to be proceeding extremely slow and look for
23 events and inspection findings to tell us whether or not we
24 made a misstep.

25 One issue as we get into the electronic age with

1 electronic information transfer is accuracy of information:
2 How do you know what you received is truly from the person
3 you think sent it to you?

4 The BPR team has done very little in this area.
5 However, there is an agency effect that is currently
6 underway to validate electronic submittals with valid
7 electronic signatures since other offices within the agency
8 in addition to NMSS are interested in doing this. We are
9 going to basically tie our work to their work, because it is
10 an agency-wide effort.

11 Next slide.

12 [Slide.]

13 DR. PAPERIELLO: NMSS began this effort before
14 strategic assessment began. Many of the issues raised in
15 the strategic assessment papers are similar to issues that
16 BPR has been addressing.

17 I like to reflect that in 1998 there is greater
18 professionalism and infrastructure in the radiation
19 protection area and medical physics areas than in 1976 when
20 the GAO report was written. I think we need to ask the
21 question how we can make use of it.

22 We have an extensive risk history for many of the
23 common uses of nuclear material. This is based not on PRA
24 but on empirical data. I gave to Mr. Thompson earlier today
25 data for the last three and a half years by program code and

1 events where there was enforcement action taken based on
2 misadministrations, lost material, overexposure, spills and
3 releases. So we have a lot of good data that will identify
4 where the risks are in different programs.

5 I don't have an answer to this right now, but I
6 need to map this information onto our licensing activities:
7 How can I give licensees flexibility, reduce the burden on
8 the licensee and on myself in order to save us both
9 resources and yet protect health and safety?

10 I think that is a challenge we have. I don't have
11 the answers, but I do believe that we have adequate data out
12 there that identifies where risk is, the probability of
13 occurrence, roughly, and the consequences in particular of
14 the occurrence, and some of these similar questions that I
15 know have been raised within the context of strategic
16 assessment.

17 CHAIRMAN JACKSON: You say the data is there, but
18 have you worked out some coherent methodology or plan for
19 making use of that data in a systematic way?

20 DR. PAPERIELLO: Not yet. But will I? The answer
21 is yes.

22 MR. COOL: To be very frank with you, part of the
23 problem we face is that while we are confident that the data
24 is all available, it is not in one place, it is not easily
25 searchable, and it is not something that it is relatively

1 easy to go in and start doing those manipulations. A large
2 part of the effort to date has been to try to get to the
3 point where we thought we actually had our hands on a data
4 set that we could then proceed to attempt to do those
5 manipulations and applications.

6 Most of what we have got, in fact the things that
7 Carl provided to Mr. Thompson today, were in fact done by
8 hand as we tried to pull together the pieces. In order to
9 be able to apply that systematically and then work it back
10 into the system we need to actually have that in the system
11 where we can do something besides one to one to one to one
12 down the sheet of paper.

13 DR. PAPERIELLO: For example, I will go back to
14 portable gauges, because that is the one that we have just
15 written a draft NUREG on. We looked at the events. Gauges
16 don't leak. People don't get overexposures to gauges. What
17 happens is gauges get lost, gauges get stolen, and accidents
18 occur at construction sites. So we focused the document we
19 just wrote on what does the applicant do to address these
20 problems.

21 If I had a very flat procedure, I would put as
22 much emphasis on whether or not the workers were trained in
23 the effects of gamma radiation as I would on what do I do if
24 my device is run over at the site. What happens is
25 exposures are almost unmeasurable in routine uses. Having

1 the device getting run over at the site is the kind of thing
2 that actually happens, and that is what the data shows, and
3 the data shows when it happens the sources don't leak. So
4 the major problem is making sure that somebody who knows
5 what they are doing goes out and retrieves the source. So
6 focus the review and what you want on what the problems are
7 and what the empirical data shows.

8 Could I have the next slide?

9 [Slide.]

10 DR. PAPERIELLO: Future activities. Where are we
11 going?

12 One, we have to be cognizant and we are cognizant
13 of strategic assessment. This effort began before a
14 strategic assessment began. I recognize that many issues
15 raised are similar to what we have been struggling with.
16 You are going to be making decisions concurrent with this
17 effort, and I need to be sensitive to your decisions and to
18 be flexible, which I certainly will be, and I think I have
19 the tools to do that.

20 We will be making a midcourse correction, as
21 previously noted. I find that I need to become more
22 cognizant of efforts by IRM and NRR which in the information
23 technology area may offer the potential for consolidation
24 and savings. Some of the things I'm trying to do I've only
25 become aware of in the past month that both IRM and NRR are

1 doing things where there is overlap, and we are coordinating
2 with them so where the information technology overlaps we
3 don't have two systems; we only have one.

4 I want to continue automation or computer assisted
5 review, not only because of speedup benefits, but because of
6 the collateral advantages of ensuring consistency among
7 reviewers in different regions, QA checks, and the
8 documentation of decision basis. I also think it has
9 advantages in other program areas that I have where these
10 collateral advantages are useful.

11 I kind of think I've been a nag in the system in
12 the area of training. Whenever anybody talks about building
13 a new system, I keep raising, where is the training coming
14 from? There are things we are learning here. Hardware is
15 easy to buy and relatively cheap because most computers and
16 associated equipment are similar. Software is much harder
17 to select because there is a greater diversity.

18 We have made extensive use of contractors for
19 advice in this area. However, the staff has to be able to
20 use the systems. Even more important, we, and I mean
21 managers like myself, need to understand how these systems
22 can help us do our job better. This involves training.

23 The computers and the software in the BPR center
24 cost roughly \$400,000. That's a lot of money. I did this
25 calculation last night. It struck me that at \$100,000 an

1 FTE, that's equivalent to four FTE. If I give half my staff
2 one week of computer training, I've expended four FTE. My
3 experience is if I spend a week in training on a new
4 software package, that barely gets me started. But if you
5 don't train people, they can't use it.

6 I have two major areas. Besides information
7 technology I have the advanced computer system for
8 technical, and I've done work there to have people's
9 training upgraded, but it is a long, painful process.
10 Personally, myself, I just spend a lot of my own time at
11 home working with software packages to learn how to use
12 them.

13 I don't have an answer to that question, but in my
14 performance reviews and my SCS staff and our first-line
15 supervisors I'm putting much more emphasis on looking at
16 staff training and particularly in the computer area for
17 both technical and information technology. I'm not
18 convinced I really know how to use all this stuff. I don't
19 mean just to make the commands, but how I can do my job
20 using information technology. So I see that as a major
21 challenge that I have learned out of all this. I am going
22 to do everything I can to keep myself more informed.

23 One last area. Somehow I lost a slide in the
24 package and you got a handout: Where Are We? We are behind.
25 I don't want to hide the fact. I am about six months from

1 where I thought I wanted to be.

2 I don't know all the reasons. Some things became
3 harder to do than we expected. We took some wrong turns, I
4 think, but I think we are back on track. I think we are
5 going in the right direction. We are doing things that have
6 to be done. As long as we have our current program, we have
7 got to have a sound licensing basis for what we do. We need
8 consistency. We need to know why licensees are doing what
9 they are doing.

10 CHAIRMAN JACKSON: Mr. Thompson, did you have a
11 comment?

12 MR. THOMPSON: I was going to say the observation
13 and the lessons learned concerning management and their
14 ability to be aware of the computer infrastructure and how
15 to understand and effectively utilize that is a clear focus
16 that we are putting on the staff, and in fact I know the CIO
17 will be further enhancing that area for attention.

18 In fact, kind of like the business process
19 evaluation, the business payoff, you heard we spent some
20 considerable sums of staff money and resources to do this.
21 Understanding the payoff, those are the types of things.
22 There is a more comprehensive way to do that, and obviously
23 we will be doing those types of reviews in the future.

24 The intuitive aspect that I think NMSS started out
25 on this was clearly recognizing at the end there were going

1 to be significantly less resources to do almost the same
2 amount of work. The payoff is going to be there, we
3 believe, but we haven't done that kind of systematic
4 analysis that would show that. Getting back on track and
5 back on schedule is important to be able to achieve the end
6 results in an appropriate period of time. It doesn't apply
7 just to NMSS; it's all of the staff, quite frankly, to be
8 able to effectively utilize the information technology
9 resources that we have available to us.

10 CHAIRMAN JACKSON: Carl, what I always like about
11 you is you are always straightforward.

12 My comment, and then I will give my colleagues a
13 chance to have any questions or comments they would like.

14 I think a real lesson learned is the following.
15 Many organizations set out along a line having to do with
16 using information technology to streamline whatever or to
17 help capture and use data. So there is a focus on what
18 hardware is available, what software is available, whether
19 it is off the shelf or customized.

20 But the real thing you have to understand is what
21 your information needs are and how information flows and is
22 used in an organization or in a process and what
23 streamlining or improvements in your processes, in this case
24 licensing, you want to accomplish. Then those two have to
25 be married and understood, and it is really then and only

1 then that you actually have a basis on which to begin to
2 talk about technology choices, be they hardware or software.

3 This is not a criticism per se, because it is a
4 lessons learned. I've seen it in other organizations. They
5 start off on a path that is very hardware and software
6 driven. The hard part, and perhaps where one needs help, is
7 really in evaluating what improvement do I really want to
8 make in how I do things in a certain area. What are the
9 appropriate metrics to use in evaluating whether one is
10 making an improvement? How does information flow and how is
11 it handled and used by people? And then, how does hardware
12 and software help me accomplish that?

13 I agree with Mr. Thompson that that is what the
14 new law, the ITRMA, is oriented to, and the CIO, because I
15 think more broadly that will help you as you move along this
16 path. You mentioned, for instance, you are just now
17 becoming cognizant of activities in IRM and NRR in the
18 information technology area. You are looking at one piece
19 of your particular area of responsibility, but we have lots
20 of opportunities more broadly, and as you say, we may be
21 missing opportunities for efficiency, if nothing else.

22 Those are my general comments, but I did have one
23 question.

24 You mentioned training, and training is tied into
25 all of this. It's at a much more sophisticated level in a

1 certain sense. I noted in your paper you talked about that.
2 The one thing I didn't see much, maybe because there is no
3 need or you don't perceive the need, is whether there is
4 anything in the technical area in terms of issues such as
5 criticality and understanding sensitivities in that area
6 particularly as you talk about going to a more risk graded
7 approach at an appropriate point down the line. I am saying
8 your discussion in your paper of training does not reference
9 the integration.

10 DR. PAPERIELLO: With risk.

11 CHAIRMAN JACKSON: Well, just the technical and
12 safety considerations in this.

13 DR. PAPERIELLO: It didn't.

14 CHAIRMAN JACKSON: What are your plans in that
15 regard?

16 DR. PAPERIELLO: I can't say I have any right now.
17 I know it needs to be done, but my thinking hasn't gone that
18 far yet.

19 MR. THOMPSON: You are talking about the training
20 of the staff. We obviously have our training advisory group
21 where we look at the training needed for the reviewers and
22 licensing and we work with AEOD on the training programs
23 associated with that. I think that was somewhat separate
24 from the training of how to utilize and implement the
25 system.

1 CHAIRMAN JACKSON: I'm talking more in terms of
2 getting to this risk graded approach to looking at
3 licensing, et cetera.

4 MS. RATHBUN: The only thing that we did was we
5 got the Merit people, Conger and Elsie, and they came in in
6 kind of a workshop setting and they began to look at how we
7 would walk down that path. The problem is that is a
8 reactor-based PRA type analysis tool. So we have to do
9 modification of that. When we did the training we didn't
10 focus on that yet except for them. That's all we did in
11 that area.

12 CHAIRMAN JACKSON: Commissioner Rogers.

13 COMMISSIONER ROGERS: I thought this was an
14 excellent briefing and very interesting. I think some of
15 the points that the Chairman has raised during the course of
16 the meeting in her comments bear emphasis. The caution that
17 the Commission sort of gave you on doing this as a pilot
18 program I think sort of came from our own past experience in
19 other context where you can get eaten up by the system if
20 you try to take too big a bite out of it and it bites back.

21 It is so easy to be too ambitious, to have a grand
22 approach that would just be absolutely wonderful, and then
23 you just can't quite ever bring it off. A pilot project
24 which produces some small but useful results as a start to
25 get a feeling about where the problems are is so vitally

1 important that you just can't plan one of these big things
2 on the drawing board and then have it fly. It's just not
3 going to. It will crash. It's guaranteed.

4 So pilots are very important, and I think you have
5 learned that to some extent here. But to some extent it
6 gets out of your control. When you choose to start on
7 something and you start pulling on the thread, a lot of yarn
8 starts coming, and how do you cut that off before you become
9 engulfed in it? I think you have sort of touched on that
10 problem that you ran into here to some extent.

11 I think you are going through a classical learning
12 experience in this. It's not brand new.

13 DR. PAPERIELLO: It's somewhat even bigger than
14 that, and it has been touched on in one of the strategic
15 assessment papers that deals with self-directed teams.
16 There are a number of team members here, and this is
17 something I've been very sensitive to. We got into this
18 because the self-directed team took off. I don't want to
19 criticize the team, because they work very hard, but they
20 were allowed to go down a path and they did, and that's how
21 we got to MEL. They showed me the concept. I kind of
22 bought on to it.

23 You're right about the pilot. In other words, it
24 was just too big of a bite, but I think it's a lesson. I
25 believe the self-directed teams is something we need to work

1 on and practice on how you get the control.

2 COMMISSIONER ROGERS: I was going to ask about
3 that.

4 DR. PAPERIELLO: It is kind of a lessons learned,
5 and I don't want to criticize the team. I know they are
6 here. They are very well motivated and all of that, but
7 what we got is what we got.

8 MS. RATHBUN: One of the really major, major
9 issues was that we could not do this traditional BPR. Had
10 we been able to develop the management systems, the
11 organization structure, implement the values, implement the
12 change, there wouldn't have been a problem. But you have to
13 make choices. So we had to put the people on writing the
14 guidance.

15 What we found out the hard way is that if you
16 don't have these systems in place, I don't care how smart
17 your team, and they were, and how well motivated and they
18 work hour after hour, if you don't have an infrastructure
19 and, if you will, a sociology of work in place, it will not
20 work. It's just as simple as that.

21 We have begun. We brought in all the regional
22 division directors and, working with our contractors, who
23 are BPR experts, we are now in a detailed fashion working
24 each and every one of those problems. I believe that we
25 will be able to then analyze exactly where the problems are

1 and propose the type of management structure for the
2 regulatory product development center so that in fact we
3 will be able to function as self-managed teams in the
4 future. I think that is what happened.

5 COMMISSIONER ROGERS: It's a pitfall that is there
6 when you begin.

7 Have you tried to look for any efforts outside of
8 NRC that would provide you with some benchmarks to compare
9 your own experience with?

10 DR. PAPERIELLO: When we went outside of the NRC
11 many of the concepts that we were trying to implement,
12 self-directed teams, virtual teams, the regulatory products,
13 were all things that we found outside. I think we are going
14 to have to go back to take a harder look at management.

15 I take responsibility for the fact that this thing
16 sort of took off and blew up on me. I want to be careful in
17 the words. The people wrote and produced a whole lot of
18 material. It was too much material in a sense and was not
19 focused on what we were trying to do.

20 MR. COOL: If I can elaborate just a little bit
21 more on that. As Pat Rathbun mentioned a minute ago, we
22 spent two days last week, myself, my regional division
23 directors who were directly involved in this project,
24 working as a group ourselves to look at the management of
25 how you would develop these products. We were assisted by

1 the contractor and were able to use some of their knowledge
2 background of working in other reorganization, reengineering
3 type efforts, and particularly the experiences they have
4 gained in the operation of teams.

5 That experience base is mostly in the public
6 sector of developing proposals and those types of documents
7 rather than perhaps a development of a guidance type of
8 document for use by others. We have not at this point had
9 any significant formal effort to go try to look for what
10 often gets referred to as best practices of other groups
11 that may be trying to develop this particular type of
12 document.

13 So the answer is a little bit yes in the sense of
14 how teams have worked, what kind of metrics have proven
15 effective for teams, what kind of management buy-in and goal
16 setting and ownership of the process is needed from myself
17 and from all the regions in order to carry this out, an
18 opportunity to lessons learn that particular issue.

19 MS. RATHBUN: I would like to add one more thing
20 to what Don said. There is a literature, and in the sort of
21 dark and lonely nights in the BPR center frequently we begin
22 to look at them. What we found is that the things that we
23 have experienced in BPR, the energized team, the depressed
24 team, racing to do an IT module, is it the right one, these
25 types of things beset all BPRs. What we talked about is it

1 is okay to fall down in the road, but you can't just lay
2 there. You have to get up and keep moving.

3 I think what we have experienced is fairly common
4 in BPRs, but again, we have another dimension that needs to
5 come out here. We are a health and safety agency. When
6 this team is writing guidance and doing things, this is
7 because people live or die by what we do. We are not
8 reengineering giving of dog licenses. We are reengineering
9 a health and safety situation. So that puts an enormous
10 burden on every word they say. So it's very complex.

11 CHAIRMAN JACKSON: Commissioner Dicus.

12 COMMISSIONER DICUS: Nothing further, thank you.

13 CHAIRMAN JACKSON: Again, the Commission would
14 like to thank the staff for an excellent and straightforward
15 briefing. You should continue your efforts to bring into
16 effect this business process redesign as soon as it's
17 practicable.

18 I still believe, as I stated in my opening
19 remarks, that it holds the potential for increasing the
20 effectiveness and at the same time the efficiency of the
21 materials program beginning in this area.

22 I think you have already stepped back and you are
23 reviewing your lessons learned, but it strikes me that,
24 interestingly enough, a lot of the areas where you do have
25 the lessons learned relate to areas where the Commission in

1 the previous SRM issued caveats. What I would suggest that
2 you do is that minimally you go back and look at that
3 previous SRM in terms of what it asks you to do, and that
4 you fold it into how you incorporate your lessons learned
5 and what you plan to do. Because I think that in addressing
6 what was in there in a systematic way you will be going a
7 long way to addressing some of the kinds of issues that you
8 have talked about.

9 I think you also need to come back, because in
10 your current paper you didn't really talk a lot about
11 schedule other than what you mentioned to me about having
12 this pilot go into effect in February. You need to come
13 back within a short time, by the end of the summer with a
14 revised schedule that includes milestones, what your goals
15 are, what you intend to get out of training and all of the
16 different types of training, and what this pilot itself is
17 meant to accomplish, what your envisioned scope of it is,
18 the metrics and what it will tell you about the
19 appropriateness of the information technology choices.

20 I think you need to go back, and that is also in
21 the previous SRM, to the issue of interaction with Agreement
22 States, but beyond just meeting with them, to talk about how
23 this gets used or integrated into your interactions with
24 them, whether you are talking technology transfer in some
25 sense or their being able to use what you develop, how it is

1 going to impact, but basically systematically addressing
2 what is in the previous SRM.

3 I think I am going to have you come back and brief
4 the Commission on the program status and progress certainly
5 within the year, but perhaps before then, probably within
6 six months, to understand how the initial trial of the pilot
7 is going. I am going to be interacting with you directly.
8 I think we have to move this along, because we have to be
9 sure that with the advent of the CIO that all of these
10 things get appropriately tied together.

11 Unless there are further comments or questions, we
12 are adjourned.

13 [Whereupon, at 11:30 a.m., the briefing was
14 adjourned.]

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CERTIFICATE

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

TITLE OF MEETING: BRIEFING ON BPR PROJECT ON REDESIGNED
MATERIAL LICENSING PROCESS - PUBLIC
MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Wednesday, July 3, 1996

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

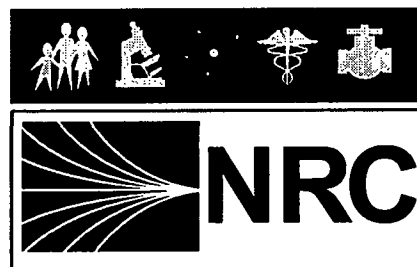
Transcriber: Michael Paulus

Reporter: Michael Paulus

Coordination with NRR Reactor Project System (RPS)

- **NMSS & NRR systems share:**
 - **Guiding Principles**
 - **Development Environment**
 - **Standards**
- **Next Steps**
 - **Additional NMSS/NRR Coordination Meeting planned**
 - **Detailed Examination of Module Interface**

NMSS Materials Licensing Business Process Redesign Project



**Commission Briefing
by**

Carl J. Paperiello

July 3, 1996

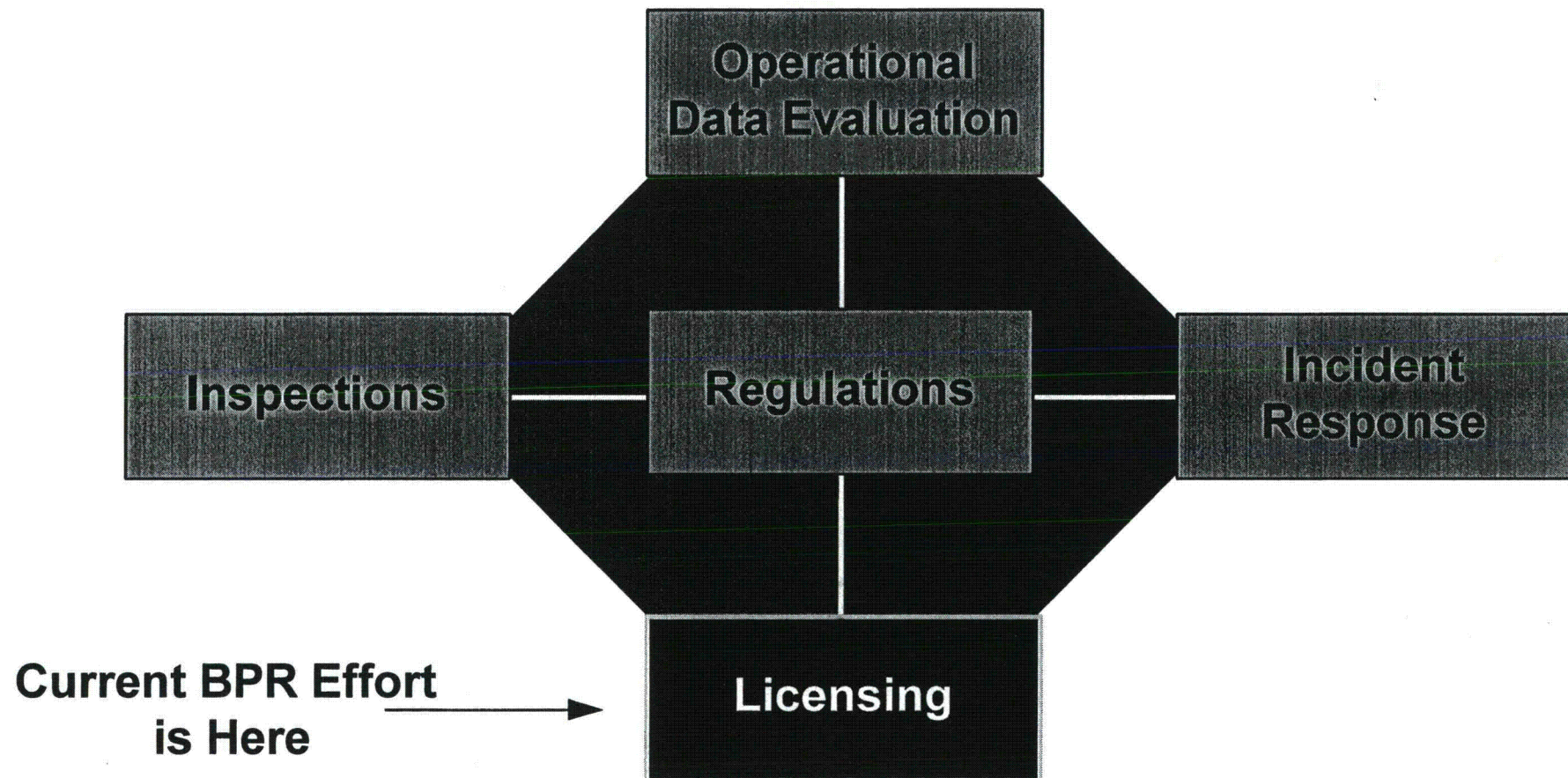
Presentation Outline

- **Overview**
- **License Extension and Other Licensing Initiatives**
- **Implementing the New Process**
- **Streamlining**
- **The BPR Lab**
- **External Involvement and Communications**
- **Remaining Issues**
- **Where we are on the journey**
- **Strategic Assessment and the BPR Context**
- **Future Activities**

Overview - Reasons for BPR

- **Large Licensing Backlog**
- **License Renewal Resources**
- **Inadequate Licensing Guidance**
- **Need to Reduce Resources**

Overview - Relationship of Materials Licensing BPR to Other Key NRC Areas

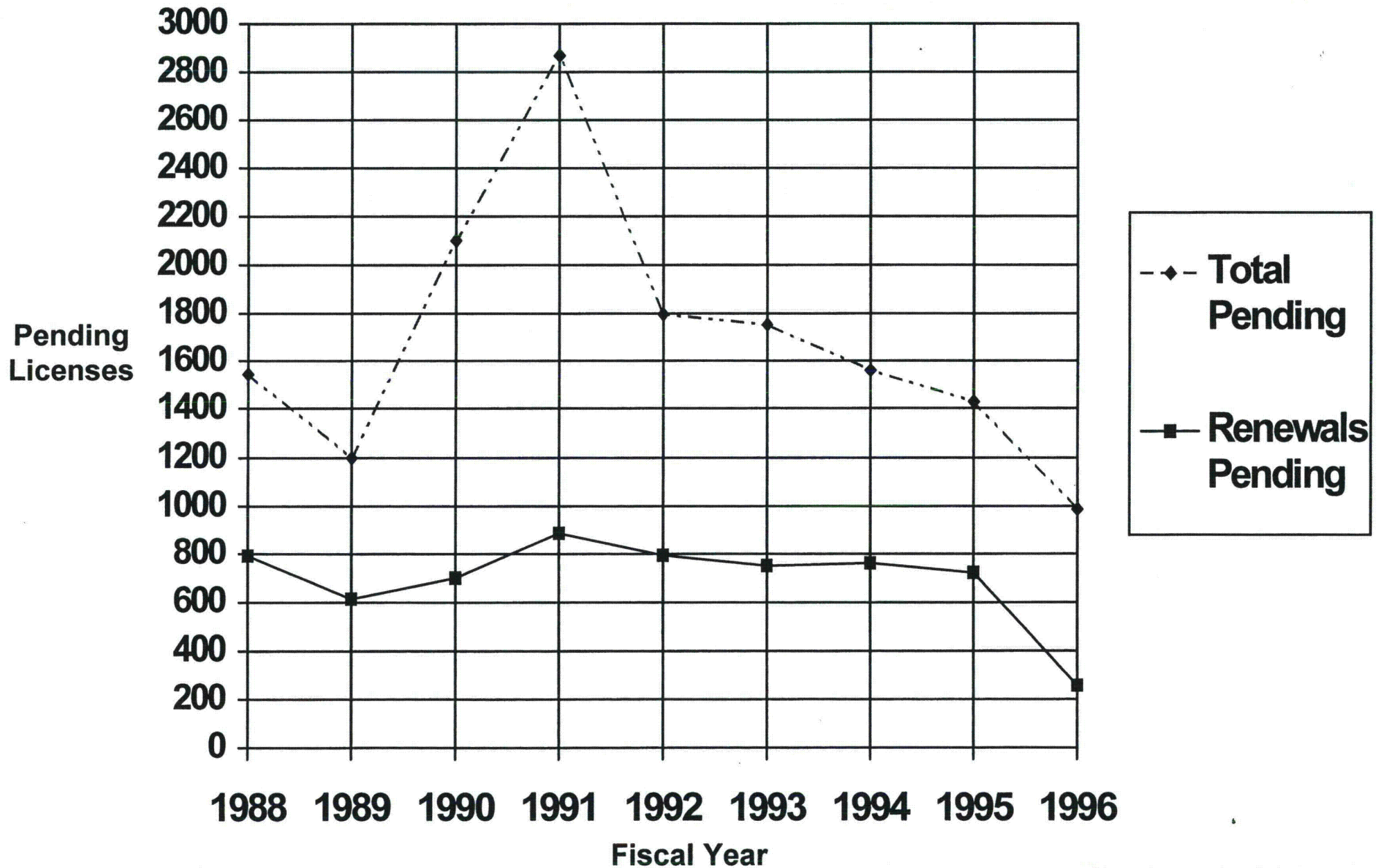


License Extension and Other Licensing Initiatives

On one-time basis, extend qualified materials licenses by 5 years

- **Proposed rule published for comment:
September 8, 1995 (60 FR 46784)**
- **Final rule published: January 19, 1996
(61 FR 1109)**
- **Effective date: February 15, 1996**
- **5,655 of NRC's 6300 eligible materials
licenses extended**

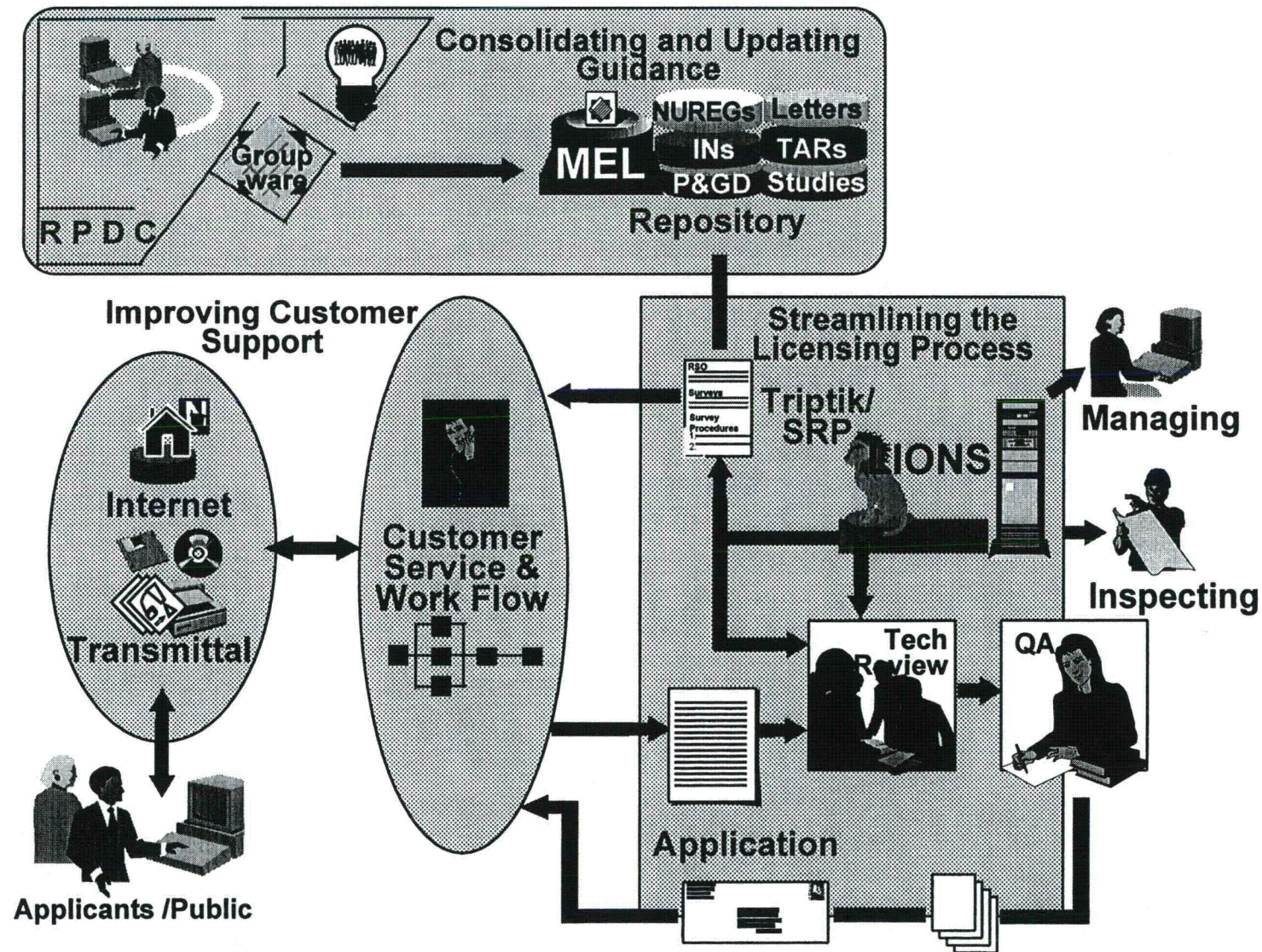
License Extension and Other Licensing Initiatives



License Extension and Other Licensing Initiatives

- **Effects on Backlog/Pending**
 - **70% reduction in number of pending licensing renewal actions**
- **Efforts to Reduce Backlog**
 - **Regions focusing on 5 oldest cases**
- **Other Initiatives**
 - **License Duration Policy: Commission Paper in preparation to propose new policy**
 - **10 CFR 50.59 Equivalent: Subsumed into 10 CFR Part 33 rulemaking**

Implementing The New Process

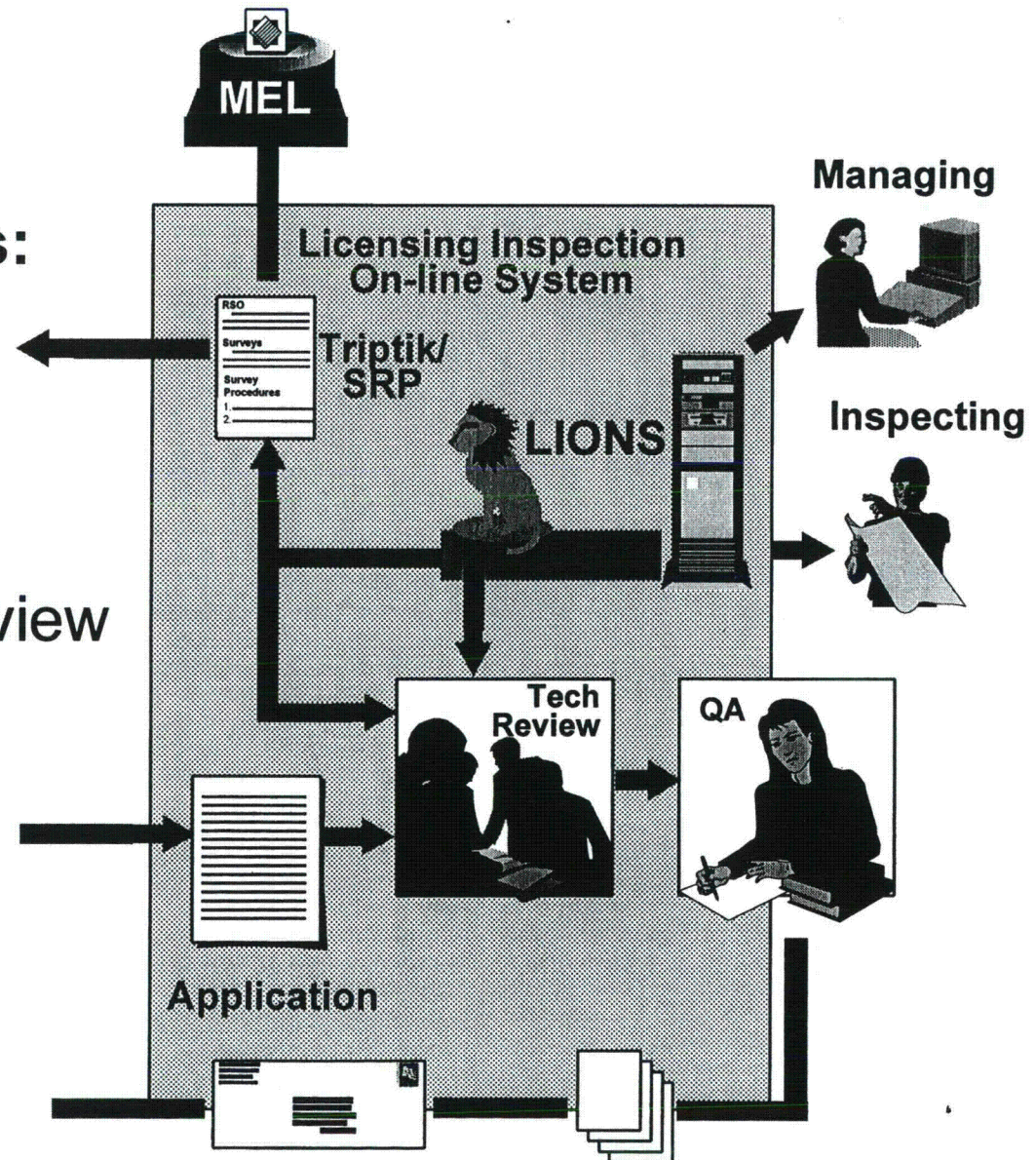


Streamlining the Licensing Process

LIONS - Licensing Inspection On-line System

The five LIONS Programs:

- Application Entry
- Application Review
- LTS Reporting
- Computer Assisted Review
- Inspections



Streamlining - Software Demonstration Video

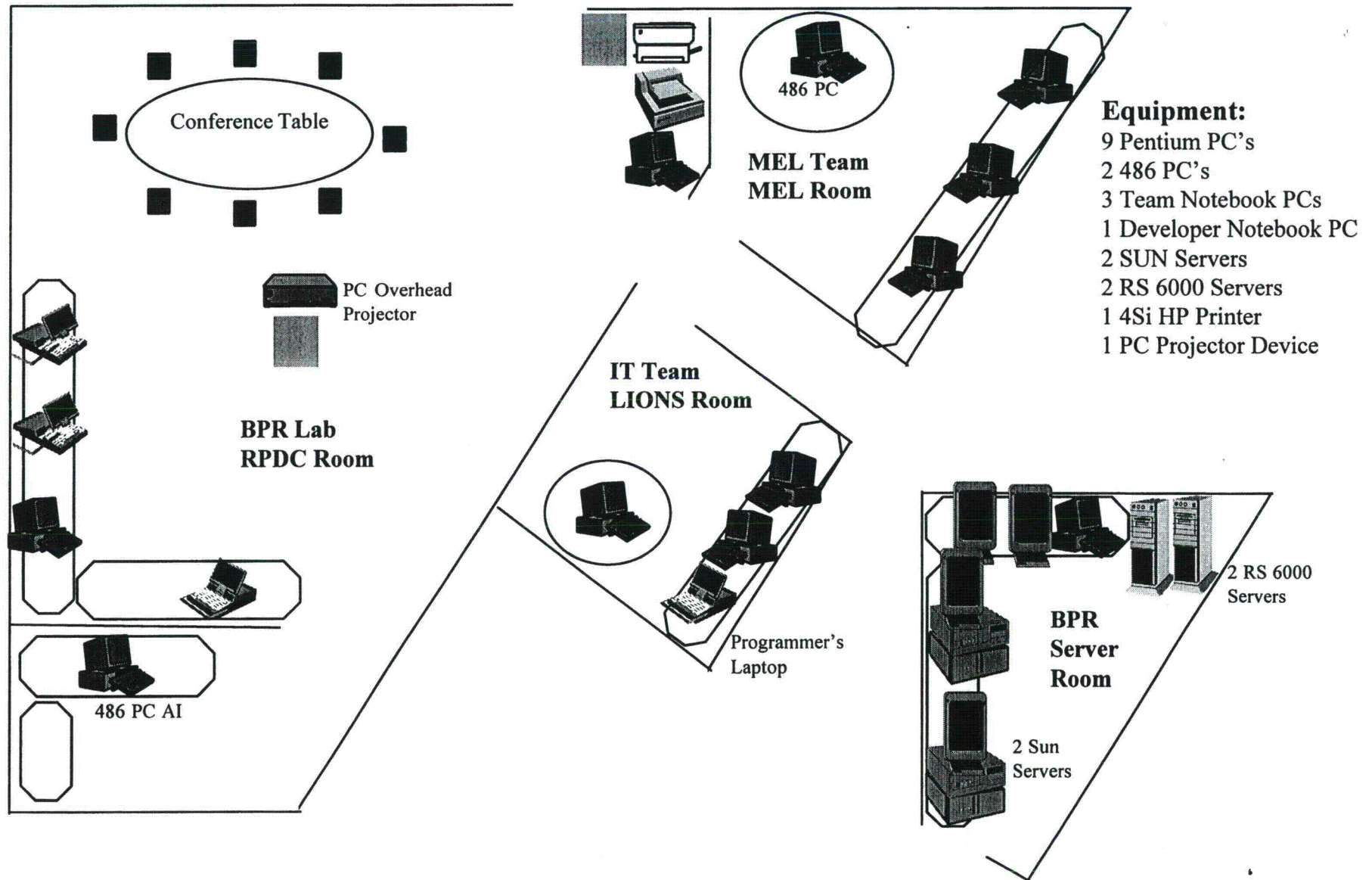
- Demonstrates what would be seen by users of a prototype software tool for the preparation & review of license applications.
- The specific functions and features are still under development and testing. The content of the license application is for demonstration purposes only.

Streamlining Fees

Separate payment of fees from the process of issuing a license and continue to streamline the fee structure for materials licensees:

- FY 1995, annual fees for materials licensees include inspection costs.**
- FY 1996, annual fees for materials licensees include renewal costs; annual fee due on anniversary date of license.**
- The staff is continuing to explore ways to streamline fees and to ensure that fee payment is not a critical path item in the new licensing process.**

The BPR Lab



- **Agreement States**
 - **NRC visits to UT, TX, IL**
 - **NC, IL participation in BPR teams**
 - **MD participation in public workshop**
 - **IL comments on proposed license extension rule**
 - **Input via meetings, NUREGs**
- **Licensees and Public**
 - **Comments on proposed license extension rule**
 - **April 1996 public workshop, NUREGs**
 - **NMSS Licensee Newsletter**

- **GAO, Congressional, internal reviews**
- **Graded approach to licensing, safety implications - risk informed; performance based**
- **Accuracy of information**

Strategic Assessment and the BPR Context

- **Science of Radiation Protection
Changing - Greater Professionalism
and Infrastructure**
- **Shift in NRC approach to allow greater
regulatory flexibility**
- **Emphasis on risk significance in the
regulatory approach**

- **Strategic Assessment**
- **Midcourse Adjustment**
- **Continue Automation**
- **Greater Emphasis on Information Technology Training**

Program Coordination

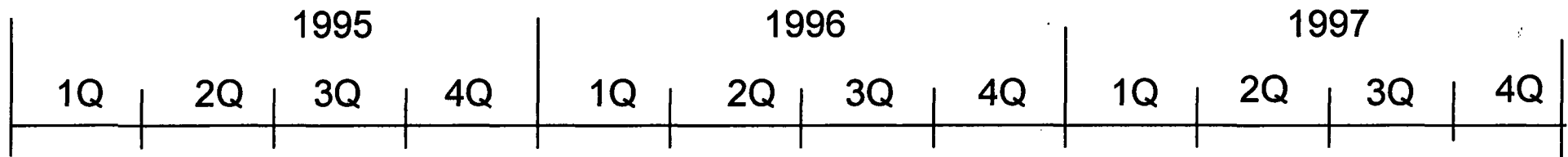
- **Steering and Executive Committee Oversight**
- **Coordination with NMSS and NRC wide labor - management partnership**
- **Regional Participation in all team activities**

One Time and Recurring Costs

Costs	One Time, \$K	Recurring, Annual, \$K
Technical Infrastructure	460	200
Application Development	1834	140
Transition	435	75
Capital Infrastructure	100	50
Total	2829*	465

*Inception of the Project (September 1994) to date 2000K

Combined Timelines



BPR Phase II Activities

Develop Interim Licensing Manual

Develop Single Licensing Manual

10 Year Licensing

One-time License Extension

Complete TAR Database Prototype

BPR Inspection and SSD

Where We Are on the Journey

