# UNITED STATES OF AMERICA

# NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON REACTOR INSPECTION PROGRAM - PUBLIC MEETING

Location: Rockville, Maryland

Date: Wednesday, July 26, 1995

Pages: 1 - 52

ANN RILEY & ASSOCIATES, LTD.
1250 I St., N.W., Suite 300
Washington, D.C. 20005
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ORIGINAL

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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6 BRIEFING ON REACTOR INSPECTION PROGRAM

7 PUBLIC MEETING

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10 Nuclear Regulatory Commission

11 One White Flint North

12 Rockville, Maryland

13

14 Wednesday, July 26, 1995

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16 The Commission met in open session, pursuant to

17 notice, at 2:00 p.m., Shirley A. Jackson, Chairman,

18 presiding.

19 COMMISSIONERS PRESENT:

20 SHIRLEY A. JACKSON, Chairman of the Commission

21 KENNETH C. ROGERS, Commissioner

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1 STAFF SEATED AT THE COMMISSION TABLE:

2 JOHN C. HOYLE, Secretary of the Commission

3 KAREN D. CYR, General Counsel

4 PRESENTERS:

5 JAMES TAYLOR, AEOD

6 WILLIAM RUSSELL, NRR

7 FRANK GILLESPIE, NRR

8 WILLIAM BORCHARDT, NRR

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

2 [2:00 p.m.]

3 CHAIRMAN JACKSON: Good afternoon, ladies and
4 gentlemen. It seems that I have seen some of you before.
5 I am pleased to have the Staff here this afternoon
6 to brief the Commission on the status of the Operating Power
7 Reactors Inspection Program.
8 The Reactor Inspection Program is a very important
9 part of what we do to ensure that nuclear powerplants are
10 operated safely. I believe that the Staff's initiatives to
11 improve the Reactors Inspection Program can result in more
12 effective use of NRC resources and, more importantly,
13 improving the oversight of power reactors by providing an
14 integrated evaluation of a licensee performance.
15 In fact, I note that the proposed initiatives to
16 improvement in our Inspection Program, in fact, focussed on
17 three key areas, performance-based inspection, integrated
18 assessments, and improved use of risk insights, all of which
19 I feel are critical in having a truly effective Inspection
20 Program. These are especially important to us as we move to
21 fully implementation of the Maintenance Rule which was
22 discussed this morning.
23 I will be especially interested in any insights
24 you have with regard to how these proposed changes will
25 impact or be impacted by the Maintenance Rule.

1 I understand that copies of the viewgraphs are
2 available at entrances to the room, and I would like to
3 begin by asking, Commissioner Rogers, if you have any
4 opening comments.
5 COMMISSIONER ROGERS: No, thank you.
6 CHAIRMAN JACKSON: If not, why don't you proceed.
7 MR. TAYLOR: Good afternoon. With me at the table
8 from NRR are Bill Russell, Frank Gillespie, and Bill
9 Borchardt.
10 Chairman, you have covered a number of the points
11 that the Staff will be making this afternoon, and rather
12 than add to that, I will ask Frank Gillespie to continue
13 with the briefing.
14 MR. GILLESPIE: I would like to start off with the
15 reason for this briefing. It was that in February, we had
16 anticipated a new Commission, and we wanted to be right up
17 here early explaining where we have come from and where we
18 hope to go, particularly in light of, I will say, some of
19 the past visibility we have gotten in the Inspection Program
20 with reports like the Towers-Perrin report, what we call the
21 NEI Gap report, most recently the regulatory impact surveys,
22 and the public citizens report which caused us to do an
23 INPO-NRC comparison.
24 In fact, each one of these reports contributed to
25 some insights into some of the corrections that we are

1 always trying to evolve the program into.

2 The first slide, I am not going to go over in

3 detail, but I think it is good in starting from the general

4 to the specific to cover what the objectives of the

5 Inspection Program are.

6 It is our primary source for information, although

7 not our only source for information, on the operation of

8 facilities. We have LERs, licensing interfaces,

9 submissions, but in the end, LERs get followed up by

10 inspectors, and that gets inspection reports and fits into

11 performance. Part 21 reports get followed up in inspection,

12 and significant changes in the plant get followed up in

13 inspection. So, being in the Inspection Program, I have a

14 prejudice that the Inspection Program is the leading source

15 of information because everything eventually gets put into

16 that context, and that is the key to integration, then,

17 starting with the Inspection Program.

18 We are trying to ensure that licensee systems and

19 their processes for ensuring the controlling of safe

20 operation of facilities are working. I think that is

21 important we always keep in mind that we are not responsible

22 for the plant's operation. The operator is responsible for

23 the plant's operation.

24 In the past, that has been highlighted to us that

25 we maybe stepped over that line. Towers-Perrin, for

1 example, brought out that point. So we do try to be very
2 careful with that.
3 Finding and resolving plant-specific safety
4 problems, I do have to say that we are always striving
5 within the program to lower the threshold of when we see
6 something happening, if you would, or when we see trends or
7 see occurrences that systematically could be folded up. So
8 part of our improvements I am going to be going over are, in
9 fact, key towards trying to increase the sensitivity by
10 integrating information at the earliest possible stage of
11 the Inspection Program, so that the improvements we have
12 gained in the program, the mid 1985 and 1988 time frame,
13 when occurrences were happening at nuclear proposals were
14 self-revealing. Now we are trying to get in ahead of that.
15 What I mean by self-revealing is sleeping
16 operators at a powerplant, the Davis-Bessy kind of
17 occurrences. We are trying to get ahead of that, and I
18 think the program in the last eight years has been
19 reasonably successful and, in fact, getting ahead of those
20 things. This might be evidenced by the problem plant list
21 itself and the fewer number of plants today that are on it.
22 The next graph is not a plea for more resources.
23 It is a demonstration that is combined with the next graph
24 that says one of the primary, I will say, criticisms of the
25 NRC is the industry is generically getting better, and we

1 are not recognizing that.

2 Well, the fact is the industry is generally

3 getting better. Our resources have generically been going

4 down, but we have tried very hard in this area of decreasing

5 resources, to go to the next page, and that is to keep our

6 sample size constant, and now I am getting directly into the

7 Inspection Program itself.

8 With Jim Taylor's, I am not sure of the haranguing

9 criticism or support, but I think I have been very much

10 supported in keeping on a per-unit basis the amount of what

11 I will call direction inspection effort, or eyeball time,

12 very constant.

13 This is a direct measure of the sampling ability

14 we have in auditing and reviewing at the plants. So, even

15 as our generic resources have gone down, we have, in fact,

16 tried to maintain this at a very constant rate at about

17 2,800 hours of direct eyeball time on a per-unit basis.

18 Now, given that, it is within this that we are

19 trying to do a better job, and going to the next page, how

20 have we done that, and as just some historic background, how

21 have we maintained that level as we have been going down,

22 because there has been congressional interest in the past

23 from one committee who would ask us, you are reducing

24 inspection and inspection is going down, and another

25 committee may possibly say why aren't you doing less, and in

1 fact, overall, we were going down, but we were doing just as
2 much inspection.
3 So the utilities are not seeing less of us. The
4 operating plants are actually seeing the same amount
5 relative to inspection.
6 What has happened? Over the course of the last
7 eight years, we have five fewer operating plants. That is a
8 reduced workload. That accounts for some of the decrease.
9 The FTE impact in the future of the elimination of
10 Watts Bar as a construction site, which if you note on that,
11 you will see that the hours are up a little projected for
12 1995, that is because Watts Bar is going through hot
13 functional testing. What we do on a plant that is in the
14 phase of getting an OL is they basically get double-counted
15 resource-wise to ensure we have enough resources to cover
16 the hot functional testing phase, which is very
17 manpower-intensive as the plant is going to OL.
18 Once they get an OL, then they will revert back to
19 a normal operating plant allocation.
20 There is a peak in the first graph, this little
21 lump in there, from about '89 to '90, and I always have to
22 explain that lump because it is kind of an aberration. That
23 is a combination of two things. We had a 30-person-a-year
24 intern program at that time that we built up to, so that we
25 had a program and a 2-year program of actually 60 people,

1 new graduates in training at all time with about 30 people a
2 year, which as you start to decline, you don't need that
3 many coming in. So we have reduced the program
4 significantly.
5 That represents the buildup generically of
6 advanced reactors, and you can see the tapering off now that
7 we are finishing the ABWR and the System 80. So there is a
8 reason for the shape of the curve, and I think we generally
9 understand it.
10 Other offsetting things were in 1989, we started
11 our first phase of a three-year implementation of N plus 1,
12 and we implemented it about a third of a time.
13 Well, the first third actually was very easy
14 because the bottom third performing plants in the country at
15 the regional administrator's own discretion already had N
16 plus 1 or more.
17 The second year is when we really saw the impact
18 in 1990, and in 1991 was the final impact.
19 Now offsetting that, we have about 11 plants which
20 right now have N plus 1 exceptions. So the 11 top
21 performing plants that have been picked are in the exception
22 process and now do not have an N plus 1.
23 MR. RUSSELL: Excuse me. That only applies to two
24 unit sites. We do not reduce to less than two inspectors at
25 single-unit sites.

1 MR. GILLESPIE: Yes. It is only multi-unit sites.
2 I'm sorry.
3 MR. RUSSELL: So it is the top 11 performing 2
4 unit sites.
5 MR. GILLESPIE: What we will see in the future
6 that is going to impact the program, and then I will get
7 into the changes we are proposing, is in the future
8 environment, we do expect that the industry will maintain
9 its current recently high level of performance, as our
10 performance indicators, et cetera, would point out. Over 10
11 years, the scram levels have gone down from, like, 6 to 7 a
12 year down to a .8 a year.
13 We do believe that what we are seeing is rates of
14 change in licensee performance will continue to be slow.
15 What I mean by that is rates of change either improving or
16 decreasing. So that, the experience on the poor performing
17 plants is it takes anywhere from three to four senior
18 management cycles before everyone feels comfortable. It
19 says the changes have taken place; that whatever needs to be
20 changed has changed. There is, in fact, positive evidence
21 that the facility's operation has improved.
22 Similarly, with very good performing plants, they
23 tend to have good procedures in place, people who have
24 things under control, good training programs, and you
25 generally do not see a drastic incremental change in their

1 performance. You try to pick up the indicators of change,
2 increasing maintenance, backlog, increased number of
3 personnel errors, increased numbers of manual scrams versus
4 automatic scrams. Automatic scrams show up in the PIs, but
5 in some instances, they see it as a problem. They manually
6 scram the plant. Well, that gets picked up in the
7 Inspection Program, and those tend to be the kinds of things
8 that are leading indicators that you are starting to get a
9 slip because something caused you to have to scram, and that
10 generally is a maintenance problem or something else.
11 Licensees are expected to make increased use of
12 self-assessment to identify problems. I think we are very
13 much as an agency supportive of this in trying to proceed
14 down that path, but you have to proceed, I think, very
15 cautiously.
16 We need to feel very comfortable that licensees,
17 in fact, are doing what I would say are the same job we
18 would do, taking the same critical look that a regulator
19 would look, so that we can overview what they are doing
20 rather than do it ourselves, and in the most recent, I guess
21 we called it an SET at Cooper --
22 MR. RUSSELL: Yes.
23 MR. GILLESPIE: -- where we overlooked it, it
24 sent very, very well and potentially set kind of a mold for
25 some things that might be done in the future.

1 Regulatory environment. These are very factual
2 and have fewer SES managers. We are cutting down overhead.
3 We are cutting down management. Well, it also means that
4 you have to look at the function that those people are
5 performing because you don't want to throw out the good with
6 what might have been considered just overhead management.
7 In this agency, the managers are very involved in
8 the integration process. That is, at each level where
9 information seems to come together, individual inspection
10 reports come together at the individual section chiefs, the
11 project branch chief, it comes together, and it rolls up.
12 So I think it was very important to understand that this
13 organizational change had a program impact and to make sure
14 that we have accounted for that program impact and not
15 allowed it to be detrimental to the program.
16 The other thing was we had to get a little more
17 efficient with the administrative burdens because all that
18 paper we had people filling out, we're not going to have all
19 those people to fill it out anymore.
20 The intent here was not to roll it down from the
21 manager to the inspector because we want the inspector
22 inspecting. So you kind of have to re-engineer your
23 processes and say if you take the guy out of the middle, is
24 there a piece of paper you can take out of the middle, also,
25 and in some cases, that means maybe bringing a little more

1 discipline to some of the things that we were doing. So it
2 became more obvious how things fit together, where before we
3 were dependent on more of a mental process to put it
4 together.
5 Improvements in integration. Independent of the
6 organizational impacts of what was happening, improvements
7 in integration came out of things like the Tower-Perrin
8 report. It came out of our own studies of our own
9 inspection report, and it has to be combined with
10 improvements in communications.
11 In fact, we have received some criticism in the
12 past for being a subjective agency. Some of that
13 subjectivity dealt more with, I think, the way we
14 communicated our results and assessments than the facts that
15 the results and assessments are sort of like based on. So
16 we are trying to improve that situation, both the
17 communications and the integration so that people know how
18 we are putting data together.
19 My example here would be back in the mid-'80s,
20 SALP reports used to have a very long list of issues.
21 Everything that happened in the SALP period would be tacked
22 on as a list, and utilities told me that their focus was
23 everything on that list had to be checked off. Well, we
24 don't want to get to the point where we are dealing with
25 nits. That is what we are trying to get away from.

1 So now we corrected that situation. We took the
2 list off the SALP reports, and the SALP reports very much
3 focussed on the causes. It was very assessment-oriented,
4 but then we got criticized, well, you don't have the list.
5 We need to overshoot either way again. Now we are trying to
6 delve into how do we develop the list, the cause in the
7 assessment, so that we can communicate that string of
8 information to the licensee, so that we can agree upon the
9 facts and not be arguing over if something happened or not,
10 and we have got some, I think, positive results and some
11 things that are going on in Region II that are being tried
12 and Region III that are being tried on the integration
13 forefront, and in our IPAP procedure which is attached to
14 the Commission paper here, we got some very positive
15 feedback from licensees on how that carried over and would
16 then flow into our normal processes.
17 Increase on performance-based inspection. I will
18 touch on two things here. One is in performance-based
19 inspection, you do have a challenge in not getting down to
20 the nit list again because you are looking at what happened
21 to a piece of equipment, what happened to a system, what
22 happened to something in the plant, and what you don't want
23 to do is necessarily write every one of those off without
24 understanding the cause of what had happened as a random
25 occurrence.

1 So we have a danger as we go into performance,
2 truly performance-based or a thing-based assessment, as to
3 what is the threshold of things that go on the list and how
4 do we make the call whether that was a random occurrence and
5 it is just some guy put his initials on something instead of
6 his signature which really has no safety significance on a
7 radiation work permit or something versus something that
8 really has a repeatable cause, and even though it might have
9 been corrected that one time, and the example I used is an
10 example of Crystal River, its salt buildup in insulators
11 causing a transformer failure, it was adequately addressed.
12 In Region II's program, they picked that up on the
13 list because if the corrective action wasn't actually
14 appropriate, there would be an expectation at a seawater
15 site that that could occur again. If it doesn't occur
16 again, that is performance proof that the corrective action,
17 in fact, held.
18 So we are getting into this performance-based
19 area, but there is a threshold we do not want to cross that
20 we came back from a long time ago on just getting a nitpick
21 organization, which used to be the old criticism.
22 Getting to our initiatives, which to me is kind of
23 the meat -- I have tried to go very quickly over some of the
24 background -- the first thing that happened, and I will call
25 it this phase of correction because we do corrections to the

1 program almost on a continuous basis, the procedures are
2 corrected, the procedures are updated, we are constantly
3 updating the manual Chapter 25.15, which is the operations
4 manual chapter for the Inspection Program, but we are now in
5 a new major phase.
6 The first thing in that phase was last October.
7 SALP senior maintenance meeting and Inspection Program were
8 all brought together into a single organization. They
9 traditionally had been in different organizations, and this
10 shortened the lines of communications very short.
11 I talk to Bill. Bill talks to me. All of these
12 organizations are in his branch, and they are all in my
13 division. I report directly to Bill.
14 That cleared the organizational lines, and now we
15 wanted to work on integration. Now I have to combine
16 integration with what I will call the organizational
17 parameters that are now changing, and it is very hard to
18 differentiate, well, are you doing that, are you making that
19 correction to the program because of the organization or
20 because of integration. The fact is the organization
21 changes that are coming up in the next year or so impact our
22 ability to integrate. So some of these initiatives actually
23 touch upon the total net effect of the causes that we are
24 trying to correct, and I can't say this caused that
25 correction.

1 First, I will talk about the changes to the SALP
2 program. They are very practical, where we are reorganizing
3 the regions to go into a standard organization, which will
4 reduce the number of SES managers available to be on SALP
5 boards. So, as a practical nature, we are going to be
6 recommending or going, hopefully October 1st when the
7 organization goes into effect, from SALP board membership
8 from four to three, but we want to keep the key positive
9 aspects of SALP boards currently. That is, the NRR
10 representative will still be on there. So a project
11 director from NRR will always be participating, and
12 basically, both of the reactor divisions in the regional
13 standard organization will be represented, and that is an
14 effect of having two divisions rather than three divisions
15 involved in SALP, and we very much want to keep the
16 management oversight aspect of SALP on the program
17 altogether.
18 It is an independent check of people with a
19 broader background across multiple plants that has brought
20 to bear on the final roll-up of all of the information on a
21 particular facility. It is a leveling of what the opinion
22 is coming up through the staff.
23 Then the SALP board, of course, is advisory to the
24 regional administrator, and the regional administrator then
25 gets individually even a broader view of how this

1 information has come up from his interfaces with particular
2 utilities.
3 SALPs are done about every 18 months to 2 years.
4 The best performers are 24 months, and the other change in
5 the SALP process that we are going to be recommending is
6 more of a procedural change to the wording to recognize the
7 performance of the industry, and that is, right now the
8 wording says SALPs normally would be done every 15 to 18
9 months.
10 As a practical sense, the best facilities, it has
11 been changed. It can go to 24 months, and we would like to
12 propose changing the words, anyway, to a 12-to-24-month
13 envelope to give the regions a bit more discretion in how
14 they are scheduling their SALP boards, and the example would
15 be Region III with 19 sites. Although it doesn't come out
16 perfect, they are kind of on a 19-month cycle, so that they
17 are only tying their key managers up one week a month, if
18 you would, doing SALPs because we still have to manage the
19 overall program. So there is just some practical life
20 organizational changes that need to be taken there.
21 We do have an IOU on the SALP program. We are
22 going out with a Federal Register notice probably in the
23 next week from the major SALP changes that took place in
24 1993, and this is when we went from seven to four
25 categories, and then we were told that in two years,

1 approximately July 19, 1995, we should go out with a Federal
2 Register notice soliciting comments on what has the nature
3 and effect of the change been over the last two years. So
4 that will be going out.
5 I would hope to have the results back by August
6 30th, so we will have some insights just before we are going
7 to be sending a paper up to the Commission on how everything
8 in SALP and the Inspection Program fits together and really
9 actually proposing the details of these changes. So we will
10 have some insights at least from a read-through of the
11 comments prior to that paper coming out.
12 The next step is improvement to the plan
13 performance review process. The plan performance review
14 process was first put in place in 1988 when we revamped the
15 program, and the intention there was that the region should
16 step back and look at all their facilities and ensure that
17 their discretionary resources are allocated to the biggest
18 safety problems.
19 Other than that guidance, there was not a lot of
20 specific structure given to it. It started out being done
21 quarterly. We found that was just too often. So now we are
22 to semi-annual. That seems to be a frequency everyone is
23 comfortable with.
24 Prior to 1988 and probably up until about 1990,
25 the basic level of inspection at all facilities was very

1 constant. It was very much the same. It did not have a
2 good distribution of effort. So you didn't have a sense
3 that the worst performers got a whole lot more than the best
4 performers.
5 CHAIRMAN JACKSON: Or vice versa?
6 MR. GILLESPIE: Or vice versa.
7 Since that time -- and on the back slides here, I
8 have tried to put some information to demonstrate how it is
9 working now -- I think we have met with tremendous success,
10 albeit, it has taken us eight years to do it, but we have
11 evolved, I think, to a system now where there is a great
12 differentiation.
13 Now the problem I have with the PPR process is it
14 is internal. So one of the changes we have most recently
15 made in about the last six months was out of the PPR
16 process, we would publish an inspection schedule, and that
17 inspection schedule would not on a six-month basis give the
18 utility in the middle who is not on either extreme some
19 insights as to what areas the NRC sees or at least the
20 region to him as being weakest or what area is not
21 contracting officer clearly correct that we think we need to
22 follow up on it more to come to that conclusion.
23 This is a product that I think is going to
24 stimulate communications between the region and licensees
25 rather than waiting to a SALP period on about a six-month

1 basis.

2 In fact, just this morning, I saw a licensee
3 response to a Region IV inspection plan letter. So I know
4 at least one licensee is taking us up on our offer that if
5 you don't understand it, please write in and ask why.

6 It was a very nice letter. It's communications
7 happening. I won't declare it completely successful, but I
8 will say that the first evidence is it may work.

9 That gives us an intervening integration point,
10 also. The plan performance review is a place where the
11 regional managers can come together, generally at the branch
12 chief level with division directors in attendance, and go
13 over and talk about the performance of each facility.

14 We are experimenting now with a format for the PPR
15 which would also then be complimentary or roll right into
16 the senior management meeting which is also on a six-month
17 cycle, so that we can mesh those two events together
18 relative to information-gathering and digestion.

19 Two places we are working on this is Region III
20 and Region II. Region II is working on a matrix kind of
21 approach where each thing that they develop or each incident
22 or thing, if you would -- I won't call it an issue because
23 some of them aren't issues. Some of them are found and
24 adequately corrected. It has not only listed the cause of
25 it or expected or projected cause of it is written down.

1 The SALP functional area is written down, and a reference is
2 written down. The reference is there so that the facts are
3 retrievable, so that the facts on a particular incident do
4 not get argued around a table, but we can bring an actual
5 reference document, and it is not always our reference
6 document.
7 Many times it is going to be a licensee's QA
8 document, a licensee's type incident report, an as-found
9 condition kind of report on a maintenance operation, but
10 these get related together in a causal kind of way, and they
11 are inspected to see if there is repetition, are we seeing,
12 in a sense, insights that say we have inconclusive
13 information and we need to ourselves now go and examine the
14 goodness of certain programs of licensees.
15 Region II now is experimenting with this. They
16 are doing it at all their plants. It is very simple. It is
17 basically a manual list, but the reference has been very,
18 very valuable. In fact, in interfacing with Crystal River
19 where they were going to do an inspection, one of our IPAP
20 inspections, Crystal River said what did you do. They said
21 we just did this and looked at the record. Crystal River
22 went and looked at the record and said you don't have to
23 come and tell us what we did wrong, we have got all the
24 references, and Stu Ebneter met with Crystal River
25 management.

1 I think there are some corrective programs going
2 in place. I know there are some corrective programs going
3 in place, but we are stepping back and we are watching the
4 licensee now fix his problem, and that success, when
5 everyone can agree on the facts, the facts present the case.
6 So that is a success story we are trying to do.
7 I don't know the details, but something similar
8 happened in Region IV with, I believe, WNP-2, who took our
9 procedure. Joe Callenup met with them. So just the
10 discipline of how you approach collecting the facts has been
11 a very positive influence.
12 I have touched upon improved coordination with the
13 senior management meeting process and implementation now of
14 the integrated performance assessment program, which is
15 another way of saying bringing discipline to the process.
16 We did five pilot IPAPs, and two of the pilot
17 IPAPs, we tried to use risk to a very large extent and tried
18 to use it in this sense. Traditionally, risk in the
19 Inspection Program has been a determinant on what items,
20 systems, components you select as a sample in testing the
21 goodness of a program. So it is which system and which
22 component, which is a very basic use of risk, but it is how
23 an inspector uses it.
24 What we tried to do at Beaver Valley and South
25 Texas -- and in fact, I believe they then went on and

1 separated it from the IPAP effort and went on to, I believe,
2 Grand Gulf -- was to create our own independent risk
3 profile, and I will call it an instantaneous risk profile of
4 the facility, the major concern being if you have multiple
5 pieces of equipment or components out of commission, has it
6 been well planned, coordinated, and have you made an effort
7 to minimize the total risk at the plant.
8 We tried it first at Beaver Valley. We did use
9 Beaver Valley's IPE model on their computer. We delved into
10 their records manually which was the only way to get
11 information on daily basis on what was operable and what was
12 not operable and what pieces were out and how they
13 overlapped. It was very tedious, and this is where a very
14 strong connection with the Maintenance Rule and the briefing
15 you had this morning comes in.
16 We stepped back and we said we just can't afford
17 to do this at every facility in the country, but then we
18 realized what we were really doing was verifying that
19 portion of the Maintenance Rule which talks about the
20 management of the equipments that are out simultaneously,
21 and in fact, we were talking about the management of risk.
22 We went on to South Texas. South Texas, as it
23 happens, had much of the data computerized, and it was a
24 much, much easier job there. So we did have a comparison
25 between what would it be like at a facility that had the

1 information themselves on site, available for inspection,
2 available in electronic format, versus someone who really
3 had it in a manual format. We found that if it is in
4 electronic format, we had a very reasonable and I think
5 acceptable process for doing something like independently
6 verifying the overall model and approach to risk management,
7 if you would, vis-a-vis the Maintenance Rule.
8 We also decided that maybe we have to step back
9 and develop our techniques, and our techniques, in fact, may
10 be ahead of the availability of the data because we were
11 very much focussing on plant-specific data, and with the
12 Maintenance Rule going into effect in about a year, the PRA
13 group separated this from the IPAP initiative and, in fact,
14 are pursuing it basically in parallel to develop the
15 techniques of how to go in and independently verify the risk
16 profile and risk management of the facility, and to try to
17 be consistent with the implementation of the Maintenance
18 Rule when data for utilities themselves will have to be
19 tabulated, collected, and correlated in a convenient form.
20 So we did get a lot of risk insights on what we
21 can and can't do practically and what kind of schedule we
22 may have to be one. So that methods development is
23 currently going on.
24 The additional thing we did was to realize that if
25 we are going to integrate and take a risk perspective on

1 things, then I am down to my third bullet. We created a
2 position or a concept of a position which is now a real
3 position called a senior reactor analyst.
4 The senior reactor analyst was intended to put at
5 least two people in each region who I will call journeyman
6 analysts. We are attempting to take two people and put them
7 through a training program where we have taken basically all
8 of the risk training that the agency has offered and tried
9 to develop courses or a course that bears a similarity to
10 our systems or engineering courses which have been quite
11 successful down at TTC, where there are six- or seven-week
12 courses and you go for a week or two weeks at a time, and
13 then you have a week or two weeks off, but there is some
14 consistency in approach, and you know you are going from
15 beginning to end.
16 Prior to this, our courses tended to be offered
17 somebody randomly based on interest. So we now have about
18 eight weeks of training specifically starting from basic
19 statistics and going all the way through PRA code usage
20 using SARA, codes that we have developed. About eight weeks
21 of training takes place over a three-month time frame, and
22 that will start this fall.
23 Our 10 candidates have been selected. They were
24 selected by a panel which involved all the regional
25 administrators. They have attended their first basic

1 statistics class which was held in June to try to make sure
2 we had everybody up on kind of an even point. So it was
3 behind for some. It was refresher training for others. So
4 now we feel we are ready to go in September with what I will
5 call the long PRA systems training.
6 This is combined with a six-to-eight-month
7 rotation through our PRA branch or a PRA branch in research
8 which is involved with the IPEs and then permanent
9 assignment out to the regions. This was to present us with,
10 say, some seed talent in each region who is focussed on kind
11 of an analytic approach and was thinking in a different
12 format than maybe what a typical engineer might be thinking
13 in.
14 So that is ongoing now, and again, our first
15 graduates, I believe, will be somewhat consistent with the
16 idea of the Maintenance Rule going into effect and the
17 things coming together in about the next year to 18 months
18 actually at the facilities.
19 CHAIRMAN JACKSON: Where are the candidates
20 selected from?
21 MR. GILLESPIE: The candidates were selected from
22 -- they were all internal candidates from the NRC. We had
23 -- I think they were all from the region, but two, Bill?
24 MR. RUSSELL: The background that we looked for
25 specifically when we advertised for the positions would be

1 experience comparable to that of a senior resident --

2 MR. GILLESPIE: Senior resident.

3 COMMISSIONER ROGERS: -- who has had several years

4 of experience on site, really understands systems quite

5 well. So we were looking for a group amongst our best

6 senior residents and others that have systems knowledge and

7 experience, the objective being then to give them the types

8 of training and PRA application, not to make them an

9 analyst, someone who can conduct or perform a PRA, but one

10 who can use a tool and understand it, understand the

11 importance of the assumptions, understand how you would go

12 and test whether the assumptions are valid with respect to

13 how they are actually operating the plant, et cetera.

14 So this is intended, and we are doing some similar

15 training on risk techniques with the class of senior

16 residents that is going on at the same time. So we are

17 looking at improving the skills and ability of the senior

18 residents with the same technical training, but we are not

19 giving them the rotational assignments to actually perform

20 an applications context, risk analysis within the

21 headquarters branches.

22 We may also use some rotational assignments to

23 AEOD where they are involved with accident sequence

24 precursor activities or event evaluation using risk

25 insights.

1 So we are trying to really develop the expertise,
2 get the expertise back into the region, and while that is
3 going on, we are developing pilot testing.
4 What we found on both Beaver Valley, Grand Gulf,
5 South Texas, we had to have a heavy reliance on contractor
6 support with limited staff resources, and so we saw right
7 away that not only was it difficult to get the data on the
8 site, but that we really had a significant training issue to
9 be ready to really apply it. So we are working both in
10 parallel, and we have at least temporarily pulled back this
11 kind of configuration assessment, risk look from the IPAP
12 process. We hope to bring the two back together in about 18
13 to 24 months after we have completed the training and some
14 more development work, but these are ongoing, and these are
15 important priorities for the Staff.
16 CHAIRMAN JACKSON: Let me ask you -- I'm sorry.
17 Please go ahead.
18 COMMISSIONER ROGERS: How would you actually see
19 these people working once they are in place? You have got
20 10 of them now.
21 MR. RUSSELL: What we see is two in each region in
22 a position similar to what we had for the inspection team
23 leaders. You will recall when we were doing a lot of team
24 inspections. We developed a position in the regions that
25 were basically a post senior resident position, grade level

1 15, non-supervisory, where they would be involved in leading
2 various teams, whether it be an operational readiness
3 assessment team or one of the engineering specialty teams.
4 We see this individual as a resource to support a
5 team inspection. We would see this individual as a resource
6 to be used when we do the baseline inspections on the
7 Maintenance Rule, and to be used on a case-by-case basis.
8 We would hope, also, that we would be able to
9 continue training of this type for senior residents and
10 residents and for others who are not necessarily in this
11 development program, but we saw an immediate need to get
12 some of the best performers in the agency this type of
13 training and really put some of our best talent in each
14 region in a position where they could use some of these risk
15 insights to help us redirect some of the training and
16 inspection program activities.
17 CHAIRMAN JACKSON: Let me make sure I understand.
18 Will these people have the same risk focus as that required
19 in the Maintenance Rule, or will they go beyond that? The
20 Maintenance Rule has an equipment focus, but there are human
21 factors.
22 MR. GILLESPIE: They will go beyond that.
23 MR. RUSSELL: This is beyond that.
24 MR. GILLESPIE: Let me be kind of specific of
25 where some of the other initiatives come together. What we

1 are trying now in Region II with maintaining this list, one
2 of the things we put on the list is all the residents are
3 asked to appraise what is the cause of it. So they use a
4 set of cause codes.
5 Right now what I am telling you is we have a list,
6 and we have people who have a perspective of risk because
7 they are familiar with nuclear power operations who are
8 evaluating it.
9 Once we get these types of people out there, there
10 may be more structure in that evaluation we may want to put
11 in.
12 Given this facility and the availability of other
13 information, the IPE, we may want to have this type of
14 person step back and say what is the overall impact of risk
15 of what this profile that you have developed has, and it is
16 going to take some work to figure out how to do that. We
17 haven't done that yet, but we are trying to have the person
18 who can do it, and we are trying to have the profile to work
19 it on.
20 CHAIRMAN JACKSON: So you want to iterate.
21 MR. GILLESPIE: So we are going to have to iterate
22 to exactly how that happens, but if I don't have the talent,
23 I can't even iterate.
24 So we will have our two people out there as a
25 minimum hopefully with that perspective, and Bill is

1 absolutely right. We are using this opportunity to build
2 this as a systems-type course, very similar to what we teach
3 at TTC now that a lot of people go through to make it
4 available and keep refining it, so that it becomes kind of a
5 journeyman course. Hopefully, as time goes by, we will
6 regularly schedule people through.
7 In fact, Bill and the Inspection Program Branch
8 has about six people scheduled for the first two courses.
9 Having designed the course, I took advantage to get my own
10 people to it first, not wanting to be left behind.
11 So, yes, this is one that has a tremendous amount
12 of potential of helping us out all around in perspective and
13 how you view things.
14 MR. RUSSELL: I think, though, that from a
15 practical standpoint, the initial focus is going to be in
16 the more objective evidence area, that is, how has hardware
17 performed, how available has it been, how have you
18 controlled plant configuration from the standpoint of
19 systems that are available, because that is really
20 straightforward to analyze.
21 Our tools and techniques in handling human
22 performance and risk have some ways to go yet in
23 development, and so, while we may on occasion see equipment
24 failures that may have root causes in people performance as
25 opposed to failure of maintenance, that root cause will

1 still be identified as a part of the analysis required by
2 the Maintenance Rule, but then how you treat those, I think,
3 is going to take some more development.
4 So we see this as an iterative process. It is
5 fully consistent with the PRA action plan, and what we said
6 is we want to proceed into these areas as the technology,
7 our skills and ability and training permit, but there are
8 some very large training resource implications as we move
9 into performance-based regulation that we are trying to
10 address now, and even with -- this is a pitch for budgeting.
11 Even with the budgeting that is going on, we are still
12 preserving some resources in training to get people trained,
13 to be able to do the job that we see is on the rise a year
14 or two from now.
15 COMMISSIONER ROGERS: Have you made use of any
16 external groups to take a look at this program and give you
17 external criticism of it? It would seem to me that at some
18 point, that would be helpful from a more general point of
19 view.
20 MR. RUSSELL: With industry.
21 COMMISSIONER ROGERS: Well, maybe --
22 MR. RUSSELL: Let me understand the question. Are
23 you talking about we are doing as the direction we are going
24 with applying risk?
25 COMMISSIONER ROGERS: I am thinking from an

1 educational and training point of view for these SRA types,
2 whether at some point it might be a good idea to put
3 together a little external group to take a look at this and
4 see how it is coming together, whether it could be improved
5 in some way, and just the general objective analysis.
6 I am not sure exactly who would be the right
7 people to do this, but it would seem to me that this is an
8 evolving area now for us. It sounds like a very interesting
9 approach and a good one, but I think, as with anything, it
10 is always good to have some kind of objective external look
11 to see whether you are missing something.
12 MR. RUSSELL: Thus far, it has been done totally
13 internally between AEOD and NRR.
14 COMMISSIONER ROGERS: At some point, it would be
15 good to subject --
16 MR. TAYLOR: This is another step up in our PRA
17 work or training, I should say.
18 MR. GILLESPIE: The last bullet on here is to
19 improve communications. If you do all of these things and
20 make all of these improvements but don't tell anyone about
21 it, you haven't achieved anything, and I have been known to
22 say if it is not on the docket file, it didn't happen, which
23 is kind of the way it really works around here.
24 So, starting at the smallest piece of information
25 is the report, and we are doing some things on reports in

1 Region III where they are rolling up all the reports on a
2 six-week cycle, putting them together, and the cover letter
3 for the report rather than being our traditional letter
4 signed out by an individual branch chief is trying to pull
5 all the information for that six-week cycle together and
6 given an assessment as to whether across various areas we
7 are seeing anything that is correlated relative to
8 performance across areas, again as a way of integrating on
9 about a six-month cycle on a report basis.
10 The inspection plans are now in the process of
11 being issued about every six months.
12 MR. RUSSELL: Six weeks.
13 MR. GILLESPIE: No, inspection plans.
14 COMMISSIONER ROGERS: all right.
15 MR. GILLESPIE: Every six months. So that gives
16 us a little longer term, kind of an intermediate term
17 measure to communicate with a licensee as to what areas do
18 we see as weaknesses which is evident by which areas we want
19 to look at, and that is a new document. That is not
20 something that we used to issue publicly. That is
21 coordinated with the senior maintenance meeting, of course.
22 The IPAP process or inspection, or really
23 approach, that we would like to do, we would like to do that
24 at about 25 percent of the facilities, and the 25 percent of
25 the facilities, the population we would be targeting would

1 be what I will call the middle population, and I am going to
2 touch upon that on the next few viewgraphs and why.
3 Finally, there is a management oversight. IPAP is
4 designed to be done within the last six months of a SALP
5 period, so that it directly contributes to the management
6 oversight or pulling together of the SALP report itself, and
7 some of the comments we got from the pilot programs on the
8 IPAP was that phase one of an IPAP is to look at the entire
9 record and write down what we believe our opinion of that
10 licensee is based on our own words.
11 Licensees very much liked that because then they
12 could check the facts, and then we go on site and do an
13 inspection phase. If there is a misconception or a mistake
14 in the facts, we can get it straightened out, and I thought
15 this was an ideal mechanism to do right before SALP, was to
16 get the facts straightened out.
17 So we have got a lot of favorable feedback on
18 that, and in fact, we actually changed the procedure to give
19 a 30-day delay between mailing that internal review report
20 out and showing up on site to give utilities a chance to
21 digest and communicate with us because if we have a success
22 like Crystal River, we don't need to send a lot of people on
23 site to take action.
24 CHAIRMAN JACKSON: Let me just stop you for a
25 second. What is success?

1 MR. GILLESPIE: Success is getting a clear
2 understanding that something is wrong and getting it fixed.
3 CHAIRMAN JACKSON: You have had two plants that
4 have had the DET visits.
5 MR. GILLESPIE: Yes.
6 CHAIRMAN JACKSON: Do you think this process --
7 and I guess it is a thinking because you are just putting it
8 into place -- would have helped the Staff in identifying
9 those plants at an earlier -- problems at earlier stages?
10 Is that a reasonable measure of success?
11 MR. GILLESPIE: Yes. I think what I want to say
12 is we mimicked the in-office portion of this process, and it
13 really is more of a process than an individual inspection.
14 It is a disciplined way of saying, by God, we are going to
15 look at everything we have written and pull it together.
16 That basically is the DET portion in-house, and if
17 you talk to the DET team members, much of their on-site time
18 in the DET is trying to verify the insights they got from
19 that, which is why the experience with DETs in the end, in
20 hindsight, was that, "Gee, you know, we had much of this
21 information if we had put it together the right way."
22 I don't know if it would help on an individual
23 basis, but I think in general the answer would be yes, it
24 would have helped and would have probably done it earlier.
25 In fact, I think the IPAPs would have helped and even the

1 idea of putting the inspection reports together on a
2 six-week cycle. Everything would have contributed.
3 Whether it would have avoided the DET, DETs have a
4 different purpose. DETs are self-contained and are intended
5 to come to a definitive conclusion with all the facts.
6 That, in general, is how a DET is run, very
7 manpower-intensive, very long, and very arduous.
8 Our process is intended to give us enough insights
9 to say are the right things being worked on by the utility
10 and by us, and is our view of their performance accurate,
11 based on facts.
12 We are allowing in our process more specialists to
13 go out on independent inspections following it. We are not
14 insisting that the IPAP be totally self-contained.
15 It is the discipline of assessing do you have all
16 the facts, and in all of the IPAP pilots, we came up with an
17 umber of indeterminate areas where we read our own record
18 and said we don't know what our opinion is based on that
19 record, and that is what we used the on-site phase for is to
20 clear that indeterminant process up, conflicts in our own
21 inspection reports with different inspectors, lack of detail
22 so it really wasn't obvious. So it helps us with some
23 self-correction, also.
24 CHAIRMAN JACKSON: Mr. Russell?
25 MR. RUSSELL: If I step back from the details that

1 Frank has just described, it is true that NRR in looking
2 back at the program and in the after-the-fact look at South
3 Texas and also looking back at Quad Cities, those two DETs
4 in particular, we found that much of the information that
5 ultimately came out after the DET, after it was integrated
6 and put together, did exist in the NRC record prior to that
7 time. We had not done a very good job of putting it
8 together.
9 So one of the major motivations for re-looking at
10 how information is integrated is to identify problems before
11 they degenerate to the point where you need to use a DET to
12 get an analysis.
13 The senior managers in our processes identified
14 that we weren't comfortable with what was happening at South
15 Texas or at Quad Cities, and at our senior management
16 meetings, we concluded we needed to get the facts, and so we
17 had a DET conducted.
18 What we would like to do is have a program in
19 place that gets us that information earlier so that there is
20 not a need to conduct a DET because we have information in
21 real time on a six-month basis with an improved plant
22 performance review, but then periodically, we do a more
23 rigorous review to ensure that the six-month process is, in
24 fact, working.
25 So the IPAP is intended to be done about once

1 every four years, looking at two years worth of data on the
2 plant with the focus really being on the later data and
3 using that then as an input to the SALP process. So that is
4 how the pieces fit together, and I would feel it successful
5 if we didn't have a need for further DETs, but there are a
6 number of plants.
7 Cooper, I would suggest, surprised us. We did a
8 special evaluation in place of DET, but a year before that,
9 we would not have identified Cooper as potentially a
10 facility that had serious performance problems. Yet, if you
11 go and you look at the record --
12 CHAIRMAN JACKSON: It was there.
13 MR. RUSSELL: -- it was done. It was there. So
14 why work these things leaping off our inspection report
15 pages to us? Part of it was we had silos in the regions.
16 Specialist inspections would typically come up through the
17 specialist divisions. Projects, inspections, and the
18 resident reports would come up through the projects
19 organization, and they only came together either at the
20 regional administrator level or at the on-site senior
21 resident level, and in some cases, we missed them.
22 So we did a good job of inspecting and finding
23 things. We just didn't do a good job of integrating them.
24 So we are intentionally shifting focus for a period of time
25 on doing a better job of integrating to identify problems

1 earlier, so we can take corrective action before it degrades
2 to the point where more extreme measures are needed.
3 CHAIRMAN JACKSON: Might you do an IPAP for cause?
4 MR. RUSSELL: Oh, yes. It could very well be done
5 for cause.
6 We also had some licensees. The example was
7 WNP-2, where they did one on their own. That was their own
8 initiative, and they came into Region IV and briefed the
9 results of that review.
10 So we are also looking at the tool, and since the
11 tool is intended to organize factual information, it is one
12 that could be used under our existing procedure, such that a
13 licensee could do an IPAP, and our process today for a
14 self-assessment is three phases.
15 First, the licensee tells us that they are going
16 to do it, what their plans are, who is involved, how
17 independent is it, et cetera.
18 Secondly, when they conduct it in process, we
19 observe it.
20 Then thirdly, they tell us what the results are at
21 the end, and we reserve the right to go independently sample
22 some of those results.
23 We have been doing that with the major team
24 inspections. That was the concept we followed at Cooper.
25 So we see that you could marry an IPAP process with the

1 licensee performing the self-assessment, but we still, I
2 think, want to have one done formally by headquarters once
3 in each region for another purpose, and that is to have
4 headquarters be able to evaluate the effectiveness of
5 program implementation in the regions.
6 CHAIRMAN JACKSON: So, when you do the document
7 review, you are looking at more than just NRC?
8 MR. GILLESPIE: We, in fact, we spend --
9 MR. RUSSELL: They come back with a bag of
10 records.
11 MR. GILLESPIE: The team leader generally goes
12 with one other person and collects and quickly goes through
13 QA exception reports, maintenance exception reports, and
14 brings a lot of other things back.
15 We get a list of all the LERs from that facility.
16 CHAIRMAN JACKSON: Do you get third-party reports?
17 MR. GILLESPIE: We get third-party reports, and
18 one of the things they do on site is they read third-party
19 reports when they go on site. So what we do is attempt to
20 collect all of the relevant information that exists about
21 that facility for the prior two years and then integrate
22 that together in a very, very discipline-type way.
23 I am going to skip the next two slides. They kind
24 of cover what we are doing computer-wise to re-engineer and
25 make things easier, and just to now touch upon the last one,

1 now I am in the next level of detail.

2 I have kind of gotten out of the process into what

3 goes into a report. What goes in a report comes from three

4 sources. About half of our effort is core inspection. Core

5 inspection is that which we required every facility in the

6 country, independent of how good. It consumes right now 48

7 to 50 percent of our total inspection effort.

8 Plant-specific regional initiative, we have a true

9 belief that the region and the regional administrator and

10 the regional staff are the closest people to the real

11 problems of the real plants, and therefore, we are very

12 protective to make sure that the regional management has

13 some flexibility to focus its resources on where it thinks

14 the problems are, to get at them early and to get them

15 corrected.

16 Three to 5 percent of our effort tends to be on

17 temporary instructions, follow-up on generic letters,

18 follow-up on rule changes. This tends to be a much, much

19 smaller portion.

20 Right after TMI, this was a very large portion,

21 but we have basically kind of worked our way out of that,

22 and this is special things that go out, and we only issue

23 about three generic letters a year. So this is a very low

24 impact-type area.

25 The next slide tries to put it in kind of

1 perspective, a slide that Bill has used at our regulatory
2 information conference.
3 What I have displayed here, if you sort all of the
4 facilities, the single-unit sites, by least and most
5 inspected and chop it up into quartiles and take the median
6 of each quartile to look at the distribution of inspection
7 hours -- and I did this because I was too busy to put all
8 the plants n one sheet -- what I have supplied here, though,
9 is our estimate from our inspection procedure manual of what
10 the core inspection is, and I think you can see that for the
11 first quartile, 75 percent on the average in the first
12 quartile was actually all core inspection in this number,
13 which I think is what I say is at least in a number or, if
14 you would, a performance indicator sense tells me things are
15 starting to work and work reasonably well if we believe our
16 own opinion of who is good and who is bad. Of course, we
17 picked who is good and who is bad. So it may be
18 self-fulfilling.
19 The IPAP process would be targeted particularly at
20 quartiles 2 and 3 because the people who are in quartile 4
21 tend to be getting quite a bit of attention right now.
22 Probably, even if you didn't even call it an IPAP,
23 had the equivalent review and digestion of material between
24 screening meetings and senior management meetings and the
25 region's own efforts, there is no reason, really, to

1 replicate for them.

2 The people in the first quartile, generally to be
3 in the first quartile, you have to be very obviously good.
4 By our own definition, we expect you to be very good, and it
5 is those people in those 2 and 3 who could slide down a
6 quartile who we really would like to catch earlier.

7 I have displayed it for single-unit sites.
8 Dual-unit sites, you can see there is a similar
9 distribution, and also, it is a different core number
10 because we have got a dual-unit site. It is not double.
11 These are based on actual inspection performance for our
12 core procedures, and this was kind of the show that if you
13 buy us off the numbers, if you would, from the core, we are
14 actually in reasonably good shape.

15 I attach, just for completeness, a list of our
16 operating reactor procedures with what is in the core and
17 the estimated times, and the last several pages are those
18 procedures that the regional administrator has to call upon
19 to use or inflict on a licensee as he sees problems
20 developing. So that, we do have some structure. If there
21 is a problem in ISI, if there is a problem in welding, he
22 has a place to go so we are not just telling an inspector go
23 look at welding. We are saying go take this procedure which
24 has proven to be a good way to look at welding and try to
25 meet its objectives and follow its guidance.

1 So it is not an unstructured reactive effort. It
2 is in and of itself. Once you decide what you are going to
3 look at, there is a great deal of structure to it and
4 guidance to it.
5 With that, I have completed my presentation.
6 CHAIRMAN JACKSON: Commissioner Rogers, do you
7 have more questions?
8 COMMISSIONER ROGERS: Yes, a couple of comments.
9 I thought this was very interesting, and I think
10 that the approach that you are taking is really a very
11 comprehensive one and really a high-level look at this whole
12 process, and it seems to me that it is really very
13 commendable and even more than commendable. I think it is
14 really an excellent way to go. It is a new way, it seems to
15 me, than from what I have heard as talk or think about over
16 the years, and I think that is excellent.
17 Let me just make a comment. I am not sure it is a
18 helpful comment, but it seems to me that this integration
19 problem is really a tough one. I have seen other examples
20 beyond those that you have mentioned today.
21 When we look back, after having found a plant had
22 slipped, and asked ourselves how come we really didn't see
23 this earlier, when we looked hard, we saw that we did see it
24 earlier. It is just that somehow it didn't get the right
25 kind of attention.

1 I think Calvert Cliffs was a good example of this.
2 MR. RUSSELL: I remember that well. I recall
3 discussing it with you, also. I was regional administrator
4 at the time, and we didn't identify it as early as we should
5 have.
6 COMMISSIONER ROGERS: Yet, when I made a visit
7 there and talked to some of the people that were involved,
8 they said we knew they were slipping all along, and yet,
9 somehow, it didn't really get the right kind of attention.
10 As I was thinking of the difficulties of
11 integration and of handling information and getting the
12 right kind of attention, I am going to make a remark that
13 may not be very helpful, but it seems to me it is something
14 that we have got to pay attention to, and that is this.
15 After I have read I don't know how many SECYs over
16 the last eight years and really for most of them ask my self
17 where is the real information in this that I need to know
18 and what is it, I have come to the conclusion that so much
19 of the verbiage is really not necessary and not very
20 helpful, long ways of making a point.
21 That compounds this problem because somebody has
22 got to sit down and read these reports, and after you have
23 read them, if you have gone to sleep before you got to the
24 end, it is not very helpful.
25 So what I am really saying is this. I think it

1 would be worth our paying some attention to looking very
2 hard at how we might be able to clean up the reports
3 themselves. It is not an easy problem. I have spent a good
4 deal of my life educating engineers, and engineers, in
5 general, don't write very well, and they seem to think that
6 writing is improved by adding more and more of the same
7 stuff. It doesn't help.
8 What really needs to happen is that a sharper,
9 more focussed, and analytical look needs to be taken of what
10 is this report supposed to say and how can it make its
11 points most clearly, so that in the future, one can extract
12 that kind of information clearly and usefully within a
13 matter of time.
14 I don't think this is a hopeless problem. I think
15 that we can make some progress on it, but what I am
16 suggesting here is that I know this is not the direction
17 which we normally go at solving some of these problems, but
18 I think there is something more here than what I will call
19 an engineering approach to this. I think there is an
20 element here that needs to be brought in of how to clearly
21 state in an easy way to extract the information, critical
22 reports of situations.
23 They just spin on and on. So many reports I have
24 read, when I am all finished with them, it is clear to me
25 that the whole essence of it is in one or two pages, and the

1 rest of it is really not that useful.

2 In other words, I think that we need to exercise a
3 little tighter discipline on this process because, in the
4 long run, it has a very big effect on how efficiently we can
5 carry out our business, and when you have got all of these
6 reports coming in, I am just thinking how many -- the bag
7 men -- how much of that stuff in that bag really is useful?
8 There is a lot of paper there. There are a lot of words
9 there. How much is information, and how much is verbiage?

10 I think that somehow it would pay to try to create
11 a little effort on the side in some way to attack this
12 problem because I think in the long, there is a payoff.

13 As we feel the crunch of time and effort and
14 people who have to sit down and plow through thousands of
15 pages of documentation, where is the information in that?
16 Where is the basic information that is important, and can it
17 be displayed in a way that is easier to extract?

18 My belief is that some progress can be made in
19 that direction, and it is a discipline of its own right, and
20 I think it is worth paying some attention to.

21 MR. TAYLOR: I think that is a good challenge. It
22 goes to inspection, and the other reporting, you mentioned
23 SECYs. I read those, too.

24 COMMISSIONER ROGERS: Well, I know, Mr. Taylor,
25 that you are very sensitive to this because I recall one or

1 two occasions when it was only when you sat down and wrote
2 something that it finally became clear.
3 MR. TAYLOR: I get so many of them, and so do you.
4 COMMISSIONER ROGERS: It is something that we
5 might always keep putting off to the side, you know, as
6 something that we just have to live with. I don't think so.
7 I think we can do something.
8 MR. GILLESPIE: We actually have a major program
9 on that point ongoing. In fact, it is changing the whole
10 way we do reports, and part of the test case we are doing in
11 Region II, we are in the process of buying multiple copies
12 of a database, and in fact, what we are looking at is
13 instead of writing a report and translating it into the
14 database, it is to just enter the data right into the
15 database. This fit very well with Stu Ebneter's concept of
16 the matrix information and the reference to occurrence.
17 You need not regurgitate the reference every time
18 if you have the exact reference that you can go get. So we
19 are looking at that, and one of the major obstacles that we
20 have when you eliminate the verbiage is defining the
21 threshold of what you keep. What I mean by defining the
22 threshold, I could say my threshold is if its root cause is
23 repetitive in nature or its individual occurrence is
24 significant to safety, but now I have to define significant
25 and repetitive.

1 We are grappling with that right now, and that is
2 part of those two pages that I kind of skipped because that
3 could take a whole other Commission presentation with IRM
4 here who is helping us out on this.
5 So part of our whole program is to try to do
6 exactly what you said and be able to focus the PPRs and the
7 inspection -- I will call it the results, in a much more
8 focussed way. I agree. It doesn't mean more.
9 In fact, we did an audit of our own inspection
10 procedures which brought out many of the flaws. So we are
11 attacking the problem. It literally would take another
12 presentation to get into, I think, the nitty gritty details.
13 CHAIRMAN JACKSON: Which we don't have today.
14 MR. GILLESPIE: Right.
15 CHAIRMAN JACKSON: I would like to take that
16 opportunity just to say that if you have training programs,
17 anyway, you are investing in training, and you are looking
18 at the use of technology and information technology. Those
19 would be good opportunities to try to get at that.
20 Being one who does believe in succinctness, I will
21 just say that obviously the focus is to try to identify
22 potentially safety-significant trends and problems earlier,
23 to pull them out through a risk-informed, integrated look,
24 and I will just look for the results and what you call your
25 success factors.

1 Thank you.

2 [Whereupon, at 3:10 p.m., the briefing was

3 concluded.]

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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 REACTOR INSPECTION PROGRAM - PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Wednesday, July 26, 1995

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: Jennie Malloy

Reporter: Mark Mahoney

# OPERATING POWER REACTORS INSPECTION PROGRAM

July 26, 1995

Frank Gillespie

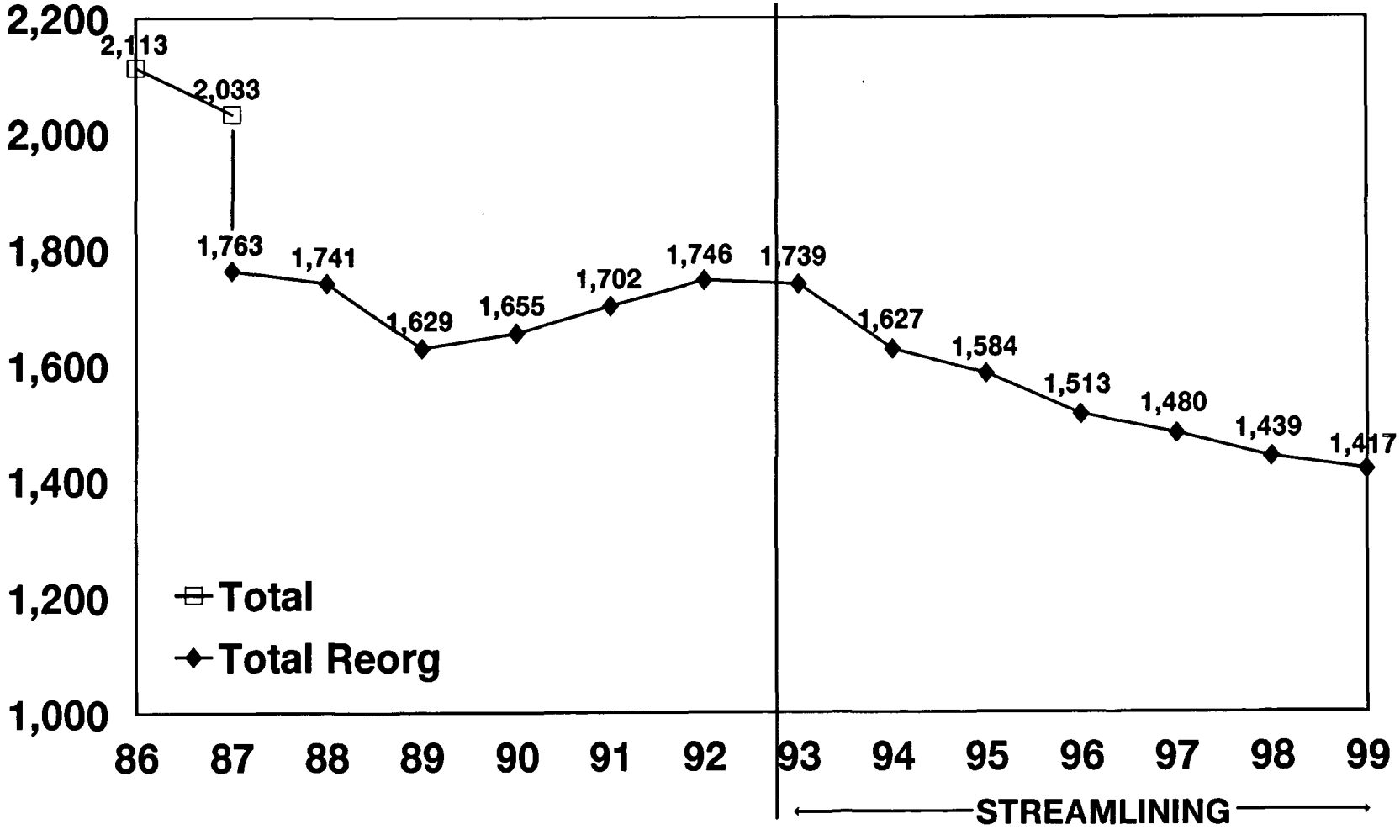
# INSPECTION PROGRAM OBJECTIVE

The Program is to Ensure Licensees are Operating Their Facilities Safely by:

- Providing a Basis for Conclusions on Licensee and Industry-Wide Performance
- Ensuring Licensees' Systems and Techniques for Internal Inspections and Maintaining Control Result in Safe Operations
- Finding and Resolving Plant-Specific Safety Concerns With Generic Significance
- Identifying Declining Trends in Performance and Verifying Their Resolution Before Performance Falls Below an Acceptable Level

# TOTAL RX RESOURCES NRR

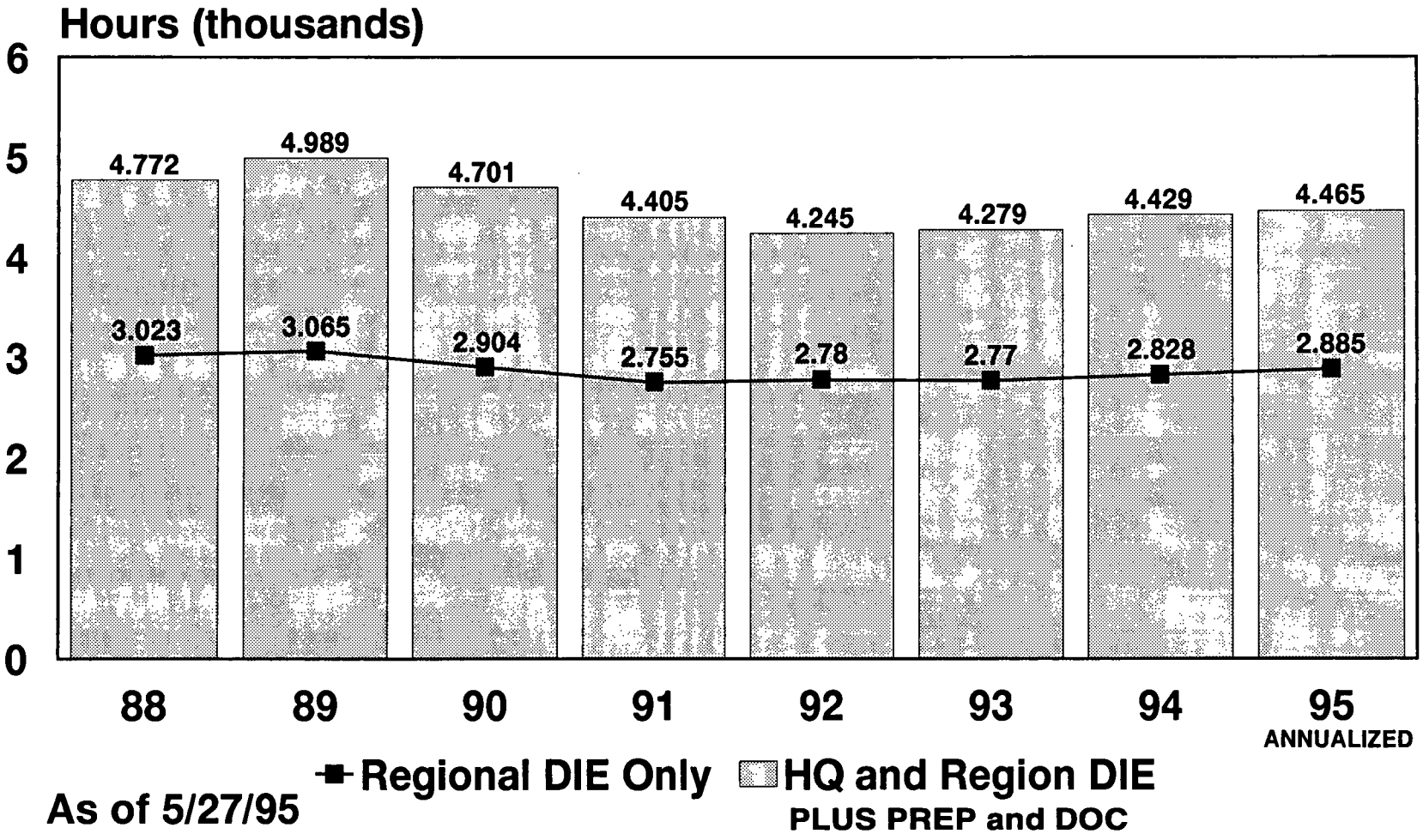
## Combined FTE and Program Support in Constant FY 95 Dollars




Note: Program Support $ converted to FTE per Fiscal Year

# MEAN INSPECTION EFFORT PER UNIT

## Regional and Total Hours, FY88 - 95




As of 5/27/95

# FACTORS THAT IMPACTED THE LEVEL OF DIRECT INSPECTION EFFORT

- Reduction in the Number of Operating Plants (Five)
- FTE Impact of the Elimination of Watts Bar as a Construction Site
- Regional Interns (30 in 1992-1993)
- Full Implementation of N+1 (50 Percent DIE for Residents Versus 32 Percent for Regional Inspectors)
- N+1 Exemptions in 1995 at 11

# FUTURE ENVIRONMENT

## INDUSTRY

- Level of Performance is Expected to be Maintained
- Rate of Change in Licensee Performance Will Continue to be Slow
- Licensees are Expected to Make Increased Use of Self-Assessments to Identify Problems

## REGULATORY

- Fewer SES Managers, Supervisors and Staff as a Result of Government-Wide Streamlining and Downsizing Initiatives Will Require:
  - Increased Efficiency
  - Reduced Administrative Burden
  - Process Changes for Information and Analysis

# FUTURE ENVIRONMENT (Continued)

## REGULATORY

- Improved Integration Necessary to Detect Performance Problems Earlier

- Increased Emphasis on Performance-Based Inspection
  - Focus on Aspects that are Most Significant Through Use of Risk Insights
  - Observation of Activities/Results Rather than Programs

# INITIATIVES

- Changes to SALP Program
- Improvements to Plant Performance Review (PPR) Process
- Improved Coordination of PPR and Senior Management Meeting (SMM) Processes
- Implementation of the Integrated Performance Assessment Process (IPAP)

# INITIATIVES (Continued)

- Changes to Inspection Planning, Reporting, and Tracking to Improve Effectiveness and Efficiency
  - Automation
  - Elimination of Existing Redundancies
- Develop Consolidated Guidance on the NRC's Overall Plant Evaluation Processes
- SRA, SRI, & RI Development
- Improved Communications with Licensees

# REACTOR INSPECTION PROGRAM TECHNOLOGY IMPROVEMENTS

- Integrated Reactor Program System Under Development
  - Inspection Planning
  - Personnel Scheduling
  - Work Load Tracking
  - Inspection Reporting
  - Inspection Follow Up
- Reactor Program System Designed to be Geographically Indifferent and an Integral Part of Agency Information System Infrastructure

# REACTOR INSPECTION PROGRAM TECHNOLOGY IMPROVEMENTS (Continued)

- NRR/IRM/Regions Fully Involved in System Development

- Inspection Planning/Scheduling Portion of System to be Implemented in All Regions and Headquarters in Fourth Quarter FY96

# ELEMENTS OF THE OPERATING REACTOR INSPECTION PROGRAM (IMC 2515)

- Core Inspection: Minimum Examination of Licensees to Confirm Performance and Identify Early Potential Problems

- Plant-Specific Regional Initiative Inspection: Inspection Effort Beyond Core Based on Results of Other Inspections, Licensee Performance in Various Functional Areas, and Interactions With the Licensees.

- Generic Safety Issues Inspection: Periodic, Temporary Inspections Based on Identification of Emerging Safety Concerns, or Areas Requiring Increased Emphasis Because of Recurring Problems.

# TOTAL INSPECTION EFFORT FOR SINGLE UNIT SITES

## FY 1994 (9/18/93-9/18/94)

| QUARTILE* | MEDIAN HOURS** |
|---|---|
| I | 4043.9 |
| II | 4833.2 |
| III | 6204.4 |
| IV | 8115.4 |

| Estimated Core (approx.) | |
|---|---|
| DIE | 1759 |
| Prep & Doc | 1165 |
| Total | 2924 |

* Quartiles computed after ranking least to most inspected

** Includes preparation, inspection, documentation

# TOTAL INSPECTION EFFORT FOR DUAL UNIT SITES

## FY 1994 (9/18/93-9/18/94)

| QUARTILE* | MEDIAN HOURS** |
|---|---|
| I | 5055.9 |
| II | 6366.7 |
| III | 7319.1 |
| IV | 9664.4 |

| Estimated Core (approx.) | |
|---|---|
| DIE | 2213 |
| Prep & Doc | 1633 |
| Total | 3846 |

* Quartiles computed after ranking least to most inspected
** Includes preparation, inspection, documentation

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

# NRC INSPECTION MANUAL



INSPECTION PROCEDURE 71750

PLANT SUPPORT ACTIVITIES

PROGRAM APPLICABILITY: 2515

SALP FUNCTIONAL AREA: PLANT SUPPORT (SOPLTSUP)

## 71750-01 INSPECTION OBJECTIVES

To ensure that selected activities of the following licensee programs are implemented in conformance with the facility policies and procedures and in compliance with regulatory requirements:

- Radiological controls.
- Radiological effluent, waste treatment, and environmental monitoring.
- Physical security.
- Emergency preparedness.
- Fire protection.

## 71750-02 INSPECTION REQUIREMENTS

02.01 Radiological Controls

a. Use of Locks to Control Access. (Biweekly)

During tours of the plant, check a selected sample of doors required (by plant technical specifications and plant procedures) to be locked for the purpose of radiation protection.

b. Posting and Labeling. (Biweekly)

While touring the plant, determine by direct observations and radiation measurements in selected representative areas whether posting of areas and labeling of containers are in compliance with NRC regulations and licensee procedures.

c. Observation of Radiation Protection for Workers on the Job (Biweekly)

By observation during tours within radiologically controlled areas of the plant, determine whether workers, their supervisors, and radiation

protection personnel are following the licensees procedures for radiation protection. Discuss strengths and weaknesses noted with the regional radiation protection staff.

d. Posting of Notices to Workers (Once every three months)

Determine whether NRC Form 3 and notices of violation involving radiological working conditions have been posted in accordance with 10 CFR 19.11

e. Periodic Inspections/Tests of Self-Contained Breathing Apparatus (SCBA) (Once per year)

By observation during a routine facility tour, determine whether routine periodic functional inspections/tests of "in-use" SCBAs are being performed as required by licensee procedures.

02.02 Effluent and Environmental Radiation and Meteorological Monitoring (Monthly)

a. Review in the control room, or other appropriate locations, visible portions of stack and other radiation monitor recorder traces and follow up on any indication of an apparent uncontrolled release.

b. Audit operability of meteorological indicators.

c. Audit operability of plant specific monitoring systems such as toxic gas monitors in the control room, e.g., ammonia, chlorine detectors.

02.03 Sampling and Chemistry (Monthly)

a. Review, in a PWR, secondary water activity analysis and radiation monitor alarm status to confirm steam generator tube integrity.

b. Verify plant chemistry to be within the TS and procedural limits.

c. Observe portions of the licensee's sampling program (e.g., coolant samples, boric acid tank samples, or plant liquid and gaseous effluent).

02.04 Physical Security Observations. Observe the following security program measures or activities:

a. General integrity of protected area (PA) barriers.

b. Maintenance of the isolation zones around PA barriers.

c. PA illumination levels.

d. PA personnel access measures including equipment or pat-down searches for illegal contraband, the badging and proper display of badges, and escort for visitors.

e. PA package and material access measures.

f. PA vehicle access measures including vehicle search, proper authorization, control prior to access, and escort if necessary.

g. Emergency access provisions.

02.05 Physical Security Power Supply. Verify that the security secondary power supply system and its components for the alarm annunciator and non-portable communications equipment are tested in accordance with the security plan commitments. (Once per year)

02.06 Emergency Preparedness

a. Emergency Preparedness Exercises and Drills.

Within the limitation of resources specified in 71750-04 below, observe and evaluate selected licensee EP exercises and drills. (The full participation exercise conducted every two years is not included in this requirement but is covered by IP 82301.)

b. Emergency Response Facilities.

Observe whether the emergency response facilities (ERFs) are readily available and maintained for emergency operations.

02.07 Fire Protection. During plant tours, examine, on a sampling basis:

a. Plant areas (including cabinet interiors) for fire hazards. Examine for operability fire alarms, extinguishing equipment, emergency lighting, actuating controls, fire-fighting equipment, fire barriers, and emergency equipment.

b. Control of ignition sources and flammable materials.

## 71750-03 INSPECTION GUIDANCE

### General Guidance

The inspectors are to routinely discuss negative and questionable findings concerning radiation protection, effluents, chemistry, physical security and emergency preparedness with the regional office specialists.

Inspectors are to inform the regional office specialist staff of major changes in the radiation protection, security, and emergency preparedness organizations and management personnel.

### Specific Guidance

03.01 Radiological Controls

a Use of Locks to Control Access.

See the licensee's procedures concerning requirements for locking doors.

b. Posting and Labeling

NRC requirements for posting and labeling, and the exceptions thereto, are presented in 10 CFR 20.1901-20.1905, inclusive.

For individual radiation areas accessible to personnel with radiation levels greater than 1000 mR/hr that are located within large areas, such as PWR containment, plant technical specifications usually include requirements for barricading, posting, and using a flashing light as a

warning device.

Measurements of radiation dose or exposure rates to check posting and labeling may be made using either NRC or licensee survey instruments. Be aware of survey instrument limitations when making these measurements.

c. Observation of Radiation Protection for Workers on the Job

During their normal plant tours, resident inspectors have the opportunity to observe radiation protection controls as they apply to various plant activities in progress. The following are items that the inspectors can observe, on a sampling basis, during tours:

1. Whether personnel within a radiologically controlled area (a) are wearing proper protective clothing (as required) and (b) whether these individuals are wearing required personal dosimeters (TLD or film badge and direct reading dosimeter or electronic (digital) alarming dosimeter/dose rate meter) and if the dosimeters are properly located on the body.

2. Whether individuals leaving a radiologically controlled area follow the licensee's procedures for recording dosimeter readings.

3. Whether individuals exiting a radiologically controlled area properly use high sensitivity personal contamination monitors, hand-held friskers, portal monitors, or hand and foot counters as required by the licensees procedures to check for personal contamination.

d. Posting of Notices to Workers

See 10 CFR 19.11(a)(3) and 19.11(c)

e. Periodic Inspections/Tests of Self-Contained Breathing Apparatus (SCBA)

Look for a tag/form attached to the SCBA that shows when the inspection/test was last performed.

For background and information, see NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Materials," Section 10.1.3, pages 10-5 to 10-8.

03.02 Effluent and Environmental Radiation and Meteorological Monitoring

a. The review of the stack, vent and effluent monitors is to determine if there have been any significant increases in releases. Strip charts or logs are usually reviewed to determine if such significant increases have occurred by determining the increase in chart printouts. Such a review will also provide information as to possible uncontrolled releases.

b. It can be determined that the meteorological instrumentation is providing information to the control room when the following information is present. The information noted below is typical.

Differential Temperature - usually at two elevations, between a height of 10 meters and the height of release. For facilities with a stack (elevated) release, there is usually an additional measurement with the location being the height of the elevated release.

Wind speed and wind direction

Barometric pressure and precipitation

c. Certain facilities have potential toxic gas challenges and have specific monitoring instrumentation to reduce the hazard of such challenges. The typical locations of such instrumentation are in the control room and at the location of the potential source. These monitors should be operational.

03.03 Sampling and Chemistry

a. & b. For PWRs, a review of the activity levels in the secondary coolant and increases in the activity level in the releases from the condenser air ejector are all indications of possible increases in primary to secondary leak rates and may be an indication of potential steam generator tube rupture potential. The primary and secondary radioactivity levels and chemistry levels must be within TS limits. For BWRs, make similar verifications for the reactor coolant.

Many licensees have procedural limits which specify actions to be taken prior to reaching the TS limit. Determine whether the licensee has taken the actions detailed in the procedures when the specified limits are reached.

c. The general intent is for significant aspects of each sampling program to be inspected every SALP cycle. Of particular importance is whether samples taken are representative of the attribute being sampled, whether the associated acceptance criteria for accumulating the sample are being met, and whether the test results are being properly evaluated and trended, if appropriate.

03.04 Physical Security.

General Guidance

Frequencies have not been specified for observing the identified physical security activities. It is expected that, for the most part, inspectors will make these observations during their routine tours of the facility. Specific observations outside of routine tours may be made at any time.

Specific Guidance

a. PA and vital area (VA) barriers should be separated, the entire barrier (fence fabric and barbed wire) should have no openings and not be damaged or degraded, and the barrier should not show signs of erosion at the base.

b. Isolation zones should be generally free of objects, clearly marked, and of sufficient size to permit clear observation by the Central Alarm Station (CAS) and Secondary Alarm Station (SAS) operators and security force members for any unauthorized activities.

c. PA illumination levels should be sufficient for the CAS/SAS and patrols to detect unauthorized activities by personnel. PA temporary lighting may be used under vehicles, trailers, etc. to preclude areas for an individual to hide undetected.

d. Personnel access at the PA access control points normally includes either an equipment search for firearms, explosives, incendiary devices, and other unauthorized materials, or a pat-down search by the security force. Guards must ensure that each individual is either properly picture badged or visitor badged and escorted.

e. Package and material access controls at PA access control points usually include an X-ray or physical search by a trained and authorized individual to detect those items listed in Section 03.04.d.

f. PA vehicle searches include the cab, engine compartment, undercarriage, and cargo area for those items in Section 03.04.d. Guards ensure that the driver and vehicle are on the authorized list, or controlled and escorted if not on the designated vehicle list. Vehicles left unattended in the PA should be secured to preclude unauthorized use.

g. Emergency access provisions normally include accommodations for rapid ingress and egress for operations staff; authority to suspend safeguards measures during emergencies (10 CFR 50.54 (x) and (y); and hard keys are available to the operations staff should the access control system fail.

03.05 Physical Security Power Supply. The secondary power supply system must be load tested in accordance with the physical security plan commitments and site procedures. While observing this test, ensure that the security diesel or other power system picks up the load when normal AC power is interrupted. In the CAS or SAS, note whether there is indication on the alarm panel, or other location, that the security system is now on secondary power. During the shift to secondary power, both the alarm annunciator panel and communication systems should remain operational and no alarm indications should be lost during the changeover. The test is normally run annually.

03.06 Emergency Preparedness

General Guidance. Evaluations are limited to the staff, activities, records and facilities of the licensee. Where it is necessary to verify licensee performance concerning interactions with organizations and personnel involved in offsite emergency preparedness, the inspectors are to limit their activities to the review of pertinent records available through the licensee. If additional information about offsite emergency preparedness is necessary, it may be obtained from FEMA.

In preparation for inspection, it is useful to contact the regional office EP inspector or EP Section Chief to determine whether there are any specific problem areas, open items or inspection followup items to be inspected.

In addition to the guidance provided below, extensive guidance to accomplish the above inspection requirements can be found in the guidance sections of Inspection Procedures 82301, "Evaluation of Exercises for Power Reactors;" 82302, " Review of Exercise Objectives and Scenarios for Power Reactors;" and 82701, "Operational Status of the Emergency Preparedness Program."

Specific Guidance

a. Emergency Preparedness Exercises and Drills.

Requirements for EP exercises and drills can be found in 10 CFR 50.47(b)(14) and Paragraph IV.F. of 10 CFR Part 50, Appendix E. The frequency of required EP drills may be found in the licensee's emergency

plan. Such drills include, but are not limited to, radiological, security, communication, augmentation, and medical drills. The schedule for assigned drills can be obtained from the licensee.

A part of the drill and exercise observation includes attending the licensee's critique and final evaluation. Another important aspect of this inspection is the verification that drill or exercise objectives have been met. Discuss all significant findings with the regional office EP section chief before they are reported to licensee management.

b. Emergency Response Facilities.

Requirements for ERFs can be found in 10 CFR 50.47(b)(8) and Paragraph IV.E. of 10 CFR Part 50, Appendix E. Inspection of this area may be accomplished during routine plant tours. The licensee's ERFs are required to be available and maintained in a state of operational readiness. If an ERF, such as the Technical Support Center is used for normal operations, it should have the capability for rapid conversion for emergency operations. In these facilities, equipment such as telephones, radios, dosimetry and monitoring instruments are required to be readily available and operational. The calibration of dosimetry and monitoring instruments should be current. Controlled copies of the emergency plan and implementing procedures should be current and readily available in the ERFs and control room.

03.07 Fire Protection. No inspection guidance.

71750-04 INSPECTION RESOURCES

Completion of this inspection procedure is expected to take the approximate hours shown in the following table:

| | Single Unit | Dual Unit | Triple Unit |
|---|---|---|---|
| Health Physics 02.01, 02.02, 02.03 | 4 Hours/Month | 5 Hours/Month | 6 Hours/Month |
| Physical Security 02.04, 02.05 | 2 Hours/Month | 3 Hours/Month | 3 Hours/Month |
| Emergency Prep. 02.06 | 12 Hours/Year | 12 Hours/Year | 12 Hours/Year |
| Fire Protection 02.07 | 6 Hours/Year | 6 Hours/Year | 6 Hours/Year |

END

APPENDIX A

CORE INSPECTION PROGRAM PROCEDURES

| IP No. | Functional Area: Inspection Proc. Title | Frequency[1] | Est. Hours to Complete IP 1-Unit Site | 2-Unit Site | 3-Unit Site |
|---|---|---|---|---|---|
| | Plant Operations: | | | | |
| 71707 | Plant Operations | M | 60 | 84 | 108 |
| 40500 | Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems | SC | 192 | 192 | 192 |
| 71001 | Licensed Operator Requalification Program Evaluation | SC | 96 | 96 | 96 |
| | Maintenance: | | | | |
| 61726 | Surveillance Observations | BM[2] | 20 | 20 | 20 |
| 62703 | Maintenance Observations | M[2] | 15 | 15 | 15 |
| 73753 | Inservice Inspection | SC[3] | 32 | 32 | 32 |
| | Engineering | | | | |
| 37550 | Engineering | SC | 180 | 252 | 324 |
| 37551 | Onsite Engineering | BM | 13 | 19 | 24 |

[1] A = Annual B = Biennial BM = Bimonthly M = Monthly
SC = SALP Cycle EO = Every Other SALP Cycle See also 2515-04.

[2] For multi-unit sites, rotate the inspection effort among units, i.e., normally one unit each stated frequency. The rotation may be varied to allow observation of scheduled or unscheduled safety significant activities.

[3] Normally performed during a refueling or major outage. If no such outage occurs during the SALP cycle, the Regional Administrator may waive the requirement to perform this inspection procedure.

| IP No. | Functional Area: Inspection Proc. Title | Frequency | Est. Hours to Complete IP 1-Unit Site | 2-Unit Site | 3-Unit Site |
|---|---|---|---|---|---|
| | Plant Support: | | | | |
| 64704 | Fire Protection Program | EO | 25 | 25 | 25 |
| 71750 | Plant Support Activities | SC | 135 | 171 | 189 |
| 81700 | Physical Security Program for Power Reactors | SC | 60 | 84 | 108 |
| 82301 | Evaluation of Exercises for Power Reactors | B | 90 | 90 | 90 |
| 82302 | Review of Exercise Objectives and Scenarios for Power Reactors | B | 12 | 12 | 12 |
| 82701 | Operational Status of the Emergency Preparedness Program | SC | 35 | 35 | 35 |
| 83750 | Occupational Radiation Exposure | SC | 75 | 105 | 135 |
| 84750 | Radioactive Waste Treatment, and Effluent and Environmental Monitoring | SC | 75 | 105 | 135 |
| 86750 | Solid Rad. Waste Management & Transportation of Radioactive Materials | SC | 20 | 28 | 36 |

END

APPENDIX B

REGIONAL INITIATIVE AND REACTIVE INSPECTION PROGRAM PROCEDURES

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| | Plant Operations: |
| 36800 | Organization |
| 41500 | Training and Qualification Effectiveness |
| 42001 | Emergency Operating Procedures |
| 42700 | Plant Procedures |
| 60705 | Preparation for Refueling |
| 60710 | Refueling Activities |
| 61715 | Verification of Containment Integrity |
| 71500 | Balance of Plant Inspection |
| 71711 | Plant Restart from Refueling |
| 71714 | Cold Weather Preparations |
| 71715 | Sustained Control Room and Plant Observation |
| 86700 | Spent Fuel Pool Activities |
| 92709 | Licensee Plans for Coping with Strikes |
| 92711 | Continued Implementation of Strike Plans During an Extended Strike |
| 92712 | Resumption of Normal Operation After a Strike |
| 92901 | Followup - Operations |
| 93702 | Prompt Onsite Response to Events at Operating Power Reactors |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 93800 | Augmented Inspection Team Implementing Procedure |
| 93802 | Operational Safety Team Inspection (OSTI) |
| 93804 | Risk-Based Operational Safety and Performance Inspection |
| 93806 | Operational Readiness Assessment Team Inspections |
| | Maintenance: |
| 35750 | QA Program Measuring and Test Equipment |
| 49001 | Inspection of Erosion/Corrosion Monitoring Programs |
| 55050 | Nuclear Welding General Inspection Procedure |
| 55100 | Structural Welding General Inspection Procedure |
| 55150 | Weld Verification Checklist |
| 56700 | Calibration |
| 57050 | Nondestructive Examination Procedure Visual Examination Procedure Review/Work Observation/ Record Review |
| 57060 | Nondestructive Examination Procedure Liquid Penetrant Examination Procedure Review/Work Observation/Record Review |
| 57070 | Nondestructive Examination Procedure Magnetic Particle Examination Procedure Review/Work Observation/Record Review |
| 57080 | Nondestructive Examination Procedure Ultrasonic Examination Procedure Review/Work Observation Record Review |
| 57090 | Nondestructive Examination Procedure Radiographic Examination Procedure Review/Work Observation/ Record Review |
| 61700 | Surveillance Procedures and Records |
| 61701 | Complex Surveillance |
| 61702 | Surveillance of Core Power Distribution Limits |
| 61705 | Calibration of Nuclear Instrumentation Systems |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 61706 | Core Thermal Power Evaluation |
| 61707 | Determination of Reactor Shutdown Margin |
| 61708 | Isothermal and Moderator Temperature Coefficient Determinations |
| 61709 | Total Power Coefficient of Reactivity at Pressurized Water Reactors |
| 61710 | Control Rod Worth Measurement |
| 61720 | Containment Local Leak Rate Testing |
| 61725 | Surveillance Testing and Calibration Control Program |
| 61728 | Independent Measurement of RCS Leak Rates for a PWR |
| 62001 | Boric Acid Corrosion Prevention Program |
| 62700 | Maintenance Program Implementation |
| 62702 | Maintenance Program |
| 62704 | Instrumentation Maintenance (Components and Systems) Observation or Work, Work Activities, and Review of Quality Records |
| 62705 | Electrical Maintenance (Components and Systems) Observation of Work, Work Activities, and Review of Quality Records |
| 70307 | Containment Integrated Leak Rate Test - Procedure Review |
| 70313 | Containment Integrated Leak Rate Test |
| 70323 | Containment Leak Rate Test Results Evaluation |
| 70370 | Testing Piping Support and Restraint Systems |
| 72700 | Startup Testing - Refueling |
| 73051 | Inservice Inspection - Review of Program |
| 73052 | Inservice Inspection - Review of Procedures |
| 73755 | Inservice Inspection - Data Review and Evaluation |
| 73756 | Inservice Testing of Pumps and Valves |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 92902 | Followup - Maintenance |
| 93805 | Maintenance Program |
| | Engineering |
| 35701 | Quality Assurance Program Annual Review |
| 35702 | Inspection of Quality Verification Function |
| 36100 | 10 CFR Part 21 Inspections at Nuclear Power Plants |
| 37001 | 10 CFR 50.59 Safety Evaluation Program |
| 37700 | Design Changes and Modifications |
| 37702 | Design Changes and Modifications Program |
| 37703 | Test and Experiments Program |
| 37828 | Installation and Testing of Modifications |
| 38701 | Procurement Program |
| 38702 | Receipt, Storage, and Handling of Equipment and Materials Program |
| 38703 | Commercial Grade Procurement Inspection |
| 39701 | Records Program |
| 39702 | Document Control Program |
| 40501 | Licensee Self-Assessment Related to Area-of-Emphasis Inspections |
| 40702 | Audit Program |
| 40703 | Offsite Support Staff |
| 40704 | Implementation, Audit Program |
| 50001 | Steam Generator Replacement Inspection |
| 72701 | Modification Testing |
| 90700 | Feedback of Operational Experience Information at Operating Power Reactors |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 90712 | In-Office Review of Written Reports of Nonroutine Events at Power Reactor Facilities |
| 90713 | Review of Periodic and Special Reports |
| 90714 | Nonroutine Reporting Program |
| 92700 | Onsite follow-up of Written reports of Nonroutine Events at Power Reactor Facilities |
| 92703 | Followup of Confirmatory Action Letter |
| 92720 | Corrective Action |
| 92903 | Followup - Engineering |
| 93801 | Safety System Functional Inspection (SSFI) |
| 93803 | Safety Systems Outage Modifications Inspection |
| 93807 | Systems Based Instrumentation and Control Inspection |
| | Plant Support - General: |
| 92904 | Followup - Plant Support |
| 93001 | OSHA Interface Activities |
| | Plant Support - Radiological Controls: |
| 65051 | Low-Level Radioactive Waste Storage Facilities |
| 79501 | LWR Water Chemistry Control and Chemical Analysis - Audits |
| 79502 | Plant Systems Affecting Plant Water Chemistry |
| 79701 | LWR Water Chemistry Control and Chemical Analysis - Program |
| 80521 | Radiological Environmental Monitoring |
| 80721 | Radiological Environmental Monitoring |
| 83522 | Radiation Protection, Plant Chemistry, Radwaste and Environmental: Organization and Management Controls |
| 83523 | Radiation Protection, Plant Chemistry, Radwaste, Transportation and Environmental: Training and Qualifications |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 83524 | External Occupational Exposure Control and Personal Dosimetry |
| 83525 | Internal Exposure Control and Assessment |
| 83526 | Control of Radioactive Materials and Contamination, Surveys, and Monitoring |
| 83527 | Facilities and Equipment |
| 83722 | Radiation Protection, Plant Chemistry, and Radwaste: Organization and Management Controls |
| 83723 | Training and Qualifications: General Employee Training, Radiation Safety, Plant Chemistry, Radwaste, and Transportation |
| 83724 | External Occupational Exposure Control and Personal Dosimetry |
| 83725 | Internal Exposure Control and Assessment |
| 83726 | Control of Radioactive Materials and Contamination, Surveys, and Monitoring |
| 83727 | Facilities and Equipment |
| 83728 | Maintaining Occupational Exposures ALARA |
| 83729 | Occupational Exposure During Extended Outages |
| 84522 | Solid Wastes |
| 84523 | Liquids and Liquid Wastes |
| 84524 | Gaseous Waste System |
| 84525 | Quality Assurance and Confirmatory Measurements for In-Plant Radiochemical Analysis |
| 84722 | Solid Wastes |
| 84723 | Liquids and Liquid Wastes |
| 84724 | Gaseous Waste System |
| 84725 | Quality Assurance and Confirmatory Measurements for In-Plant Radiochemical Analysis |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 84850 | Radioactive Waste Management - Inspection of Waste Generator Requirements of 10 CFR 20 and 10 CFR 61 |
| 86721 | Transportation |
| 86740 | Inspection of Transportation Activities |
| | Plant Support - Emergency Preparedness: |
| 82201 | Emergency Detection and Classification |
| 82202 | Protective Action Decision Making |
| 82203 | Notifications and Communications |
| 82205 | Shift Staffing and Augmentation |
| 82206 | Knowledge and Performance of Duties (Training) |
| 82207 | Dose Calculations and Assessment |
| | Plant Support - Security |
| 81001 | Independent Spent Fuel Storage Installation(s) |
| 81018 | Security Plan and Implementing Procedures |
| 81020 | Management Effectiveness - Security Program |
| 81022 | Security Organization |
| 81034 | Security Program Audit |
| 81038 | Records and Reports |
| 81042 | Testing and Maintenance |
| 81046 | Locks, Keys, and Combinations |
| 81052 | Physical Barriers-Protected Areas |
| 81054 | Physical Barriers-Vital Areas, Material Access Areas and Controlled Access Areas |
| 81058 | Security System Power Supply |
| 81062 | Lighting |
| 81064 | Compensatory Measures |

| Inspection Procedure No. | Functional Area: Inspection Procedure Title |
|---|---|
| 81066 | Assessment Aids |
| 81070 | Access Control - Personnel |
| 81072 | Access Control (Power Reactor) - Packages |
| 81074 | Access Control - Vehicles |
| 81078 | Detection Aids - Protected Areas |
| 81080 | Detection Aids - VA, MAA, CAA |
| 81084 | Alarm Stations |
| 81088 | Communications |
| 81401 | Plans Procedures and Reviews |
| 81403 | Receipt of New Fuel at Reactor Facilities |
| 81431 | Fixed Site Physical Protection of Special Nuclear Material of Low Strategic Significance |
| 81501 | Personnel Training and Qualifications - General Requirements |
| 81502 | Fitness for Duty Program |
| 81601 | Safeguards Contingency Plan Implementation Review |
| 81810 | Protection of Safeguards Information |
| 85102 | Material Control and Accounting - Reactors |
| 85420 | Inspection of IAEA Safeguards for Inspectors at Power Reactors |
| | Plant Support - Fire Protection |
| 64100 | Postfire Safe Shutdown, Emergency Lighting and Oil Collection Capability at Operating and Near-Term Operating Reactor Facilities |
| 64150 | Triennial Postfire Safe Shutdown Capability Reverification |
| | Meetings and Other |
| 30702 | Management Meetings - As Needed |

END