ORIGINAL

UNITED STATES
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:	DOCKET NO:
SHEARON HARRIS NUCLEAR	50-400-OL
POWER PLANT	50-401-OL

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of:	:	
CAROLINA POWER AND LIGHT COMPANY and NORTH CAROLINA EASTERN MUNICIPAL POWER AGENCY	:	Docket Nos. 50-400 OL 50-401
Shearon Harris Nuclear Power Plant Units 1 & 2	:	

Raleigh Civic Center,
500 Fayetteville Street Mall,
Raleigh, North Carolina.

Monday, 10 September 1984.

The hearing in the above-entitled matter was reconvened, pursuant to adjournment, at 10:20 a.m.

BEFORE:

JAMES L. KELLEY, Esq., Chairman,
Atomic Safety and Licensing Board.

DR. JAMES H. CARPENTER, Member.

DR. GLENN O. BRIGHT, Member.

APPEARANCES:

(As heretofore noted.)

eb

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Witnesses	Direct	Cross	Board	Redirect	Recross
E. E. Utley) Harold R. Banks) Thomas S. Elleman) M. A. McDuffie)		3012	3071	3102	3108
Guy P. Beatty, Jr.) Richard E. Morgan) Charles R. Dietz) Patrick W. Howe)	3116	3126			

Exhibits

(None)

WRB/ebl

P R O C E E D I N G S

JUDGE KELLEY: On the record.

Whereupon,

E. E. UTLEY,

HAROLD R. BANKS,

THOMAS S. ELLEMAN,

and

M. A. MC DUFFIE

resumed the stand and, having been previously duly sworn, were examined and testified further as follows:

JUDGE KELLEY: A belated good morning, ladies and gentlemen.

We had said we would begin today at 9:30. I will just say that the Board was late by about a half an hour because our plane was off late and in late, and that is basically it, and I regret that.

We are going to reassess coming down by that plane the front end of the week, or running a little late to make things up, which we may do, depending on how we progress today, so that's our account, not our excuse.

MR. Runkle, you were a little later. What happened?

MR. RUNKLE: I had problems at the copy center this morning. It is really inexcusable to be this late.

JUDGE KELLEY: Well, we will all try in the future

WRB/eb2

to make it on time.

We think we should pass things like rulings on arguments and subpoenas and the like, and get on with the cross-examination. We have Panel Number 1 here for the fourth day, and the Board is of a fixed intent that you be through some time today. And we will do what needs to be done to bring that about.

Let me just check.

Mr. Runkle, I think you indicated during the end of Friday that you had a couple of hours questioning, primarily for Mr. Banks. Is that mainly it?

MR. RUNKLE: No, sir, Mr. McDuffie.

JUDGE KELLEY: I'm sorry.

Was I right about the hours and not the person?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: Okay.

Why don't we think in terms of you going from now until lunch, which will be some time after 12:00, two hours or so, and then hopefully you can finish your questioning and we could start going around the table. We may come back to you, obviously, if redirect or other questions raise new matter, but your initial go-round would be done by lunch.

MR. RUNKLE: Excuse me. I'm having a little difficulty finding, your Honor, my exhibits.

JUDGE KELLEY: Very well.

NRB/eb3

CROSS-EXAMINATION (Continued)

BY MR. RUNKLE:

Q Mr. McDuffie, can you put before you JI-16 which has been identified and handed out to all the parties?

A (Witness McDuffie) Yes, I have JI-16.

MRS. FLYNN: Excuse me. Does Mr. McDuffie need a copy of JI-16?

MR. RUNKLE: No. I was looking for a copy of the one that had the productivity on it.

MRS. FLYNN: JI-13? Do you want my copy?

MR. RUNKLE: Yes, if I could. I will use that later on today.

BY MR. RUNKLE:

Q Are you ready to proceed?

A (Witness McDuffie) Yes.

Q Sir, in your position as a senior vice president for nuclear generation, are you familiar with the staffing levels at the different nuclear reactors?

A I'm familiar with the staffing levels at Robinson and Harris.

Q So you could turn to page 2 of this document and state whether these staffing levels for the Robinson plant were accurate, could you not?

A Yes.

This chart indicates that number of positions that

had been approved by management for the Robinson plant, and it also shows the actual positions that were filled at the Robinson plant.

Q And some time last week you had stated that there were 462 CP&L employees at Robinson, did you not?

A Yes, that's the number on the report that I used which was dated the middle of August.

Q So that would be August 1984?

A Yes, that's right.

Q So to complete the staffing level table in this JI-16, could we not put as actual employees as of August '84 the number 462?

A Yes.

Of course there is a difference in the two numbers in the two charts.

The Robinson project was reorganized last September, September of '83, and we assigned a manager for the project and some of the support functions that previously reported to other departments are now part of the Robinson nuclear project.

The numbers on JI-16 are the numbers reporting to the plant general manager. The plant general manager reports to the project manager and is responsible for the operation and maintenance of the plant.

Q So it would be fair to say that at this time the

WRB/eb5

462 is a full complement for the Robinson plant, is it not?

A Well, it's the number that were at the site the middle of August. There are some open positions at the site. The approved complement is 515, which has been approved by management, and those people could be employed if the project manager determined that he needed them.

Q So there would be 53 positions that have been approved by CP&L management and not filled. Is that correct?

A At this time, yes.

Q Do you expect to fill those positions in the future?

A Our present plans are not to build the organization up much above the current level. We are in a major outage at that project, and we have some construction personnel who may or may not be needed in the future. Certainly not the long-term future we would not feel they will be needed, and we will be reducing some construction personnel and possibly adding some more to operations.

Q When does Robinson expect to be back on line?

A Our schedule at the time we shut the plant down and made the decision to change the steam generators was to get back on the line in early December. At this time we are some few weeks ahead of that schedule and would expect to get back on line hopefully by November.

Q And when the plant is back on line and running

WRB/eb6

like it should be running, what size staff do you estimate would be needed at the Robinson plant?

A Well, we will maintain this organization, you know, somewhere between 460 and 500 for some time in the future because we still have other modifications to make at the plant over the next couple of years. They are not modifications that require long outages, but it will require continuing engineering and construction support.

Q And this present outage, when did it begin?

A The plant came down in January to inspect a steam generator leak, and the inspection indicated that it would not be prudent to operate that unit any longer, and we actually started the steam generator change-out in February.

Q And when you talk about looking at the steam leak, what kind of construction does that entail?

A Well, it's a major repair. The steam generators are vessels that weigh several hundred tons. There are three. The old steam generators had to be cut out and removed from the containment, and new ones installed, and there are several support modifications that also are being made during this outage.

The force at the plant during this particular outage has reached as many as 2,000 people at the site.

Q But a good proportion of that 2,000 would be for the construction crew. Isn't that right?

WRB/eb7

A Yes.

Q And right now you said you are running ahead of schedule, did you not?

A We are slightly ahead of the schedule that was set to complete the outage in December.

Q While you are in outage, what other repairs or maintenance did you make to the Robinson reactor?

A Well, there are over a hundred modifications that are being made, some very small, some as large as the steam generator change-out.

Some of the more notable ones are that we have installed a condensate demineralizer system to assure even better water for the new steam generators.

We put in a new makeup water system.

We have had a complete inspection of the turbine generator and many other lesser modifications.

We have attempted to schedule the items of work that were needed either for regulation or to make the plant more reliable that required outage time. We have attempted to make the fullest use of this outage to get the plant in condition for continued operation.

Q When did it come to CP&L's attention that the steam generators needed to be replaced?

A The steam generators that were installed-- I'm not sure but I suspect we had a leak as long ago as ten years.

WRB/eb8

Certainly that was not unusual enough -- to the extent that we would consider replacement because it is possible to plug a good many of the tubes in the steam generator before it need be replaced.

But over the years the condition did continue. We had leakages and we made repairs.

Some of the units in Florida and Virginia that are similar to the Robinson unit and came on the line after the Robinson units already have replaced steam generators. So we were able to enjoy operation beyond that of some of our neighbors.

A couple of years ago it became apparent that at some point we would have to change the steam generators and we went ahead and placed an order for replacement steam generators. They were received at the site very late last year and actually were needed within about two months of the time they were received. So we had anticipated the changeout and had made preparations.

At the time we ordered them and at the time we received new steam generators our planning was on the basis that we had hoped we would not have to change them out until this summer, so the outage was advanced some months earlier than our plan.

Q Why did you advance the outage from some time in the summer to late January, February of this year?

WRB/eb9

A Well, we had reached a point that every time we had a leak, the NRC required that we make a full inspection of the steam generator, and the inspection would take about three weeks, and we could then go back on the line and operate about three full power months. I don't have the details. The people from the Robinson site can fill you in at some point later.

But the last several inspections we were not able to operate between inspections for three full power months, so that the life of the generators was failing fast.

Nevertheless when we shut down in January, it was our intention to plug the leaks and come back on the line. The inspection indicated that the tubes were failing at a rate that it would just not be prudent to try to plug the number of tubes that were indicated they would leak and to come back on the line.

So we had the steam generators at the site. We had done considerable planning. We did have contracts in place for the major work, so management made the decision to go ahead and change the steam generators at that time.

Q So when you were-- Over the last several years when you would be plugging up the tubes which were leaking, what tubes were these?

A Well, a steam generator has about 4,000 tubes in it, and if any one of them leaks you have to shut it down and

WRB/eb10

fix it. The tubes that were detected as leakers were throughout the vessel.

Q And when a steam generator tube does leak, what is admitted into the environment from that leak?

A Nothing. It's a closed system. The steam generator is closed on one side with the reactor vessel, and it is closed on the other side through the turbine generator and the condenser. And of course you don't want the part of the system that is on the reactor side leaking into the turbine and the condenser. And that's the reason when you get a leak you shut it down.

Q But the closed steam generator system is not in any way radioactive, is it?

A I'm sorry, I didn't understand your question.

Q Is the steam generator system, is that in any way radioactive?

A Yes.

Q So that would be radioactive water that was leaking from these tubes?

A Into the cycle that goes to the turbine and back to the condenser and back to the steam generator.

Q How often were these tubes from the steam generator being inspected?

A Well, they have a detection system that the operators are aware of any leakage, and there is a requirement

WRB/eb11

on what the amount of leakage can be before you shut down and make an inspection. I don't have the number, but it is a fairly small number, and when you reach that point then you shut down and make the inspection.

B2

Q What other modifications need to be conducted at the Robinson plant?

A There are some modifications pending that it's the judgment of management they will make the plant more reliable, more efficient, and reduce the amount of material that we would have to ship offsite.

We have in design a new facility to assist in minimizing the amount of waste that will be shipped from the site, a new addition to the radwaste plant.

We have a modification that has been started to install a new security system and a second point of access to the plant.

We have a modification in engineering to make an addition to the training facility at the site, and have on order a simulator to further assist in our training of operators at the site.

End WRB 1

WRB 2 fls

WRB/pp 1
#2

Those are some of the major modifications we're looking at in the future.

Q What will be the function of the new facility that minimizes the radwaste shipped offsite.

A Well, it will further treat and consolidate waste that's generated at the site.

Q So that would be a treatment facility?

A Yes.

Q Well, do you have plans -- any alterations, modifications, in any of the safety related equipment.

A I cannot cite any. We have some work in connection with Appendix R which is fire protection. But we are expecting to complete, virtually complete, that modification during this outage. We have an NRC requirement to recheck some of the hangars at the site. We still are expecting to finish that review and any necessary changes during this outage.

Q So you will be rechecking the hangers during this outage?

A We're rechecking some of the hangers. Many of them had been rechecked previously. But the latest requirement cited some hangers that needed an inspection and in some cases a reanalysis. That work is in progress.

Q And from those hangers that were checked previously how many needed to be rechecked?

WRB/pp 2

A I believe it was necessary to recheck all the safety hangers. I do not have a number on the ones that it was necessary to make changes.

Q Would the panel discussing Robinson be able to supply that information?

A I think so. The hangers, of course, were inspected at the time we built the plant. And were installed to meet the specifications and requirements at that time. But the specifications and requirements in the late 60's was no where near what it is today.

Q Sir, I'd like to draw your attention to what has been previously put into evidence as Applicant's Exhibit 1.

A You're talking about JI 13.

Q No sir, Applicant's Exhibit 1 which are the sections from the Final Safety Analysis Report. It's a fairly thick document.

A Yes, I have that.

Q Starting about -- well, starting at page, the number at the bottom is 13.1.2-12.

Sir, are you familiar with this page?

A Yes.

Q And what does this table include?

A This is an estimate in loading for the operational and maintenance staff at the Harris project.

Q And when you say operation and maintenance staff,

WRB/pp 3

would that be all the staff at the Shearon Harris once it's in operation?

A No. As we just discussed at Robinson. We have put the Harris project under a project manager. In the case of Harris, it's a corporate vice-president who is located at the site. And he has all the functions related to engineering, construction, and operation reporting to him. And one of the major functions reported to him is the operation and maintenance of the plant which is headed by a general manager

And this is the general manager's estimate of the staff that will be required for him to operate and maintain the plant.

Q And those would be the next several pages, would be the general manager's estimate of staff loading, would it not?

A At this point.

Q How many additional staff members under the corporate vice-president or elsewhere in Shearon Harris would you be expected to have when the plant was in operation?

A I believe when I talked to you earlier we said that the Harris nuclear project had authorized positions of 789 and presently we have 729 at the site. This is a number that will be under review and at this point it's our judgment that the number is in excess of what will be required to operate the plant. Because it does include numbers of people in engineering and construction required to finish the plant. These people

WRB/pp 4

will be available to support operation maintenance and we'll be reviewing those individuals and moving any into the operations section that are necessary.

Q In looking at the projected staff loading at Harris that we have before us, I added up those figures and got 406 employees. Plus an additional 46 for startup and testing. Would you accept that subject to check?

A Yes.

Q How many more employees would be needed at Harris besides this 406?

A To operate and maintain the plant?

Q Yes.

A This is our estimate now of what it will take to operate and maintain the plant.

Q But between now and when the plant might go into operation you would assess -- you would re-examine these numbers, would you not?

A We will?

A (Witness Utley) I would like to point out that we continually evaluate the staffing in all of our plants. And when you talk about the number of people that would be required when we place Harris plant in service, we've got to make adjustments depending on what regulations take place between now and that point in time, in addition to any other needs that are recognized by management.

WRB/pp 5

The projection we're looking at today is one thing. What will actually be the case at the time we operate, could be something different.

Q So this would be your best estimate at this time, is it not?

A That's correct.

Q Mr. McDuffie, also in Applicant's Exhibit No. 1, there are resumes of quite a number of the staff that you expect to use at Shearon Harris, are there not?

A Yes.

A (Witness McDuffie) Yes.

Q In looking over those resumes what would you say that the major qualification -- excuse me -- the major educational background of those personnel would be?

A Well, I think from an educational standpoint most of them studied engineering.

Q And you would expect some of those in the environmental section would be -- would have other degrees, but scientific degrees, would you not?

A Yes.

Q Are most of the staff at, say, Robinson plant mostly engineers?

A Well, when you get into "most" of course you get below the management and supervisory level. And for the entire organization I don't think it would be predominantly

WRB/pp 6

engineering.

Q Well, would it be fair to say that in the managerial and supervisory levels most of the staff at Robinson would be engineers?

A Yes, I think that's true.

Q And the same would be in Harris when it comes on line?

A Management supervision, yes.

Q Sir, to the best of your knowledge are any of the CP&L personnel slated to be at Harris when it's in operation -- do any of these have a medical background.

A I would guess that some of the people in the operation may have been in the Navy, may have been involved in some kind of medical work. But I can't cite you in an estimate.

Q Would some of these also have a background in personnel management?

A It's possible that they could have had some related experience but management of the personnel will be by the project manager and his organization. Now personnel matters and recruiting and some administration of the personnel policy will be handled by employee relations department, which will have an office and a staff at the Harris site.

Q Would you expect any of the managerial and

WRB/pp 7

supervisorial levels besides the employment to have any personnel training?

A Well, I think all of us that have been supervisors or managers have had some personnel training.

Q Sir, if we were to look at any numbers of these projected staff for the Harris plant once it's in operation, where would you say that most of them receive their training in nuclear operations?

A Many of them have had prior training but most of them are going to receive training by CP&L. We have been mobilizing an operating force almost since the day construction started. We have had a nucleus of the organization in our general office. The organization moved to the site in permanent facilities in 1981 and they have three key activities going on at this time. They are training the people. They are preparing procedures for startup operation and maintenance of the plant. And they're starting up the plant. So we have a force at the site now that the number one assignment is training. Beyond that we have three operating plants, which is conducting training programs. And people are gaining experience. Some of these folks will be available at the site. So extensive training will have been completed by CP&L. Many of our employees receive training in nuclear activities prior to joining our company.

A (Witness Utley) I think the important thing to

WRB/pp 8

look here is the fact that the NRC has certain requirements for many of the positions that function in the operation of these plants and it has been CP&L's position all along that these people will meet these requirements as a minimum. And in many cases, exceed the requirements.

So I think if you're looking at it from that standpoint you'll find us well qualified.

Q We can go through the rest of Applicant's Exhibit 1 and look for resumes of specific people that would fill the various positions you would expect to be Harris, can we not?

A (Witness McDuffie) These are people and resumes who are now in the organization.

Q And can we expect that most, if not all, of these people would still be at Harris when it began operation.

A Yes.

Q So we could go through the different resumes and look at education, training, experience, could we not?

A Yes.

Q And at the same time we could determine which of the staff that will be at Harris when it is operating to see if they had prior experience with the other CP&L reactors, could we not?

A Yes, if they are the ones included in these resumes.

Q But the resumes would include primarily the managerial and some of the higher supervisorial staff, do they

WRB/pp 9
End B2
WRB fls
B-3

not?

A Yes, that's true.

Q Sir, and when I'm going to get in front of you now. JI Exhibit 13. It has been distributed to all parties and it has Cross Exhibit on it but it should be remarked JI 13.

A Yes, I have that

Q Are you familiar with this document?

A Yes. This is a document that was used in some of my testimony at a rate case before the North Carolina Commission this year.

Q And that would be the North Carolina Utilities Commission?

A Yes, sir.

Q And they would have authority to send rates for CP&L and all their production and everything else, would they not? In other words, they are the principal regulatory body in the state of North Carolina over CP&L, are they not?

A Yes, that's true.

Q And this would be part of your testimony at the latest rate case before the Utilities Commission, was it not?

A That's true.

Q Could you describe what this document is?

A This is a document that compares the productivity rates at the Harris project and major construction categories with data furnished us by others doing similar work.

WRB/Pp 10

Q In these others, how many construction sites would this data be from?

A I don't recall exactly how many sites because at least one of them was a site that had two units and the data does represent 12 generating units. It represents a design by four A-E's, plus one utility. It represents construction by four contractors plus one utility.

The people with whom we share this data told us that the status of the project was that one of them was 50 percent complete. All the others were more advanced. And at least one of them is in operation.

We were attempting to compare data with plants that were at somewhere about the same stage of construction as our Harris project.

Q And these would all be PWR's, would they not?

A They are all PWR's, yes.

Q And in your opinion they would be a fair representation of nuclear power plants under construction across the United States?

A Well, I think the study does go across the United States. These are numbers that we use to maintain a feeling that what we're doing does compare favorably with the rest of the country. But you've got to understand that our primary concern is productivity at our particular site.

And our measurement of that on a day to day basis --

WRB/pp 11

these studies are for support and education more than anything else.

Q And of the plants that you're comparing your productivity rates, is Seabrook one of those plants?

A I believe I told you at the rate case that Seabrook was one of them. But we do not wish to make known what plants are in our study. That's the terms under which we gain this information. We check with our various projects. Told them that we measure our work on a day to day basis. We're concerned about the planning, the methods we use. And our own estimates. But we are interested in how other people are doing. Let's trade information.

So we trade on the basis that we will not make public each other's numbers.

Q I also asked you at that previous rate hearing about one other plant, did I not?

A Yes I believe you asked me about Wolf Creek.

Q And was that another one in this comparison?

A Yes.

Q Okay. Let's just take the first one. It says at the top, "Concrete" does it not?

A Yes.

Q Over on the lefthand side it says MH/CY. What would that --

Q That's man hours per cubic yard of concrete in place.

WRB/pp 12

We compare our productivity rate on the basis of man hours because there is a difference in labor costs at different places in the country.

JUDGE KELLEY: These are charts showing productivity on workers in construction at Shearon Harris, right?

MR.RUNKLE: Yes, sir.

JUDGE KELLEY: Could you indicate to the board how that ties in with the contention and what it has got to do with management capability --

MR. RUNKLE: Well --

JUDGE KELLEY: -- with regard to the health and safety of the public in operating this plant.

MR. RUNKLE: Yes, sir.

The management of CP&L particularly at construction of Shearon Harris sets productivity measures. Some of these are on a day to day basis. Some on a longer term basis. And this exhibit gives several of those areas, describes what kind of productivity the management makes their assessment on.

JUDGE KELLEY: I didn't follow the last part. What kind of productivity the management makes their assessment on. I don't know what that means.

MR. RUNKLE: Okay. Different areas would have different productivity rates, different measurements of how productivity is determined.

WRB/pp 13

JUDGE KELLEY: Concrete might differ from pipe and so on?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: Okay.

MR. RUNKLE: And just to get a feel for how those productivity rates are established.

JUDGE KELLEY: So what? Why are we interested in that?

MR. RUNKLE: After we introduce this in evidence, I have a line of questions on the different productivity measures. This is one tool that they used for establishing productivity rates.

JUDGE KELLEY: Why do we care about productivity at all? Let's suppose that their workers are rather unproductive. Let's say they are more careful at other sites. So doing what they're doing, welding, pouring concrete, so that the productivity rate at Seabrook is much higher, what do we infer from that? Maybe that's favorable. Maybe it is something I'll quote -- what -- I don't see the relevance of all this.

MR. RUNKLE: Okay. If you would -- well, in looking at the productivity rates in these major construction areas. Shearon Harris personnel are more productive. They do more cubic yards per man hour than other utilities. And I think it will be a fair comparison in productivity to safety.

WRB/Pp 14

The more productive a worker is, perhaps the less safe that worker would be. I mean I have not established this yet. I expect to do this between now and lunch time.

JUDGE KELLEY: That's why I asked you now. I just fail to see the connection.

You can give it a go. I mean I'm not going to object. I'm not a party. But I just wondered where this was all heading.

Go ahead for now, anyway, but I will phrase my scepticism that this has much to do with the matter before us and, moreover, the fact that it's got something to do with it, doesn't necessarily mean that it ought to be in the case. There are all sorts of things that have something to do with management if you twist it far enough. And we're, after all, looking for the things that have a fairly direct nexus on something that is collateral, so far removed you kind of shrug your shoulders when you hear it said. But go ahead. Give it a shot.

MRS. FLYNN: Mr. Chairman, can Applicant's just say we don't see the relevance of this line of questioning either. Nor can we see that anything exists in the record nor can we see how it can be shown to exist. That there is some sort of nexus between productivity and safety in operating the Harris plant. We will not object now but we are not waiving our right. We will wait and see how this goes.

WRB/pp 15
AGB fls.

But it seems that he has an obligation to tie this up fairly quickly.

JUDGE KELLEY: I think we would like to see the relationships emerge here fairly soon, if you can. Go ahead and give it a try without prejudice to your right to object.

BY MR. RUNKLE:

Q Sir, as you stated previously, MH/cy would be man hours per cubic yards poured, is it not?

A (Witness McDuffie) Yes, that's true.

Q And of the different areas, MH would stand for man hours?

A Per square foot, per ton, by yard, per linear foot. It's a unit of work per man hour.

Q And then this series of six being comparison of productivity rates, does construction at Harris -- how does it compare to the other reactors in this study?

End #3

#4 AGBwbl

WITNESS MC DUFFIE: We're not talking about dollars, your Honor; we're talking about manhours.

JUDGE KELLEY: Just a minute ago I thought you were talking about dollars. I'm sorry; what are we talking about?

WITNESS MC DUFFIE: Manhours.

JUDGE KELLEY: All right.

WITNESS MC DUFFIE: A unit of work by the hour, and not related to the dollar cost of that hour's work.

JUDGE KELLEY: There are no dollars in it at all?

WITNESS MC DUFFIE: No dollars in it at all. You're absolutely right.

JUDGE KELLEY: Thank you.

WITNESS MC DUFFIE: The labor rate here is less than--

JUDGE KELLEY: But that's irrelevant for this purpose?

WITNESS MC DUFFIE: That's right.

JUDGE KELLEY: All right.

Go ahead.

BY MR. RUNKLE:

Q. So what you're saying is that in fourteen of these sixteen comparisons productivity at Harris is less than the average? -- excuse me; is greater than average?

A. (Witness McDuffie) It's better.

AGBwb2

Q. It's better than the average.

A. Yes.

Q. And in several of these, is it not true that productivity at Harris is the greatest in this study?

A. I believe there are three in that category.

JUDGE KELLEY: Could you give an example, just we can follow this?

When you say "there are three," which three are you talking about?

WITNESS MC DUFFIE: On the second page, cable terminations. The manhours are at the lower lefthand corner, and the manhours are controlled on the basis of work for each cable termination. And you can see, of the plants we talked to, that one of them had estimated that each cable termination would take almost two manhours. The average of all the plants was that each cable termination would take just over one man-hour per termination.

The lowest estimate in the group was somewhere down about .6 man-hours. Our estimate is slightly above the lowest estimate. The solid vertical line is our actual to date, but we still have a long way to go on electrical, and the indications are that the average will move on up closer to the estimate.

Q. And there would be several others where Shearon Harris would be the low end, would there not?

AGB/agb1
flwsAGBwb2

A. Yes, at this point.

Q. So would it be fair to say that in these areas the workers at Harris are more productive and are doing more work per man-hour than the other comparable nuclear reactors?

A. I sure --

MR. BARTH: Your Honor, the Staff objects -- Mr. McDuffie, there is an objection pending.

The Staff objects, one, to the question and, two, the line of questioning and five minutes having been passed, your Honor, there is no connection having been shown between what it costs in terms of man-hours to pour concrete or lay cable or pull cable in Carolina Power and Light and the contention, which is that the Applicants have not demonstrated they can operate the Shearon Harris plant safely and that's what we're here to litigate, not how much it costs these people to pour concrete.

So we object both to the question and to the line of questions, your Honor.

MRS. FLYNN: Applicants now object to the line of questioning.

JUDGE KELLEY: Could you repeat the question, just the exact question?

MR. RUNKLE: It was a summary question on this chart and I will try to state as close as I can get to it.

agb/agb2

BY MR. RUNKLE:

Q Is it fair to say that in several of these areas, of the 16 areas on JI 13, the workers at Harris are more productive or are having more work done per hour than the other comparable utilities or reactors?

JUDGE KELLEY: I will allow the question.

WITNESS MC DUFFIE: Well as I've said, I wish I could say that that's true. We would like to be the best in every category.

But in most of these categories there is at least one utility that's lower than us and there are, in some cases, others.

Productivity is related to many things. One of them is if your people are very productive and doing it wrong, then you'll have to do it over and then your productivity rate will not be good.

So a low productivity rate not only indicates that you've got a job that's planned and supervised well, but that you are doing it right the first time. And we stress that.

I think the real measure of quality, though, is the inspection reports and the QA audits that are being made at the site.

JUDGE KELLEY: Okay. We have an objection to the line of questions. If I hear you correctly -- I think both

agb/agb3

parties -- you say that at this point the requisite nexus has not been shown to exist --

MRS. FLYNN: That's correct.

JUDGE KELLEY: -- basically, right?

Mr. Runkle, do you have something else beyond this? I don't see in this -- let's suppose that you do demonstrate that if Shearon Harris isn't the most efficient workforce in the industry it is pretty close -- and these statistics seem to suggest that their productivity rate is quite high compared to the others that they were compared to--how do you get from that proposition to the proposition that high productivity means unsafe work; which I gather is your thesis?

MR. RUNKLE: I would like to ask Mr. McDuffie about other measures of productivity; how he, as manager of the construction as Shearon Harris, assesses and evaluates what his workers have done, whether productivity rates are set -- he said this is one among many tools with which they measure the actual job done.

MR. BARTH: Your Honor, we would --

JUDGE KELLEY: I'm still not clear how that leads one to view this as evidence of lack of safety. You haven't liked it up yet. Are you going to get there and, if so, how?

MR. RUNKLE: Well some of these other witnesses

agb/agb4

-- Mr. Maxwell can discuss a couple of these areas, where there have been violations or other deficiencies and pinpoint specific problems, say, with welding or the cable terminations.

The latest SALP reports also discusses different areas of violations and several ones are the same areas that are in this chart.

JUDGE KELLEY: You mean you are going to be able to show a correlation between high productivity as depicted in various of these charts and high violation of NRC rules and that sort of thing?

MR. RUNKLE: That's my intent at this time. You know, I'll do my best to make that correlation.

JUDGE KELLEY: Well I guess I'm asking: are you representing to me that you can or you think you can?

MR. RUNKLE: Yes, sir.

MRS. FLYNN: Mr. Chairman, Applicants maintain that he can't. The most recent SALP report, in fact, indicates that performance across the board at the Harris plant have been very good, that there are no significant weaknesses in any of the functional areas evaluated.

Moreover, Mr. McDuffie has just stated that in his expert opinion a high productivity rate means not only that work is being done quickly but it's being

agb/agb5

properly, so that there is no repetition. So he's not going to be able to establish it with this witness and he's not going to be able to establish it with the current SALP report.

MR. BARTH: Sir, I would like to add to that and confirm that Mr. McDuffie's testimony just a moment ago was that rework and fix-up was included within productivity, and therefore these figures include all kinds of violations and defects that they may have. So any further testimony of violations or defects would not affect the figures.

I again assert that there is no nexus between the rate at which these people pour concrete and the contention, which is, can they safely operate the plant, and the Atomic Energy Act which requires that they be technically qualified to do so, which are the sets of parameters for the hearing, not whether they are efficient at construction in terms of cost.

JUDGE KELLEY: Mr. Runkle, any further response?

MR. RUNKLE: In just reviewing the fourth SALP report, in several of these areas it states that the NRC should not lessen their amount of supervision, that these are areas that they are still looking at.

JUDGE KELLEY: What are you referring to, let me catch up with you, SALP IV?

agb/agb6

MR. RUNKLE: Yes, sir. It is not into evidence yet, it has not been identified yet.

JUDGE KELLEY: That was what the Staff was going to introduce at some later point?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: Well realistically, does any counsel foresee objecting to the introduction of SALP IV?

MRS. FLYNN: No.

MR. BARTH: We will not object.

I would like to point out, your Honor, that the opening statement by Mr. Runkle was that the fourth SALP report showed the NRC could walk away from the plant; now Counsel's statement is that they will give it closer supervision. I think we ought to have some kind of consistent position by Counsel.

JUDGE KELLEY: Could we find the part of SALP IV that -- I wonder if Counsel could direct us to the portion of SALP IV that bears on that?

(Pause.)

I guess, Mr. Runkle, are you saying that SALP substantiates a relationship between high productivity and penalties?

If so, where is that? Where do you find that?

Or other counsel, if you want to point us to particular pages, we'll take a look at this.

agb/agb7

MR. RUNKLE: Page 68 of the SALP report gives a summary of the different violations and everything at the Harris plant.

JUDGE KELLEY: Just a minute -- Okay.

May I ask if a CDR is an NRC term?

Mr. Barth, is that an acronym that we made up or whose term is that?

MR. BARTH: Your Honor, may I have Mr. Jones address that one point, who is more familiar with it?

JUDGE KELLEY: All right.

MR. JONES: I think that that is frequently known in the NRC as a 50[illegible]e) report.

JUDGE KELLEY: Okay.

(Pause.)

Those categories on page 68 don't appear to match up with the categories on productivity in this chart, with the possible exception of welding.

MR. RUNKLE: Yes, sir, and also on the enforcement actions in Number Three on the different violations. There is a whole series of enforcement actions on Harris in the SALP IV report.

JUDGE KELLEY: Okay. Well just taking it a piece at a time now, I don't see a match except possibly in welding. These other categories on page 68: mechanical, electrical, QA, design analysis -- they're

agb/agb8

not in these productivity measures, are they?

MR. RUNKLE: And hangers would be welding also.

And in the violations, there is a series of violations for pipe hanger and piping; in fact, there are nine of them that I can see. That's on a different page.

JUDGE KELLEY: You're going too fast for me.

MR. RUNKLE: Now look at page 56. It lists nine violations in the area of pipe hangers and piping insulation.

JUDGE KELLEY: Now you think that correlates with the hangers productivity rate measure?

Maybe it doesn't, I don't know.

MR. RUNKLE: Well I was hoping that I could have the witness establish some of those connections also.

JUDGE KELLEY: Sure, I understand that but we're trying to find out whether there appears to be -- the Board is very skeptical about this line of questioning, I'll be very frank with you. It seems to me that it involves a lot of steps and steps on top of steps to reach anything and we think it's pretty marginal no matter how you look at it. So we're going to have to be convinced that it's worth pursuing.

So you've got six violations in welding, to take an example, during the reporting period which I gather was about a year and during the reporting period

agb/agb9

how many thousands of welds had been made -- I have no idea, it may be a lot. And we look at this productivity thing for all welding, I gather, and it comes up with some number. Do you really think six violations shows much of anything one way or the other?

MR. RUNKLE: I think you can draw the correlation that there are more violations in areas that they have higher productivity.

JUDGE KELLEY: We're going to take about a five minute or so break, which means no more than ten and have a cup of coffee and then we can talk about this matter and then we'll rule on it.

MRS. FLYNN: Mr. Chairman, before we go off the record could I make a correction -- or ask Mr. McDuffie to clarify something?

I believe that when he was discussing high productivity rates, he misspoke and used the word "low" instead of "high." I think the record needs to be corrected.

JUDGE KELLEY: Okay. Good.

Will it be obvious where this correction should be made?

MRS. FLYNN: His last substantial answer.

JUDGE KELLEY: Fine. Thank you.

MR. RUNKLE: Sir, you're not going to make a

agb/agb10

ruling on this over the break, are you?

JUDGE KELLEY: Yes.

MR. RUNKLE: Well I have other arguments, too.

JUDGE KELLEY: Go ahead.

MR. RUNKLE: In the transcript on the ACRS, Mr. Maxwell -- who will be on the stand for the NRC -- excuse me, it was Mr. Bemis who said it, on the NRC Staff --

JUDGE KELLEY: I didn't understand the reference to the transcript on the ACRS....

MR. RUNKLE: Well we have a transcript of the ACRS hearing and it's some of the witnesses that are coming up later on and we will ask them about that specifically --

JUDGE KELLEY: This was a meeting held by the ACRS down here and the public attended and so forth?

MR. RUNKLE: Yes.

JUDGE KELLEY: Fine. Go ahead.

MR. RUNKLE: That in two of the areas where the highest productivity has been, cable termination and pipe hangers, work had to stop on those two specific areas because of alleged problems and violations and -- because of those two.

And we would--in our cross-examination of the NRC Staff witnesses, I think we can supply the nexus on those two particular ones that I know of right now; can

agb/agb11

make a showing that in those areas that are higher in productivity there would be more problems.

JUDGE KELLEY: I'm sorry, did you say that the witness at this hearing or meeting was Mr. Bemis?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: And he is to come later.

MR. RUNKLE: But the bottom line is -- what we are arguing is that in the construction of Harris the bottom-line management tool appears to be now -- and some of the things that Mr. McDuffie has substantiated -- is that it is based on productivity.

MRS. FLYNN: That is precisely not what Mr. McDuffie said. Mr. McDuffie said that the best indicator of performance in those areas are the QA inspection results and the NRC enforcement statistics.

JUDGE KELLEY: Go ahead. Anything else?

MR. RUNKLE: At this time that is the argument that we would go through in the next couple of days with the different witnesses. We think that there is a nexus here between the two.

JUDGE KELLEY: Are you indicating -- Let me just get clear how this fits into the scheme of things in your case.

You are here and you're asking Mr. McDuffie some questions and we're following that and that's going

agb/agb12

to be done about lunchtime.

Was this productivity and its relationship to safety then -- you say the next couple of days you are going to spend on that point?

MR. RUNKLE: No. A little bit with each of the other witnesses on the Harris panel --

JUDGE KELLEY: Okay. I understand.

I think we'll take --

MR. BARTH: Your Honor, may the Staff have a very short brief word?

JUDGE KELLEY: Brief, yes.

MR. BARTH: I think that from our point of view there has been no showing of nexus between a violation -- as you pointed out, six in the pipe welds and the amount of pipe weld work done. Therefore there is no correlation shown, no correlation could be shown.

You have a tenuous situation that the pipe weld violations found by the NRC are related, of course, only to inspections: if they don't inspect, they don't find them.

So you have the whole problem of how many inspection hours would go in, how many inspection hours were on the other plants which were compared in Exhibit 13 -- Exhibit 13 basically is a comparison between CP&L and other plants. We have no idea what the violations per

agb/agb13

cubic yard of concrete are per man-hour on the other plants.

This is a comparison without any kind of basis at all in sound statistics. There is no way from the evidence we have had that Mr. Runkle can show the movement of the least squares around the arithmetic mean of the violations for pipe welds and the movement of the least squares around the arithmetic mean of the concrete pours. There is just no statistical relationship to be shown.

From our point of view, this is unrelated to the contention, which is whether these people can safely operate that Harris plant.

Thank you, your Honor.

MRS. FLYNN: May the Applicants make one final point?

JUDGE KELLEY: Your last clear chance. Go ahead.

MRS. FLYNN: That is that of all of the violations that are listed in the SALP report most are Level V violations, there are a few Level IV's, there are no Level III's.

And again across the board in all functional areas the NRC found that these were isolated events, not indications of any programmatic problems.

Finally, in each functional area, there is a category two or one rating given.

Thank you.

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JUDGE KELLEY: Okay. We'll break for five or ten minutes.

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(Recess.)

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JUDGE KELLEY: Back on the record.

We have a pending objection from the Applicants and the NRC Staff to the Intervenors' line of questioning directed to their Exhibit 14. That in turn relates to-- I'm sorry, Number 13, that is. That relates to some productivity data in various areas of construction of the Harris plant. And upon discussion among all parties and the Board, the issue came down to whether there is a relationship or a sufficient relationship between productivity data of this nature and the propensity of the construction people to do unsafe work.

The Board is sustaining the objection to this line of questioning. It is obviously evidence of construction activity at the Harris facility and as such, it is generally less direct and less persuasive than evidence bearing on operation at the other CP&L plants. We said that last week as a general proposition. This means in turn that we have a lower threshold of exclusion for construction type evidence than we do of evidence relating to operations.

If a party is seeking to offer construction evidence then its relevance to operations or its nexus to operations ought to be direct and persuasive. Here we find that this line of questioning -- that its relevance is quite indirect and in the long run -- we haven't gone over the long run yet, but we are strongly of the view that the

AGB/eb2

long run would leave us with essentially a speculative state of affairs rather than with some persuasive evidence in hand.

The Board knows of no generally recognized relationship between productivity and safety. One can argue a priori from an armchair that fast workers are either safer or less safe and that slow workers are more safe or less safe and not really resolve it. If this Board were forced to guess, we would think that the more productive worker probably would produce safer work, but it would be a guess on our part.

The comparisons of productivity that are depicted in Exhibit 13 -- several of them are rather striking -- does indicate that productivity is higher on the average at Shearon Harris than at at least most plants.

On the other hand these various charts don't depict what we would regard as a spectacular margin in productivity at Harris. There are some areas where at least some other plants are higher. It we had a set of charts which showed some particular utility twice as productive as anybody else in the country, one would have to wonder, I suppose, but we don't see that in Exhibit 13.

So that, by itself, is not enough to set us off on a search for the significance or possible significance of those numbers to safety at the plant.

GB/eb3

Beyond that as we see it, there isn't any clean fit between Exhibit 13 and the other thing that was pointed to was SALP. Exhibit 13 has its own underlying data; SALP has its underlying data. And the two as we understand them are quite different, so that one would have to do an awful lot of translating and transposing and I don't know what all else in order to come up with a meaningful relationship. It certainly wouldn't just flow naturally from a look at the two documents.

IN assessing a line of questioning like this -- and the Board doesn't deny that if we took the time for I don't know how long, that we might find some relationship at the end of the road, but we have to make sort of a practical judgment about whether it seems to be worth it. And I think I've indicated that already, but just taking the Exhibit 13, we don't know how these productivity numbers were put together, not only here but at other plants. That might take quite a bit of testimony. We might have to get into SALP or something else in order to expore the alleged safety relationship.

ANd we think that when all is said and done that we wouldn't have very much, so making a sort of pragmattic judgment, and even conceding that there may be some safety significance here, -- we are skeptical about that, but even conceding it, we think that the effort involved in trying

AGB/eb4

to find it far outweighs the time it would take. So on that basis we sustain the objection.

MR. RUNKLE: Your Honor, at this time I would like to make an offer of proof which includes JI-13 and those portions of the transcript in which it was discussed with the witnesses and the other parties.

JUDGE KELLEY: Fine. So 13 would be in as an offer of proof, and the associated discussions would be there with it for your possible use later on.

MR. RUNKLE: Thank you.

(Whereupon, JI Exhibit 13, having been previously marked for identification, was received in evidence.)

JUDGE KELLEY: Right.

BY MR. RUNKLE:

Q Mr. McDuffie, you evaluate construction that has occurred at Harris, do you not?

A (Witness McDuffie) Yes, that's one of my responsibilities.

Q And as a corporate level manager with CP&L, do you look at productivity measures on a day-to-day basis?

A No.

MRS. FLYNN: Objection. This sounds like the same line of questioning.

AGB/eb5

JUDGE KELLEY: Could you comment, Mr. Runkle?

MR. RUNKLE: Mr. McDuffie had stated today earlier in his testimony that one of the things they looked at was productivity measures. They have other evaluation tools. I am just going to ask him what those other evaluation tools are.

JUDGE KELLEY: All right.

BY MR. RUNKLE:

Q Sir, does the plant manager at Shearon Harris look at the productivity measure on a day-to-day basis?

A (Witness McDuffie) I can't speak for our project manager at the site, but I have a strong feeling that he is concerned with productivity on a daily basis. He has delegated the responsibility for construction to others at the site and they have a system for planning and controlling the project that does make information available.

Q Do you evaluate the performance of the plant general manager?

A I evaluate the performance of the project general manager. Under our terminology the plant general manager responsible for operations and maintenance reports to the project general manager whom I evaluate.

Q And you would evaluate the performance of the project general manager, do you not?

A Yes.

AGB/eb6

Q And is this evaluation in written form?

A No. He and I review it verbally.

Q How often would you evaluate his performance verbally?

A I would hope that he feels that his evaluation is being made every time he and I review the project. I certainly feel that way in my relationship with Mr. Utley. I would hope that as we discuss the nature of the project and the direction we're going and the way we are going to handle problems that he gets a strong feeling about how he's performing, and that when we review it formally once a year he will not be surprised at a word I say to him.

Q And this formal evaluation, does this also occur face to face?

A Yes.

Q How long does this evaluation take place once a year?

A Well, there is no set time.

In the case of Mr. Watson who is the plant project general manager, he was given this assignment about a year ago. We will be having our first-- Well, we've had a review during the past year. We've had one, one formal review.

Q In your evaluation of Mr. Watson, do you look at the productivity of the workers?

AGB/eb7

A He is responsible for all operations at the site, engineering, construction, and operations, and the status of the project would certainly be a part of the evaluation.

Q ANd one measure of the status of the project would be productivity, would it not?

A Yes, he has responsibility for safety, quality, compliance with regulations, protecting the environment, and budget and schedule, and training personnel.

Q And you would look at all of those in your evaluation of him, would you not?

A Yes, they all would be part of it.

Q Would you also look at violations or 50.55(e) reports?

A Mr. Watson has a monthly review at the site which I attend most months. And one of the agenda items is the review of the status of QA.

And then as reports come in or situations occur between project reviews, we discuss violations and QA activity.

Q Do youset goals for Mr. Watson?

A Yes, we have goals and objectives.

Q And what are some of these goals and objectives?

A Well, they're related to the training of his people, the compliance with regulations, the quality performance at the project, the training and budget and

AGB?eb8

schedule.

Q And are these goals and objectives put in numerical form?

A No. His department goals are numbered but they are not weighted. They are numbered 1 through however many we have, but there is no particular weighting.

Q In the area of training would you set up a numerical objective of a percentage of personnel trained in a month's time?

A I don't recall whether we have a specific goal for Mr. Watson in training, other than that he will have an agreed-upon plan with the people at the site as well as our operations and support group regarding training of people.

I think I probably misunderstood you. When you asked me if the goals were weighted, and I said No, I meant did I consider the goal for quality less important than the goal for schedule, and the answer is no, they are not weighted to that extent. But to the extent possible, we do write goals that can be measured.

Otherwise, you know, it would be tough to determine if we did meet the goals, and we strive-- In some cases it requires a little imagination, but most of the goals are in measurable numerical terms.

Q ANd productivity goals in terms of man-hours per job done would be one of these goals and objectives,

AGB/eb9

would it not?

A That would not be a goal that would be assigned Mr. Watson. His goal would be more related to budget performance, performance for the entire job. And probably somewhere down in the contractor's organization would be goals for productivity performance.

You must remember that some of the contracts are written at the site in such a way that we don't a direct interest in productivity. If we give Chicago Bridge and Iron a contract to build a liner for the containment for a set number of dollars, then we are interested in quality and schedule performance and we're not concerned with the cost of the building because our cost would be fixed in that situation.

Q With Mr. Watson, you would look at a job to be completed and give them a certain time period in which that needs to be completed?

A Yes. He is the project manager and he must accept responsibility for safety, quality, budget, schedule, the entire project. We have assigned the responsibility for that total project to Mr. Watson.

Q And would his evaluation reflect whether he was meeting these goals and objectives or not?

A It would be discussed and reviewed and determined, any variances, but you know, estimates are just that. They

AGB/eb10

are based on many assumptions, and sometimes you miss an estimate and upon review it is determined that the performance was good but the estimate was bad.

We have to look into each situation and not just say "You missed the budget. You did poorly."

Q Is the plant on schedule?

A The plant today is not on the schedule that we had planned. We review the schedule for the project frequently. We make a formal review every year. The formal review of the budget and the schedule is now in progress. The schedule that we are now using was established in 1982 and was not changed last year.

#6

At the present we have some activities that are as much as three months behind the schedule that we laid out at that time.

End 5

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AGB/pp 1
#6

Q You had said that you are still operating under the 1982 schedule?

A I said we did not change it last year.

Q But you evaluated in 1983?

A Yes, we evaluated last year.

Q In the construction of the plant you divide up the construction to different work units, do you not?

A We have more than one contractor at the site.

Q But each individual job, say, so many cable pulling -- all the cable pulling -- that would be one work unit, would it not?

A Well, the contractor in the plant area is Daniel and Daniel has an electrical contractor named Davis. And Davis is pulling the cable.

Q And you had set a goal for Daniels. who writes out the similar goal for Davis on how much cable needed to be pulled in a certain time period, would you not?

A That would be part of the planning and scheduling process which is a constantly moving target.

Q And you would reassess the scheduling from time to time, would you not?

A Yes.

Q Besides Mr, Watson who at the Shearon Harris site do you evaluate personally?

A He is the only one. He is the project manager.

He is responsible for that project.

Q And he would be evaluating all those people under him, would he not?

A He would evaluate the people who report directly to him.

Q And does he do that in written form or is that also verbally?

A I'm not sure whether he keeps notes but his review of the people reporting directly to him is performed verbally.

Q How does CP&L evaluate the performance of a line worker?

A As we move down in to the organization below the section heads, which is a terminology we use for people reporting to Mr. Watson, we do have written evaluations.

Q And included in that evaluation for the section head would be being able to meet a certain job on schedule?

A Well, each of the people reporting to Mr. Watson obviously have a different responsibility and some of them are more schedule oriented than others. But most of our goals and objectives are schedule related. And part of the responsibility is doing it at the proper time.

Q Do you review the written evaluations for the section heads?

A No. With Mr. Watson or other department heads --

AGB/pp 3

they would review with me their evaluation of the people reporting to them.

And part of my evaluation of Mr. Watson would be the way he evaluates his people. That's another part of the whole responsibility that he has.

Q And each of those section heads would then evaluate those people underneath him, would they not?

A Yes. It's a pyramid arrangement. Each successive layer of management evaluates people reporting to them.

Q Would you discuss your evaluation of Mr. Watson with Mr. Utley?

A Yes, I would. And I do. But as I said earlier I look upon evaluation of management personnel as a day to day evaluation. And the year end report just summarizes what we've been talking about all year.

Q So do you have daily contact with Mr. Watson?

A Almost daily. He's been out of touch for a few days but normally I talk to him every day and it's not unusual to have a call at night or on a weekend.

Q How often do you get out to the Shearon Harris plant?

A I haven't been out there this week.

(Laughter.)

I did go Saturday. I take that back. I get out there almost once every week.

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Q And possibly several times per week?

A Some weeks I go more than once.

Q If there was a problem out at the plant, are you confident that you would know about it?

A If it required my attention, I have full confidence in Mr. Watson at the Harris plant, and Mr. Beatty at the Robinson plant. I am not aware of any situations in the past year that I should have known about that they didn't call it to my attention.

Q Would they bring to your attention such things as NRC violations?

A We review NRC violations at least monthly and as a general rule following any NRC inspection there is usually an exit critique. And I receive a call. And by the time I get the call they generally already have some plan being formulated to correct the situation. As a general rule, I get a phone call.

Q And you would review this NRC inspection exit critique with Mr. Watson?

A Yes.

Q And review his plans for correcting the violation?

A Yes.

Q Do you also receive calls on QA concerns?

A Yes.

Q And that would be through Mr. Watson?

AGB/pp 5

A Yes. My contact at the site is Mr. Watson.

Q Do you also discuss QA concerns with Mr. Banks that have arisen through his organization?

A Frequently Mr. Banks attends the monthly project review where we discuss QA. People reporting to him make a report at the project. We look at the new findings, the timeliness of closing out of old ones. In addition Mr. Banks and I attend a monthly management review of all three nuclear projects which is chaired by Mr. Utley. Mr. Banks himself reports on QA at that point.

I have a weekly meeting with people reporting to me. We don't always bring the people in from the sites, but we generally have a weekly meeting. Mr. Banks attends that meeting, and reviews any QA concerns.

Q So you're confident that you would -- that any QA concern would come to your attention?

A I'm not in a position that I have detailed information about every QA concern at the site. And I certainly don't have detailed information on all the problems uncovered by our own QA organization. But I do feel that I have a system that is working that makes me aware of significant QA problems at the site.

Q If one of the line workers or one of the supervisors was not satisfied with the handling of the QA problem, could they come to you?

AGB/pp 6

A They could. And I would certainly set and talk to them. It has not occurred.

Q But you would be open to those kind of concerns?

A Right. From time to time -- frequently I go to the site and walk along. If anybody wants to stop me -- and they do. But I don't recall a single time that anybody came to me that they had a QA concern for which they were unable to reach someone else.

Q How does Mr. Utley evaluate you?

A Daily.

Q And this would be verbally?

A Yes. I get a few notes.

Q Notes?

A Notes.

Q Right And what criteria does Mr. Utley use in evaluating your performance?

A He has laid out a mission and a responsibility for my position and he evaluates me against that. I have a clear understanding of what my responsibility is and Mr. Utley is extremely busy. I'm very busy. And we deal primarily in problems and exceptions. When something comes up that comes to his attention that's not being performed right, we get together and decide what action we're going to take. And I move on it.

Q Where would he find out about things that were not

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going right that he would need to bring to your attention.

A He gets reports from the projects, copies of some of the reports I get. As I mentioned earlier, we have a formal meeting monthly that he reviews with the groups and departments involved, the total nuclear program. Mr. Utley has a meeting for his staff on Monday afternoons which I attend and we review problems across the staff as well as his program. I attend a senior management meeting that Mr. Smith chairs and Mr Utley is at that meeting as well as me and others.

We have formal scheduled meetings on the projects. And then if I'm at the office and he's in the office, it is a rare day that we don't exchange information to some extent. And if either one of us is out of town, it is a rare day that we don't communicate by telephone.

Q And you have been involved in CP&L's construction program in its inception, have you not?

A I came to work for CP&L in 1970 and I had construction responsibility at that time. I have picked up some other responsibility over the years but have retained some construction responsibilities. I do not have it all now.

Q You were involved with the construction of Brunswick reactors,were you not?

A I was the CP&L construction manager for the Brunswick project. And I managed the contract with Brown & Root.

AGB/pp8

And had a construction management responsibility for the project.

Q And you have been involved with the Harris construction since its beginning, have you not?

A Yes, that's true.

Q Sir, what would you do if a worker came to you with a QA concern.

A I would give him every opportunity to explain what he felt was the problem. ANd then I would assure him that I would get back in touch with him. Then, depending on the problem, I would hopefully go to Mr. Banks or to Mr. Watson and probably both, and then as we put some information together, if it were a real problem, I would make Mr. Utley aware of it. Since it had come to my level and we would move to take actions to eliminate the problem, if it were a problem.

Q Do you also review the reports from the quality check program at Harris?

A No. I have not reviewed any report. Although Mr. Banks has made some verbal reports to me regarding the effectiveness of the project at this point.

Q And if a serious QA concern was raised through the security -- the quality check program, you would become aware of it through Mr. Banks, would you not?

A Yes, I think he would certainly bring it to my attention, but you remember he reports directly to Mr. Utley.

Q So he would let you know verbally and also report

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End #6
WRB fls.

to Mr. Utley?

A Sure. He would notify Mr. Utley and he has a good record of notifying me about any situation in which I should be involved

Q And then the three of you would make changes if necessary in the construction of Shearon Harris?

A Some action would be taken. It might not involve all three of us.

JUDGE KELLEY: How do you stand at this point?

MR. RUNKLE: If I could have a minute, please.

(Pause.)

MR RUNKLE: I am finished with my cross examination of this panel.

JUDGE KELLEY: Thank you. It's 12:30, a few minutes after. So we'll take a break of an hour and come back between 1:30, 1:35, let's say. And as a preview of coming attractions there will be some questions, I suppose, from the staff, some from us. An opportunity for redirect. Possibly some more cross, depending on what comes up in questions from the three groups. Okay. Back at 1:30.

(Whereupon, at 12:32 p.m., the hearing was recessed, to reconvene at 1:30 p.m., this same day.)

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AFTERNOON SESSION

(1:35 p.m.)

JUDGE KELLEY: We'd like to resume now.

Whereupon,

E. E. UTLEY,

M. A. MC DUFFIE,

THOMAS S. ELLEMAN,

and

HAROLD R. BANKS

resumed the stand and, having been previously duly sworn, were examined and testified further as follows:

JUDGE KELLEY: Mr. Runkle finished his cross examination for the Intervenors just before lunch. So now, we'll pass to the NRC Staff for such questions as they have.

Mr. Barth?

MR. BARTH: Mr. Kelley, the Staff has no questions of the panel which is presently sitting there, sir.

JUDGE KELLEY: Okay.

Now, I think we're all aware of this but the sequence that we envision at least is when the Applicant's witnesses are put forward as they are here, it will be the Intervenors first, followed by the Staff, followed by the Board, then followed by any redirect that the Applicants may have. And then if that generates further questioning around the circle, we'll do that then. So that makes the Board next

WRB/pp 2

in line.

EXAMINATION BY THE BOARD

BY MR. BRIGHT:

Q I just have a few questions for clarification.

JI 16, Mr. McDuffie, that we looked at before.

A (Witness McDuffie) I have it.

Q What is the significance of this totaling out the NS&QA in '82 and then again in '83? Or perhaps Mr. Banks?

A (Witness Banks) Yes. In that period of time when we formed the quality assurance department in 1981, in '82 we were in a different reporting chain, the same with nuclear safety, we were located at the site. So we have people at the site but we're not part of the nuclear generation group, we're just as a total of.

Q Okay. So you're not reporting to the plant general manager?

A That's correct.

Q That's what this table means.

Why did this start in '81 for Brunswick and '82 in Robinson?

A (Witness Utley) The only answer I could give to that is the fact that it was in '81 that we made the changes. And this could have been picked up prior to that change that took place in '81. That would be the only explanation I could give of that.

WRB/pp 3

Q Okay. So there is no real conflict there. It just happened somewhere in that period of time and this happened to come out that way?

A (Witness Banks) That's right. The department was set up on March 1981. And the reporting function became effective at that time. So depending in '81 when you took the numbers, I would suspect or whoever was taking the numbers at that time.

Q And I notice that the Brunswick plant here has as of July of '83, 11 people in what you call "regulatory compliance." What is "regulatory compliance?"

A (Witness Utley) Regulatory compliance is a group of people onsite that are principally dealing with the NRC in regard to the activities pertaining to compliance with regulations.

Q So there were 11 people at Brunswick? Why is there nobody. And in fact you don't even have a classification on Robinson which corresponds to that.

A Again this could be timing in that we set up the project managers -- the site project managers at Robinson and Harris in the fall of 1983 whereby we set up the project manager at Harris in the summer of 1982 -- I mean Brunswick, excuse me.

JUDGE KELLEY: Well, Mr. McDuffie, perhaps you know: Is there any such thing at Robinson at present?

A (Witness McDuffie) Yes, there is now a function

of regulatory compliance being staffed and reported to the -- and stationed at the site.

In addition, we have reorganized our licensing in the general office so we have a principal assigned to each project in connection with regulatory complaince and licensing and then there is a counterpart at the site to supplement the regulatory compliance function at the site.

Q But you do now have that kind of setup?

A Yes. we do now have that function at Robinson.

MRS. FLYNN: Excuse me, Mr. Bright. May I add something. It's my understanding that the engineering group included regulatory compliance at that time. And that number of 54 therefore, includes some regulatory compliance personnel.

MR BRIGHT But now it is a separate thing?

MRS. FLYNN. That's right.

BY MR. BRIGHT:

Q Mr. McDuffie, on this the totals down here under both plants you have, let's say, in August of '84 you said you had 515 authorized personnel and 462 actually onsite.

A (Witness McDuffie) At Robinson, yes sir.

Q Yes.

And what I was curious about: When you say personnel, are you given so many slots for each classification or is that just an overall number which could be either a senior reactor operator or a yard man.

WRB/pp 5

A No. Our project organizations studied their needs and the way in which they should be organized to best handle the responsibility of the project. And this recommendation for people and the classification of people is presented to senior management for approval. And sometime the charge is based on room for growth and sometime immediate need.

But once given senior management approval, then the project people can work toward filling the slot.

The 408 is management approval. The 354 are filled positions.

Q So you essentially submit an organization chart for these approvals?

A Yes.

Q Do you have any idea of just where you think you might be wanted to grow according to your latest forecast?

A Well, we feel like we are at a level like Robinson that is somewhat larger than we may need a year or two in the future. Because, as I mentioned earlier. this 354 is people in the operating and maintenance organization. In addition to that. we have a construction management organization at the site.

And some of these construction management people may very well fit into the operating organization. If they don't then they will be available for reassignment.

We now have people at the site to manage this outage

WRB/pp 6

for which there are about 2,000 people there.

Q One last question to Mr. Utley.

I don't know exactly how to phrase this and so excuse me if it comes out to be awkward or maybe it won't be.

I noticed in your, I guess it was JI 1 or 2, that list of officers of the company and whatever that all of the boxes that are shown there are officers of the corporation and I counted 32 vice-presidents, senior vice-presidents, and executive vice-presidents. So you have plenty of them it will appear

There are only 2 names that weren't officers of the corporation and one happened to be Mr. Banks, who as the manager in charge of QA, I should think at least in today's method of doing today's business will be quite an important thing. Is there a philosophical reason for that being so? Or is there any reason at all?

A (Witness Utley) Well, there is certainly no philosophical reason in regard to whether or not QA is a vice-president or whether he is not a vice-president or an officer in the company. Normally, in looking at who qualifies for an officer of the company, a number of things are taken into account. The magnitude and scope of his responsibility is one thing. And, of course, other aspects include many things in regard to just how his functions impact the company.

For example, you can take a comptroller for example,

WRB/Pp 7

it could be a vice-president whereby his decisions as such have a big bearing on a company whereby you would have a manager of a generating plant, for example, where the scope of responsibility is somewhat broader. But yet does it qualify for a vice-president level?

I would say, getting back to Mr. Banks situation, one thing certainly that has been a part of this is the way we had quality assurance organized up until 1981. And the other aspect, since 1981 we have been in the process of developing approach program under QA. And also working to demonstrate much improved performance in our nuclear programs. And quality assurance is a very important aspect of that.

And one other aspect of whether or not he should qualify as an officer to some degree depends on just how well you carry out these responsibilities and functions in regard to the scope of responsibility.

So, in answer to your question he is not a vice-president but that does not say that he could not qualify to be a vice-president.

Q So there was nothing in your thinking that might have given somewhat of the idea that making him an officer of the corporation would be to some extent a conflict of interest?

A Absolutely not, from my viewpoint. Of course, I'm sure you realize that there are a number of people involved in regard to determining or deciding who is an officer and who

isn't an officer.

But that would be my viewpoint.

Q Thank you.

BY MR. CARPENTER:

Q I would just like to address a few brief questions, Mr. Utley.

Mr. Utley, would it be fair to say that the Brunswick operating experience over the last ten years has been perhaps less than good?

A (Witness Utley) I would certainly agree that the operating experience at Brunswick since it went in service has been less than what we look at as a satisfactory operation. Up until maybe over the last -- I'd say over the last 12 months and looking at the improvements we're making and looking at the progress and looking at where we are now, I think, I feel we are not there yet. But we are on a good program to get there.

Q Well, given that framework, my attention was drawn to recommendation number 50 by the Cresap, McCormick & Paget audit, which is displayed in Exhibit JI 14, which references, "Limiting the shortages of operating personnel at the Brunswick plant, should continue to be a senior management priority." I'd like to get a little better feeling for what that's all about.

Would you agree that Carolina Power and Light

WRB/pp 9

management accented that recommendation with the knowledge that there were personnel shortages or was this a matter of opinion?

A Well, when you say personnel shortages, I guess I view that being the case, if you don't have established sufficient operating personnel to have a fully staffed six shift rotation. And not only did Carolina Light and Power Company fall short in this area, this has been an area throughout the industry where there's been problems in obtaining that six shift rotation.

And also you realize that the six shift rotation has come about as a needed additional personnel to cope with meet the requirements of the necessary training that has become necessary in order to meet with the many things that are required to be carried out in a proper way at a nuclear plant.

Q Yes, I thought your testimony as to the fact that there was always a shift available for training without any conflict with any other duties was made very clear.

A We have many people available for training and retraining to the extent necessary to keep them fully trained and qualified. However, you realize in doing this I am not having six full shifts There were occasions where it was necessary to work people more than 40 hours a week.

Q Yes.

Would you say the so-called personnel shortages, contributed to the less than optimum operating experience?

A Well, that's difficult to qualify. You've got to say that it had some bearing. To what degree, would not be a situation where you could not have had satisfactory operations and have had the shift level of shift staffing that we had at Brunswick. I think it more goes to the -- to my testimony in regard to providing the proper management discipline and controls and providing the well-written procedures, technically qualified, probably has a bigger bearing on the question than whether or not we had the shifts fully staffed at all times.

Q Well, I've asked all these questions about Brunswick when, of course, we're really interested in Harris. So as a leadup to the final question, I would like to know if you can identify management policies that have come into existence that would avoid that kind of condition being expected during the first years of operation at Harris.

What I'm probing for is, given always operations are a learning experience, where you are today in terms of looking at the Harris operation with what you've learned from Brunswick?

A Going back to Mr. McDuffie's point, the fact that we did start building the staff for Harris back in about 1979, and we now have a staff of people of the numbers that

WRB/pp 11
B-8
End #7
WRB fls.

have been quoted for Harris, just under 400. And we do have the operating people onsite and these people are participating in the training programs and qualifying for the positions throughout the organization. And it is the company's philosophy to maintain at least shifts to provide rotation and in some cases we are looking at a possible partly staffed seventh shift, such that we do have some additional people that would allow for resignations or attrition for whatever reasons it might come about.

Again, a lot of the problem that we have experienced and the industry has experienced really over the past several years, particularly since Three Mile Island, we have continued to increase the number of people required and consequently it's been at a rate faster than the people could be trained and developed and qualified in a lot of cases. And we're still working with that problem to some extent.

WRB8/eb1
fls WRB7

But it is the philosophy of the company to have ample people, well-trained and qualified people, and we do have the people available working for Carolina Power and Light to operate the Harris plant.

Q Well, I guess really the better comparison, to get back to your point about having a staff of 400 on board at Harris right now, the better comparison is roughly with Robinson where you have grown up to something like 400.

So you feel you are pretty well where you want to be at Harris, or are there a lot more people to be recruited?

A Well, at the present time we have established what is looked at as the proper staffing for Harris, based on what we know today, and assuming that there are not changes that bring on demands for additional people, we would anticipate that the 400 number is in the ballpark.

Q Thank you very much.

BY JUDGE KELLEY:

Q I have several questions scattered about the various topics you have spoken to.

The first one relates to safety standards that you follow in operations of your plants, and it came up in Mr. Utley's testimony I think kind of early, so I will put it to Mr. Utley, but if others of you can answer, please feel free.

WRB/eb2

I assume that the basic standards for operation are NRC rules and your own tech specs which I assume you are obliged to adhere to by force of some NRC rule.

Mr. Utley, if I understood you correctly, when this came up you referred to what I took to be some additional standards applicable to operation. You referred to a book the title of which I don't think you could recall at that point, but it indicated to me a set of operating rules that would have to be over and above whatever the NRC would require. And I was not familiar with the existence of such higher standards, except in one case. I have heard INPO people say that their standards are higher than the NRC's.

But do you have operating standards separate and apart from NRC rules and higher than NRC rules that you follow?

A (Witness Utley) Well, I'm having a little bit of trouble putting in perspective the reference to the testimony. I would say we certainly look at the NRC regulations as being a minimum standard that we would expect to comply with, and we are certainly working to a standard that would be above that in regard to our performance at all of our nuclear plants.

I don't recall right off-hand precisely what the regulations require in regard to six-shift operation, but it

WRB/eb3

is my thought that at this time that it is not a requirement per se.

In addition, we of course have established a simulator at our Brunswick plant, a simulator that went in back in the late '70s at our Harris plant, and a simulator is to be installed at our Robinson plant. And again, this is in an effort to raise the standards of our -- the proficiency of our -- particularly our operating people at these plants, and also to put us in a better position to analyze conditions that come up in regard to operations that would help us make better analyses of the situation, such that we an improve.

I view this as being somewhat over and above what is required by regulations per se.

Q To take the simulator example, you have several simulators in use. I gather-- I'm not very familiar with NRC training regs, for example, but they would not necessarily require that you own your own simulator, and yet you do. Is that your point?

A That's the point.

Now another point I would make in this category is our own site nuclear training organization. The regulations do not require that these onsite nuclear safety organizations be located at existing plants.

Now it's my view it is required at the Harris plant, so we have staffed these organizations back at our

RB/eb4

existing plants, Brunswick and Robinson, and the activities that these people perform onsite is another step toward upgrading our operations to a level that exceeds the regulations.

Q You're familiar I'm sure with INPO and the work that it does. I assume you all are. I am somewhat familiar with recent reviews of QA at construction projects.

Is INPO also evaluating operating plants in a similar fashion?

A Yes, sir. There is an evaluation that takes place at all of the operating plants in the industry, and these evaluations have been taking place more or less on an annual basis.

Our Robinson plant has gone through I believe it is two of these evaluations, and our Brunswick plant has gone through two and I guess will be going through the third one in November. And this is a situation where of course INPO comes in with people that have had prior experience operating and managing nuclear plants and makes an in-depth review of the operations, based on criteria that are established by INPO.

Q Which may be above NRC criteria I gather. It could not be below I assume.

A The objective certainly is to establish a standard of excellence in operation which would exceed what is required

WRB/eb5

by the regulator per se.

Q The teams that come in to make these evaluations, again my impression is that they are made up of people let's say from INPO and other utilities, but they are not people from CP&L in the case of a CP&L plant. Is that right?

A We would not have people at INPO that would be assessing our plant.

Now we have had people at INPO that have evaluated other people's plants.

Q Sure.

What was the bottom line of these INPO evaluations of Burnswick and Robinson in the last year or so, if you know?

A Well, I would say the bottom line on these evaluations has been in situations where they have had findings that somewhat parallelled the findings that -- some of the findings that were made by NRC, areas that were highlighted in the SALP reports as needing improvements.

These pretty much followed the same line that took place on the INPO evaluation.

I might say in addition to the INPO evaluations, we have also called on INPO for assitance and support in correcting some of these problems where they were identified, and this has worked very well.

WRB/eb6

Q Very well.

Does anybody else have any further comment on that general subject?

(No response.)

Q Again to Mr. Utley, the GI-15 exhibit is a single page copy I believe from the FSAR which lists CP&L nuclear plant LER total for Robinson 2, Brunswick 1 and Brunswick 2.

MR. RUNKLE: Sir, that was from a response to an interrogatory.

JUDGE KELLEY: My mistake. Mr. Runkle corrects me.

BY JUDGE KELLEY:

Q In any event, you were the author -- your company was the author of the exhibit where it sets forth LERs from 1970 through 1983? I don't mean to get into the precise numbers but what I wanted to ask you about, and you may well have spoken to this to some extent earlier, but I just wanted to get it a little clearer in my own mind--

I look at this chart, and just this chart and this chart along raised questions in my mind. How am I to assessment safety significance of these LERs? Do I need to know which ones resulted in civil penalties, for example? Do I need to know whether it was Category V or Category IV or Category III?

WRB/eb7

I note the rather precipitous drop between '82 and '83, and I think testimony indicated that might be a change in definition, at least to some extent.

But if I look at the bare numbers they seem high at Brunswick, and they seem to be high for rather a sustained period of time, so how do I put these in perspective? What would be your reaction if you were sitting in my chair?

A (Witness Utley) The degree of the problem that an LER represents varies significantly. By that I mean you can have a very insignificant situation that deserves an LER and you can have a significant event that qualifies for an LER.

Q I understand.

A I think from my perspective as a senior manager in the company, the numbers mean -- they are significant to me to say there are too many things. Irregardless of whether zxzxzxzxzx they are significant or insignificant, this number of happenings should not take place, and there is something wrong. And I would be the first to admit that.

And I think that pretty well lines up with the testimony that I have given, that we certainly recognize that we have problems and concerns at Brunswick, and it is because of those concerns that we made the degree of changes and the degree of improvements that have taken place.

Q But let me just ask you this. And you know, if

RB/eb8

you don't know the answer, maybe we can find out whether it is one you can get fairly easily and counsel could submit it for the record.

One thing that occurs to me, how many of these penalties -- and they may add up to over a thousand, I suppose. How many of these resulted in a civil penalty from the NRC? Do you know the answer to that, Mr. Banks?

A (Witness Banks) An LER would not be a civil penalty.

Q Not in and of itself. I understand that. And maybe it is not a good question, but let me try it again.

You have a problem. You discover a problem and it falls within the parameters of an LER, so you report it as an LER. Correct? That's a 50 or 55(e), or whatever it is?

A 50.55(e) does not pertain to an operating plant either. You're getting to different reporting requirements.

Q The so-called Licensee event report. I mean there are some NRC standards and if you meet those standards you are supposed to file an LER report. Correct?

Might not some of these reports also involve a violation of an NRC Reg. such that eventually there is a civil penalty associated with it?

A These would be violations of tech specs. The technical specifications is what they would be. That is where an LER comes in, when you have something that is identified

WRB/eb9

in the tech spec that you have not complied with, or a condition that exists that you have to make a report on.

A (Witness Utley) Getting back to the specific point you make, there certainly have been tech spec violations that resulted in civil penalties.

Q Some, yes. Okay.

I'm getting an education here. You mean all LERs relate to departures from tech specs?

A No, not necessarily.

A (Witness Banks) There are conditions that a tech spec says you will send an LER in. You may not be in violation of the tech specs but it identifies under what conditions you would have to send one in.

Q Okay.

I guess what I'm still after, though, is if some of these LERs may lead to a civil penalty in due course, could you tell me without an inordinant amount of research how much of those are involved from this chart, whether it is three or 13 or 48? Can that be done without -- in a reasonable time?

A (Witness Utley) I think we could go back and get that information.

I would highlight again, I think the significant aspects of these LERs reflects back on management control and programmatic breakdowns. If you get back to the civil penalty

WRB/ eb10

of $600,000, that was principally directed toward a programmatic breakdown of our program.

Q Right.

And the amount of the penalty is the NRC's judgment that there was a programmatic thing there, fairly significant, so it was a big fine.

A Exactly.

A (Witness Elleman) If I can make some additional comments, your questions were directed toward which ones of these are significant and which ones were not.

Q Exactly, yes.

A Some comments that would be relevant to that:

First of all, there wasn't any difference in the reporting basis between the '82 and the '83 numbers.

Q Thank you.

A So those are reported on the same basis.

Q When did that go into effect? Just this year?

A At the end of 1983 was when the new system came into effect.

Q Thank you.

A So all of calendar '83 is under the old system.

As I mentioned earlier, one of the functions--

Q Well, then if I'm supposed to attribute some significance to these numbers, that would suggest something favorable to operations at both Brunswick units between '82

WRB/eb11

and '83. There's a big drop in the number of penalties.

A That's correct, yes.

Q Go ahead.

A Our organization attempts to evaluate the significance of the LERs, as I mentioned, and some of these are inconsequential, others do indeed involve some investigation to establish safety significance.

In addition to ourselves, INPO is regularly reviewing LERs to establish those that have significance. The NRC has an organization that fulfills that same function, so all of us are trying to read into these which ones do indeed have some long-term safety implications.

Q Have you ever, in connection with your work, tried to do a breakdown of the last five years of CP&L plants in terms of giving your judgment about how many have safety significance and how many don't?

A We have never tried to categorize them as having major safety significance and not. The ones that appear to us to have a long-term lesson in them we try to follow up on and make sure that the remedial actions would prevent a recurrence of that event.

Q And that could be a little different in safety significance?

A It could be, yes.

Q Okay.

WRB/eb12

MRS. FLYNN: Excuse me. I was just going to say that Applicants can make available for the Board the information that you requested.

JUDGE KELLEY: Good.

BY JUDGE KELLEY:

Q Because I tend to equate an item of serious safety significance, not just one but assume that there were-- Let's not speak of your plant but just in the abstract.

Assume a utility had a lot of LERs of major safety significance in a fairly short period of time. Then I would begin to wonder about management for one, maybe not, and so on. That's why I tend to fix on that and see where it leads.

This might as well be directed to the NRC Staff people. These numbers that we have here now for your plants, does SALP cound LERs, or is that sort of number readily derivable, to your knowledge, from SALP reports, if you know?

A (Witness Utley) It would be my thought that they are certainly reviewed as they go through their assessments and looking at the performance.

Q But they do count certain things. They have a way of counting civil penalties and certain other things, and I just wondered.... Well, I can ask them later on. They will be on later.

Thank you.

WRB/eb13

Mr. Utley, on the matter of the $600,000 fine that we talked about and the surveillance items that weren't properly checked or surveillance was not properly arranged for in three or four different areas, as I recall, you referred to appealing that civil penalty.

Was that appealed in the sense that it went to some kind of hearing, or just what was the procedure that it went through, if you recall?

A No, it was not a situation where it went to an official hearing, so to speak. It was a situation where we took exception to the $600,000 fine, principally from the standpoint that the fine served no purpose from the standpoint that we looked at fines as being appropriate.

Q I understand.

So you were not contesting what happened; you were just contesting the appropriateness of the fine?

A Principally the appropriateness of the fine.

Q Okay, fine.

There was some questioning, Mr. Utley, about determining responsibility for that particular problem, and I know you did refer to it in your testimony as a management lapse, a management failure in that particular case.

B9

I also recall you testifying to the effect anyway that it wasn't any single person that could really be pointed to as responsible for the problem.

WRB/eb14

Is that right?

A Well, I'm not sure I focused on it exactly from that perspective. I think you've got to realize that I've got the responsibility for the total nuclear program as we are organized, and if you are going to look at a person that had the responsibility for what transpired, the buck would stop with me.

Q Okay. I think I understand what you mean by that.

What I was coming to, kind of by the back door or indirectly I guess was:

You made certain management changes in terms of personnel and I suppose in terms of structure, too, at Brunswick in the wake of that problem. Management to me in part means being able to fix responsibility. If something goes wrong you can say okay, this is what went wrong, and that is part of your job and you're responsible.

Would the management that you've got in place there now and the people you have in those slots now, with those things being true, if you had an event like that occur now, do you think it would be easier to fix responsibility?

End 8
WRB fls

#9 WRBwrbl

A. Well, let me go back and clarify the perspective of fixing responsibility.

It is my view we have responsibility fixed through this period of time. I guess it's also my view where we were not satisfied with the performance and what was transpiring in regard to the areas where problems were taking place, changes were made with management. I would say practically all key positions were changed out as we went through the period of time from 1979 up until possibly sometime in '83. And I think that really speaks to the point I think you are making; and that is, we put in people in these positions that we felt, for whatever reasons, could give better results than the people who were in those particular jobs.

Q. Dr. Elleman, I just wanted to ask you a question about your job and your role in the plant.

I believe I heard that your function was, at least in part, an outgrowth of TMI and the so-called TMI requirements and 737, to have a certain safety research capability in a company or at a particular reactor; is that right?

A. (Witness Elleman) Yes, sir, that's correct.

Q. Would it be far off the mark to call you an ombudsman for safety, a sort of a roving -- a person with a roving mandate, or an open portfolio for looking into problems?

WRBwb2

A. I would say that approximate it, yes.

Our portfolio isn't completely open in the way we approach our assignment.

Q. You have certain fixed responsibilities to do; is that right? and then you also have this ombudsman role, if I can use that term?

A. We are not restricted from looking into events of safety significance, wherever they may arise.

A. (Witness Utley) Since he reports to me, let me see if I can clarify that point.

He does have the responsibility to seek out problems that relate to safety anywhere in the organization. And he is expected, and does, to go to the sites and talk with the individual people doing their jobs, and gives them the opportunity to express their views in regard to same.

Q. Thank you, that's helpful.

Is your role, as Mr. Utley just deseribed it, is that concept conveyed to the people on site in such a way that when you come out and want to talk about something, that they are likely to be forthcoming and candid and the like?

A. (Witness Elleman) We certainly attempt to establish that attitude. We try to work in a way that we are not just regarded as an organization placing new burdens on the operational staff. We try to develop inquiries, problems, to the extent that we put in as much work as we can toward a

WRBwb3

solution before transferring them to the operations side.

Q Thank you.

Mr. Banks, I wanted to ask you about NRCs, non-conformance reports.

I gather that the terminology varies somewhat in the industry. I'm familiar with NCI as non-conforming items, as Duke Power uses, for example.

But what I wondered about what, I thought you said at one point that the NCR was the standard, not exclusively, of recording and tracking anything that doesn't conform to specs -- not specs, but in construction, anyway, that does not meet procedures or design requirement or whatever.

My acquaintance with the NCI process, anyway, at Duke, that process is a fairly elaborate process that goes up from the individual inspector to his boss through a QA check, over to the engineering people and the design people, and in the meantime you probably would red tag the item and not do anything on it while you were going through that whole process.

But there are procedures that are simpler and quicker. And there is also the procedure of fixing something right on the spot, if you can: if a weld is bad you can cut it out and put another weld in without any documentation.

I wondered about what I heard as a reference to the

WRBwb4

NRC being the way you record and track any item. It seemed to me that would be kind of cumbersome.

Do you write up an NRC on everything that goes wrong, any conceivable thing?

A. (Witness Banks) Okay; let me try to get back to what I said. Prior to a year ago November we had DRs, DDRs and NCRs. What we did, we combined them all into one form and one term. But when you mark that form, that NCR form, it gets a number. Every one gets a number in sequence so you don't lose track. When you mark it for the condition you're talking about, the amount of depth that it goes through can vary.

It's an easier control system for us.

Q. Okay. Thank you.

Just a couple of questions for Mr. McDuffie.

You were testifying this morning about work that had been done on steam generator tubes, I guess at Brunswick; was it?

A. (Witness McDuffie) At Robinson.

Q. At Robinson; okay.

But the point was made that if there was a leak and it was leaking water from a tube, that that would be radioactive.

My question is: that kind of leaking, how would you assess the safety significance of it? Let's just say a leak

WRBwb5

from a single tube.

A. I think the plant is design to permit that kind of an incident witbout it being safety significanc.

Q. Have you had more extensive leaks at one time or another?

A. We have had leaks of tubes many times over the past ten years.

Q. But in any of those instances do you recall, did they present what you would rega rd as safety hazards?

A. Not that I'm aware of; not safety hazard to the public.

Q. The the workers?

A. Not the workers either.

Q. Not to anybody?

A. Not to anybody around the plant; no, sir.

Q. Is that because you were aware of the situation and you took whatever steps you had to take?

A. When the leak has exceeded tech specs the plant had been shut down and the leak corrected.

Q. Okay.

Just a small question on scheduling.

You also testified something about scheduling and revisions of schedules and the like. We have heard a current anticipated fuel load date for Shearon Harris Unit 1 of sometime next June. Is that still your anticipated date?

A. the June date is our current scheduled date. As I said this morning, we now have activities that are three months behind related to startup and fuel loading. This is the schedule we had in 1982, we reviewed it last year, and maintained the same date.

We now are in the process of reviewing that date. It involves many people, it involves many activities. We are reviewing all of them. And this will lead to a recommendation to our board in December, at which time a decision will be made regarding the schedule.

There is some contingency in our schedule. But there are many activities now that the degree of work is greater than had been anticipated. There are some conditions that had not been anticipated.

It is a very complex review, it involves many items of work, large quantities, and a lot of people.

As I say, we are now behind schedule, and are reviewing the schedule, and we'll make a decision regarding changes, if necessary, by December.

Q. So there's a possibility of some slippage?

A. There is a possibility of some slippage; yes, sir.

Q. Thank you.

JUDGE KELLEY: I think that's all that the Board has.

Are you going to have some redirect?

WRBwb7

MRS. FLYNN: I'll have some, not much.

JUDGE KELLEY: Okay. Let's take a break for five minutes or so.

E WRB9

2:32

(Recess.)

AGB 10 fls

AGB/pp 1

#10

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JUDGE KELLEY: We're back on the record. And we are up to Mrs. Flynn now for redirect.

REDIRECT EXAMINATION

BY MRS. FLYNN:

Q Dr. Elleman, we have talked at some length about the licensee event reports. Can you tell me the factors that can come into play that can influence the number of LERs that a particular plant might report?

A (Witness Elleman) There are a number of things that can affect the LERs. One which has been mentioned is whether the plant is on standard tech specs or not. The Brunswick plants are controlled by standard tech specs which have very detailed requirements specified for meeting instrument calibrations, for meeting performance standards.

There are on the order of 14,000 surveillances, I believe, that can be carried out annually at the Brunswick plant. Each of which could potentially produce an LER if an instrument is out of calibration or goes beyond the alloted range for that instrument.

Q I see. Are there any other factors that could have effected the number of LERs reported from the Brunswick plant?

A Many things can contribute to LERs. Instruments being out of calibration can contribute. Actual breakdowns of equipment, such as a valve malfunction. Failing to meet

AGB/ pp 2

a surveillance test at a particular frequency, that could produce it. For example, something as inconsequential as taking a fish sample at a prescribed period of time could produce an LER at a specific facility.

Q Has Brunswick experienced a large number of inconsequential LERs due to instrumentation problems?

A Yes, they have. There have been a large number that relate to calibration problems. There have been a number that relate to particular set of problems with read switches. While these have led to LERs, they have not been safety significant events. They have been items that we have been required to report under the LER system, but the safety significance is essentially inconsequential.

Q Dr. Elleman, we have promised to provide for the Board a comparison of the number of licensee event reports which have resulted in civil penalties and we'll be providing that later. Until that data is available and to put this into perspective, can you tell me how many civil penalties CP&L has experienced for the Robinson and Brunswick plants since Robinson began commercial operation in 1971?

A Yes. Looking over those numbers at the break, there's a total of 11 fines that can be identified over the life of those plants. So that places an upper limit on the number of LERs that did produce a civil penalty.

JUDGE KELLEY: $600,000 is the top fine?

AGB/pp 3

A (Witness Utley) Yes, sir.

A (Witness Elleman) That's correct.

BY.MRS. FLYNN:

Q Dr. Elleman, you testified during cross examination that CP&L created a corporate nuclear safety department in 1979. Did the company have a group performing similar functions prior to 1979?

A (Witness Elleman) Yes, they did. The department was created from several existing functions that had been going at that time in the company. Prior to 1979, there was a group that was fulfilling the function of reviewing LERs, reviewing minutes of plant nuclear safety committee meetings, fulfilling those other functions that are identified in the plant technical specifications.

To my knowledge this group had been functioning during the entire period of time that the operating license for the plants were in existence.

MRS. FLYNN: Thank you.

Mr. Utley, in your discussion with Chairman Kelley concerning the staffing levels at Brunswick -- I'm sorry, Dr Carpenter -- concerning staffing levels at Brunswick, just to clarify,-- did you testify that you now have six full shifts operating at the Brunswick plant?

A (Witness Utley) We have six shifts fully staffed operating at Brunswick.

Q Thank you. Mr. Utley, concerning the Cresap audit, during cross examination Mr. Runkle provided you with a portion of CP&Ls second semi-annual report to the North Carolina Utilities Commission concerning the Cresap recommendations. And that was marked as Joint Exhibit 14.

Do you recall that exhibit?

A Yes, I do.

Q Since it was discussed with you, have you had an opportunity to examine it more closely?

A Yes, I have.

Q Can you describe for me precisely what Joint Exhibit 14 is?

A Exhibit 14 is really a partial semi-annual submission of the status of the recommendations that were submitted in the Cresap management report. And I would point out this is a partial submission. The section that was submitted was a summary really of the recommendations that had been completed in carrying out the findings of the CRESAP audit.

In that this was a summary, to say the least, these were somewhat abbreviated explanations in this report. There's two other sections to this report. The executive summary is pages 1 and 2 of this particular report. And the executive summary makes reference to a report that was made on February 14, 1983 -- or in February -- and also a report that was made

in June of 1983. These reports covered in more detail CP&L's action in regard to the recommendations -- there were 55 or so recommendations that were made.

Q Is that executive summary to which you refer the two-page document which Applicant's have distributed and marked as Applicant's Exhibit 2?

A That is correct.

Q I see. The June 1983 report to which you refer, did that report contain an explanation of the manner in which CP&L propose to implement the Cresap Recommendation 1 which concerned the CP&L Board of Directors?

A I did.

Q I would call your attention to the three-page document which Applicant's have distributed to the Board and the parties which was labeled Applicant's Exhibit 3. Would you describe this please?

A This is three pages that go into more detail in regard to our reply to the recommendations and in this it specifically spells out our position in regard to Recommendation 1 which, in turn, relates to the question concerning the Board of Directors.

This goes into a complete explanation of that item which in turn clarifies any question about whether or not we have clearly explained to the Commission what our position was with respect to that recommendation.

AGB/ pp 6

Q Did this report to which we are now referring and to which Exhibit 3 relates, did this precede the summary which is the -- which is Joint Exhibit 13. In other words, was it filed before --

A This was covered in the June '83 report which did precede the partial semi-annual report that was filed in June of '84.

Q Thank you.

MRS. FLYNN: Mr. Chairman, may I ask now that Applicant's Exhibit 2 and 3 be admitted into evidence?

(No response.)

JUDGE KELLEY: They may.

BY MRS. FLYNN:

Q Mr. Utley, Mr. Runkle pointed out in his cross examination that the Carolina Utilities commissioned the service of Cresap, McCormick & Paget in performing an audit of CP&L's management.

Did CP&L have any input into the selection of Cresap, McCormick & Paget as the firm that would ultimately perform that audit?

A None whatsoever.

Q Thank you.

Mr. Utley, during cross examination, Mr. Runkle has asked you some questions concerning prior SALP reports, specifically reports I, II, and III, and has discussed at some

AGB/pp 7

level the ratings for the Brunswick and Robinson and Harris plants contained in those reports?

Could you please tell me what rating CP&L received for the Brunswick, Robinson and Harris plants in the fourth SALP report, which was published in August of 1984?

A That report covered the period February 1, '83 through April 30 of '84 and for each of the three plants the report identifies several major achievements and finds that there is no significant weaknesses in any of the functional areas reviewed. Every rating for every functional area for all three of the plants received a category I or a category II level. CP&L didn't receive a single category III rating in this report for any of our three plants.

MRS. FLYNN: Applicants have no further questions.

JUDGE KELLEY: Thank you. Mr. Runkle, do you have any recross?

MR. RUNKLE: Yes just a couple.

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RECROSS EXAMINATION

BY MR. RUNKLE:

Q Dr. Elleman, has your department classed any of the LERs -- made any characterization of the LERs -- as to their being inconsequential as opposed to consequential?

A (Witness Elleman) We do not make a classification of that nature. We do follow up on those that appear to us to have safety significance.

AGB/pp 8

Q And so your categories would be those with safetv significance and those in your opinion which do not have safety significance?

A We make no separation of that kind. We look at all LERs, evaluating the follow up actions of all of them. Some of them, certainly, would have greater safetv significance than the others.

Q And the various civil penalties which arose -- I mean which NRC -- in the different civil penalties which CP&L has received over the years, you mentioned a figure of 11 didn't you?

A Yes, sir.

Q And some of those might be from NRC violations which did not show up as LERs is that correct?

A That's possible, yes.

Q And your department does not look at NRC violations, does it?

A We try to look at all activities and events that we think would have safety significance. And so any violation which appears to us to impact on the ability of the company to meet safety objectives, we would try to take a look at.

Q Do you categorize the violations into those with safety significance and those that are inconsequential.

A We make no formal separation of that sort.

AGB/pp 9

Q Mr. Utley, in Applicant's Exhibit 2. which was just entered into evidence, on the fourth paragraph down,--

A Yes, sir.

Q -- you make a statement in the third sentence of that paragraph. In short, I'll just read it.

"As implementation efforts have progressed, some schedule extensions have been made for certain recommendations because of change priorities, resource availability, increased knowledge, or other factors."

Do you in implementing other efforts, other changes in the organization which might not have shown up in the Cresap report, are those the kind of things that you look at before you implement that?

A You say are those the kind of things that we look at. Would you repeat those things that you --

A Well, they're on the first page of this exhibit 2. Would be change priorities --

MRS. FLYNN: May I interrupt. May I ask Mr. Runkle to repeat his question.

MR. RUNKLE: The question was did they consider these kind of things in the sentence I had read in implementing any changes, disregarding whether they had showed up in the Cresap report or not.

MRS. FLYNN: I believe that's beyond the scope of

AGB/pp 10

End #10

fls

the redirect.

JUDGE KELLEY: Excuse me a moment

(Pause.)

JUDGE KELLEY: Do you have an extra copy of your Exhibit 2 -- never mind.

JUDGE KELLEY: Your indulgence please. Can you back me up here, Mr. Runkle?

MR. RUNKLE: Fourth paragraph is Titled "Overview of Project to Date."

JUDGE KELLEY: Right.

MR. RUNKLE: Third sentence.

JUDGE KELLEY: "As implementation of these efforts have progressed" and so on?

MR. RUNKLE: Yes.

JUDGE KELLEY: The objection is that this is beyond the scope of redirect?

MRS. FLYNN: Yes. In that he is asking about factors that were not even covered in the Cresap report about items that were not covered by Cresap.

AGB/agb1

JUDGE KELLEY: And your question, built on this sentence, was?

MR. RUNKLE: Are those the kind of factors they look at in implementing any change, regardless of whether it is in the Cresap report or not?

JUDGE KELLEY: Sustained. Outside the scope of redirect.

BY MR. RUNKLE:

Q Mr. Utley, on the third page of Exhibit 3, it has a recommendation action plan, does it not?

A (Witness Utley) The title on the page is "Carolina Power and Light, Management Audit Recommendation Action Plan."

Q Yes, sir.

In implementing the changes in the Cresap report, did you or any other of the CP&L management estimate cost and expected benefit from those recommendations?

A I think with these recommendations, as well as most any changes that's made to a facility, we always take cost into consideration.

Now the weight that you put on cost varies depending on what changes and so forth you're making. So this was a part of -- or is a part of the program that was used in regard to following through with the Cresap recommendations.

agb/agb2

Q. Mr. McDuffie, based on the knowledge which you presently have, do you expect the June fuel loading date to slip any?

A. (Mr. McDuffie) I think I said that we had a study in progress that involved many people, many activities in many quantities. Until that review is complete, it's difficult to say exactly what will happen to the schedule.

I do think -- or I did say that we now are behind schedule and if I have to give an opinion, I think it's likely that there will be some adjustments in the schedule, but that cannot be said with certainty until our review is complete.

MR. RUNKLE: No other questions on recross.

JUDGE KELLEY: Thank you.

Mrs. Flynn, anything further?

MRS. FLYNN: No, your Honor.

JUDGE KELLEY: Mr. Barth?

MR. BARTH: We have no questions, your Honor.

JUDGE KELLEY: Okay.

Gentlemen, we have completed our process now, all good things must come to an end.

(Laughter.)

JUDGE KELLEY: Seriously, we want to thank you for your attendance and your attention and I think you tried to give responsive answers and we appreciate it very

agb/agb3

much. You're excused.

(The witness panel was excused.)

MRS. FLYNN: Mr. Chairman, may I raise one housekeeping matter?

Yesterday Applicants requested in connection with the SALP report that Intervenors had put into evidence that any comments that CP&L had made and any response comments also be put in evidence.

I have shown this package to Mr. Runkle. It would be an addendum to the SALP II report. He has no objections to it and I would like to have this introduced as an addendum to his Joint Exhibit 20.

JUDGE KELLEY: Does it mechanically become a part of that exhibit or do we have two exhibits hooked together or how does this work?

MRS. FLYNN: The last exhibit we did this way became a part of his exhibit --

JUDGE KELLEY: I think that makes more sense, if it is okay with you, Mr. Runkle.

MR. RUNKLE: For the completion of the record, we would like to have this introduced also.

JUDGE KELLEY: I'm sorry, which one?

MR. RUNKLE: The one she's talking about, just to complete the record. We have no problem with it.

JUDGE KELLEY: Okay.

agb/agb4

You're moving its introduction, right?

MRS. FLYNN: That's right.

JUDGE KELLEY: And given our understanding of what this consists of, it is admitted and then it will become a part of Mr. Runkle's exhibit.

MRS. FLYNN: Thank you.

May we have just a few minutes to get ourselves organized for the next panel?

JUDGE KELLEY: Yes, let's take a stretch break.

(Brief recess.)

JUDGE KELLEY: We're back on the record.

Mr. Roach will be speaking for the Applicants, we have Mr. Runkle again for the Intervenors and Mr. Barth for the Staff.

Go ahead.

MR. ROACH: Your Honor, before I get started we have four witnesses on the stand and two portions of testimony. Mr. Beatty and Mr. Morgan are on the piece of testimony jointly as to the Robinson plant. Mr. Howe and Mr. Dietz are on the portion of testimony jointly as to the Brunswick plant.

I was talking to Mr. Runkle and he says he has short cross-examination for the Robinson panel and more lengthy cross-examination as to the Brunswick panel; and what he suggested -- and which I agree with it -- is

agb/agb5

that we try to go ahead and do the Robinson panel, let them go back to their job duties and keep the Brunswick panel and do them next.

JUDGE KELLEY: That makes a lot of sense. I appreciate counsel getting together on matters of this kind and working it out.

So we need to swear the witnesses.

Whereupon,

GUY P. BEATTY, JR.,

RICHARD E. MORGAN,

CHARLES R. DIETZ

and

PATRICK W. HOWE

were called as witnesses and, having been first duly sworn, were examined and testified as follows:

DIRECT EXAMINATION

BY MR. ROACH:

Q. Let's approach the testimony in two portions and talk first about Mr. Beatty and Mr. Morgan's testimony.

Mr. Beatty, could you state your full name, by whom you are employed and your position of employment?

A. (Witness Beatty) My name is Guy Beatty. I am employed by Carolina Power and Light Company as the manager of the Robinson Nuclear Project Department.

Q. And Mr. Morgan?

agb/agb6

A. (Witness Morgan) My name is Richard E. Morgan. I am employed by the Carolina Power and Light Company on the Robinson Nuclear Project and I am the general manager of the Robinson plant.

Q. Mr. Beatty and Mr. Morgan, do you have in front of you your prefiled testimony, which is entitled "Applicants Joint Testimony of Guy P. Beatty, Jr. and Richard E. Morgan on Joint Intervenors Contention 1?"

A. (Witness Morgan) Yes, we do.

A. (Witness Beatty) Yes, we do.

Q. And that is 22 pages in length and includes six attachments, is that correct?

A. Yes.

Q. Do you have any changes or corrections to make to that testimony?

A. Yes, I do

Since this testimony was prefiled on August 9th, 1984, there has been a corporately-approved reorganization in Mr. Morgan's plant staff. NRC approval for implementation of this reorganization change is pending.

This reorganization will become effective upon NRC approval and has resulted in some changes in the job titles of the persons mentioned in our testimony.

Accordingly, the following changes in the testimony should be made to update the joint testimony to

agb/agb7

reflect our current plants:

On page eight, the fourth line from the bottom, substitute "Manager Operations, Manager Maintenance" for "Manager Operations and Maintenance."

On page nine, the first line --

Q. You may want to do it slowly so people can mark their testimony as you go.

A. All right.

Q. Page nine?

A. On page nine, the first line, substitute "Manager Maintenance" for "Manager Operations and Maintenance."

Q. Yes, sir.

A. Page nine, eighth line. Put a period after the word "maintenance" and delete the remainder of the sentence.

Add a new sentence following the deleted period:

"In September 1984, he became Manager Maintenance, which is his current position."

(Pause.)

Page 10, first line: substitute "Manager Operations" for "Operating Supervisor, Unit 2."

MR. RUNKLE: Can you repeat that?

WITNESS BEATTY: Certainly.

agb/agb8

On page 10, the first line, substitute "Manager Operations" for "Operating Supervisor, Unit 2."

In Attachment 2, change the title of C.W. Crawford to "Manager Maintenance."

Change the title of F.W. Lowery to "Manager Operations."

And finally, to change a typo, change the SRO date for Mr. Lowery from 1985 to 1975.

That's all the changes.

BY MR. ROACH:

Q. Mr. Morgan, do you have any changes or corrections you would like to make?

A. (Witness Morgan) Yes, one change should be made in my qualifications.

On line one of page two, "1979" should be substituted for "1978."

In addition, in Beatty-Morgan Attachment 5, the term "severity level" should be substituted for "security level" several times.

The change should be made in the chart at the top of the left-hand column and then in the notes below with respect to severity levels one and two, severity level three, severity level four and severity level five.

That's all.

agb/agb9

Q. Mr. Beatty and Mr. Morgan, with these changes and corrections, is your prefiled testimony true and correct to the best of your knowledge and belief?

A. (Witness Beatty) It is.

A. (Witness Morgan) Yes, it is.

MR. ROACH: Mr. Chairman, we ask that the testimony with the attachments be admitted into evidence and physically incorporated into the testimony as if read.

JUDGE KELLEY: No objection?

(No response.)

JUDGE KELLEY: So ordered.

(Beatty-Morgan testimony follows.)

August 9, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CAROLINA POWER & LIGHT COMPANY	)	
AND NORTH CAROLINA EASTERN	)	Docket No. 50-400 OL
MUNICIPAL POWER AGENCY	)	
	)	
(Shearon Harris Nuclear Power Plant,	)	
Unit 1)	)	

APPLICANTS' JOINT TESTIMONY OF GUY P. BEATTY JR. AND RICHARD E. MORGAN ON JOINT INTERVENORS' CONTENTION I (MANAGEMENT CAPABILITY)

JOINT TESTIMONY OF
GUY P. BEATTY, JR. AND RICHARD E. MORGAN

Q1. Please state your full name, employer, position, and business address.

A1. Beatty:

My name is Guy P. Beatty, Jr. I am employed by Carolina Power & Light Company (CP&L) as Manager of the Robinson Nuclear Project Department (RNPD). My business address is P. O. Box 790, Hartsville, South Carolina.

Morgan:

My name is Richard E. Morgan. I am the General Manager-Robinson Plant in CP&L's Robinson Nuclear Project Department. My business address is the same as that of Mr. Beatty.

Q2. What is your professional training?

A2. Beatty:

I graduated from Clemson University in 1958 with a bachelor's degree in mechanical engineering. Since then, I have received considerable additional training including nuclear reactor safety and radiological health training in courses taught by the U. S. Department of Health, Education and Welfare and by the Massachusetts Institute of Technology. I have completed the Westinghouse Reactor Operator Training Program and was licensed as a Senior Reactor Operator (SRO) for H. B. Robinson Unit No. 2 (Robinson 2).

Morgan:

While serving in the United States Air Force for four years, I was trained as a Medical Services Specialist. This included training in radiological effects related to nuclear warfare and the assessment of medical x-rays. After joining CP&L, I participated in the Westinghouse Reactor Operator Training Program for initial startup of Robinson 2 and was licensed as an SRO in 1970. This license was

renewed by annual retraining and qualification through January 1978. I have also completed course work in economics at North Carolina State University and in electrical and electronics principles at Florence-Darlington Technical School.

Q3. Please describe your professional experience.

A3. Beatty:

With the exception of the ten-year period between 1972 and 1982, I have spent my professional career with CP&L. After graduation from college, I became a plant engineer at CP&L's coal-fired H. F. Lee Plant. I then became a plant engineer and subsequently plant maintenance supervisor at Unit 1 of the H. B. Robinson Plant, which is also a coal-fired unit. Between 1964 and 1966, I was operation supervisor at the Lee plant. In February 1966, I returned to the Robinson plant to become plant manager — a position I held until 1972. The nuclear-powered Unit 2 (Robinson 2), a 665 megawatt Westinghouse pressurized water reactor, was constructed on the same site during this time period and began commercial operation in March 1971. As plant manager, I was responsible for the continued operation of the coal-fired unit and for the preoperational testing, initial core loading, startup and initial commercial operation of Robinson 2.

In July 1972, I joined Florida Power Corporation as a nuclear staff engineer and was primarily involved in the preoperational training and licensing for Crystal River Unit 3, an 855 megawatt pressurized water reactor. I later became general plant manager of the Crystal River plant which includes both fossil and nuclear units. During the final construction and preoperational phase of Crystal River Unit 3, I was assistant project manager. Subsequently, during the preoperational testing, startup and commercial operation phases, I became plant manager of Unit 3. I held this position between 1975 and 1979 when I became an assistant to the vice president for nuclear operations of Florida Power Corporation.

In 1982, I was on loan from Florida Power Corporation to the Institute for Nuclear Power Operations (INPO), an industry-sponsored organization dedicated to ensuring the safe and efficient operation of commercial reactors. While at INPO, I served as a member and later manager of INPO Evaluation Teams. My responsibilities included traveling to various nuclear plants to review whether their management was in compliance with the INPO Performance Objectives. The Evaluation Teams provided comments and reports to plant management detailing how their administration, maintenance and operations measure up to INPO standards. Before leaving INPO, I was promoted to manager of the Technical Support Section of INPO's Evaluation and Assistance Division.

I returned to CP&L in October 1982 as Manager of Special Projects with primary responsibility as Project Team Manager of the Robinson 2 steam generator replacement project. In August 1983, I was named Manager of the Robinson Nuclear Project Department which is the position I currently hold. As Project Manager, I am the on-site manager who has overall responsibility for all aspects of plant operations including long range planning and policy-making.

Morgan:

Upon leaving the Air Force in 1962, my utility experience began as a trainee at CP&L's H. F. Lee Plant. As a trainee, helper and auxiliary operator at the Lee plant, I learned basic maintenance and operations procedures for a fossil power plant. After transferring to the Robinson plant in 1965, I worked as a control operator, shift foreman, senior generation specialist and operating supervisor. In these positions, I worked in the areas of equipment qualification, licensing and operations for both the fossil and nuclear units at Robinson. In January 1979, I transferred to the Harris plant as Superintendent-Startup and Test which is the position I held until July 1980 when I became Manager - Plant Operations at the

Brunswick plant. In August 1982, I was transferred back to the Harris plant as Manager - Plant Operations and held that position until I became General Manager of the Robinson plant in September 1983. As General Manager, I report to Mr. Beatty, the Project Manager, and have day-to-day responsibility for operations and maintenance of both the nuclear and fossil unit. With respect to Robinson 2, I have direct responsibility for operations, maintenance, regulatory compliance, technical support, environmental protection, and chemistry and radiation protection. In short, I am charged with the task of ensuring that the unit operates safely and reliably, in full compliance with applicable regulations and in accordance with Company objectives.

Q4. Mr. Beatty and Mr. Morgan, what is the purpose of your joint testimony?

A4. The purpose of our testimony is to describe the on-site organization, operating history, and enforcement record of Robinson 2. We will concentrate on those aspects of the organization and past experience at Robinson 2 that relate to CP&L's capability to operate the unit safely, efficiently, and in compliance with the regulations of the Nuclear Regulatory Commission (NRC).

Q5. Please describe the overall on-site organization for the Robinson Nuclear Project Department.

A5. Beatty:

The Robinson Nuclear Project Department (RNPD) was organized in September of 1983 to centralize all plant operating, construction, and engineering functions at the site under one on-site Project Manager. Prior to that time, there was no position comparable to Project Manager and many policy-level decisions had to be made at CP&L's corporate office rather than the plant site. The reasons for the 1983 reorganization are discussed in more detail in the testimony of E. E. Utley, et al. in this proceeding. In addition to Mr. Morgan, the General Manager,

the on-site managers who report directly to me are J. J. Sheppard, Manager - Planning and Scheduling; B. G. Rieck, Manager - Control and Administration; Matthew J. Reid, Manager - Project Construction; and the Manager - Design Engineering (a position which is presently vacant). The five sections headed by these managers together comprise RNPD. As Project Manager, I report directly to M. A. McDuffie, Senior Vice President - Nuclear Generation Group. Beatty-Morgan Attachment 1 is a chart that illustrates the organization of RNPD.

This basic management organization is designed to establish a strong corporate presence at the Robinson site, while providing the on-site managers with the necessary freedom of action to be responsive to operational, regulatory and safety issues. In this respect, there are two distinct advantages of the current organization. First, the General Manager is able to concentrate on the safe, reliable operation of the plant. This has been accomplished by structuring the on-site organization such that functional groups not directly involved in the operation of the plant no longer report to the General Manager. Movement of the responsibility of those auxiliary functions (such as administration, cost control, and planning and scheduling) into the Project Manager's organization frees the General Manager and his operating staff to concentrate on plant performance.

Secondly, responsibility for all project functions (excluding the on-site training, quality assurance and on-site nuclear safety organizations) is now under the Project Manager. Thus, decision-making authority for most day-to-day issues is situated at the plant site rather than CP&L's corporate office. This has resulted in more efficient decision-making and a greater sense of direction.

Q6. What are the responsibilities of the on-site managers at Robinson 2?

A6. Beatty:

Mr. Morgan has already discussed his role as General Manager. I will discuss briefly the general responsibilities of each of the other managers who report to me and whose positions are identified in Beatty-Morgan Attachment 1.

The Manager - Project Construction is charged with managing the performance of major modifications and additions to the plant according to preplanned and approved schedules. This is, of course, a very important position at any nuclear plant.

The Manager - Control and Administration oversees financial planning and control, project administration, material receipt and handling, emergency preparedness, and project security. He supports the General Manager - Robinson Plant while freeing the General Manager of administrative burdens which existed prior to the reorganization of RNPD.

As his title implies, the Manager - Planning and Scheduling plans and schedules outages and modification activities to ensure that resources are utilized efficiently and to minimize unit outage time. He is responsible for both short-range and long-range planning. During outages, he carefully follows and reports on work activities. In that way, the other Company managers and I are always aware of the status of outage-related work at the plant so that planning for system-wide power needs can be accommodated.

Finally, the position of Manager - Design Engineering, which is currently unfilled, is responsible for the design of modifications and additions to the plant to ensure compliance with applicable engineering codes and regulatory requirements. That position would also assist in the preparation of work packages necessary to accomplish plant modifications and additions.

Q7. Have there been other significant changes in this organization since Robinson 2 began commercial operation?

A7. Yes. Although the basic management structure of the Robinson plant has been maintained since commercial operation of Robinson 2 began in 1971, we have made a number of changes to reflect the demands of our increasingly complex industry. In addition to the 1983 reorganization discussed above, one notable change is the separation of managerial responsibilities for Unit 1 (the fossil unit) and Unit 2 (the nuclear unit) below the Plant General Manager level. This allows the managers of Robinson 2 to concentrate exclusively on that unit. The process of separating managerial responsibilities between the two units began in 1979 and was completely implemented by 1984. We have also made a number of changes to ensure that technical expertise is available to cope with changing conditions. For example, the position of Environmental and Radiation Control Supervisor (now Environmental and Radiation Control Manager) was established in 1974 to reflect the importance of environmental protection, radiation protection, and chemistry control.

Q8. How would you characterize the educational qualifications and experience of Robinson 2 personnel?

A8. We think the personnel at Robinson 2 are extremely well qualified. The education and experience level of key personnel are summarized in the chart which is attached to this testimony as Beatty-Morgan Attachment 2.

All management/supervisory personnel, operational licensed personnel, technical and maintenance personnel, and quality assurance personnel must satisfy the requirements established by ANSI N18.1-1971. Because our personnel do meet this ANSI standard, there is added assurance that they have adequate qualifications to operate Robinson 2 safely and reliably. Finally, we should mention that Robinson 2 personnel are periodically retrained by CP&L in order to maintain and demonstrate their level of competence. CP&L's training program is

described in detail in the joint testimony of James M. Davis, Jr. and A. Wayne Powell in this proceeding.

Q9. Can you describe the education, training and experience of key plant personnel in more detail?

A9. Matthew J. Reid, the Manager - Project Construction at the Robinson plant, has a bachelor's degree in mechanical engineering from the University of Rhode Island and has more than 35 years of experience in the construction industry. Upon joining CP&L in 1982, he was initially employed as Project Construction Manager (Robinson) in the Brunswick and Robinson Site Management Section of the Nuclear Plant Construction Department before being promoted to his current position.

The Manager - Control and Administration, B. G. Rieck, holds a bachelor's degree in chemistry and has over 25 years of administrative project management experience. A CP&L employee since 1982, he has been in his current position since January 1984.

James J. Sheppard has been the Manager - Planning & Scheduling since March 1984. Prior to that time, he was employed as Principal Engineer, Nuclear Licensing Unit, in CP&L's Nuclear Engineering & Licensing Department. He received a bachelor's degree in engineering from the U. S. Naval Academy in 1970 and a master's degree in business administration from Duke University in 1982. He has 5 years of nuclear naval experience and has been employed with CP&L since January 1979.

In addition to these managers who report to the Project Manager, key personnel include the Manager - Operations, ~~and Maintenance,~~ Manager - Maintenance, Manager - Technical Support and Manager - Environmental and Radiation Control (all of whom report to the Plant General Manager). At the supervisor level, key personnel are the Operating and Maintenance Supervisors for Unit 2.

C. Wayne Crawford, the Manager - ~~Operations &~~ Maintenance, graduated from North Carolina State University in 1969 with a bachelor of science degree in nuclear engineering. In March 1970, he joined the Robinson staff as an engineer in CP&L's Nuclear Operations Department. In 1971, he obtained his SRO license at Robinson. Mr. Crawford subsequently became Administrative Supervisor and Maintenance Supervisor, remaining in the latter position until January 1979. He then became the Operating Supervisor. In November of that same year, he became the Manager - Operations & Maintenance. In September 1984, he became Manager - Maintenance which is his current position. All of Mr. Crawford's 14 years of nuclear experience have been acquired at Robinson.

Joseph M. Curley has been in the position of Manager - Technical Support since March 1981. Prior to that time, he was employed as the Engineering Supervisor in CP&L's Nuclear Operations Department. He received his bachelor of science degree in nuclear engineering from Texas A&M University in 1974 and has a total of 14-1/2 years of nuclear experience in the U. S. Navy and utility industry. He obtained his SRO in 1977 at Robinson.

Richard M. Smith, Environmental and Radiation Control Manager, assumed his position in July 1984. He retired from the U. S. Navy in 1975, having spent 10 years in the Army Package Power Program. He was a qualified operator of various Army nuclear plants under a joint military program and spent three years in Antarctica as the Chemistry-Health Physics Supervisor for one such plant. Upon retirement from the Navy, he became the Plant Health Physicist and later Radiation Protection Manager at VEPCO's Surry Nuclear Plant. While with INPO from 1981 to 1984, he evaluated over a score of nuclear plant health physics or chemistry programs.

Frederick L. Lowery, the ~~Operating Supervisor - Unit 2,~~ Manager - Operations has been at the Robinson plant since May 1971, shortly after initial commercial operation of Robinson 2. He has 9 years of U. S. Navy experience (1961-1971) for a combined total nuclear experience of 22 years. He received his SRO license in 1975. Since that time, he has been employed as a senior control operator, shift foreman, training coordinator and operating supervisor.

William T. Gainey, Jr. and R. H. Chambers share the title of Maintenance Supervisor - Unit 2. Mr. Gainey is primarily responsible for mechanical maintenance while Mr. Chambers concentrates on instrumentation and electrical maintenance. Mr. Gainey began employment with CP&L in 1969 as a Control Operator at Robinson. In 1972 he obtained an SRO license and subsequently became Shift Foreman at Robinson 2. He worked as a Senior Quality Assurance Specialist in the Operations Quality Assurance Section, and as a Project Specialist - Administration/Special Projects in the Nuclear Operations Department and Technical Services Department. He was transferred to Robinson in November of 1983 to become Maintenance Supervisor - Unit 2. Mr. Chambers holds a bachelor's degree in nuclear engineering. He has been at Robinson 2 since 1973 where he has held various engineering positions. He has been Maintenance Supervisor - Unit 2 since 1979.

Q10. What has been the experience regarding employee turnover at Robinson 2?

A10. In general, Robinson 2 has experienced a level of employee turnover well below the nuclear utility industry average. For those employees holding an SRO license, the average turnover rate at Robinson 2 for the period from 1978 through 1982 was less than 3 percent. The industry turnover rate was considerably higher. For example, the industry turnover rate for SROs during 1981 was 5.1 percent. The average turnover rate for licensed Reactor Operators (ROs) at

Robinson was approximately 4 percent during the 1978-82 time period, while the industry average turnover rate during the same period was 5.5 percent. In 1983, these already low rates were further reduced to zero percent turnover for both SROs and ROs. The implementation of CP&L's Nuclear Supplement Pay Program, which establishes a salary differential for employees at nuclear plants, has helped to maintain low turnover rates. Even more importantly, that program has allowed Robinson 2 to attract and retain well qualified personnel, thus enabling us to maintain low turnover rates.

Another indication of the low turnover at Robinson 2 is the number of on-site managers now at the plant who have worked there for a substantial period of time. Both of us were employed at Robinson when construction of Unit 2 commenced in 1966. Other current managers or supervisors who were at Robinson 2 when it began commercial operation thirteen years ago are C. Wayne Crawford, William T. Gainey, Jr., and J. A. Eaddy, Jr. (Environmental and Chemistry Supervisor). In addition, management/supervisory personnel who have had more than eight years experience at Robinson are J. M. Curley, F. L. Lowery, R. H. Chambers, H. S. Zimmerman (Director - Planning & Scheduling) and R. E. Denney (Radiation Control Supervisor). As we will discuss later, Robinson's low attrition level and high experience level were cited by INPO as a major strength on its most recent plant evaluation.

Q11. Please describe the current and historical staffing levels at Robinson.

A11. It has always been the objective of CP&L to staff all of its generating units with adequate numbers of personnel to construct, operate and maintain the plants properly and safely. Personnel from off-site organizations within CP&L and outside contractors are used during peak work periods to supplement the permanent plant staff.

There has been a steady growth in staffing levels for Robinson 2 as can be seen by reference to Beatty-Morgan Attachment 3. This increase reflects the commitment of CP&L to maintain a staffing level sufficient to ensure safe operation of the plant in compliance with NRC requirements. More extensive NRC regulation has increased the workload for plant staffs throughout the nuclear industry, including Robinson 2. The increase in personnel has been especially marked since the accident at Three Mile Island Nuclear Plant in 1979. Between 1972 and 1978, the Robinson 2 staff increased by 54 persons—from 80 to 134. Since 1979, the staff has increased by an additional 134 persons to the present complement of 268. As a typical example, the Environment and Radiation Control section at Robinson 2 numbered fewer than 10 persons in 1975, but now has a personnel complement of nearly 40 persons.

Q12. Can you provide some information about training programs for the personnel at Robinson 2?

A12. The training programs at CP&L's nuclear projects, including Robinson 2, are described in the joint testimony of James M. Davis, Jr. and A. Wayne Powell in this proceeding. We will highlight several areas in which these programs have been successfully implemented at Robinson 2.

First, our training program for the licensing of operators (both SROs and ROs) has produced outstanding results. The NRC's testing of Reactor Operators is a rigorous experience, with industry success rates of less than 50 percent common. Yet, as the attached Beatty-Morgan Attachment 4 demonstrates, the number of ROs at Robinson 2 passing the NRC examination has been at least 80 percent in all years since 1977 in which the examination has been administered to Robinson personnel. SROs have been equally successful. With the exception of 1980, Robinson SROs have consistently achieved a 100 percent passing rate since

1977. All three of the SROs who did not initially pass the examination in 1980 subsequently did pass after additional training. The number of persons shown in Beatty-Morgan Exhibit 4 who have taken and successfully completed the SRO and RO examinations is also important since it demonstrates that the training program is producing sufficient numbers of licensed operators to meet plant needs.

Another notable training-related achievement at the Robinson project is the certification of three areas of the Robinson training program by INPO in May 1984. The INPO accreditation process is described further in the joint testimony of Messrs. Davis and Powell. These areas accredited comprise the operator training areas. Certification of the remaining seven areas is anticipated by 1986. This certification places Robinson 2 well ahead of typical nuclear utility training programs. Robinson is only the fourth nuclear unit in the United States to receive INPO certification of a portion of its training program.

We would also note that the completion of an on-site training center in the spring of 1984 at a cost of over 2 million dollars is a tangible demonstration of our commitment to proper staff training. This facility houses classrooms and offices for the full time training staff which now numbers approximately 20 persons.

Finally, the comprehensive training of fire brigade members at Robinson 2 is worth noting. Members of the Robinson fire brigade not only participate in in-house training, but also receive professional fire fighting training at an excellent fire fighting school in Columbia, South Carolina. Thus, in the eventuality of a fire at Robinson 2, the fire brigade is unusually qualified to respond.

Q13. Have any independent organizations evaluated aspects of the Robinson 2 organization?

A13. There have been three recent evaluations of the Robinson 2 organization. In November 1983, INPO conducted an evaluation of site activities to make an

overall determination of plant safety and management controls. Overall, the INPO evaluation team for Robinson 2 reported a number of practices that are indicative of a well-run plant, including improved housekeeping and material conditions; a low personnel attrition level and high experience level; good morale and a positive attitude by plant personnel; and strong support of site activities by corporate management. Additionally, the INPO team noted the following "good practices": (1) enhancement of plant operations by the expeditious processing of temporary procedure changes and revisions; (2) thorough and timely responses to deficiencies through the QA program which reflect a strong management commitment to quality; and (3) use of the plant layout/grid system to quickly direct personnel to the location of plant equipment.

The results of a second recent outside evaluation are contained in the NRC's Systematic Assessment of Licensee Performance (SALP) report for Robinson 2 for the period from January 1, 1982 through January 31, 1983. The SALP program is an NRC Staff effort to collect performance observations on an annual basis and to evaluate the licensee according to the observations. Positive and negative attributes of performance are noted. Although the SALP report did identify a need for improvement in the areas of licensing and quality assurance at Robinson, its overall conclusion was that performance at the plant level was satisfactory. The NRC transmittal letter dated June 14, 1983 for the SALP report commented that "Management attention and appropriate involvement in various safety activities were evident at your Robinson facility."

A final outside review was performed by the management consulting firm of Cresap, McCormick, and Paget, Inc. (Cresap). Pursuant to a 1982 order from the North Carolina Utilities Commission, Cresap performed an audit of CP&L's management, including an evaluation of activities at the Robinson site. The

resulting Cresap Report found that performance of Robinson 2 was higher than the industry average for comparable units during the preceding five years. In its letter of December 15, 1982, transmitting the results of the management audit, Cresap identified "more-than-acceptable operating performance of . . . the Robinson nuclear generating station" as one of the CP&L "strengths or accomplishments that offer evidence of commendable performance."

Q14. How has the Company dealt with operating difficulties that have arisen at Robinson 2 over the years?

A14. Operating difficulties should be rectified promptly to ensure safe, efficient operation of our power plants. One such difficulty at Robinson 2 was increased degradation of steam generator tubes which became apparent in 1980. This steam generator degradation problem was not unique to Robinson 2. In February 1982, the NRC reported that of the 40 PWR units operating in the United States with U-tube steam generators, 32 had experienced one or more forms of tube degradation. Extensive denting-related degradation of steam generator tubes forced Virginia Electric & Power Company to replace the steam generators at its Surry Units 1 and 2 beginning in 1979, followed shortly by Florida Power & Light Company at Turkey Point Units 3 and 4, and Wisconsin Electric Power Company at Point Beach Unit 2.

When Robinson 2 started experiencing steam generator tube degradation, the Company promptly initiated actions to arrest the corrosion problem. The most effective actions were variation of the phosphate chemistry control and reduction of the primary system temperature. As a result of these actions, the Company maintained operation using the phosphate water chemistry longer than any similar Westinghouse unit. In January 1984, it became necessary to shut down Robinson 2 in order to repair leaking tubes. On February 6, 1984, the decision was made to initiate a steam generator replacement.

When it became apparent that replacing the Robinson 2 steam generators would probably be necessary, we began to plan for that eventuality in coordination with utilities that had already undergone similar replacements. Thus, we were able to benefit from the experience of other utilities that were forced to replace their steam generators at an earlier date.

As a part of our planning, more than two dozen CP&L employees who would have responsibility for quality assurance, radiation control, health physics, planning and scheduling, and construction supervision during the Robinson repair program observed and studied repair efforts underway at Florida Power & Light Company's Turkey Point plant or at Wisconsin Electric Power Company's Point Beach plant. Good practices observed at those plants were incorporated into pre-planning for the Robinson program. For example, as a result of observations at Turkey Point, we decided to do some of the welding at Robinson outside the containment area to reduce radiation exposure. A CP&L project engineer was assigned to the Turkey Point project for seven months as construction coordinator and field supervisor on their replacement program. That experience was invaluable when he returned to Robinson and was assigned the responsibility to coordinate construction activities during our replacement program.

Not only did the Company send employees to other plants to observe replacement projects, but we also employed a number of persons with actual experience in the planning and scheduling, construction and health physics aspects of the steam generator repair programs at Surry and Turkey Point. The Westinghouse project manager for the Turkey Point replacement program was assigned to the same duties at Robinson, serving as liaison between CP&L and Westinghouse as contractor for the replacement program.

To maintain radiation exposure levels for both on-site and off-site personnel at levels that are as low as reasonably achievable (ALARA), CP&L developed a comprehensive radiological protection program. We have employed a variety of techniques to reduce exposure levels, including decontamination of the containment building and specific high exposure components in the work areas, use of temporary shielding in the work areas, and use of specialized tools (such as remote cutting apparatus) when appropriate. There has also been a heavy emphasis on personnel training as a means to reduce levels of radiation exposure.

We believe these efforts are paying off. As a result of CP&L's comprehensive planning and preparation, the total occupational radiation exposure recorded for all major tasks completed to date during the replacement program is approximately 50 percent of the amount originally projected. For most activities, actual exposures have been much lower than projected. For example, radiation exposure during the cutting and removal of the upper assemblies was projected to be 80 manrems but the work was accomplished with less than 5 manrems exposure. The replacement program is on schedule and more than 75 percent complete; the unit is expected to be returned to service before the end of this year.

Q15. How has the Company dealt with other operating difficulties that have arisen at Robinson 2 over the years?

A15. Another example of the capability of CP&L management to deal effectively with unusual operating difficulties was its handling of the pressurized thermal shock (PTS) issue. This issue centered on the ability of the reactor vessel at Robinson 2 to withstand a temperature-shock while at pressure. It was theorized that certain welds on the reactor vessel could fracture under certain temperature-pressure conditions due to the presence of trace metals in the welds. In turn, this

might result in an unisolatable loss of primary coolant from the primary containment system. In the early 1980s, it seemed possible that very major modifications and repairs would be required to allow continued operation of the unit. In response to this concern, the Company mounted major efforts to train personnel to recognize the condition and operate the unit accordingly, plan necessary modifications, redesign the core so as to reduce neutron leakage (which irradiated the affected area), and reanalyze the reactor vessel. As a result of the reanalysis and a new low-leakage core design, CP&L was able to alleviate the PTS concern from a high priority issue with large potential impact on plant performance, to an issue with no expected impact on plant performance or life.

Q16. Please characterize the record of NRC enforcement activities for Robinson 2 over the past several years.

A16. A summary of NRC enforcement actions since 1981 with respect to Robinson 2 is contained in Beatty-Morgan Attachment 5. A list of the number of LERs submitted during each year since 1970 is provided in Beatty-Morgan Attachment 6. Over the past several years, the number of LERs has remained essentially constant with some fluctuations from year to year.

As can be seen from Attachment 5, the number of NRC notices of violation (NOVs) issued with respect to Robinson 2 declined between 1981 and 1983. Only 24 such NOVs were issued during 1983 compared with 41 in 1982 and 34 in 1981. Through the end of July 1984, 22 NOVs have been received during 1984, primarily due to the much greater site activity associated with the steam generator replacement program. We expect this number to decline again when the replacement program is completed. Of the 24 NOVs issued during 1983, 23 were in the two lowest severity levels. The remaining one was a Severity Level III violation for which a $40,000 civil penalty was initially assessed, but which was

subsequently reduced to $20,000 because of CP&L's prompt corrective actions. This violation involved the failure of a security guard employed by a CP&L contractor to secure access and the failure of a shift supervisor to respond properly to the situation. In response to the violation, CP&L took extensive corrective action, including initiating disciplinary action against the persons involved, conducting a series of meetings and classes with personnel to emphasize the importance of assigned duties, and committing to greater CP&L oversight of the security force.

Q17. What is CP&L's record on industrial safety at Robinson 2?

A17. Our industrial safety record at Robinson 2 has been outstanding. In the past seven years, there has been only one accident at Robinson 2 which resulted in lost work time. Within the past six weeks, the plant operators won an in-house award for 200,000 manhours worked without a doctor-attended accident. Our commitment to safety has been recognized by the South Carolina Department of Labor which in 1976, 1977, 1978, 1982 and 1983 awarded the plant (and the rest of CP&L's Southern Division) the South Carolina Occupational Safety Council Award for outstanding safety performance compared to other South Carolina companies in the power generation and transmission industry. In addition, Robinson 2's good record has contributed to CP&L's receiving a number of national and regional safety performance awards.

Q18. How would you characterize your philosophy in managing Robinson 2?

A18. Our ultimate goal is the safe and reliable operation of the plant. We are totally committed to plant safety and regulatory compliance. To accomplish this goal, we attempt to employ the best persons for each position and to ensure that they are properly motivated to do their job. We believe that the operating staff should be relieved of unnecessary administrative burdens so that they can

concentrate on effective operation and maintenance. In addition, we believe that it is important that the plant management structure establish clear lines of authority and responsibility. It is essential that all plant personnel be held accountable for the effects of their actions on plant operation.

One manifestation of our commitment to safety and regulatory compliance at Robinson 2 is the Robinson Long-Term Improvement Plan (RLTIP). The RLTIP was established in 1983 as a result of a self-initiated evaluation of Robinson 2. Although that evaluation found that performance was acceptable in all areas, we identified improvements that could be made in such areas as regulatory compliance, revision to procedures, and training. Of the 18 action items identified in the RLTIP, 16 have already been implemented. The remaining two items, dealing with the formatting, revision and upgrading of procedures, are well along toward completion.

Q19. How do you personally assure yourself that this philosophy is carried out?

A19. Beatty:

First of all, I try to incorporate the knowledge I've gained through experience in the nuclear industry in fulfilling my managerial responsibilities. This experience is of great value to me in selecting plant personnel and in discussing technical and operational problems with my staff. I always make an effort to get out in the plant on a daily basis to observe ongoing activities. In addition, I hold routine meetings with all segments of the plant staff and regularly review standard plant performance indicators to determine if any problems have arisen. I have worked to implement the managerial changes that were included in the 1983 reorganization and which, I believe, establish the kind of management structure conducive to optimum plant operation.

Morgan:

I wholly concur with Mr. Beatty's comments. Let me emphasize that in managing a nuclear power plant there is no substitute for personal inspections and direct involvement in plant operations. I spend a very substantial part of my time each day in just those kinds of activities.

Q20. Mr. Beatty and Mr. Morgan, do you believe that the record of Robinson 2 supports the position that CP&L has the management capability to operate and maintain the unit safely, efficiently, and in conformity with NRC regulations?

A20. It is clear that CP&L's track record in the operation of the Robinson 2 is good. The Company's responsiveness to regulatory requirements is demonstrated by the enforcement record at Robinson 2, implementation of the RLTIP, and the Company's willingness to take prompt corrective action when compliance problems have arisen. The Company's positive approach toward regulatory compliance is confirmed by the findings of the last SALP report on Robinson 2 and the other outside evaluations which we mentioned.

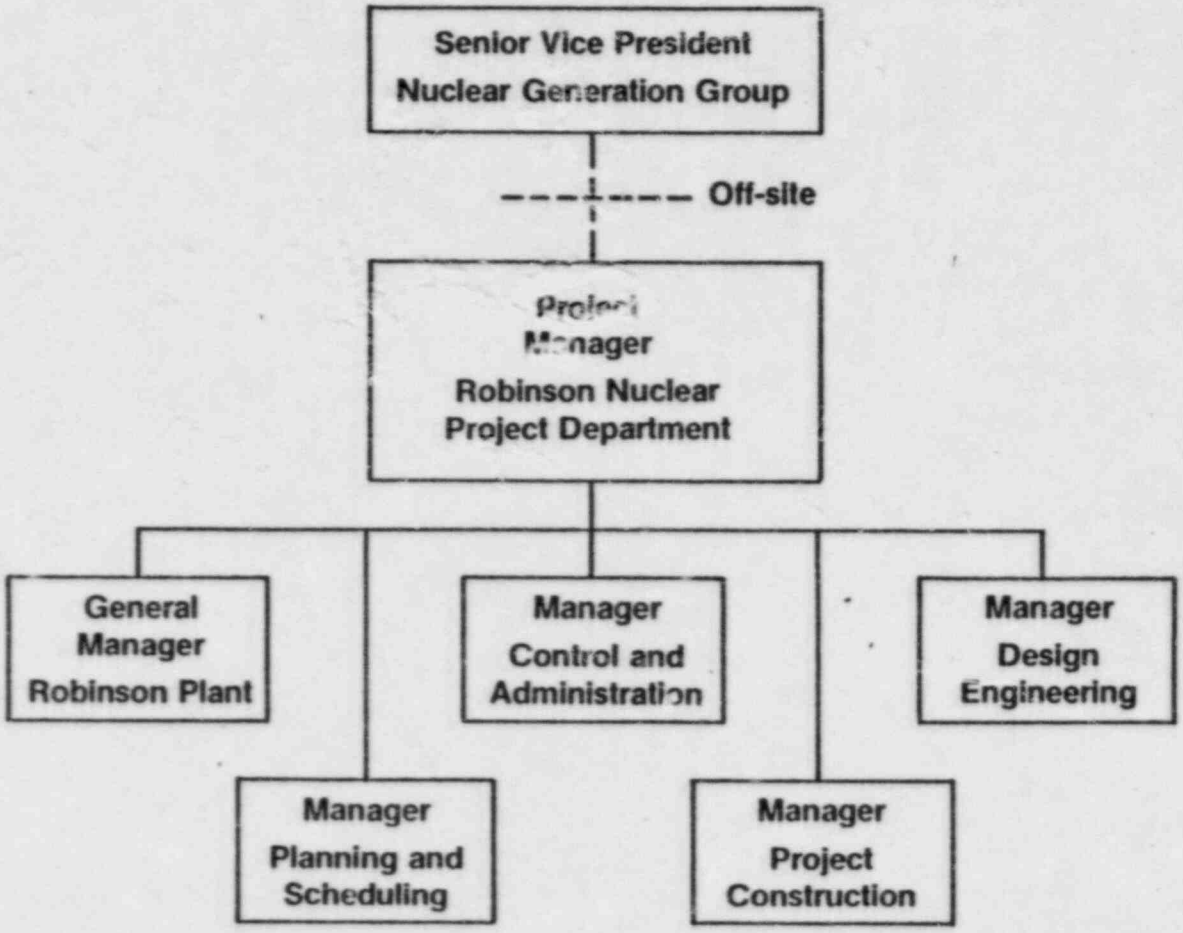
CP&L's response to the steam generator problem is a good illustration of its ability to manage the unit properly. As a result of measures taken to extend the life of the steam generators, we were able to benefit from the experience of other utilities that were forced to replace steam generators at an earlier date. Our extensive preplanning has led to lower personnel radiation exposure, smaller radioactive contamination problems, and a more efficient replacement program at Robinson 2. The current replacement outage is on schedule and should compare favorably in duration with that experienced by other utilities. It should ultimately result in the improved availability of Robinson 2.

We believe that we have a strong management team in place at Robinson 2 and that the current organizational structure permits efficient decision-making at all levels. We have always sought to maintain high standards in managing Robinson 2 and will continue to do so in the future.

Q21. Does this conclude your testimony?

A21. Yes, it does.

ROBINSON NUCLEAR PROJECT DEPARTMENT MANAGEMENT ORGANIZATION



Beatty-Morgan Attachment 1

TITLE	PERSON ASSIGNED	EDUCATION DEG/MAJOR/YR	SRO	NUCLEAR EXPERIENCE (YEARS) CP&L HBR	CP&L OTHER CP&L EXPERIENCE	CP&L TOTAL	USN	OTHER INDUS.	GRAND TOTAL
Manager - Robinson Nuclear Project	G. P. Beatty	BS/ME/1958	1970	8	-	8	-	10	18
General Manager - Robinson Plant	R. E. Morgan		1970	15	4 1/2	19 1/2	-	-	19 1/2
Manager - Project Construction	M. J. Reid	BS/ME/1948	NR	2	-	2	-	3	5
Manager - Control & Administration	B. G. Rieck	BS/Chem/1949	NR	1/2 yr.	1 1/2	2	-	27	29
Manager - Planning & Scheduling	J. J. Sheppard	BS/NE/1970 MBA/1982	NR	1/2 yr.	5	5 1/2	5 1/2	1 1/2	12 1/2
Manager - ~~Operations &~~ Maintenance	C. W. Crawford	BS/NE/1969	1971	14	-	14	-	-	14
Manager - Technical Support	J. M. Curley	BS/NE/1974	1977	9 1/2	-	9 1/2	5 1/2	3	18
Manager - Environmental & Radiation Control	R. M. Smith		NR	1 mo.	-	1 mo.	10	9	19
~~Manager - Operations Operating Supervisor - Unit No. 2~~	F. L. Lowery		1975	13	-	13	9	-	22
Maintenance Supervisor - Unit No. 2	W. T. Gainey		1972	7 1/2	7	14 1/2	-	5 1/2	20
Maintenance Supervisor Unit No. 2	R. H. Chambers	BS/NE/1973	1976	11	-	11	-	-	11

NR - Not Required
ME - Mechanical Engineering
NE - Nuclear Engineering

Beatty-Morgan Attachment 2

Robinson 2 Staff Size (Actual)

Date	Number*
1971	91
1972	80
1973	80
1974	101
1975	102
1976	111
1977	113
1978	134
1979	157
1980	215
1981	220
1982	256
1983	298
1984	268**

* Actual staff assigned to Robinson 2 in the mid-year period of the year indicated. Number does not include approximately 45 SHNPP personnel assigned to Robinson 2 from 1979 to mid - 1982.

** The drop in staff size between 1983 and 1984 reflects the management reorganization described in the testimony at pages 4-5. Personnel performing certain administrative functions were transferred out of the Plant General Manager's organization.

ROBINSON NUCLEAR PROJECT

NRC LICENSE EXAMINATION RESULTS

	Licensed Reactor Operators			Senior Reactor Operators		
Year	Number Tested	Number Passed	%	Number Tested	Number Passed	%
1977	6	5	83	6	6	100
1978	9	9	100	0		
1979	9	9	100	3	3	100
1980	0			4	1	25
1981	5	4	80	0		
1982	6	6	100	6	6	100
1983	0			8	8	100

NONCOMPLIANCE HISTORY FOR H. B. ROBINSON UNIT NO. 2 (Notices of Violation Issued by NRC)				
Severity Level:	1981	1982	1983	1984*
I	0	0	0	0
II	0	0	0	0
III	3	1	1	1
IV	11	21	12	13
V	17	19	11	8
VI**	3			
Total Violations:	34	41	24	22

Severity Levels I and II: Violations that are of very significant regulatory concern. In general, violations that are included in these severity categories involve actual or high potential impact on the public.

Severity Level III: Violations that are cause for concern.

Severity Level IV: Violations that are less serious but are of more than minor concern; i.e., if left uncorrected, they could lead to a more serious concern.

Severity Level V: Violations that are of minor safety or environmental concern.

*Notices of Violation received through July 1984

**No longer used

LICENSEE EVENT REPORTS H. B. Robinson Unit No. 2	
YEAR	NUMBER
1970	13
1971	18
1972	19
1973	21
1974	32
1975	20
1976	21
1977	33
1978	32
1979	37
1980	29
1981	33
1982	19
1983	31

agb/agb10

BY MR. ROACH:

Q. Mr. Beatty, could you briefly summarize the testimony by you and Mr. Morgan?

A. (Witness Beatty) Yes.

The joint testimony of Mr. Morgan and myself concentrates on the site organization, operating history and enforcement record at CP&L's nuclear-powered H.B. Robinson, Unit 2, located near Hartsville, South Carolina.

As manager of the Robinson Nuclear Project Department, I believe it is clear that CP&L's overall record in managing Robinson 2 is good.

The department is organized into five sections, although one is not filled at the present, which are headed by the general manager, Mr. Morgan, and four other senior managers.

As explained in our prefiled testimony, each of these persons and other key personnel are very well qualified and experienced to perform their duties.

The size of the plant staff has grown over time to meet changing conditions in the nuclear industry and the staff is well trained to perform its duties.

Whenever operating problems have arisen at Robinson 2, we have attempted to rectify them in the most efficient and safety-conscious manner possible.

A prime example of thisapproach is our planning

AGBwbl

for, and execution of, the steam generator replacement program that is currently under way.

Robinson-2 has accumulated a relatively good NRC enforcement record over the years.

We also have an excellent record in the area of industrial safety.

Finally, several outside evaluations have recently commented favorably on the operation of Robinson-2. Their conclusions are discussed in more detail in the prefiled testimony.

Certain questions contained in the testimony are directed toward either Mr. Morgan or me. The answers to such questions are sponsored by the individual to whom the questions are addressed. In all other respects this testimony is sponsored jointly by Mr. Morgan and me.

Q. Mr. Howe, could you state your full name and position of employment?

A. (Witness Howe) I am Patrick W. Howe, Vice President Brunswick Nuclear Project, Carolina Power and Light Company.

Q. Mr. Dietz, would you also state your full name and position of employment?

A. (Witness Dietz) I'm Charles R. Dietz. I'm employed by Carolina Power and Light Company as General Manager of the Brunswick Steam Electric Plant.

MR RUNKLE: Mr. Roach, I think we can put this off

AGBwb2

until tomorrow to describe their testimony and give a summary of it. In the interest of time today I think if we just focus on Robinson I think that would facilitate things.

MR. ROACH: It would take us just a couple of minutes to do it, but if you would like to put it off we can. But I think it would be best to go ahead and do it since we've got the witnesses up as a panel, and there may be questions for all four.

JUDGE KELLEY: I think it's their panel. Why don't we let them go ahead?

MR. RUNKLE: Fine.

BY MR. ROACH:

Q. Mr. Howe and Mr. Dietz, do you have in front of you the testimony of your panel, which is thirty-three pages in length with two attachments, and which is entitled "Applicants' Joint Testimony of Patrick W. Howe and C. R. Dietz on Joint Intervenors' Contention 1?"

A. (Witness Dietz) We do.

A. (Witness Howe) Yes.

Q. Do you have any changes or corrections you would like to make to that testimony?

A. No changes or corrections.

A. (Witness Dietz) No corrections.

Q. Is the testimony true and correct to the best of your knowledge and believe?

AGBwb3

A. (Witness Howe) It is.

A. (Witness Dietz) Yes.

MR. ROACH: Mr. Chairman, I would like to ask that the testimony with attachments be copied into the record.

JUDGE KELLEY: It is so ordered.

(Joint Testimony of Patrick W. Howe and C. R. Dietz on Joint Intervenors' Contention 1 follows.)

INSERT

August 9, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
CAROLINA POWER & LIGHT COMPANY AND NORTH CAROLINA EASTERN MUNICIPAL POWER AGENCY	)	Docket No. 50-400 OL
(Shearon Harris Nuclear Power Plant, Unit 1)	)	

APPLICANTS' JOINT TESTIMONY OF PATRICK W. HOWE AND C. R. DIETZ ON JOINT INTERVENORS' CONTENTION I (MANAGEMENT CAPABILITY)

JOINT TESTIMONY OF
PATRICK W. HOWE AND C.R. DIETZ

Q1. Please state your name, business address, and position of employment.

A1. Howe:

My name is Patrick W. Howe. My business address is P.O. Box 10429, Southport, North Carolina. I am Vice President - Brunswick Nuclear Project with Carolina Power & Light Company (CP&L).

Dietz:

My name is C.R. Dietz. My business address is P.O. Box 10429, Southport, North Carolina. I am General Manager - Brunswick Plant with CP&L.

Q2. Will you please describe your educational background and professional experience?

A2. Howe:

I graduated from The Citadel with a B.S. degree in chemistry in 1951. From September 1951 to February 1956, I held positions as Laboratory Supervisor with E.I. Dupont de Nemours & Company, Inc., at the Savannah River Plant in Aiken, South Carolina. From August 1957 to June 1966, I served as Department Head at the Lawrence Radiation Laboratory, University of California at Berkeley. In 1967 I accepted the position of Chief, Site Environmental and Radiation Safety Group - Division of Reactor Licensing, with the United States Atomic Energy Commission in

Washington, D.C. I served in this position until March 1971 when I joined CP&L as Manager of the Environmental and Technical Services Section. In February 1974 I assumed the position of Manager of the Licensing & Technological Services Section and in February 1975 I became Manager of CP&L's Special Services Department. In December 1976 I was named Vice President - Technical Services Department. I assumed my present position as Vice President - Brunswick Nuclear Project in September 1982.

Dietz:

I graduated from Montana State University in 1963 with a B.S. degree in chemical engineering. Following graduation I worked from 1963 to 1965 as a reactor engineer at the Phillips Petroleum Company Atomic Energy Division in Idaho Falls, Idaho. In that position I was responsible for operations, refueling, and experimental test control at the Materials Testing Reactor. From 1965 to 1968, I held various positions at the Piqua Nuclear Power Plant in Ohio, including that of Assistant Plant Superintendent. I was a licensed Senior Reactor Operator (SRO) at that plant. From 1968 to early 1981, I was employed by the General Electric Company (GE) in a variety of positions, including Startup Engineer, Training Supervisor, Operations Superintendent, Operations Manager, and Manager of Operator Training. I worked at a number of project sites, including GE's Morris, Illinois facility, Nine Mile Point, Cooper and Brunswick.

I joined CP&L in 1981 as Plant General Manager of the Brunswick plant.

Q3. What is the purpose of your testimony?

A3. The purpose of our testimony is to describe the management and staffing of CP&L's Brunswick Nuclear Project Department. We will concentrate on those aspects of the organization and past experience at Brunswick that relate to CP&L's capability to operate the Brunswick plant safely, efficiently, and in compliance with the regulations of the Nuclear Regulatory Commission (NRC).

Q4. What is the departmental mission of the Brunswick Nuclear Project Department?

A4. It is the mission of the Brunswick Nuclear Project Department to manage the operations, maintenance and modification of the Brunswick nuclear plant in such a manner as to promote its safe, reliable, and economic operation. We strive to perform this mission in accord with regulatory requirements, Institute of Nuclear Power Operations (INPO) performance criteria and good practices, and CP&L corporate requirements. In so doing, the Department coordinates activities with all of the other groups in Power Supply, Engineering & Construction (PSE&C) and assumes responsibility for the performance and control of the Brunswick Plant. The Department has a dual

objective of achieving the highest standards of operating performance and ensuring the safe operation of the plant.

Q5. Please describe the structure of the organization of the Brunswick Nuclear Project Department.

A5. The Brunswick Nuclear Project Department is headed by a Project Vice President, located at the plant, who coordinates all site activities. The managers of each of the four major site sections report to the Project Vice President. They are: the General Manager - Brunswick Steam Electric Plant; Manager - Engineering & Construction; Manager - Outages; and Manager - Site Planning & Control. A chart setting forth the current organization structure is Howe-Dietz Attachment 1.

In addition to these organizations which report directly to the Project Vice President, there are several other organizations that are represented on-site which are an integral part of the Brunswick project team. These are the on-site Corporate Nuclear Safety, Corporate Quality Assurance, Nuclear Training and Employee Relations units. These units work very closely with line organizations at the site to assist in ensuring the safety of our operations, the quality of our performance, the coordination of operator and craft training and the recruiting and retention of qualified staff personnel. The activities of the Corporate Nuclear Safety and the Corporate Quality Assurance units

are discussed in greater detail in the testimony of Messrs. Utley, McDuffie, Elleman and Banks.

Q6. Mr. Howe, how has the current structure of the Brunswick management organization evolved?

A6. Mr. Utley, in his testimony, has reviewed the evolution of CP&L's management structure for its nuclear plants. I would like to emphasize a few aspects of that development. In 1982, the Brunswick project was reorganized. I was assigned to the site as Project Vice President. I report directly to Mr. Utley, the Executive Vice President - Power Supply, Engineering & Construction. In this role, I have authority and responsibility for all engineering, construction, operation and maintenance activities at the plant. This organizational structure provides greater management control of these activities, allowing greater ability to identify and resolve problems that may occur.

In early 1984, this structure was further refined with the consolidation of several separate work functions into two new sections under my direction: the Outage Management Section and the Site Planning and Control Section. The primary objective of this reorganization was to enhance the safe operation of the plant through firmer management control. This reorganization also was a major step towards integrating the management functions of the department. This action allows me as Project Vice President to be more involved in plant operations, including support activities,

and allows the General Manager to concentrate on the operation and maintenance of the generating units.

Q7. Mr. Howe, what are the responsibilities of the Sections which report to you?

A7. The Plant Management Section has the primary responsibility, through the five units of the section (Operations, Maintenance, Regulatory Compliance, Environmental and Radiation Control, and Technical and Administrative Services), for the day-to-day management and control of the plant facility. The five units of this section are grouped under the Plant Manager to consolidate operations control. Through the activities of these units, and in coordination with the other sections and groups, the Plant General Manager manages the operation and maintenance of the equipment and facilities. Above all, the Plant Management Section is responsible at all times for the safe operation and maintenance of the Brunswick facility.

The Engineering and Construction (E&C) Section is responsible for providing technical services and support and management direction to accomplish engineering and construction projects for the Brunswick plant. The section works closely with other project organizations, particularly the site's Outage Management Section. E&C has first-line responsibility for carrying out the modification projects required for the plant. It does so through two units: Engineering and Construction.

The Outage Management Section is responsible for the planning, preparation and execution of major scheduled outages and for maintaining lists of projects ready for implementation in unexpected, forced outages. These activities require close coordination with the other on-site organizations as well as organizations headquartered in the corporate office. It is the responsibility of this Section to sustain a continual planning process for major outages and to respond during outages with the resources needed to conduct the outages in the most economical way, consistent with regulatory requirements.

The Site Planning and Control Section is responsible for monitoring and measuring the overall performance of the Brunswick project and for developing and providing systems, methods and capabilities to facilitate such monitoring. These activities include coordination of long-range planning and scheduling, budgeting, cost monitoring and reporting, program planning, and industrial engineering.

Q8. You have outlined your background and experience. Please describe the qualifications and experience of the other Managers at Brunswick.

A8. The Manager - Engineering & Construction, Mr. T.H. Wyllie, holds a bachelor's degree in civil engineering, is a registered professional engineer, and has 35 years experience in power plant construction. During his career, he has had over 20 years of managerial and supervisory

experience. Mr. Wyllie worked for Ebasco Services, Inc. from 1948 through 1972 on a variety of fossil and nuclear power plant construction projects. He joined CP&L in 1972 as Site Manager of the Harris construction site. In 1975 he was promoted to Manager - Nuclear Construction, and in 1981 became Manager - Engineering and Construction at the Brunswick and Robinson plants. In 1982, Mr. Wyllie moved to the Brunswick plant and assumed his current position.

The Manager - Outages, Mr. J.R. Holder, holds a bachelor's degree in mathematics and physics and has over 18 years experience in the nuclear industry. Mr. Holder was employed by CP&L from 1973 through 1976 and held various positions including the position of Superintendent of Startup and Test at the Brunswick plant. In this position, Mr. Holder directed the original startup efforts for Brunswick Unit 2. From 1976 through 1982, Mr. Holder was employed by Washington Public Power Supply System in Richland, Washington, where he served as Manager of Technical Services in the operating organization. Mr. Holder returned to CP&L in 1982 as the Assistant to the Vice President of the Brunswick Nuclear Project.

The Manager - Site Planning and Control, Dr. G.J. Oliver, holds a bachelor's degree in physics, master's degrees in nuclear physics and economics, and a doctorate in radiological hygiene. He is a licensed SRO and a Certified Health Physicist. Prior to joining CP&L, Dr. Oliver was employed by North Carolina State University as a staff

member in the Physics Department from 1970 to 1973. Dr. Oliver joined CP&L in 1973 as a Health Physics Specialist and was promoted to Senior Specialist in 1975, Project Specialist in 1978, Manager - Environmental & Radiation Control for Brunswick in 1980, Assistant to the General Manager in 1983, and to his current position in 1984.

A table setting forth the qualifications and experience of the key individuals on the Brunswick Nuclear Project management team is Howe-Dietz Attachment 2.

Q9. You stated that the Plant Management Section is responsible at all times for the safe condition of the Brunswick facility. Please elaborate.

A9. The Plant General Manager has overall responsibility for the safe operation of the plant through the five units that report to him. All operation activities are subject to his control. The Plant General Manager has the authority to stop work on any project or activity at the plant that is not properly controlled or managed and which threatens the safety of personnel or the safety of the plant.

Two of the units of the Plant Management Section are devoted entirely to safety related matters. They are the Regulatory Compliance Unit and the Environmental and Radiation Control Unit.

The Regulatory Compliance Unit is responsible for assisting other plant organizations to ensure compliance with all regulatory requirements. The Unit's specific responsibilities include: (1) coordinating and monitoring site activities related to resolving NRC, Corporate Nuclear Safety, Quality Assurance (QA) and INPO concerns; (2) coordinating activities related to fulfilling commitments to the NRC; and (3) ensuring that accurate responses to NRC communications are submitted, that reportable occurrences are detected and reported, and that documentation of regulatory compliance matters is maintained.

The Environmental and Radiation Control Unit is responsible for providing the environmental and radiation control necessary for the safe operation of the plant within plant Technical Specifications and applicable state and federal regulations. These responsibilities include planning, organizing and directing the chemical control and environmental surveillance programs of the plant as well as providing the specialized technical support and surveillance required for the plant radiation control program. These activities are directed at ensuring that there is no adverse impact on the health and welfare of the public or plant personnel as a result of plant operations, and ensuring that radiation exposure is controlled and maintained at as low as reasonably achievable levels (ALARA).

Q10. Mr. Howe, how do the various sections at Brunswick coordinate with each other?

A10. Effective communications are important to the safe and efficient operation of the Brunswick project, not only on site, but between the project and corporate management. In my position as Vice President of the Brunswick Nuclear Project, I represent corporate management at the site and am the principal link between the plant management and the corporate office. I talk with Mr. Utley almost daily to review with him the status of the plant and any significant problems that may require his attention. In addition, I participate in a monthly Nuclear Project senior management meeting involving the other Nuclear Project Department managers and senior management personnel from the general office. These meetings provide me the opportunity to discuss first-hand with these management personnel the status of any support efforts that the Brunswick project may have requested. It also allows me to meet with other Nuclear Project managers to exchange information so that we can all improve our operations based on our common experience.

Since I assumed my position at Brunswick, I have placed significant emphasis on ensuring that adequate communication and coordination are being achieved among the various organizations at the plant. I encourage a candid exchange of information in all of our communication.

There are several regularly scheduled meetings conducted on-site. These meetings include a daily coordination meeting, conducted by the Plant General Manager, which I attend. All of the section managers on-site attend this meeting. The purpose of this meeting is to review plant status, events and/or trends of the past 24 hours, and review any action items that are necessary to ensure overall coordination of our work activities. During major plant outages, we also hold outage meetings on a daily basis to review the status of outage activities and ensure proper coordination of outage activities. Monthly site management meetings are attended by all of the project managers, supervisors, foremen, other professional personnel and myself. Corporate Nuclear Safety, Corporate Quality Assurance, and nuclear training personnel also participate.

My management team and I recognize that planned meetings are only a tool for facilitating communications. To be effective, communications must be a continuing day-by-day and moment-by-moment process. Therefore, my management team tries to promote communications on a continuing basis in an effort to ensure that all of the plant activities are carried out effectively with a high degree of team work and coordination.

In addition to formal meetings, therefore, other plant management personnel and I frequently tour the plant to observe plant conditions and work activities first-hand.

Such tours include a required tour by the Shift Foreman on each shift and a required weekly tour by the managers and unit directors. These tours provide an opportunity for discussion with plant personnel from all levels of the organization and assist in promoting a free exchange of ideas and concerns.

Q11. What is the philosophy of the conduct of operations at Brunswick?

A11. At the Brunswick plant, we have a strong commitment to a rising standard of excellence in all aspects of our nuclear activities. We give all symptoms close scrutiny. We search for root causes to problems and take the necessary management action to correct those root causes. We try to promote effective communication and coordination across all lines and levels of responsibility, with plant management encouraging and monitoring such communication and coordination. We recognize the importance training plays in the successful operation of a nuclear power plant; thus, we place emphasis on both technical and managerial training for our staff.

Perhaps most importantly, we are trying to encourage a personal commitment from each employee. We demand that people think, we demand attention to detail and we hold people accountable. Our standards of performance are understood and appreciated throughout all levels of the

organization. We will continue to strive to maintain a disciplined, professional and well-trained staff.

Q12. What has been the overall performance of the Brunswick plant since the reorganization of the Brunswick Nuclear Project occurred?

A12. Due in part to the reorganization and, in part, to efforts which were initiated several years ago, the period since the beginning of 1983 has been one of significant improvement in the overall performance of the Brunswick plant. These improvements include reductions in the number of Licensee Event Reports (LERs) and NRC notices of violation issued, reductions in radioactive waste produced, reductions in radiation exposures of plant workers, improvement in plant systems and equipment, and overall improvement in employee morale.

We continue to maintain an excellent record in industrial safety as we have for many years. This year's (1984) accident statistics are some of the lowest in our history, with a frequency of 6.09 non-lost time accidents per million man-hours and no lost time accidents at Brunswick.

Q13. Prior to the reorganization, some problems had been experienced at the Brunswick plant. Please discuss these.

A13. At various times prior to the reorganization, problems were experienced in a number of areas, including staffing

levels and personnel turnover, the number of LERs and NRC notices of violation issued, processing of radwaste, implementation of health physics programs, and performance of required surveillance testing.

Q14. Has CP&L taken appropriate corrective action to address these problems?

A14. Yes. We have had improvement efforts underway at Brunswick in a number of areas for several years. These include improvements in our staffing levels, health physics, maintenance and operations. We believe these improvement efforts have been successful and have resulted in a significantly improved level of overall performance at the Brunswick plant.

Q15. What is the current staffing at Brunswick?

A15. The current authorized staffing level for the Brunswick plant is 1,230 personnel. Approximately 95 percent of the authorized positions are now filled, and the Brunswick project is operating with essentially a full staff.

Q16. How does your current staffing level compare with historical staffing levels for the Brunswick plant?

A16. The staffing levels at Brunswick have grown significantly since commercial operation of the plant. The growth of the operating staff is illustrative. In 1975, when the first of the two units achieved commercial

operation, the operating staff at the Brunswick plant consisted of approximately 187 people. By 1979, the operating staff had grown to 320. Growth since 1979 has been significant. This growth is illustrated by the table below, which sets forth the approximate size of the Brunswick plant operating staff at the middle of each year listed.

Brunswick Plant - Operations Staff Size

Year	Size
1980	400
1981	440
1982	600
1983	790

Q17. Have there been any periods in the past when the staffing levels at the Brunswick plant were not adequate?

A17. There has been no time in the past when our staffing levels were not adequate to ensure the safe operation of the facility. Looking at our past experience, however, we do recognize times when the work load at the plant, due to increasing regulatory requirements and our efforts to implement reliability improvement modifications, has been greater than our ability to accomplish that work in the time frame that we would have considered most desirable. We have taken action, however, to increase the staff and as the above table illustrates we have been successful in recruiting the personnel we needed.

To some extent, staffing levels historically have also been affected by higher than desired turnover rates. In recent years the turnover of personnel at the Brunswick plant has decreased significantly. For example, the turnover rate for the Department in 1983 was only 5.7 percent compared to 9.5 percent in 1981. The reduction in the rate of turnover has been due to a number of factors, the most significant of which include improvements in our wage, salary and benefit structure and a higher degree of employee morale.

Q18. Is the current staffing level adequate to ensure safe operations of the Brunswick facility?

A18. Yes, it is. Our staffing level is adequate to ensure that the plant is operated and maintained safely, and to enable us to implement effectively the various regulatory and plant improvement modifications necessary to promote the continued safe and reliable operation of the plant.

Q19. What improvements have been made in the health physics program at the Brunswick plant?

A-19. As just discussed, staffing levels at Brunswick began to increase significantly after 1979. In late 1979 and early 1980 we realized that our health physics program was not coping as well as we would have liked as we increased the number of personnel at the site. We realized that improvements were necessary.

Our initial step was the establishment of the position of Manager of Environmental and Radiation Control (E&RC). This position was initially filled by Dr. G.J. Oliver, whose background (B.S. and M.S. degrees in physics, an M.S. degree in economics, and a Ph.D. degree in radiological hygiene) and experience we have already discussed.

In December 1980, we instituted organizational changes in the health physics program. As part of these changes, the functions of health physics and chemistry were divided so that personnel in each area could devote full-time attention to each of these specialities. We hired more health physics and chemistry technicians, and expanded the professional and supervisory health physics and chemistry staff. The net effect was approximately a 50 percent increase in the staff of this organization at the Brunswick plant.

We expanded and improved the training programs for health physics personnel and health physics training for all other employees. We also implemented a qualification card program for chemistry and health physics technicians in order to further ensure that these personnel were fully qualified to perform the duties to which they were assigned.

As a result of these efforts, noteworthy improvements in health physics have been achieved. The effectiveness of these improvements were recognized in an NRC report

entitled "Health Physics Appraisal Program" (NUREG 0855). This report, published in March 1982, was based upon results of the Power Reactor Health Physics Appraisal Program initiated by the NRC in 1980. As a part of this program, the NRC analyzed radiation protection programs at 48 commercial nuclear power plants. The objectives of the program were: (a) to determine if the plants had adequate radiation protection programs; (b) to determine whether the plants had incorporated the lessons learned regarding radiation protection from the Three Mile Island accident; and (c) to identify generic radiation protection problems.

As part of the final report, the NRC identified what they considered to be examples of good programs in the areas reviewed. The Brunswick project was singled out for its excellent performance in several areas, including personnel selection, qualification and training, and exposure control.

Subsequent to implementation of these programs, Dr. Oliver was succeeded in the position of Manager of E&RC by Mr. A.G. Cheatham. Mr. Cheatham joined CP&L in June 1982. Prior to that time, he had accumulated approximately 20 years industry experience in the area of health physics and radiation control. He served as a Radiological Control Supervisor with Morrison and Knudson Company, Inc.; Radiological Control Supervisor at the Knolls Atomic Power Laboratory in Windsor, Connecticut; and for four years prior to joining CP&L, he was the Radiological Services

Supervisor at the Millstone Nuclear Power Station of Northeast Utilities.

Q20. Please discuss improvements in operations at the Brunswick plant.

A20. Since late 1979, we have made significant improvements in the operations area. Prior to that time, the operating shift consisted of one Shift Foreman responsible for the operation of both units and the radwaste system. This concept was changed in late 1979 when we revised the organization to provide a Shift Operating Supervisor and three Shift Foremen on each shift. The Shift Operating Supervisor had overall plant operations responsibility and a Shift Foreman was assigned to each unit. The third Shift Foreman was responsible for operation of the radwaste system. This change allowed us to reduce the span-of-control of the Shift Foreman so that he could devote more attention to supervision and to on-the-job training of operators, and could maintain a better overview of all aspects of plant operations, such as equipment out of service and maintenance in progress.

In early 1981, we further modified the organization by establishing a separate group responsible for all radwaste operations. This change allowed the Shift Operating Supervisor to concentrate his full attention on operation of the units, and also resulted in improved supervision and control of radwaste system operations.

During this time we continued to make concerted efforts to increase the staffing level and qualifications of our operators. We currently have a full operating staff and have implemented a sixth shift rotational concept for our operators.

Q21. Please discuss the sixth shift rotational concept.

A21. Each operating shift at Brunswick consists of a Shift Operating Supervisor who is responsible for the operations of both units. Reporting to the Shift Operating Supervisor are two Shift Foremen, one responsible for each unit. The staff under each Shift Foreman consists of 1 Senior Control Operator, 1 Control Operator, 1 Senior Auxiliary Operator and 5 Auxiliary Operators. This arrangement provides a complement of 19 operating personnel on each shift. The Shift Operating Supervisor, Shift Foremen, and Senior Control Operators are SRO licensed. The Control Operators are licensed Reactor Operators.

Four of the Shift Operating Crews work on three rotating shifts to operate the plant, one crew is used as a relief shift for vacationing and sick operation personnel, and the remaining crew is in training. Each shift periodically rotates to the relief or training shift. This concept provides ample opportunity for personnel to accomplish training and retraining without requiring other employees to incur excessive or unusual overtime.

In addition to the complement of operators discussed above, we also have on each shift at least two health physics technicians and at least one environmental and chemistry technician. As I previously indicated, radwaste system operations are staffed separately from the plant operating shift.

Q22. Please discuss improvements in training at the Brunswick plant.

A22. Operator training programs have been expanded to compensate for additional operating personnel and to enhance the training being provided to the existing staff. Our operator training staff has doubled since 1980. All of the operator instructors hold SRO licenses and have been certified as instructors. Additional heat transfer and fluid flow training was added to our program in 1980. In 1982, we increased simulator training time for initial training by 100 percent and by 33 percent for retraining. We also implemented a revised training program for auxiliary operators for classes which began in 1983.

Operator training and operator retraining have also been upgraded substantially by the use of our new training center which houses our plant specific simulator. Installation of the simulator was completed in February 1984, and the simulator has been used extensively since that time in initial operator training, retraining, emergency procedure training, and systems training for

supervision and management. This simulator has received high marks from all the students, and we are very enthusiastic about its role in our future. In addition, we offer more training to maintenance, health physics and chemistry personnel.

Another training tool that has been effective is real time training (or on the job training). We have developed the capacity to provide specific training to operation, maintenance and environmental and radiation control personnel in real time, that is, on the work shift or shortly following the shift. The type of information conveyed is relevant to the employee's work situation -- such as plant procedural changes, the results of an incident investigation, and industry events at another plant that our people should know about. Information of less immediate significance is conveyed through off-shift training. The sixth shift concept, which allows for both a relief shift as well as a training shift, enhances our off-shift training program. The training shift is needed for annual retraining and real time training efforts.

Not only are our people trained in their areas of technical responsibility, but they also are trained to be knowledgeable of the other work going on in their work area so that they can be of assistance to their co-workers should the need arise. In the discussion above, we have highlighted some of the more significant aspects of

training at Brunswick. Other CP&L witnesses will address training in greater detail.

Q23. Have the training programs implemented at Brunswick been effective?

A23. Yes. We have improved our performance in NRC license examinations and NRC requalification examinations administered since January 1983. Twelve of sixteen candidates for reactor operator examinations have passed and sixteen of twenty candidates for the senior reactor operator examination have passed. Brunswick reactor operators and senior reactor operators have successfully passed the NRC administered requalification examination. The average scores have ranged from 80.79 to 88.3 for the different examinations.

Q24. What level of reductions have you achieved in radwaste generation?

A24. Our level of radwaste generation in 1983 was about half of what it was in 1980. This reduction is due to several organizational, equipment, and administrative improvements that have been implemented during this time. For example, due to improvements in our organization and training, there is better planning and control of radwaste processing and radwaste inventories. Maintenance improvements have resulted in reductions in inleakage to the radwaste systems. We have improved the radwaste processing system, thereby improving its performance. Administrative changes

have improved controls to prevent unnecessary materials from being taken into contaminated areas. Finally, improved planning of modifications and maintenance has minimized the amount of radwaste generated during such activities. These radwaste reductions are particularly significant when you consider that they occurred during a period in which there was a high level of plant modification activity. I believe the level of radwaste reduction would have been significantly greater had this not been the case.

Q25. CP&L's failure in 1982 to comply with certain Technical Specifications resulted in a $600,000 fine by the NRC. What actions has CP&L taken to remedy this problem and to ensure it does not reoccur?

A25. In June 1982, CP&L discovered that a Technical Specification requirement relating to surveillance testing of a relay in Brunswick Unit 2's auxiliary power distribution system had not been implemented. The NRC determined that this error was the result of programmatic weaknesses in the management of the Brunswick plant. We were very concerned that the test had been omitted and about the finding of programmatic deficiencies. Accordingly, we immediately established a team to review Technical Specification surveillance requirements in order to determine if there were any other required surveillances that had not been fully implemented. Our survey of the

entire Technical Specification requirements, consisting of some 2,000 separate surveillance tests, revealed three other surveillance requirements that had not been implemented. Upon testing, the affected systems were found to perform satisfactorily, so no compromise of public safety had occurred.

CP&L undertook a comprehensive program of actions designed to correct the immediate deficiencies and to ensure that the programmatic weaknesses would be remedied. The proposed CP&L actions for long-range improvement were formalized in a document known as the Brunswick Improvement Program, which was submitted to the NRC. As stated in the testimony of Messrs. Utley, McDuffie, Elleman and Banks, the Brunswick Improvement Program became a formal commitment under Confirmatory Order EA-82-106. CP&L provided the NRC with a schedule for implementation of each task identified in the Brunswick Improvement Program and submitted copies of the outside consultants' studies performed in connection with this improvement effort. A formal corporate program was put in place to ensure satisfactory completion of the items identified in the Brunswick Improvement Program. A conscientious effort has been made to complete the action items which comprise the Brunswick Improvement Program. The implementation of the program has been completed, and the completion was recognized by the NRC in April 1984.

Q26. What were the major objectives of the Brunswick Improvement Program?

A26. The Brunswick Improvement Program encompassed seven major objectives. They were:

(i) Ensure full and timely compliance with all surveillance requirements, regulatory commitments, and regulatory requirements.

(ii) Ensure that all necessary procedures (including those resulting from plant modifications and new requirements) exist and are clear, unambiguous, precise, complete, and of high technical quality.

(iii) Increase the frequency and scope of quality control surveillance and corporate auditing program activities.

(iv) Ensure that maintenance activities do not degrade or render inoperable any component, system, or instrument.

(v) Increase the proficiency of plant personnel by means of expanded training.

(vi) Utilize more effectively the technical expertise of the On-site Nuclear Safety and Corporate Nuclear Safety staff in enhancing the reliability of plant operations.

(vii) Undertake actions to enhance and strengthen the management control and organizational discipline

necessary to provide for safe and reliable operation.

The Brunswick Improvement Program incorporated the recommendations of INPO resulting from a "special assistance visit" to CP&L in September 1982 during which activities at the Brunswick site and the corporate office were evaluated.

Q27. You stated that there has been a reduction in the number of LERs and NRC violations issued for the Brunswick plant. What reduction has been experienced?

A27. In 1983 Brunswick achieved a 45 percent reduction in the number of LERs and a 38 percent reduction in the number of NRC notices of violation issued, as compared to 1982. We believe this improvement is a direct result of several factors including better accountability within the Brunswick organization, the Brunswick Improvement Program, improved procedures resulting from Brunswick's procedure upgrade program, increased emphasis on strict adherence to procedures, improvements in Brunswick's maintenance program, and better tracking of test requirements.

As of July 31, 1984, Brunswick had experienced five NRC violations, all Category V. There have been 21 LERs (based on revised NRC reporting requirements which became effective January 1, 1984) during this calendar year. These figures reflect the continuing improvements at the plant.

Q28. Please explain the reductions in radiation exposure to plant personnel.

A28. The annual exposure per individual at Brunswick decreased by 38 percent from 1980 to 1983. Several factors were instrumental in achieving radiation exposure reductions. First, we began using a computerized radiation exposure record and tracking system which identified adverse exposure trends. We have added additional personnel devoted to the implementation of the plant's ALARA programs. We have enhanced review of design and construction plans prior to installation. Finally, we encouraged a commitment by all levels of site personnel, especially first-line supervision and management personnel, to ALARA goals. Management will undertake to maintain, and improve if possible, these levels.

Q29. Are improvements being made at Brunswick in management methods?

A29. Yes. We have made many improvements in management methods and we believe that many of our techniques are changing for the better. We are, for example, in the process of developing a more structured long-range plan. This will aid us in accomplishing our work, including work that is regulatory in nature, more efficiently. We have instituted the ARTEMIS Computer Based Project Management System, which we are using to plan, monitor, and analyze projects. This system has proven its worth in the most

recent Unit 2 condenser tube outage. The ability to control projects is a real enhancement to safety. We have also developed probabilistic risk assessment capabilities to ascertain the need for modifications and to assess the extent to which proposed "upgrades" to plant systems are likely to enhance the safe operation of the plant. We have increased our use of industrial engineering methods such as work management, work force sampling and manpower and resource planning, and we are finding that these techniques are providing line management firmer control over their organizations.

Q30. In summary, how would you characterize the organization at Brunswick?

A30. The organization at Brunswick is an organization with a strong commitment to excellence. The strength of this commitment is felt and appreciated throughout the organization. It is the ability to communicate this commitment effectively to the working levels that has resulted in improved performance at Brunswick. The large and complex dual unit facility requires a large and technically qualified staff for efficient operation, maintenance, and control. A greater spirit of coordination and teamwork has been developed among the various support organizations at the site. This attitude is reinforced by a continuous emphasis on effective communication among all levels of the project team. In addition, a greater emphasis on technical

and management skill development has strengthened the individual abilities of our team members. We exercise strong management control and discipline over the operation of our facilities. These management concepts have been effectively executed as evidenced by our improved performance in plant activities.

Q31. In your judgment, is the organization which you have described effective in managing the operation of the Brunswick plant in a safe and prudent manner?

A31. Yes. As evidenced by our improved performance record, our outstanding safety record, and the increased sense of pride among our employees, we believe that the management team at Brunswick is highly qualified and effective. Due to management's commitment to continually improving all aspects of the plant's performance, everyone on the Brunswick team is working to make Brunswick the safest and most reliable plant possible. This kind of dedication and commitment on the part of the employees in our organization results in an operation that is efficient, safe and prudent.

Q32. How do you personally ensure that your philosophy of managing the Brunswick plant is being carried out?

A32. Howe:

There are a number of techniques by which I ensure the philosophy of the Brunswick project management is being

implemented. Among these are my attendance at the daily management meeting, personal contacts with a variety of plant personnel, tours of the plant, the Regulatory Compliance Unit's "Facility Automated Commitment Tracking System," review of the Shift Status Report, special presentations by plant personnel and management, review of INPO evaluations, review of QA and NRC audits and inspection reviews, discussions with NRC staff management, review of SALP reports, evaluation of the plant's achievements against corporate and departmental goals, and participation in a broad variety of technical meetings.

In addition, there are various quantifiable indexes which I also use to measure our performance. Among these are: Licensee Event Reports, NRC notices of violation per inspector hours, volume of radioactive waste generated, radiation exposure records, industrial safety records, outage schedule achievements and scores on training program exams. Each and all of these assist me in maintaining a continuous assessment of how well the management philosophy for Brunswick is working. I am confident that the other managers of Brunswick and I will remain sensitive to these indicators of performance.

Dietz:

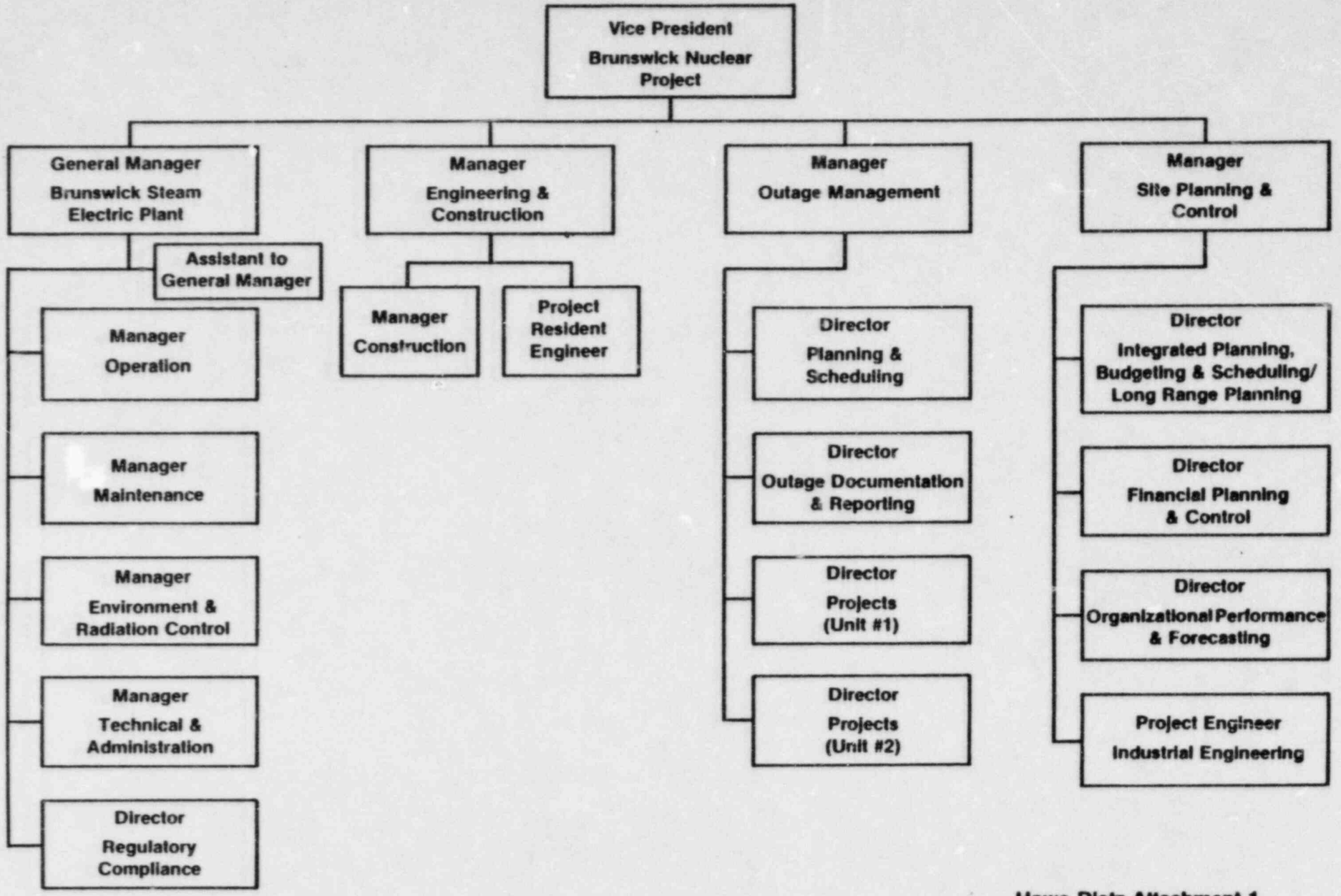
I utilize the same techniques as Mr. Howe. I keep abreast of plant activities by regular contact with plant personnel, both through scheduled meetings and through more informal communications, and by frequent tours of the

plant. I have in the past, and will in the future, utilize QA to verify the implementation of procedures and programs we have initiated at the plant, i.e. to see that our programs are as we intend them to be. Finally, I carefully review analyses by outside organizations of our activities, e.g. INPO and the NRC, to assist me in evaluating our performance.

Q33. Does that conclude your testimony?

A33. Yes, it does.

BRUNSWICK NUCLEAR PROJECT ORGANIZATION



Howe-Dietz Attachment 1

NAME	TITLE	DEGREE	BSEP SRO		CP&L EXPERIENCE			USN	OTHER	TOTAL YEARS NUCLEAR EXPERIENCE
			YES	NO	BSEP	OTHER	TOTAL			
Howe	Vice President, Brunswick Nuclear Project	B.S. (Chem.)		X	2	11 1/2	13 1/2	0	19 1/2	33
Dietz	General Manager - Brunswick Plant	B.S. (ChE)		X	4	0	4	0	17	21
Wyllie	Manager - Engineering & Construction	B.S. (ChE)		X	2	10	12	0	5	17
Holder	Manager - Outage Management	B.S. (Math/Physics)		X	4 1/2	1 1/2	6	0	13	19
Oliver	Manager - Site Planning & Control	Ph.D. (Env. Eng.)	X		4	7	11	0	0	11
Tucker	Assistant to the General Manager	B.S. (EE)	X		8	4 1/2	12 1/2	3	0	15 1/2
Chase	Manager - Operations	B.A. (Pol. Sc.)	X		2	0	2	7	10	19
Dimmette	Manager - Maintenance	B.S. (Physics)		X	6	0	6	7 1/2	0	13 1/2
Cheatham	Manager - Environmental & Radiation Control			X	2	0	2	0	20	22
Hill	Manager - Technical & Administrative Support	B.S. (ME)	X		4	0	4	0	0	4
Enzor	Director - Regulatory Compliance	B.S. (EE)	X		12	0	12	0	4	16

Howe-Dietz Attachment 2

NAME	TITLE	DEGREE	BSEP SRO YES	BSEP SRO NO	CP&L EXPERIENCE BSEP	CP&L EXPERIENCE OTHER	CP&L EXPERIENCE TOTAL	USN	OTHER	TOTAL YEARS NUCLEAR EXPERIENCE
Groover	Project Construction Manager	B.S. (EE)		X	9	0	9	0	0	9
Peeler	Director - Planning & Scheduling		X		10 1/2	0	10 1/2	6	1 1/2	18
Coburn	Director - Outage Documentation & Reporting			X	12	0	12	0	0	12
Brown	Director - Unit Outage	B.S. (ME)		X	10 1/2	0	10 1/2	0	9	19 1/2
Wagoner	Director - IPBS Long Range Planning	B.S. (ME)		X	10	3	13	0	0	13
Snakenburg	Director - Organizational Performance and Forecasting	B.S. (IE)			1/2	0	1/2	0	0	1/2
Lipman	Director - Industrial Engineering	B.S. (IE)		X	3	0	3	0	0	3
Helme	Director - Onsite Nuclear Safety	M.S. (NE)		X	2	6 1/2	8 1/2			
Jones	Director - QA/QC	B.S. (Metal.E)		X	1 1/2	11	12 1/2	0	5	17 1/2
Hegler	Superintendent - Operations		X		10 1/2	0	10 1/2	7	0	17 1/2
Bishop	Manager - Technical Support	B.S. (NE)		X	10 1/2	1	11 1/2	0	1/2	12
Boyer	Director, Administrative Support	B.S. (EE)		X	3	0	3	0	0	3

Howe-Dietz Attachment 2

AGBwb1

BY MR. ROACH:

Q. Mr. Howe, could you briefly summarize the testimony of your panel?

A. (Witness Howe) In our testimony we describe the management and staffing of CP&L's Brunswick Nuclear Project Department.

At times in the past CP&L experienced problems at the Brunswick plant in a number of areas. CP&L has taken appropriate action to address those problems.

Improvement efforts have been underway at Brunswick in a number of areas for several years, including improvements in our staffing levels, health physics, maintenance and training and operations. We believe these improvement efforts have been successful and have resulted in a significantly improved level of overall performance at the Brunswick plant.

The most recent SALP report provides confirmation this improvement.

As we discuss in our testimony, we believe the management team at Brunswick is highly qualified and effective in managing the Brunswick plant in a safe and efficient manner.

Certain questions contained in the testimony are directed toward a particular member of the panel. The answers to such questions are sponsored by the individual

AGBwb2

to whom the questions are addressed. In all other respects the testimony is sponsored jointly by both Brunswick members of the panel.

MR. ROACH: The witnesses are available for cross-examination.

JUDGE KELLEY: Thank you.

Mr. Runkle.

MR. RUNKLE: Thank you, sir.

XZXZXZ

CROSS-EXAMINATION

BY MR. RUNKLE:

Q. Mr. Beatty, in your remarks just now you stated that there was -- that aside from Mr. Morgan there were five managers that reported directly to you, did you not?

A. (Witness Beatty) I thought that number was four. Let me check.

Q. Looking at Beatty-Morgan Attachment 1.

A. There are four others besides Mr. Morgan.

Q. Okay; so that would be five altogether?

A. That's right.

Q. And you also stated that one of those positions was not filled.

A. That is true.

Q. Which position is that?

A. Manager of Design Engineering.

Q. How long has that position been open?

AGBwb3

A. That position was approved along with the project reorganization about the first of 1984.

I might add, the reason that position is not filled is that I have not actively pursued filling that position because of the current steam generator replacement outage and the ensuing transition state.

End-11

AGB12/eb1
fls AGB11

Q You refer in your testimony to Robinson Unit 2. Is there a Robinson Unit 1?

A Yes, there is.

Q ANd is that a coal-fired facility?

A Yes, it is.

Q Does that come under your responsibility?

A Yes, it does.

Q What size coal plant is that?

A Currently the generating capacity is about 174 megawatts net.

Q And how many employees are there at the coal plant?

A I will have to approximate this number but it's very close: about 55 or 56 is the current number.

Q And do you have a manager responsible for Robinson Unit 1?

A Yes, we do.

Q And that person reports directly to you?

A No, he does not. He reports to Mr. Morgan.

Q Mr. Morgan, you are the manager for both units of Robinson, are you not?

A (Witness Morgan) That's correct.

Q How much of your time is spent on the nuclear and how much of your time is spent on the coal-fired facility?

A A rough approximation is perhaps 90 percent of my time on Unit 2 and about 10 percent of my time on Unit 1.

AGB/eb2

Q In the last two years have there been any major problems at Unit 1?

A Major problems? I guess I would like a clarification of what is significant.

Q Significant enough to take a substantial portion of your time during that period.

A Since my assignment to Robinson there has not been major problems at Unit 1. I couldn't -- for the last two years. I couldn't go back beyond that point I guess right now.

Q And when did you become general manager of the Robinson plants?

A September 1983.

Q And where were you before that time?

A Shearon Harris plant.

Q And what were your duties at the Shearon Harris plant?

A Manager of plant operations at the Shearon Harris plant.

Q And in July 1980, you became manager of plant operations at the Brunswick plant, did you not?

A That is correct, yes.

Q And you continued in that position until August, '82?

A Essentially July, the last of July, '82.

AGB/eb3

Q And what was your responsibilities at the Brunswick plant during this time?

A My responsibilities? Manager of plant operations at the Brunswick plant was for operations, maintenance, and environmental radiation control.

Q In our discussion with the previous panel on what we can call the $600,000 fine, you were at the Brunswick plant during that time, were you not?

A That is correct.

Q Was the surveillance that was overlooked partly under your responsibility?

A In the fact that it was an I&C-related surveillance, yes, it was.

Q Were you in any way responsible for the lack of surveillance during that period of time?

A As the responsibilities for the job I previously described, I have to say that I was partially responsible for that.

Q Now who was your supervisor when you were at the Brunswick plant?

A I had two supervisors when I was at Brunswick. When I was first assigned to Brunswick it was Mr. A. C. Tollison, and then subsequent to that, Mr. Charley Dietz, who is here.

Q Were you given any reasons why you were transferred

AGB/eb4

to Shearon Harris at the end of July, 1982?

A Yes, sir, I know exactly why I was transferred to Shearon Harris at the end of July, 1982.

Q And why was that, sir?

A At a personal request because of a personal family situation, and at my request.

Q And were you given any reason why you were transferred to your present position at Robinson?

A I don't understand the question.

Q Why were you transferred to Robinson?

A I was requested to be transferred to Robinson, and I accepted that request.

Q Who in the corporate structure requested that you be transferred to Robinson?

A Specifically Mr. G. P. Beatty who is sitting beside me here.

End 12

WRB 13 fls

WRB/pp 1
#13

Q All right, Mr. Beatty. Why did you request that Mr. Morgan to be transferred to Robinson?

A (Witness Beatty) The answer to that is I've known Mr. Morgan for approximately 20 years and I've observed his performance. I was looking for the best possible candidate that I can find to be general manager of the Robinson plant. And therefore I approached Mr. Morgan with the request.

Q And who was your supervisor at that time?

A My supervisor at that time was Mr. M. A. McDuffie.

Q And you discussed this with him at that time, did you not?

A Yes, sir.

Q And did he concur with your recommendation?

A Yes he did.

Q In September, 1983 were there other changes made in the management of the Robinson plant?

A In August, 1983 as Mr. Utley testified earlier, there was significant reorganization where department head was put in charge of each of the nuclear sites. Subsequent to that change, I evaluated the needs of the plant site and proposed the reorganizational change to the company which requires a significant amount of review and approval. That proposed reorganizational change was approved, as I recall, in early December. 1983.

At that time the was made and I started filling

positions that I had -- positions that were vacant. I inherited a couple, or one position that was filled by the incumbent. But I started making changes in January.

Q Of 1984?

A 1984, yes sir.

Q Why did you feel it was necessary to evaluate the organizational structure of the Robinson plant?

A Well, the first thing I had been a nuclear plant manager for many years prior to this. And I recognized the amount of work and the scope of his responsibility. And with the change in the industry over the years, the scope of his responsibilities has extended a great deal.

In order to remove some of the basic administrative responsibilities from the general plant manager's job so that he could spend more time actually operating and maintaining the plant and actually spending time out in the plant, which was one of my objectives, we needed to establish these other organizations to support the general plant manager and his carrying out his responsibilities to operate and maintain the plant.

Q Did your evaluation of the organization at Robinson result in the Robinson long-term improvement plan?

A No, it did not. Robinson long-term improvement plan dates back to -- several years.

Q How many years before 1983?

A I'd say about one year before '83. I was not an employee here at the time. The LTIP was initiated, but as I recall it was the latter part of '82 -- the middle to the latter part of '82 -- that the long-term improvement plans got started.

Q Have you reviewed the long-term improvement plan?

A Yes.

Q Have you been able to develop any opinion why it was necessary to develop in the long-term improvement plan?

A I guess that everything evolves. The state of the art of the nuclear industry has evolved a great deal over the last 14 years. I think the long-term improvement plan was to bring some of the things that we were doing in earlier years up to the current state of the art.

Q Does the Robinson long-term improvement plan reflect, in part, those changes made in the Brunswick improvement plan?

A They follow very, very closely to one another.

Q Have you reviewed the Brunswick improvement plan?

A No, I have not personally.

Q Have you reviewed the -- is there a Harris improvement plan?

A I am not aware of one if there is.

Q In those changes which you made to your prefile testimony, you have split up maintenance and operation, have you not?

WRB/pp 4

A That is correct.

Q Why did you split up operations and maintenance at Robinson?

A There again, we have to go back and think about scope of responsibility of each position in the organization.

The manager of operations and maintenance had a finite organization when that position was created. But as we testified previously, the organizations have grown. The number of people reporting to each of these positions has significantly increased. And it's our opinion that breaking it down like this will take one level of -- well, what it will really effectively do in the long run, is put Mr. Morgan in a position of having closer communications with operations entity and the maintenance entity.

Q So both operations and maintenance will now report to Mr. MOrgan?

A That is correct.

Q And before one person with responsibility for both reported to Mr Morgan?

A That is correct.

Q Did any incidents occur prior to this most recent reorganization that you thought were especially important in making this change?

A I'd like to refer that question to Mr. Morgan, since he was the original instigator of the proposed change, if I may.

WRB/pp 5

Q Sure.

Can you answer that, Mr. Morgan?

A (Witness MOrgan) As I understand the question, it's were there any incidents that would have initiated the thought process that wound up in this organization?

Q Yes.

A There are no specific incidents that I can recall that initiated this kind of process. The intent was to further insure that the maintenance and the operation managers could perhaps narrow their -- the maintenance or the maintenance and operations areas could be more closely monitored by individual manager rather than one individual looking at the total scope.

I have no specific examples that would demonstrate incidents.

Q Who else, besides the manager of the coal plant and operations maintenance reports directly to you , Mr. Morgan?

A The manager of technical support, the director of regulatory compliance, and the environmental and radiation control manager.

Q In attachment 3 of your testimony, you report the actual staff size at the Robinson II unit do you not?

A Yes, that's correct.

Q Mr. McDuffie testified earlier today and also on last Wednesday that there were now 462 personnel which reported

to the plant general manager, did he not?

A To the best of my knowledge he indicated to the Robinson nuclear project manager.

Q Okay, and that would be to Mr. Beatty?

A Yes, that's correct

Q Mr. Beatty, who -- what personnel report to you that do not report to Mr. MOrgan?

A First we have a controls and administration section as outlined in the testimony, headed by Mr. Blaine Rieck.

I don't have the number directly at hand that currently reports to him but I think it's approximately 70 people.

The manager of construction, Mr. Matt Reid. There again. I don't have the exact numbers. But it's roughly 80 people report to him.

And of course. reporting to Mr. Morgan are the 56-some odd people that I mentioned in regard to the operation of unit one.

In addition to that, Mr. Joe Shepherd reports to me. He's the manager of planning and scheduling. He's in the organization phase but at current levels, I believe he has about 9 or 10 people reporting to him.

Q So there's no discrepancy between those figures in your attachment 3 and what Mr. McDuffie was referring to on JI 16?

A I don't believe there is but I have not had an

WRB/pp 7

opportunity to total the numbers up to verify that. I am fairly confident that they are very close to being accurate.

Q So at the Robinson plant, there are 462 people that are reporting to you, Mr. Beatty, and we have 515 authorized personnel all together, do we not?

A That is correct.

Q Okay. In what areas do we have personnel authorized but not filled, positions filled?

A Well, you mentioned one of them a few minutes ago, the manager of design engineering. But actually the balance of the positions that are authorized run the total scope of the project, down to the craftsmen, managers specialists. There's no specific category that stands out.

Q And in your opinion, sir, are there adequate staff at the Robinson plant to safely operate?

A In my opinion we have that.

Q Sir, on attachment 6 of your testimony, you list licensee event reports at Robinson, do you not?

A Yes, attachment 6 is a list of LERs by year and number.

Q Do you have a figure on how many LERs there have been in 1984 to date?

A I don't have an exact figure but I would stay fairly close to this. I believe there have been 25 or 26 so far this year.

WRB/pp 8

Q And that would be to date?

A Yes.

Q And the reported requirements for LERs at Robinson has changed also -- has also changed at the beginning of this year?

A As of January 1st, that's right.

Q Sir, could you put in front of you what has been previously identified and distributed to the parties as JI 24.

A I have it.

Q And in this document are the various outages of Robinson of Robinson from 1977 to the end of 1983 listed?

A Yes. The document lists that.

Q And is this document correct to the end of 1983, to your knowledge?

A I cannot testify to that. I've not had a chance to go back and review records. Since I was not at Robinson plant until -- well, I left Robinson plant in June of 1972. I did not return to Robinson plant until roughly the first of September, last year.

I cannot attest to anything other than what the document portrays.

Q But you don't have any reason to doubt that this contains the outages at Robinson after 1977?

A No, I don't have any reason to doubt it but I'm

WRB/pp 9

not in a position to attest to it.

Q In this document, it lists different types of off line outages, does it not?

A Yes it does.

Q In this document, F stands for forced outage, and could you define that for us?

A It's an outage that the operator has no control over. The outage is thrust upon him, either by equipment failure or a natural phenomenon or by conceivably, regulations.

Q And this could be an automatic trip -- an automatic scram, is that the term?

A Automatic actuation, automatic scram, could be used, yes. It could be that.

Q Or it could be an operator taking the initiative to close the plant down?

A That is correct.

Q Are there any other kinds that could lead to forced outage?

A They're either intentional or they're automatic.

Q And could some of these forced outages be Nuclear Regulatory Commission ordered outages?

A Conceivably.

Q Have you had any of those at Robinson?

A Not in the time period that I've been directly associated with Robinson.

WRB/pp 10

Q To your knowledge, were there any before that time?

A Not to my knowledge.

Q And in this document, it also said that S equals schedule/maintenance outage. Can you describe that one?

A On the -- I'm reading the paragraph under the letter definitions there. It doesn't explain it, does it?

Well, it's an outage that you can keep the unit on the line and run it until such time that you can take it out from the standpoint of system conditions, load demands and so forth.

Q Would a refueling be a maintenance outage?

A I think a refueling would be a scheduled and planned outage.

Q And so a SP equals scheduled/planned outage, what kind of these planned outages are there?

A Well, as you mentioned you could have a refueling outage. You could have a scheduled planned outage for a specific inspection or a specific surveillance test that was required to be performed.

Q So far in 1984, has Robinson had any forced or maintenance outages?

A Yes. We had a forced outage and then when the decision was made to go into the refueling phase, steam generator replacement phase, we went into a scheduled planned outage.

WRB/ppll

Q And when did this forced outage occur?

A The forced outage occurred, as I recall, on January 26, 1984.

Q And you have been off line since that time, have you not?

A That is correct.

JUDGE KELLEY: Excuse me, Mr. Runkle. It's a rather lengthy exhibit. Once again, I'm not real clear what the relationship is between outages in nuclear power plants and safety of operation. Perhaps there is one.

Could you indicate where you are headed on this data?

MR. RUNKLE: JI 25 focuses in on planned outages and then removes those specifically in JI 24 which are planned outages.

JUDGE KELLEY: Okay. So you take out the planned for refueling and whatnot?

MR. RUNKLE: And also the major repairs and maintenance of the unit occurred during planned outages.

JUDGE KELLEY: Okay. But again what is one to infer from a list of forced outages of a nuclear power plant insofar as safety of operations is concerned?

MR. RUNKLE: On Friday, Mr. Utley testified that one of the criteria that CP&L uses for evaluating the performance of their plants and the performance of their

WRB/pp 12

End #13

management, is capacity factors. And capacity factors are those times that the plant is in operation.

JUDGE KELLEY: Right. Okay. But I haven't the foggiest notion what these numbers represent. I'm just assuming that all nuclear power plants have forced outages from time to time. I don't know what the industry average is for PWR's or BWR's or all the rest. But if you assume for a moment the outages at Robinson 2 were sort of average, then where does it get us to probe these outages.

If a plant never had an outage it might, I suppose, suggest recklessness on the part of an operator for running this plant no matter what. Which I suppose nobody would do.

But I'm still not clear if there is a relationship-- I'm not saying there isn't -- but I'm not clear what it is.

And if we're going to spend a lot of time on outages I would like to know where we're going.

WRB14/eb1

MR. RUNKLE: I do have questions on capacity factor, and our Witness Clewett, in his testimony, reviews the capacity factor of the Brunswick and Robinson reactors.

JUDGE KELLEY: What does capacity factor have to do with management insofar as it is management and health and safety, not management and getting a lot of electricity out of a plant, but management and health and safety. Your contention says that they don't have the management to safely operate Shearon Harris in a way that the public will be safe. It doesn't say anything about capacity factors.

MR. RUNKLE: The capacity factor reflects in part the ability of the utility to manage their plant. I think that the numbers will show and our Witness Clewett will show that the capacity factors of the two Brunswick are the lowest in the nation, and that reflects on management's ability to manage their nuclear power plants.

JUDGE KELLEY: But we are not here to find out whether CP&L's stock is a good buy. We are here to find out whether there plants are safe. Maybe they've got poor capacity factors. That doesn't mean they aren't safe. Maybe they are too safe from the standpoint of how you could run them and make a little more electricity and a little more money.

Perhaps I'm playing the devil's advocate to some extent, but I would really like to have a firm fix on why we

WRB/eb2

should care about capacity factors.

From the standpoint of managing a safe plant, not from the standpoint of being a good manager overall, but from the standpoint of being a manager of a safe plant, why should I concern myself with capacity factors and forced outages?

MR. RUNKLE: In looking specifically at the Robinson plant and the degradation of the steam generator tubes, the outages reflect CP&L's knowledge of the problems over a number of years. The problem is not a new one. The plant has had outages in fact several years, based solely on steam generator tube leaks and other resulting problems.

JUDGE KELLEY: You're saying that they were slow to fix it, therefore they are not good managers?

MR. RUNKLE: In essence, yes.

JUDGE KELLEY: I thought from listening to Mr. McDuffie this morning they sort of did a cost-benefit analysis and they knew the tubes were leaking for years and they finally reached a point where they said, "Oh, well, they're leaking so much we might as well shut it off and change them."

They could no longer make sense by running it and having to shut it off every so often. But, you know, that's a judgment they make. Maybe if you were the manager of the plant you would have shut it off three years earlier; I don't know.

Well, I would like to have some comment here. We

WRB/eb3

have no particular objection to your going down the road if there is some place to go to, but I would like to hear from the other parties about their view on the relevance of forced outages and capacity factors, and what it has to do with the contention in this case.

MR. ROACH: Yes, sir. We would like to object to the line of questioning. We don't see any particular relevance or materiality to the question or the subject area. It seems to address an economic consideration, not one of safety.

I would also like to point out that there was another contention, Eddleman 15-EE, which I believe related to capacity factors and which was resolved by summary disposition.

JUDGE KELLEY: I think it was AA.

Mr. Barth.

MR. BARTH: From the Staff's viewpoint, your Honor, we do not think that the questions are relevant to the contention, which is the ability of the company safely to operate Harris. The fact that they had poor capacity factors and that the outages did take longer than they had originally thought they would take we feel is unrelated to safety, anything that relates to the economic return from Carolina Power and Light from the operation of the plant.

From our point of view we object to all questions

WRB/eb4

which relate to the capacity factors of any of these plants, your Honor.

MR. RUNKLE: Any other comments?

MR. RUNKLE: Only that in comparing the management over the last several years of the Brunswick and Robinson units, there are only so many different kind of tangible items that you can make your comparison on. LERs is one. Violations is another. The capacity factor is a very important one.

I think capacity factor reflects management's ability to schedule maintenance, their commitment to maintenance, their philosophy on, you know, -- several different areas of.... I think that would be it.

JUDGE KELLEY: Well, I agree with you the LERs, at least the LERs that really involved some safety issue have a bearing on this contention. But again I guess I have trouble seeing--

MR. RUNKLE: There is a comparison when you look at, say, the totals ofthe LERs at various times, and violations also at various times the plants are shut down. You know, when you make the relationship between LERs in a normal operating plant and the same for a plant that is undergoing outages, I think there is a real comparison.

That may be one of the rationales why, you know, some years there are more or less LERs. It is based on

WRB/eb5

whether the plants are in operation or not.

JUDGE KELLEY: Oh. So are you saying that if a plant is down a lot, they don't have LERs?

MR. RUNKLE: In part, yes. I think you can make that argument.

JUDGE KELLEY: If you make that argument, though, you are going down a different -- you are pulling in opposite directions, aren't you? You're saying people with lots of LERs aren't safe. You are also saying people with lots of outages don't have very many LERs, so they must be safe. And yet you're saying that the outages are somehow an indication of lack of safety.

MR. RUNKLE: If the Brunswick reactor has a lifetime capacity factor of in the 40 percents--

JUDGE KELLEY: I don't know if it does or not, but let's say it does. So what?

MR. RUNKLE: That means they would only be in operation 40 percent of the time. And if they have a substantial number of LERs during that time that they're in operation, that directly reflects on the safety of the plant.

(The Board conferring.)

JUDGE KELLEY: We're going to break for five minutes on this.

(Brief recess.)

JUDGE KELLEY: On the record.

WRB/eb6

MR. ROACH: I would like to add one more thing to the discussion prior to the break.

Mr. Runkle indicated in the course of his argument his belief that a plant would incur more LERs when it was operating and fewer LERs when it was out of service for modifications. There is no factual basis in this record to support that, nor do I believe that is supported by fact.

Dr. Elleman I believe talked a bit about LERs. He indicated that you have more LERs when you're going out of service and coming back on line. I think the record would reflect, if the question were asked, that the modifications, the major modifications, you incur a number of LERs as well. So I want to make sure the record reflects that Mr. Runkle's statement is not supported by fact.

JUDGE KELLEY: I understand your point.

I think the view we are presently taking of this is not crucial at this point anyway, but I understand your point.

Off the record.

(Discussion off the record.)

JUDGE KELLEY: Back on the record.

The Board indicated it had some doubts as to the relationships between either forced outages or capacity factors -- I say "or," but basically a capacity factor is simply the sum of all the outages, forced or otherwise, so

RB/eb7

that the relationship is pretty direct.

It does seem to us that there is a lot of room for doubt about the relevance of this inquiry. On the other hand, we don't want to shut off an avenue that may have some useful information in it. We have a couple of observations to make. I don't know that we are quite ready to shut off questioning altogether in these areas, but we have some observations we want to make, and then we can see where that leads us.

In the first place it seems to us that if the direction of the questioning really is toward capacity factors rather than parsing outages, forced or otherwise, it would be useful just to go first to capacity factor and see where the capacity factor is in relationship to the industry average. It is our impression that the recent capacity factor at Robinson is pretty high, at least above industry if I'm correct about that.

What is the recent capacity factor at that facility?

WITNESS BEATTY: Your Honor, we would have to go back and get some data out of some material that we have here, but the capacity factors at Robinson in the last couple of years have not been so great when compared to industry average because of their numerous forced outages caused by degradation of the steam generator tubes.

JUDGE KELLEY: Then my impression is wrong.

WRB/eb8

WITNESS BEATTY: Over the lifetime of the plant, it is industry average and better.

JUDGE KELLEY: Industry average is what?

WITNESS BEATTY: About 60, a little over 60 percent.

JUDGE KELLEY: Right around 60? Have you got a plant lifetime number?

WITNESS BEATTY: The plant lifetime number I have here to date is 63 percent.

JUDGE KELLEY: Including the recent history?

WITNESS BEATTY: Yes, sir.

JUDGE KELLEY: When you've had a lot of down time?

WITNESS BEATTY: That's correct.

JUDGE KELLEY: And this is mostly for steam generator repair. Is that right?

WITNESS BEATTY: The majority of it has been that, yes.

JUDGE KELLEY: Okay.

Well, our thought was if you can look at the numbers for a given plant and they come out better than the industry average, then there may not be much point in inquiring into this any further.

Apart from that, one might speculate that a lot of forced outages equates with safety and a plant with a high number is not as safe as a plant with a low number. But in that regard, we have some cautions that seemed to us to be

WRB/eb9

appropriate.

One thing, there are forced outages and forced outages; as I understand it, if it is shut down for a turbine problem that has nothing to do with safety.

Beyond that, a lot of these outages that are listed here are very brief, a couple of hours or so, and to equate a two-hour outage with a 20-hour outage or a two-month outage and just add them up seems to us to be not a defensible approach.

Beyond that, even if yo u find some way of separating out the forced outages with safety implications and separating out or only including those with safety implications, only including those with some significant period of time, or somehow equating the time element, it is not going to lead us very far unless we can make some judgment against some kind of industry average.

It may be so that Robinson was shut down 15 times in one year for one reason or another, forced outage type. If the industry average is 15 or 20 then that again would seem to be a number of really no significance from our standpoint.

Now those are some observations, Mr. Runkle. If you want to see where you can get in the expectation that the Board may interrupt you or the parties may object, you can go ahead and take that approach.

BY MR. RUNKLE:

WRB/eb10

Q Mr. Beatty, who of CP&L upper management evaluates your performance?

A (Witness Beatty) Mr. McDuffie.

Q Does he do this in written form or verbally?

A I don't know whether he writes this or not, but his communication with me is verbal.

Q What criterion does he use to evaluate you?

A The job itself has what we refer to as a position description and it includes accountability within that position description that I'm accountable for. He evaluates my performance based on how I perform it in relationship to those stated accountabilities.

I would assume that's what he does. He has not told me that, but that is the standard for CP&L.

Q Does he review your performance on such things as your ability meeting ALARA goals?

A Yes, he does.

Q At the beginning of a year do you receive a specific quantified goal as opposed to ALARA?

A From a department standpoint we all submit goals that are worked out primarily on the site, and these are submitted to senior management for approval. They have the opportunity to agree or disagree, and ask justification for why goals are established, why we established our proposed goals as we did, and then subsequently we are given an approval

RB/eb11

on the goals for the year, what we are to work on.

Q And your evaluation would be reflective of your ability to meet those goals, would it not?

A You are asking me to make an assumption of how Mr. McDuffie would come to the final analysis of his evaluation. I can tell you about the system and how we do it at the Robinson plant, but I don't feel that I can tell you how Mr. McDuffie does it.

Q Does your evaluation-- Does your own personal evaluation reflect the performance of the Robinson nuclear unit?

A Yes, it does.

Q And does it also reflect your and your staff's ability to operate and maintain that plant?

A Would you please restate the question?

Q Does your performance, your own personal performance evaluation reflect your staff's ability to operate and maintain the Robinson plant?

A I would certainly not be able to achieve the goal set for the department without the support and effort from the plant staff to achieve those goals, so I would have to say that yes, they do, indirectly.

Q And would capacity factors be one of those criteria used in your evaluation?

A Yes, it would.

WRB/eb12

Q If you had a high capacity factor would you have a higher evaluation?

A Yes. But I would also like to add that there are other things that are established as far as goals are concerned, too, that are not necessarily reflected in capacity factor.

Q ANd what are those?

A Such things as you mentioned, ALARA goals, regulatory compliance goals with the Nuclear Regulatory Commission.

Q Which do you feel is the most important?

A I feel like operating the plant safely is most important, and second, operating the plant safely is to be in compliance with all the government regulations.

Q Can you place before you what has been identified as JI-27 and distributed to the various parties?

A Yes, I have it.

Q You will notice that it lists capacity factors of the different reactors, does it not?

A Yes, it does.

MR. ROACH: I would like to at this point interject an objection. Counsel has not stated what the source of this document is, how it was compiled, to give the witness any frame of reference as to what it is.

I think it might be helpful for the record if he would identify what the document is purported to be.

WRB/eb13

JUDGE KELLEY: Yes.

BY MR. RUNKLE:

Q Sir, what does this document purport to be?

MR. ROACH: I think counsel, if he offers a piece of paper to the witness, I think he has the responsibility to tell him where it came from and what it is, if he knows.

JUDGE KELLEY: Could you give the genesis of this document, Mr. Runkle?

MR. RUNKLE: It's a listing of capacity factors for the last two years, and also a lifetime capacity factor for the different reactors, and it states how that capacity was determined. It is a simple numeric formula.

MR. ROACH: Was it taken from a CP&L document, or is it your own creation?

MR. RUNKLE: It wasn't taken from a CP&L document.

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JUDGE KELLEY: Could you tell us its source?

MR. RUNKLE: I will have to look that up, sir.

End 14

JUDGE KELLEY: All right.

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MR. RUNKLE: The figures in this document come from a -- they are a small portion of an article written by Charles Komanoff, "A Look at Nuclear Plant Capacity Factors."

MR. ROACH: I would like to object to the document: Mr. Komanoff is not here; two, the megawatt ratings, I believe, or design megawatt ratings are not the megawatt ratings that CP&L uses; therefore I think the capacity factor number is improperly calculated. There is no basis in the record to admit this exhibit.

JUDGE KELLEY: Excuse me; can you give us the citation to the Komanoff article?

MR. RUNKLE: The copy I have is just from an article; there is really no citation to it.

I think in response to one of your questions Mr. Beatty said that the lifetime capacity factor for Robinson was 63 percent. And that's the same figure.

JUDGE KELLEY: That's the same. I'm not sure about the others.

WITNESS BEATTY: I believe the testimony will show that I said the number that I have in front of me says 63 percent.

JUDGE KELLEY: Oh; you were looking at this particular document at the time?

WITNESS BEATTY: That's correct, sir. To my recollection, the number was a little more than that. But at

WRBwb2

that point a percent did not justify arguing the point.

JUDGE KELLEY: And we were in a kind of a rough calculus at that point.

We have an objection, and it seems to me we do have a gap as far as the background of this is concerned as to just how these numbers were derived.

Is this the kind of a thing-- Let me just ask applicants' counsel:

Could you tell us in the morning the exten which, if any, you disagree with these numbers, or if you just can't tell? I assume youwould have to check some things; I don't know.

MR. ROACH: Yes, sir, we could do that. It's probably a couple of percentage points off in each of the categories, and the megawatt rating of the units I believe is probably incorrect.

JUDGE KELLEY: Well, it just occurs to me that, you know, if we want to question on this basis it may be that a fractional difference doesn't matter anyway, and so forth.

If you could look at your own numbers and then let us know in the morning. You know, if you have some significant different maybe we can work that out or change it.

MR. ROACH: It seems that he could ask a witness if he knows. He has the people responsible for Robinson

WRBwb3

here, he has the people responsible for Brunswick here.

JUDGE KELLEY: I don't know if we're going to get to Brunswick this afternoon. Maybe I could just check that.

Mr. Runkle, in terms of timing and your questions for the Robinson people, what would be your estimate at this point?

MR. RUNKLE: We certainly won't get to Brunswick today.

JUDGE KELLEY: That's what I wanted to know.

Well, if 63 doesn't strike you as terribly far wide of the mark for purposes of this afternoon's discussion, perhaps we could hold on the admissibility of this document until tomorrow morning, and then at that time you could let us know whatever changes you want to propose. But we can use it as a basis for questioning this afternoon, with the understanding that if there are changes in the Robinson numbers that affect answer, we wjll just have to look back at the transcript. Okay?

MR. ROACH: Yes, sir.

MR. RUNKLE: I had not intended to introduce it until I could also ask the same questions of the Brunswick panel.

JUDGE KELLEY: Okay. We won't get to that until tomorrow, and we'll also have whatever points they want to make tomorrow morning.

WRBwb 4

MR. RUNKLE: I'd be glad to accept their figures, given the basis as to how those figures arise.

JUDGE KELLEY: Okay. And they can let us know tomorrow.

(The Board conferring.)

End-15

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AGB/agb1

BY MR. RUNKLE:

Q. Mr. Beatty, could you place before you JI 25, which was previously marked and distributed to all the parties?

A. (Witness Beatty) I have it.

Q. Have you had the opportunity to review this document?

A. I have reviewed the Robinson portion of this document.

Q. And that Robinson portion begins on page four of this document, does it not?

A. The pages were not numbered, but it is page four.

Q. It's the fourth page then.

MR. ROACH: I would like to object to the document to this extent: This document is part of an answer by CP&L to an interrogatory. There appear on the document some handwritten figures: 34 percent, 19 percent, et cetera. Those were not on the document, I don't believe, when the document was given to the Intervenors. I'm not sure what the origin of those notations are and, to the extent that those numbers are part of the original document, I object.

JUDGE KELLEY: I gather that the percentage numbers that are being referred to were added by yourself --

agb/agb2

MR. RUNKLE: Yes, sir. I am certainly not going to purport that these were part of the original document.

JUDGE KELLEY: Just for clarity I think the point is worth making though.

And this may be obvious to everyone but me, but take the percentages over on page -- the page with the Robinson Unit Number 2 on it, how is that derived? When you say 1080, what are you dividing into what in order to get that?

1941 into 1080 -- that can't be right.

MR. RUNKLE: It's a comparison of the schedule duration in hours and the actual duration in hours and minutes. The right column is schedule duration and the left column is actual duration.

And that is the percentage that the actual duration is extended beyond the schedule duration.

JUDGE KELLEY: Like in the first one, 1978, 1941, 1080. You mean 1941 is 80 percent higher than 1080?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: As an example.

And again the calculations were made by the Intervenors.

MR. ROACH: I would like to also object to the line of questioning where there is an attempt to compare

agb/agb3

actual outages to the schedule of that outage. I think that goes to economic considerations; it does not go to the safety of the plant. I'm not sure that's material or relevant to the inquiry before us.

JUDGE KELLEY: Could I just take a minute to look at this?

(Pause.)

The objection -- I'm sure you heard it, Mr. Runkle -- as I understand it, it is to the use of this data on the ground that it's really an economic issue, not a safety issue.

Do you want to respond to that?

MR. RUNKLE: Yes, sir.

In the fourth column it gives a reason and a brief explanation of the extension and the various things on here -- explanations of why it was continued -- should have been either corrected previously or to have been -- to come up in previous surveillances.

MR. ROACH: There is absolutely no basis for that in this record.

JUDGE KELLEY: Your point is -- Let's take the first one as an example:

"Outage was extended to include replacement of core spray piping."

You're arguing that this was something they should

agb/agb41 have seen before and if they had really been on top of their maintenance schedule they would have done it earlier, before the wear on the piping got so bad, does that paraphrase it?

MR. RUNKLE: This is something that I would have to ask the witnesses --

JUDGE KELLEY: Well....

MR. RUNKLE: When it was first determined, what they did when they first determined whether it was; whether quality assurance found these problems, whether it was a Nuclear Regulatory Commission Staff ordered correction in response to Three Mile Island....

MR. ROACH: That seems to be matters that would be best left to discovery. I think we're trying the lawsuit now, we're trying the matter now not trying to do discovery.

MR. RUNKLE: Pardon me, I didn't hear that last --

MR. ROACH: I think we're in the course of having the hearing, I think we're trying to litigate the matters and it sounds to me like you're trying to do discovery which you should have done some months ago.

JUDGE KELLEY: Your thesis anyway is that through this questioning of witnesses -- Well why don't you try it some and maybe we can hear some of this.

agb/agb5

I'm just going to defer your objection; I'm not rejecting it or overruling it, I'm just not sure how this would work.

If you think some questioning of witnesses would elucidate this, why don't we try that? Go ahead.

BY MR. RUNKLE:

Q. Mr. Beatty, do you have before you the fourth page of this document?

A. (Witness Beatty) Yes, I do.

Q. Are you familiar with the plant outage that occurred in 1980?

A. No, I am not. I was not at Robinson in 1980.

Q. Are you familiar with the problems arising around the degradation of steam generator tubes?

A. I have studied it from an historical standpoint.

Q. Are you familiar with previous outages resulting around degradation of the steam generator tubes?

A. Not specific outages. I know generally the rate the deterioration occurred and I was familiar with the final group of inspections, in 1983 and in 1984.

Q. And those were the inspections of the steam generator tubes?

A. That is correct.

Q. When did the degradation of the steam generator tubes come to the attention of the operating

agb/agb6

staff at the Robinson nuclear reactor?

A. That's a difficult question to answer. The history of steam generator tube leaks and tube degradation at Robinson is a very long, detailed, technical situation.

We first had leaks as early as 1970, which was not due to tube degradation. The first significant leaks that occurred at Robinson from the standpoint of numbers of leaks, as I recall, was in the 1978-79 time frame, I'm talking three or four tubes.

Q. Could I turn to the list of outages which is in JI 24 and determine when those outages occurred?

A. What outages are you referring to?

Q. Outages due to steam generator tube leaks?

A. There's a very short, cryptic reason on the right-hand side but I would assume you would be able to identify most of them.

Q. So by looking at outages at the Robinson unit for 1978 and '79, we could find those occasions when maintenance was performed or repairs made to the steam generator tubes, could we not?

A. I would assume that you would be able to do that from this list, yes.

Q. When did Carolina Power and Light come to the decision to replace the steam generators?

A. Would you please clarify that question?

agb/agb7

We decided back in the 1980 to '81 time frame that they would have to be replaced eventually. We decided on February 6, 1984 to commence with the replacement.

Q. What criteria did CP&L use to select February 6, 1984?

A. We were using the results of the inspection on Steam Generator A that was performed following the January 26th shutdown.

Q. And that's the January 26th, 1984 shutdown?

A. That's correct.

Q. When you initially came to the conclusion back in '82 that the steam generators needed to be replaced, what criteria did you use to decide on February of 1984?

A. A clarification: I was not involved with the original decision that they would eventually have to be replaced.

In 1984, I was involved with the decision to commence the replacement outage and I will be glad to attest to that.

Q. Are you aware of the reasons used at that time in '82?

MR. ROACH: Object to the question. The question as it is stated is asking him when in 1982 or

agb/agb8

why in 1982 the decision was made to replace the steam generator in 1984.

I don't believe the testimony is to that effect. I think what the witness said is the decision to make a replacement in 1984 was made in 1984; that a decision had been made prior thereto to make a replacement at some point in the future, an undetermined time.

To the extent the question I think deviates from that basis in the record, I object to it.

JUDGE KELLEY: Could you restate the question?

MR. RUNKLE: If that is true, I misheard his statement.

JUDGE KELLEY: I thought that the statement we just got was basically what I understood him to have said.

Restate your question anyway, if you wish, and then we'll decide on whether we can go ahead.

BY MR. RUNKLE:

Q In 1982 when CP&L determined that the steam generators would eventually have to be replaced, did they pick a date certain at that time?

A. (Witness Beatty) As I recall the testimony, the decision was made before 1982 that the steam generators would have to be replaced and the new steam generator lower assemblies were placed on order.

I was not an employee at that time and I don't

agb/agb9

remember the specific dates but I'm confident that it was before 1982 because the steam generators were delivered in 1983.

Q. During this time, did the steam generators -- did they degrade over this time?

A. Yes, they did degrade over that period of time.

There were several compensatory operations that were attempted to reduce the rates of tube degradation and we traded the right hand for the left hand in most of those attempts and did not succeed.

Q. What do you mean by trading the right hand for the left hand?

A. Well I guess what I'm saying is we got rid of the poison ivy on the right hand but we got a new case of poison ivy on the left hand.

Q. Can you be specific how that relates to the reactor?

What compensatory actions did you take?

A. First thing, we started a reduced T out program to reduce the output of the unit to approximately 80 percent in 1981 to change the temperatures in anticipation that the reduction in temperature would have a reduction on the degradation rate.

It had a reduction on the degradation rate in the zone that we were having problems with but, as I've

agb/agb10

tried to use the correlation there a minute ago, we changed to a different type of degradation in a different zone of the steam generator by making the temperature change.

Q When you refer to degradation of the steam generators, what are you referring to?

A Well really the term comes back to through the wall penetration of a defect. Our safety analysis generally showed that 70 percent -- that a tube is safe and will not rupture with a 70 percent through wall penetration in a defect -- these are generalistic terms now, not talking about specific defects.

Our tech spec limit on Robinson to plug the tube was if it was greater than 47 percent through wall you had to plug the tube.

Now if you go back and take historical data and you can determine the percentage through wall change per unit time, then you'd know when you get to the 70 percent which is the safety limit. So how fast a tube is -- what the degradation rate is is the percentage per unit reactor operating time of through the wall thickness that is being lost.

Q Could you put that in just a little more laymen's terms? We're talking about through wall degradation; is that a crack that goes through a certain part of the wall or what?

agb/agb11

MR. ROACH: I object to the question. We've heard a series of questions and answers about the steam generator problem at Robinson and I'm not sure that Counsel has made any connection between this and the future operation of the Harris plant. I can't tell where he's going with this and I think this detail about an outage or outages at Robinson is irrelevant and immaterial.

JUDGE KELLEY: Mr. Runkle?

MR. RUNKLE: Really, two points: I think it was Mr. McDuffie who said earlier that the design of the Harris plant was fairly similar to the Robinson plant.

Secondly, if CP&L knew about this problem beginning in '78-79 and did not make the changes -- begin making the changes until February of 1984, I think that goes into their -- well, their philosophy of safety and also their making the commitments to repair a problem which may or may not have safety ramifications.

MR. ROACH: If I could respond briefly, I believe there is a contention about the steam generators at Harris and it seems like that may be a more proper place to adjudicate this. I think most of that has already been decided on summary disposition.

Secondly, I think there is a very tenuous connection between what he is trying to talk about here and anything at Harris.

agb/agb12

JUDGE KELLEY: I think we'll allow the questioning for now. That's the trouble with management contentions, it's difficult to get at them. I understand that you're probing whether these repairs were made in a prudent and timely manner basically and that seems fair. Go ahead.

I think the question is if you could translate into laymen's terms the through wall problem.

WITNESS BEATTY: I'm sorry, sir, I wasn't listening.

endAB#16

AGB/pp 1

#17

JUDGE KELLEY. Do you want to repeat your question, Mr. Runkle.

BY MR. RUNKLE:

Q It was related to -- you had used the word several times -- through wall degradation, I think it was. Could you explain that just briefly in a layman's term?

A (Witness Beatty) Yes, if you had a tube full of water, and it was under the equivalent pressures and the same parameters applied to it, if you had a ten percent per month degradation, you would have a through wall hole in ten months.

Q And on the tech specs for the Robinson plant, was-- strike that please.

Are there tech specs at the Robinson plant when that describes when the generator, steam generator tubes, need to be -- excuse me. Are there tech specs at the Robinson plant which describe when the steam generators need to be replaced?

A No.

Q And that would be NRC regulation?

A No.

Q When you stated that they needed to be replaced when they were found to be 70 percent degrated, where did that number come from?

A I didn't make that statement, I don't believe, Mr. Runkle. What I said -- well, let's go back and look at it

this way.

I made a statement that this safety analysis said that you -- a tube would most likely not rupture at less than 70 percent through wall penetration. All right. Now, our tech specs say that we have to plug any tube that is greater than 47 percent through wall indication. Now, if you go back and take the analogy of the degradation rate versus the tech spec limit, you go through a calculation that tells you how many affected full power days you're allowed to run the reactor before you reach the point where you've got a potential leak.

And that is the determination and that's the basic management decision that went into replacing the steam generators. Our degradation rate was so great that we could not justify the continued expense of shutting down and plugging and the ALARA considerations involved with shutting down and plugging for the amount of time these calculations would allow us to stay on the line and make electricity.

Q In inspecting the steam generators in January of this year, what was the percent of through wall degradation.

A On which one of the tubes, sir? The question has no context unless you ask me about a specific tube.

Q Okay. How many different tubes are there?

A 3 260 in each steam generator, which makes almost 10,000.

AGB/pp 3

Q What was the greatest degradation at this time?

A I'd have to retrieve the data to find it. We were concerned with a particular zone and a relatively high degradation rate. The actual through the wall thickness I just have no idea right now. But I would estimate 70 to 80 percent through wall.

Q And were there leaks at that time?

A Yes. That caused the shutdown.

Q All right. Now that you think about it, if that caused the shutdown we must have had one that was 100 percent, excuse me

Q In your opinion sir, would these leaks of the steam generator tubes, have a safety significance?

A Please define leaks for me, sir.

Q 100 percent through wall degradation.

A How large a hole?

Q Anything --

A We have a specification. The way the current specification is written up, if I'm wrong I'm going to ask my co-panelist here to correct me. But our leak rate limit under current tech specs or under the tech specs that existed at the time we shut down was 3/10 of a gallon per minute. And -- is that right, Dick? Very close to 3/10 of a gallon a minute. 3/10 of a gallon a minute primary to secondary leakage has a very miniscule effect on radiation

releases and the subsequent effect on the health and safety of the public.

Q Is the Robinson reactor still operating under the tech specs that were developed when it began operation in 1971?

A With 78 or 79 subsequent amendments, it is.

Q Are the tech specs with these amendments that Robinson is operating under, are they equivalent to the tech specs at the Shearon Harris plant will be operating under?

A I'd have to make an assumption there because I do not know what tech specs the Shearon Harris would be operating under. If the Shearon Harris plant was operating under the Westinghouse standardized tech specs it will be a specificantly different set of tech specs.

Q And you're currently operating under the Westinghouse standard tech specs?

A No. We are operating under custom tech specs that were written by CP&L in the operating license stage for H. B. Robinson in the 1969 timeframe with the '78 amendments that I spoke of.

Q Do you have any opinion how these tech specs you're operating contrasts with those that the Brunswick reactors are operating under?

A Yes, I do.

Q And what is that?

AGB/pp 5

A The standardized General Electric tech specs that Brunswick is operating under are significantly more difficult to operate with than the custom tech specs that we have.

Q Sir, if I could draw your attention to Beatty and Morgan attachment 4.

Do you have that in front of you, sir?

A Yes, I do.

Q In the year 1980, it states that one of out four senior reactor operators passed NRC licensing exam, does it not?

A Yes, that's what it says.

Q Is that true?

A Yes. I just wanted to qualify that. There again, this material was prepared and I have reviewed it, and I believe it to be fact. But I was not there in 1980.

Q But you have no reason to doubt that?

A I have no reason to doubt that that's correct.

Q Were these senior reactor operators who did not pass the licensing exam, were they later re-examined?

A I cannot attest to that.

Q Let me draw your attention now to Beatty Morgan attachment 5. Do you have that in front of you, sir?

A Yes, I do.

Q It lists the notice of violations issued by NRC, does it not?

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A Yes, it does

Q The one level -- the one severity level 3 violation which Robinson has incurred so far in 1984, was that the security violation you reference in your testimony?

A No, it was not. The security violation was in 1983.

Q What was the security level violation -- the security level 3 violation in 1984 to date?

MR. BARTH: Sir, can we call these severity levels rather than security levels and we have a clear record?

MR. RUNKLE: I referred to severity level. Excuse me if I said something else.

JUDGE KELLEY: Okay.

WITNESS BEATTY: The severity level 3 in 1984 was an improper entry into the sump under the reactor vessel with the thimbles withdrawn. This proposed civil penalty since it was a proposed $30,000 proposed civil penalty, has since been mitigated, I think is the proper term, by the Director of Inspection and Enforcement.

Q With the NRC?

A With the NRC.

Q What corrective actions did CP&L take to mitigate that violation?

A THere are many corrective actions involved with that particular violation that have been taken. The first thing that was done was of course a thorough investigation of the

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incident and a determination of why it happened. At the beginning when we first started investigating it, it was obvious to us that some of our employees had not obeyed posted signs as they should have and as they had been taught to do so. So the first thing that was done was a series of management meetings on site with the management of CP&L and the management for all the contractors CP&L had on site to discuss the incident and to reinforce the importance of obeying signs as they're posted and their responsibilities as far as radiation protection is concerned.

The second thing that was done -- well, prior to that even, we went and literally welded the access port closed and put a second lock on the access door.

That was not to be considered corrective action but just an intermediary action until we could go ahead and get more thorough corrective action in place.

The third thing that was done, there was disciplinary action taken with the people who were involved with the incident. The next thing was we made a commitment to the NRC to implement a multi-level key control system and which we have done.

May I ask Mr. Morgan's help for anything else that I left out of that?

A (Witness Morgan) Yes. There was one other thing that we investigated. Other areas similar to this that an

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individual could access and evaluated them for the ability to access and constrained those areas also.

Q Did this incident affect your ability to meet your ALARA goals for this year?

A (Witness Beatty) The individual involved or individuals involved with this incident received a very minor dose and the civil penalty wasn't -- was not proposed for the amount of dose the man received. The civil penalty was proposed for the potential that he could have received. The amount of radiation that he received was relatively small and well within a quarter's normal limit.

End #17

#18

AGBwb1

Q. Mr. Beatty, do you review the SALP reports when they are issued by the NRC staff?

A. Yes, I do.

Q. And you look at their recommendations and make changes, do you not?

A. Yes,

Q. --if they're called for?

A. If they're called for.

MR. RUNKLE: Your Honor, I have no more questions for this part of the panel.

JUDGE KELLEY: Okay; meaning the two gentlemen from Robinson?

MR. RUNKLE: Yes, sir.

JUDGE KELLEY: Okay.

Mr. Barth, questions from the Staff?

MR. BARTH: We have no questions of the people representing Robinson, your Honor.

JUDGE KELLEY: The Board doesn't have questions.

MR. ROACH: I have just a very few. Could we take a two- or three-minute break in place?

JUDGE KELLEY: Okay. A short break.

(Brief recess.)

JUDGE KELLEY: Back on the record.

Mr. Roach.

MR. ROACH: Thank you, sir.

AGBwb2

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REDIRECT EXAMINATION

BY MR. ROACH:

Q. Mr. Beatty, during the cross-examination by Mr. Runkle you were asked about the number of LERs at Robinson in 1984 year to date, and indicated a number, I believe 25 or 26. Was that a correct number?

A. (Witness Beatty) On reviewing the data we have, that number should have been nine. I think I qualified it when I said it. But it is nine, so far as I know.

Q. So if we look at Beatty-Morgan Attachment 6, 1984 year to date, it would be nine; okay?

A. Yes.

Q. Secondly, there were some questions about Mr. Morgan's transfer to the Robinson plant. When Mr. Morgan was transferred to H. B. Robinson, was that a promotion?

A. Yes, it very definitely was a promotion from unit manager's job to section manager's job.

MR. ROACH: That's all the questions I have of this panel. --of the Robinson segment.

JUDGE KELLEY: Mr. Runkle, anything else?

MR. RUNKLE: No, sir.

JUDGE KELLEY: Okay.

Well, then, as I understand it, the concept was to finish the questioning with Mr. Beatty and Mr. Morgan and then let them go; right?

MR. ROACH: Yes, sir.

JUDGE KELLEY: Okay, gentlemen, thank you very much. This will be a break point for us, and you will be excused at this point. I appreciate your attendance.

(Witnesses Beatty and Morgan excused.)

JUDGE KELLEY: We'll be statting--

MR. ROACH: Mr. Chairman, we are in a position to go later tonight, if you like. The witnesses are here and available, we got a late start this morning. If you'd like to go for another hour or so that would be fine with us.

(Laughter.)

JUDGE KELLEY: Dr. Bright reminds me that we have to adjudicate the subpoena requests this evening.

Anything else before we quit, as we propose to do now?

(No response.)

JUDGE KELLEY: Nine o'clock tomorrow morning.

Thank you.

(Whereupon at 5:25 p.m., the hearing in the above-entitled matter was recessed, to reconvene at 9:00 a.m. the following day.)

CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceedings before the UNITED STATES NUCLEAR REGULATORY COMMISSION in the matter of:

NAME OF PROCEEDING:

Carolina Power and Light Company and
North Carolina Eastern Municipal power Agency
(Shearon Harris Nuclear Power ylant Units 1 and 2)

DOCKET NO.: 50-400 OL; 50-401

PLACE: Raleigh, North Carolina

DATE: 10 September 1984

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission.

(Sigt) _____
(TYPED) William R. Bloom; Anne G. Bloom

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