UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BRIEFING ON SYSTEMATIC EVALUATION PROGRAM

(Open to Public Attendance)

Commissioners' Conference Room
D.C. Office
Nuclear Regulatory Commission

Tuesday, May 6, 1980

The meeting convened, pursuant to notice, at 2:35 p.m.

Present:

CHAIRMAN John F. Ahearne
COMMISSIONER Victor Gilinsky
COMMISSIONER Richard F. Kennedy
COMMISSIONER Joseph Hendrie
COMMISSIONER Peter A. Bradford

Also present:

D. Crutchfield
W. Dircks
D. Eisenhut
H. Denton
E. Hanrahan
Mr. Malsch
L. Bickwit
J. Scinto

P R O C E E D I N G S

CHAIRMAN AHEARNE: I would like, if I could, to call the Commission to the meeting again.

The purpose of this afternoon's second meeting is to discuss the ever-evolving plan of the systematic evaluation program. I remember what it was. It was just as I was going back digging through all these old SECY papers dating back to the Task Force Report of Nov. 1976 and SECY 76-545, decision memo and SECY 77-561 and decision memo and an ACRS letter and an answer to the ACRS letters.

MR. DIRCKS: That is the historical possibility.

CHAIRMAN AHEARNE: No. That has led me to realize that this is something we'd like to hear more about, to at least understand not only what is happening. I guess my first question I would have is, what is it?

Bill?

COMMISSIONER HENDRIE: Since we have been -- every time I turn around we have reorganized the SEP programs. Harold has had major churnings out there, so one of the early things I would like to hear is who has now got this ball so that I know who to glare at.

MR. DENTON: Darrell Eisenhut.

COMMISSIONER HENDRIE: And who works it for you, Denny?

MR. EISENHUT: The Branch Chief is the SEP program

branch. It is now vacant. Denny runs the Projects Branch, which is sort of the routine branch.

COMMISSIONER HENDRIE: The project side of it.

MR. EISENHUT: The Assistant Director of it is Gus Lance.

COMMISSIONER HENDRIE: Congratulations, Gus. What happened? Did everybody run away from that branch? It is vacant because nobody will accompany it?

Never mind.

(Laughter)

COMMISSIONER HENDRIE: Sorry.

CHAIRMAN AHEARNE: Would you like to try again?

MR. DIRCKS: We have had briefing on this before and I think it is worthwhile to go back and tell you where we have been and where we are seeing some difficulties and where we see some possible future attempt to cope with some of this.

As pointed out, Darrell has the ball. He has had it for awhile. He is ready to talk about it.

Surprisingly, this fiscal year is pretty much on schedule with what we set out to do. We are about halfway through the year and we have accomplished 55 percent of the objectives, so it is functioning.

MR. DENTON: We're just coming now to the payoff period of the SEP program. For years we only talked about the plans. These are reports on specific grants. The review has been completed and the

decisions reached as to the acceptability of those old plants with regard to that area of review. I think there over 200 issues now which are, in essence, resolved for these old plants and an overview of mine is that, in some areas, we are finding even though these old plants were designed before the general design criteria they are able to share conformance with today's requirements. We managed to work these out in detail so, in that sense, we looked better than perhaps we thought they would.

COMMISSIONER HENDRIE: I could have told you that. There was an ancient principle that we were giants in those days.

(Laughter)

MR. DENTON: At the same time, we have also identified those areas where the Commission's requirements have changed drastically and we know that we have got to focus in on to make a commparability finding. We can identify those areas, so we are trying to maintain the manpower in the program from here on out.

It went through a slump a year or so ago before we assigned people, dedicated reviewers, but we are right now in the pay-off period to define those areas where the staff really needs to concentrate and make those changes and one of the fall-outs from this program, for example, was the show cause order with regard to the effect and with that

introduction, let me have Darrell give you a more planned review.

MR. EISENHUT: I will just summarize and go through. I wasn't sure how much detail. There is no long track record. I am not going to attempt to go back through the old track record.

If I may have the first slide?

This is just a simple outline of the areas. We would like to go through a very brief introduction and background so we know where it is.

Going through its present status, we will just mention some of the difficulties that Harold touched upon and some of the things we are looking at to keep it going and really build the momentum into the program to reach the hard decisions.

The programming, you recall, has to do with the overall safety confirmation of older plants. Eleven of the older plants are being reviewed.

These plants, in large part, pre-date a lot of the modern plants that we have today -- modern plants where they have a large loss and accident, large ECS systems, with a somewhat rigorous, very elaborate set of safety requirements.

These plants go back, I believe -- the first plant went into operation in 1959 or 1960, about that time. Seven of these old plants still have provisional operating licenses.

Remember, the thought was that a provisional license was a license that was in effect for something like 18 months. After 18 months the thought was you looked at how the plant performed. If the plant performed well you convert it over to a full-term license. If the experience was not too good, you would look at it from the standpoint that you need to keep it going under a POL.

There was an automatic expansion feature of those POLs -- that is, if the licensee requested --

COMMISSIONER HENDRIE: A timely renewal.

MR. EISENHUT: Yes. A timely renewal.

It is similar to other areas we have that, if the request is submitted, it continues. The basic thrust of the program was to compare these old plants against current -- against current safety standards.

COMMISSIONER HENDRIE: It is not an NRC regulation but it has its foundation -- where? Is it not in the Administrative Procedures Act?

MR. EISENHUT: Yes, it is.

MR. MALSCH: The activities are contingent until the application is acted on.

MR. EISENHUT: The basic thrust of the program was to compare these plants against current safety standards. I use "standards" in the overall, larger sense, not as if you were building the plant today, but look at it against today's

real thrust of what the safety requirements are trying to do today.

Today's requirements standards, guides, are the yardstick we are looking at. The review was not to be a five by five, line by line, review but rather, as each review progressed to some point, you either decide that you have found a major deficiency that must be fixed now or you find there could be a deficiency that could wait until the end of the program, re-orchestrate them together, hence an integrated assessment.

CHAIRMAN AHEARNE: Can I ask you a question on that, Darrell?

One of the difficulties in trying to read a lot of background quickly, if sometimes there are some ideas that weave in and out, it is a little difficult to conclude which stayed and which didn't. But at various stages, I found in one case the objective was going to be to look at the design basis events and then on the basis of those, see which systems were critical and then analyze those.

There was another flavor at some point that would decide on some other way, which systems are important to safety and look at those.

Is there any simple way of describing the process that you have just said?

MR. EISENHUT: Yes, there is. The basic program was

laid out first. The thought was that it was a systematic program.

We started with something like 800 topics not designed as basic events, per se, but 800 topics. There were a collection of topics from the ACRS, many different elements of the organization, from the public, from utilities. Those were put together in a set of topics.

Where we culled those, we could, either for lesser safety significance because they were the development of new requirements, because they didn't affect those family of plants -- we culled it down to 137 topics. Those 137 topics had two parts to them. One part was there were about 50 items which were already undergoing review by some other people -- fire protection, for example.

Those 50 we just said, the review will continue as it needs to and we will, to the extent possible, integrate it with those other 80 or so but the other 80, what we will do is that we will first look at it topic by topic by topic and you would reach an interim feeling of the measure of goodness of the plant. But you would not act on fixing up a crane in the building, necessarily -- that may not be the world's best example, but you would not fix up one particular component until after you had gone through the topics.

You looked at the design basis events. You looked at really the design basis events and said, well, so what? So

what is the net effect, if the containment could only take 40 pounds of pressure instead of 60 pounds. You really look at the design basis events and you look at this. This is sort of the integration aspect and by looking at what is important to the design basis of either the terms of the likelihood of the event or the consequences, given the event occurs.

So it is really both of those two things. We have been going through, topic by topic, first and you have some competing things when you lay out to do that. On firsthand, it is always nice to have as many topics resolved as possible.

If there are 130-some topics on each plant times these other plants, you see there are about 1500 plant topics to be done in the first place.

One thing would lead you to do the other things first, because I can knock off the first thousand. Well, that is good. It shows we have progressed.

But on the other hand, you note the more difficult topics -- that is the topics, for example, associated with seismic design are not going to bear any fruit for two years or so.

MR. DENTON: Let me interrupt for a few minutes, Darrell. We have gone at it topic by topic but I still think there are issues of conceptualization as to what this program is intended to do that remain to be decided. We never could decide quite how to approach it, and we kicked it off.

That is how we got into sweeping through this large number of issues we were going to sort of defer what was clearly down the road. How we have actually combined systems, designed basic accidents, or whatever. And the program has suffered a bit from lack of general consensus on how do you approach plants that were designed and built 20 years ago to all different codes and standards of the day.

Today, I think, you will find at the end of the slide, at the end of the presentation, I should think it should go from here more to the risk assessment idea than we were proposing to do when this first started.

MR. EISENHUT: It is really the two things combined.

If I could have the next slide, this is really -- it is a slide that is two or three years old. This was basically the objectives of the program as laid out by the Commission following the first briefings back in 1977.

The program that you will see, as we will mention when we get towards the end, deviates from this slightly, but these are more the general statements.

The last one is the one that we will be addressing somewhat in a moment.

If I could have the next slide, which just catches up with what I've been saying, this just gives you a status of how it is today. This is basically the topic, the plant topic review list, and how far it has proceeded.

The resolution of certain of these topics has already -- it has been a hybrid up to this point, as it goes.

To the extent possible we have been using risk assessment and we have been trying to use it more as we go into this program.

There are two problems. One is, of course, a shortage of that type of expertise to be doing it on a large scale here. But secondly, you must make the comparison against the requirements in the regulation because some of these plants are going to have an opportunity for hearing, and this review formed the legal basis that is necessary for that hearing record.

CHAIRMAN AHEARNE: Careful about "on this legal basis." We have just been deserted by our lawyers.

MR. SCINTO: Not all of them.

COMMISSIONER HENDRIE: I'm glad you stuck, Joe. The General Counsel left as soon as the subject was broached here.

Let me represent some sort of commentary.

CHAIRMAN AHEARNE: Now the Commissioner lawyer is leaving.

(Laughter)

CHAIRMAN AHEARNE: Are you having any trouble getting information from these licensees?

MR. EISENHUT: Yes. This goes back to the last item of the objectives I mentioned in the first place. The basic

thrust was we were not going to go out and lay a big requirement on the licensees and say, answer these 137 topics.

The first thought was the staff was one of the key items, even from the Commission's guidance memos, to go back first and look at all the paperwork that was there existing and that is a real problem in these old plants because you have an initial final safety analysis report with maybe 50 amendments, maybe 300 letters with additional technical information and you must put all of this together and really try to decide what the situation is.

Even then you don't have a lot of technical information. So the first cut is, you put the staff to work going through all of the available information, seeing what is there before you go to the licensee and say this is the additional information that I need.

It is a very difficult job, because of the availability of information. That is one of the key ingredients.

CHAIRMAN AHEARNE: And have the licensees been giving you much trouble in getting this?

MR. EISENHUT: The licensees viewed this -- I think it is fair to say they viewed this as an NRC program. They viewed this because, as an NRC program, back from the inception when it was announced, the staff said this is basically an NRC program. The principal burden initially in

the program will be on the NRC, not on the licensees.

It is the fifth objective in that initial slide that has caused considerable difficulty in getting up to speed. They are getting up to speed on selecting topics where we made it very clear in the beginning that if left to the staff, these were some areas that we were going to have real problems with.

It is fair to say in the last few months, over the last perhaps year, the licensees have been instructed to work in certain areas.

MR. DENTON: And all of the lessons learned that have swept through since TMI have all applied to these plants. They have been swept up and making all of the order changes and everything else at the same time while trying to reassess old issues.

MR. EISENHUT: This program we are talking about today is over and above everything we have put on all plants and we didn't spare these plants, so they have got a lot of work.

CHAIRMAN AHEARNE: In the information to go out, is it primarily for them to collect information that they have, or do they have to dig out and give it to you and you do the analysis, or have you shifted over to asking the licensee to do the analysis?

MR. EISENHUT: We sent out guidance letters where we

broke all the topics and all the plants into three categories, I believe. I believe it was three categories.

One is where we say we think we have enough informatio that after we look at it, the problem is going to go away. We have those where we thought the licensee would have to do some supporting work and those where the licensee would have to do a considerable amount of effort.

So we wrote a letter to him and said, these are the items. I think we had actually four subgroups, but it was essentially on those lines.

So on some we have shifted it to licensees. Yo will see one of our bottom line recommendations is that we are looking again to see whether we can shift more to licensees in the program at this point.

These are some topics where the SEP is actually doing some of the frontrunning work.

The environmental qualification we talked about, the eleven SEP plants are the first plants being reviewed and they are the lead for all of the other plants. Safe shutdown reviews -- this is going back and seeing what you really need to shut down a plant.

This is what I mentioned earlier.

The seismic program is probably the single biggest program in SEP because from inception we identified this as perhaps the single biggest problem area.

CHAIRMAN AHEARNE: Is this because the NRC's regulations have developed much more in that area?

MR. EISENHUT: That is because four of the plants really didn't have the sites reviewed. Two of them didn't even refer to a seismic design basis. Two were designed to the unified building code and the other plants were designed to the very beginnings of what was later developed into a highly refined NRC program.

The site specific spectra program here is actually a program that is a state of the art program. It is using some 15 to 20 seismic consultants throughout the country and a panel forum to come together with a new approach that is actually a refinement on Appendix A.

It is a program which is giving us some quite definitive guidelines on plants in the eastern part of the United States. This does not address -- it addressed ten of the eleven plants. It does not address plants west of the Rockies. It is the eastern plants, that are generally in a lower seismic region, generally nothing over a .2 or .21.

In fact, this program will likely have an impact back into the process on new plants, if this methodology is fully adopted and it turns out to be one of the ways. We really try to define the sort of deterministic, imperial approach of Appendix A.

MR. DENTON: As Darrell mentioned through technical

assistance, you might name the contractors here.

MR. EISENHUT: Yes. The two principal ones are the TERA Corporation and tne Lawrence Livermore Lab. And there is a whole slew of consultants including, of course, New Mark Hall.

MR. CRUTCHFIELD: People like --

MR. EISENHUT: This is quite unique because the program that was laid out by the TERA Corporation and Livermore, because it was going to a number of something like 10 to 20 experts around the country and asking the what you really would think about the seismic design of these older plants. They actually sent this approach and got woven into the overall technical group of experts, even people who were intervenors in some of the hearings.

So they tried to get a consensus of not just those people who have been supporting plants, but those people who were actually experts in the fields of -- who had actually opposition in public hearings.

So it is a very well-founded program.

It is clearly one of the biggest.

MR. DENTON: I would just echo, it looks like a very successful program so far. It involves site visits, actual examination of the way the plants are constructed with a very large group of individuals.

COMMISSIONER BRADFORD: Darrell, you said that two of the plants, I think -- correct me if I misparaphrase it --

but were essentially built without a seismic design -- without seismic design considerations.

MR. EISENHUT: That is right. They were built, in fact, prior to the NRC's having a seismic design requirement. Two others were built in accordance with the NFI building code. Therefore, they were not built to any dynamic analysis approach either.

COMMISSIONER BRADFORD: What are you finding when you look at those four plants now?

MR. EISENHUT: When we look at those plants, up to this point in time the basic approach was to develop a, a methodology; second, develop what kind of acceleration you would expect, whether it is peak ground acceleration; and then, third, the spectral shape that needs to be used in analysis.

For each of these plants we have now, the methodology has been pretty well developed and has been generating a draft acceleration and spectral shape for for each of these plants. We are going to a meeting with each of these licensees next week and that will be the first time we will be laying upon them the results of our work, saying this is the new acceleration in the spectrum that our analyses have seen.

MR. DENTON: There are two things to keep in mind about these. Livermore did these for their own reactor. They used Appendix A, and that reactor was designed early on in the

manner in Project A. So they used Appendix A and they went to their most elaborate mechanical engineering codes for plastic deformation and concluded that they only needed to make one change.

A serial test reactor, to meet present day standards, but it was a very elaborate analytical job and the same approach is being applied here. We don't really know the outcome until you do all the calculations and see what changes.

The other thing to keep in mind is they are low power plants. They tend to be located in remote areas so in terms of their consequent side of the risk equation they are at the bottom parts of the comparison.

But we won't know until these results are further along.

COMMISSIONER BRADFORD: When do you expect to have the analysis you have done matched up with what you know is in those four plants?

MR. EISENHUT: So you can make a determination? Probably later on this year.

Let me clarify what I said before. Two of these plants did not have a seismic design input at all. Two others were designed to a static, unified building code, which is a very small acceleration.

The fifth plant, San Onofre, had a static design

also. These five plants, I should point out, have been doing considerable work.

San Onofre has spent tens of millions of dollars already redesigning work, trying to upgrade their plant. So a group of these plants -- they recognized this from the very beginning and they are doing considerable work.

We think some plants will have structural modifications. Some will have mechanical equipment modifications and almost every one will have electrical equipment modifications in order to assure that they can resist an earthquake.

COMMISSIONER HENDRIE: In the early days, Peter, where there was not any sort of organized seismic design basis, even if your spec for the design jobs that mention it, the structural people pretty generally would throw in some static horizontal forces, a la the Unified Building Code, which would cover seismic and some wind bloating, amplified wind bloatings, and things like that.

And because of the generally conservative design practice in structures, that turns out often not to be too bad.

I can remember when the first Brookhaven Graphite Reactor was designed in late -- I guess it was 1945 or the beginning of '46. They sought advice and received a letter from a very eminent and ancient Jesuit seismologist up at

Fordham who, among other things in his letter said, "I can assure you on the highest authority that there is very little seismic activity to be concerned about on Long Island." I said, by George, you can't do any better than that.

(Laughter)

COMMISSIONER HENDRIE: Nevertheless, there was a twentieth of a G unified building code put into the structures. But when you get things like equipment qualification, at the present time you have a seismic design basis and you have got a piece of mechanical or electrical equipment that is important to safety.

You have to go put it on a shaker table and shake it with a prescribed spectrum and see if it holds up.

There was nothing like that contemplated in those days, so the mechanical gear, the electric gear, it was whatever good quality industrial instrumentation and mechanical equipment was designed to in those days. It didn't have that kind -- it certainly didn't have seismic --

COMMISSIONER BRADFORD: In the case of the two that didn't have the seismic factored in, is that like saying they were built, in effect, on the assumption there would be no earthquake?

MR. EISENHUT: No. At the time they were built, which means, if you look at some of these plants, they were designed back in the late 50s. That wasn't one of the

considerations.

MR. DENTON: I think it means you can't find that the AEC gave any attention to this and they were probably built at that time. Good practice for hazardous structures, suc as dams, intended to follow that kind of industrial practice.

But the AEC didn't get into the review at all.

The same way with floods.

COMMISSIONER BRADFORD: What is puzzling me, I would have thought that somewhere you would be able to find that they used some kind of acceleration factor regardless of where they got it.

MR. EISENHUT: Two of the plants even predated that. The others were like the .02 G that Dr. Hendrie just mentioned.

COMMISSIONER HENDRIE: I expect that in order to find that, you see in those days there wsa not the requirements for the sort of documentation of what you put into your design that there is now. Now we have requirements. Now you have to keep documents and show that you met all the requirements, and so on.

In those days, the chances are that the project owners, the people who are buying the plant, simply didn't even ask their engineers, what was your basis? They went to an engineer and said, I want a building. And the engineer sat

down as a competent professional in the field in the context of the practice at the time. I dare say that the structural people cranked some things in there to provide themselves elbow room. But I doubt very much it is documented.

The only way you would ever know is to go back and find the chief designer of this or that and the other thing and ask him if he could remember what he put in there.

MR. DENTON: The intent of this program was --

COMMISSIONER HENDRIE: That doesn't mean that the steel and the concrete may not be pretty good, but you don't have a paper trail that you can follow along.

COMMISSIONER BRADFORD: The business of verifying that against what the program is coming out with obviously will be quite a challenge.

MR. DENTON: I think this program is going at it the other way. It is really what is there and how they have their supports and piping arranged in estimating and comparing that with what Appendix A required.

MR. EISENHUT: It is really doing both of those. You want to look at the existing plant, the existing concrete and you want to estimate what it will take. But if it can take X amount, you have to look at the regulations and say what would the NRC's present current approach require? Not to state that it would require something much greater.

So it is a very difficult job, particularly in this

area and there is quite a large gap.

MR. DENTON: Even the mechanical codes have changed. It used to be SEY, SP3. I think this is why we have such an elaborate array of consulting assistants in this area. If there is anything to do with seismic reviews, even any modern plant is complicated and doing over a plant that wasn't built with that in mind is even more difficult.

MR. EISENHUT: Just one other thing on this program. There are other things coming out. In passing on the seismic program, for example, when the teams have been going to sites and requiring a look at the design of the plant, you get some spin-off effects.

For example, after looking at some plants they found with the DC power supply that the batteries in the plant were sitting on battery racks. In these old plants, they didn't think of bolting down the batteries. They didn't think of bolting down some vital equipment, of putting restraints to hold down. Some pretty simple things that you know are going to have to be done, regardless of how this program comes out.

Those kinds of things. We have issued information notice to all operating plants, not just the SEP plants, but we have said, you ought to look at these things and you ought to consider -- we went to everyone.

These are the kinds of things that have spin-off effects.

CHAIRMAN AHEARNE: You will be sending out some sort of a bulletin which will say, batteries ought to bolted down?

MR. EISENHUT: Things like batteries are, in fact, bolted down so there is a good chance they won't fall off the racks with an earthquake. We felt at one plant there was a good chance that they would.

CHAIRMAN AHEARNE: Let's take that one plant. Is that telling it that it should, or is it saying ---

I'm not clear what you are really telling us.

MR. EISENHUT: The item that went out is saying that you should look. We have asked them to follow up to be sure that they are looking, letting them follow up and do the job.

On plants that we found that there really is a problem we are pretty much telling them, but it is an informal telling them at this juncture, though.

We haven't issued an order, or anything like that. It says, put on bolts and bolt down your equipment. We are trying to wait until we see the overall program, but we sent them a formal letter which said this item we don't think you should wait until the end of the program.

MR. AHEARNE: You have formally told them, for example, that they have to bolt on batteries?

MR. CRUTCHFIELD: We have asked them to survey their facility. They have come back to us in many areas and said, we seem to think we are satisfactory. We have a great number

of bolts there. I have notes on the bolts, and things like that. In other areas, they think they are weak.

Right now, what we are doing is assessing what we have received back on all eleven plants. Then we will be going out with instructions as to what action they are to take.

MR. EISENHUT: On the batteries, for example, the first site they were found --

MR. CRUTCHFIELD: I think the batteries have been taken care of.

MR. EISENHUT: So it is an informal exchange. We try to get licensees where every time they find something, say we ought to can it.

CHAIRMAN AHEARNE: There will be --

MR. EISENHUT: There will be a formal way at the end of the program.

CHAIRMAN AHEARNE: You will be sending letters back out to the SEP facilities saying here are the things you have found in that review that ought to be fixed.

MR. EISENHUT: Yes, that is our intent and they will all be on a nice, neat document at the end of the program.

I won't go through the rest of these. I will just mention the last one. That was control room habitability. That was an item that was identified under the SEP program that, coincidentally, came out as one of the action items

under the post issues also. This was an issue on the SEP program that was identified even prior to that.

This is just the tightness of the control room.

Can I have the next slide?

Program difficulties. I would just mention a couple of these.

It is a difficult program, as you can imagine. When you find a deviation is actually when your work really begins and you have to really assess those deviations. The designs are different than current plants. That is, some of these eleven plants are really unique. Reviewers quite often are not familiar with these kinds of plants.

So the person who has been doing a lot of review work on this modern vintage plant has a really difficult time going back. It is a learning process for that plant.

I have already mentioned that licensees are not aggresively pursuing the program and Harold mentioned that they had considerable amount of competing activities over the years.

CHAIRMAN AHEARNE: Darrell, you say, as you mentioned before, it is viewed as an NRC program. Are we doing anything to dissuade them of that view?

MR. EISENHUT: On the next slide, I might address that.

CHAIRMAN AHEARNE: Wait. Peter had a question.

COMMISSIONER BRADFORD: You mentioned this problem of reviewers having to accustom themselves to these older plants. In the course of your reorganization and just general turnover, you must have had a fairly high turnover of people involved in the program as well.

MR. EISENHUT: Yes. We had a considerable number of people who previously were assigned to the program who will not be -- but you will see were addressing this third bullet up there.

MR. DENTON: To one extent, Commissioner, that was deliberate. I was concerned that we were building up a group of people who were wiling to say that the plants that met less than today's standards were okay for some technical reason and another group in the same technical discipline who were insisting that today's standards be applied.

We tended to put all of those technnical people together in the very specialty branches and I want to have a corporate memory in those branches that we have a plant of varying designs. And I thought by building up two technical groups, one of whom could approve the system one way and another group who could view the system another way, we would eventually lead to major conflicts between those.

So I hope, by putting them together, they will be able to rationalize more fully.

CHAIRMAN AHEARNE: Are you saying, Harold, that you

are no longer going to have a separate group of people looking at SEP plants?

MR. DENTON: We have about half the people who are looking at SEP plants are still together. The other half we put back into a technical home where it may not be the same reviewer.

CHAIRMAN AHEARNE: So you are saying, instead of having all the people working on SEP on one group, you are having some of the people still working in SEP in that group and, in addition, you will be pulling people out of these other centers to work on SEP?

MR. DENTON: Yes.

For an example, to pick an example, in the structural seismic area, there is still one person working for Denny in the seismic design area, but he is getting assistance in geology and seismology from that branch, for example. So rather than have a geologist just assigned to SEP plants, we debated back and forth which way to handle that, whether to dedicate people or to go the other way. And I guess we have gone about halfway towards putting everybody back in the technical home.

COMMISSIONER BRADFORD: What is the relationship between the SEP Branch and what I guess is the SPE Branch, the Safety Program Evalation? The latter is developing criteria across the board?

MR. EISENHUT: The Safety Program Evaluation Branch is a branch that is more looking at the overall business. It looks at any new requirement.

For example, it is the built-in process to insure that new requirements, whether they be on an old plant or a new plant, et cetera.

MR. DENTON: I didn't pick up and jump to the other division. We do have a program now in the Division of Safety Technology that I hope will perform the functions at the branch level that the ratchet committee used to perform, that whenever any division initiates a new requirement or thinks up a new way to improve his particular discipline, we go over to that branch under Roger Mattson, and that will be looked at for impacts in other areas, and total risk improvements and Mattson would endorse it.

It is a permanent ratchet committee that interacts with standards and ACRs and then comes back and does it. That is different than the small branch of dedicated professionals who are still working with SEP plants.

COMMISSIONER BRADFORD: Right.

What I am trying to get at, though, is at some point the question has to arise once they have made a decision that something ought to be back here, whether that decision would apply to the SEP plants as well.

Are the SEP plants treated any different with regard

to decisions of that type than other, older units.

MR. CRUTCHFIELD: I think, in general, we have tried to historically take the R3C, category 2 and 3 positions, which were backfitted on a case by case basis and forced back, if you will. We factored them into these eleven facilities.

I would foresee that we continue on that proposal with respect to continuation of the SEP. New postures and positions that come out of this group will them be fed back into the SEP group with applicability to these older facilities.

COMMISSIONER BRADFORD: What then becomes of my reasoning that one doesn't want to impose too man ad hoc changes on the SEP plants as you go along because they are going to have to be sort of major, far-reaching changes.

MR. DENTON: I think that consideration is still there in certain areas and some of these backfitting issues will probably be addressed through bunkered systems where they will be solved in one complete redesign and many of the isolated problems.

If you take one like the show technical advisor, that is an easy one. They can put that one in. So there are a number of plants, I think, that are considering bunkered systems that will have to design a whole new tray of safety systems to encompass all the new requirements.

MR. EISENHUT: So far, we have laid on all these new

operating plants, including these eleven, all TMI issues. We haven't given SEP relief on any of them.

One of the things they would like to request is rather than put in some of those post-TMI fixes, they would like to consider looking at the SEP, looking at an integrated, brisk assessment, and then deciding on what needs to be fixed in their plant and maybe going to something like a dedicated shutdown system where rather than fix up systems A, B, C, D, F they would give us a brand new one and add on one brand new system with its own source of water, its own power supplies, capable to do the job which could help out all of the systems.

MR. DENTON: I think the answer is, we have not bent the system. We have backfitted some things that they would have preferred could have been dealt with in a larger context and some things we have agreed in the larger context. It is almost case by case specific.

If you look at each plant, there is a different ensemble of issues to be solved. There is one plant that is proposing -- and maybe you should turn to that next slide -- to do an integrated risk assessment.

CHAIRMAN AHEARNE: What happened to NRR manpower?

MR. DENTON: We have problems with that one.

CHAIRMAN AHEARNE: Back one slide, please.

MR. EISENHUT: Budget assumptions are 32 man years of effort devoted to the SEP program. That has been effect

since 1978, FY 1978. In FY '78 there was considerably less than 32. It started picking up a little bit in FY '79, as you can see on the slide.

FY 80, there is -- it looks like it dropped off in FY 80. But there is a mistake in the computation on FY 80 because 13 did not include an overhead factor and really what it is, it is in fact the information we have for FY 80 is that it is right on the money. We are expending it at almost precisely the rate at which it should be.

In fact --

CHAIRMAN AHEARNE: Are you saying 16 for the first half?

MR. EISENHUT: It would be equivalent to 16 within a fraction. That is reflected because, as Harold mentioned, about last July was when we made the decision to, in fact, take the individuals and dedicate them to the program.

MR. DENTON: That is when we dedicated the resolved safety issues. Since that time it has been getting about the right manpower.

CHAIRMAN AHEARNE: The logical next question is, you are saying when you concentrate all in one place on getting the right manpower, but your decision is not to put it all in one place.

Continue.

MR. DENTON: The manpower now is assigned to the SEP

but it is not all reporting to the same branch chief.

CHAIRMAN AHEARNE: I think what Darrell has just pointed out is that when they are all in the same branch it is clear that is what they will work on. When they go to other branches, which is now part of their job, apparently -- what are you planning in FY 81?

MR. DENTON: In FY 81 I think it is the same level of effort. The original effort was to complete this.

MR. EISENHUT: It is essentially the same. I think the real answer --

MR. DENTON: It was to continue the same level of effort until we complete all of these same eleven.

CHAIRMAN AHEARNE: How many are in this branch?

MR. CRUTCHFIELD: The SEP branch has ten professionals, two section leaders and a branch chief.

MR. EISENHUT: So it is essentially 13 out of 32. There is a standard conversion factor of 1.4.

MR. DENTON: If we really wanted to do it the other way, then we would take these people who are assigned here and put them all under Denny and have a 32-person branch.

CHAIRMAN AHEARNE: I was just trying to make sure I understood it.

MR. EISENHUT: The real difference here is we tried it in FY 78 to get it the way we were proposing, but there is a difference. In FY 78, we said that we would have people

assigned and we gave the branch chief some flexibility on who that assigning could be.

The thing we didn't do was, we didn't move up in the division's organization and hold the division management accountable.

For example, we are going to have a pretty firm tracking system to see that the manpower is coming out of the system if it doesn't get out of these other divisions, the division's management and the accountant.

MR. DENTON: What I really hope will happen, if you take degrees like mechanical engineering, I would hope that branch chief would realize he is responsible for operating amendments, day to day fire drills, SEP-resolved safety issues.

We have given him resources to do all of these tasks that we have said we are going to do. And he has to juggle -- maybe decide who is the right person to do which task. But his net line-up each month will be to put that much effort into each one. So he should be a little more efficient than if we had dedicated it out and had no flexibility.

But obviously we have got to watch each branch to be sure that it doesn't all get gobbled up and tomorrow is a fire drill exercise.

And we have put in place a reporting system that should do that.

CHAIRMAN AHEARNE: That reporting system is one --

MR. DENTON: We are starting but like we did the SEP program. The caseload is to look at each two week period to see if we are actually getting that much work on operating reactors out of each branch as we budgeted and we are going to do the same thing for our unresolved safety issues, SEP and so forth.

We get all the data in these manpower reporting systems. It is just a matter of breaking it out now in the right order.

MR. DIRCKS: You might pass that around.

MR. DENTON: That is aggregated data. You need to check it branch by branch.

CHAIRMAN AHEARNE: All right.

Now, since you had also mentioned that you have a fairly sizable contract effort in this, how is your money breaking out?

MR. EISENHUT: Basically it is about $1 million. it is going to continue to be administered out of the systematic evaluation program branch itself where there are ten professionals.

CHAIRMAN AHEARNE: Is the '81 money also being resolved?

MR. CRUTCHFIELD: It is in three similar ones. It is a bit rough.

CHAIRMAN AHEARNE: So that is decreasing the level of effort?

All right.

MR. EISENHUT: If I could go back to the last slide, just to wrap it up, we state here that we consider this to be a high priority program. We are shooting for completion in April of '82. We are, as we mentioned, considering having committed full-time reviewers, these other bodies that are setting the branches wherever they are setting. We need to know who they are. They would be committed with their management and their counsel.

We will be looking at plants as we go down the line. We will have 80 or so draft safety assessments. You will have to integrate that together.

There will be two things that are integrated as project power manager, although we don't have him on board today. That is one thing we will be recruiting for, filling some positions.

MR. DENTON: I think we will find it necessary that once we get a good number for each plant to have a person who is full-time then trying to integrate the places where that doesn't perform without having an individual discipline do it, because if they do it it would violate one of our original charters to try to do it all at one time.

The project manager assigned in the old plant, for

example, in any of the eleven, has a full-time job anyway dealing with the ongoing amendments and the ongoing action plan items and so forth.

So I see the need, as we make headway on the particular SEP plant, to assign one project manager with a full-time job to take these inputs as we get them to show areas and continue with that plant until he has documented th entire plant.

So that would be like eventually eleven more people that we have budgeted for during that time phase when it has a high pay-off.

MR. EISENHUT: We are also considering different alternatives to the program. That is putting more burden back on licensees very specifically, in specific areas, not just a broad brush program -- especially where we are getting it down to the point where it is becoming more finetuned in the major problem areas.

CHAIRMAN AHEARNE: Is that in any way responsive to the ACRS or is it more gee, I believe it is now time to do that?

MR. EISENHUT: Even before we had the ACRS letter we were thinking of doing that, over the last year. You are very familiar with other problems. In 1979, the licensees were extremely busy with seismic matters and then there was the wave of post-TMI matters.

MR. DENTON: I think it is really the change in the perception of burden of proof. Before TMI, it was kind of on the staff to prove that there were some defects in the design.

MR. EISENNUT: It has also proceeded far enough along to where you are able to do that. Now we don't just send out and say, review these 1500 topics.

I think we would be able to point them in the direction we want to point them to. These are the things where the biggest safety pay-off is, and I think that is the difference.

COMMISSIONER GILINSKY: When this program is completed, will these plants then be roughly on a par, at least in terms of documentation, with the other plants in our system? Where will that put them?

In other words, after that point, will we be able to deal with all the plants uniformly? Or will we still have to --

MR. EISENHUT: There will be still some in the middle. Remember, when we started this, we thought we need to get these eleven up to the par where they are either on the par or there is a documented record. Either they meet a requirement or they don't meet it, and if they don't meet it, here is why, so you don't continually go through question after question concerning the safety adequacy of all plants.

When these eleven plants are done, plant number 15, of course, still has some questions about it and plant number 20 because it wasn't a stepwise process. It was of an evolving nature.

COMMISSIONER GILINSKY: Where do you see us going after this?

MR. EISENHUT: I think what we will have to do, we will have to look at -- this is called Phase II. We will have to look at it and assess where it is.

Personally I can't see going through, even though there are a lot of merits to a systematic evaluation program, perhaps the POL to FTO record that was needed helped drive it. I really can't see going through 137 issues on all of the rest of the 70 operating plants because I think the safety play-off, the real physical improvement in plants, just isn't worth it.

We may have a lot of difficulty with people asking questions, but I think we will just have to figure a way around that, that if you go through these eleven plants on some of the topics and you find that what is there is adequate, it is likely that the rest of the operating plants are also adequate in that area.

MR. DENTON: We will postpone a decision on where to go from here until the results become clear and it might be in some areas we would decide that if they were adequately

addressed, unknowing to the AEC in the earliest plants, they probably were addressed that way from there on.

But if we find areas where they were not, we will have to keep plugging away on the later plants until we find where the trend changed.

But I think in general there is a lot of sentiment today for a national reliability, a national risk assessment approach where eventually we would have to be able to specify the type of risk assessments that would be valid and useful results, and really focus the results plant by plant in order of the highest pay-off areas for improvements.

CHAIRMAN AHEARNE: Following that, will you mesh with the other program?

MR. DENTON: The IREP program was intended to disclose how best to approach the entire population.

CHAIRMAN AHEARNE: But it still eats its way through plants.

MR. DENTON: The original IREP program was going to be six plants. Hopefully that will teach us what to ask for for all plants.

CHAIRMAN AHEARNE: But for example, would you see in some of the states, returning this approach back to the SEP plants?

MR. DENTON: Yes. I hope some day we would be able to do something in the risk assessment line on all plants.

MR. EISENHUT: They sort of cross cut two different directions.

COMMISSIONER GILINSKY: Let me go back to a remark you made earlier, that if these plants are basically okay or don't depart too far in safety terms, we can expect that probably the other plants are okay, too.

MR. DENTON: I wouldn't want to stretch that too far. It depends on, I guess, the design and the vendor and the ASME.

COMMISSIONER GILINSKY: I understand that, but just as a very general proposition you were making the point earlier that, in terms of possible consequences, these are the low end of the scale. They are small plants, if nothing else.

Now, as you go up in the CP number, the plants both are more increasingly conformed to current standards but they also get bigger.

The question is, is their conformance to current standards, say, getting bigger?

MR. DENTON: If we have done our job properly --

MR. EISENHUT: They should at least offset. We want to keep a uniform approach.

COMMISSIONER GILINSKY: Is it immediately obvious?

MR. EISENHUT: No. I don't think you could go so far as to say that it ought to be immediately obvious, because it is a very complicated process.

MR. DENTON: The other thing you have to look at with these old plants, too, are the operating history. That is a factor that really wasn't revved in strongly in the original part of the SEP program.

You have to ask them that. Be sure that they look at it. Not just the design per se, but we have 20 years of history on some of these plants.

MR. EISENHUT: One of the principles early in the SEP -- this is in fact the way probability got there in the first place, even though you migth not be able to show that something is very reliable. You have 20 years of data in that particular plant.

In fact, that has been factored in to a number of the items.

CHAIRMAN AHEARNE: Since a lot of those plants go back many of those years before the AEC or the NRC were asking for live data to be supplied, don't you have to get a lot of that information out of licensee records?

MR. EISENHUT: You have to get it from the licensees, yes.

CHAIRMAN AHEARNE: Have we done that?

MR. EISENHUT: Yes.

Where we have the question we ask the licensee -- we made it very clear in our opening letters. That is one vehicle operating experience of the facility, so utilities can

go back and they have those vehicles. It is optional to them.

CHAIRMAN AHEARNE: But we haven't actually asked?

MR. EISENHUT: We have, in some areas.

MR. DENTON: Pre-TMI there was the idea not to burden them with this. There was this exploratory on our part.

I would like to ask them if they are going to do that for us.

CHAIRMAN AHEARNE: Our point was we are obviously agreeing that you have an old plant. It is going to have a lot of data available. I doubted that it was -- it wasn't sent to us. You'd have to ask them for it, because they may not even have kept it.

MR. EISENHUT: Most design information is not sent to us either. That is why when someone starts working in one of these plants, it takes the first six months to basically get acclimated with the plant and get aware of the information.

MR. DENTON: That is why I like the idea of a prescient manager on this plant, to do this integration so you are not just looking at technical isolation, bits and pieces of the entire plant, but someone who can say, considering all of this together, and what I know about the design, the operating industry, the site, where does this whole plant stand and what needs to be changed should be changed first.

I don't think we will get it if we just have one project manager per plant, because he is really burdened down with ongoing activities.

MR. EISENHUT: That concludes our presentation.

CHAIRMAN AHEARNE: Joe, do you have anything?

Peter?

COMMISSIONER BRADFORD: One of the things that concerned me is about the program, as we have been wrestling with the fire protection and environmental question separately, was the way in which it seemed that the SEP plants for other reasons than one might have thought would be the areas of greatest concern, have turned out to be the plants which were hardest to bring into compliance.

The point was made that they had been told that these would not be applied to them until the end of the line.

Is that a problem in other areas as well?

MR. EISENHUT: Let me make sure that I clarified that.

We didn't tell the licensees they did not have to fix fire protection into the program.

COMMISSIONER BRADFORD: Go ahead.

MR. EISENHUT: We had 70 operating plants that needed to have a fire protection review. Rather than do the eleven SEP plants first of the 70, we made the last 70 but still part of the program only because we had laying next to

it an SEP schedule where we wanted to get the maximum benefit of the fire protection reviews and the SEP seismic reviews, safe shutdown reviews, and call for them to come together at the same point in time.

So if you had brought first the fire protection reviews first, we would wan. to go ahead and fix those plants. We wanted to have the two converge together.

We did not give the SEP plants relief on fire protection matters in any other way.

COMMISSIONER BRADFORD: I understand. I am not even sayng that was an irrational way to go about it.

The business of trying to get all the problems fixed up in a halfway coordinated manner, but the concern that one comes across there does leave it in the oldest plants we have we have some of the longest running deadlines as far as coming into compliance.

And I just wondered whether they were -- I suppose seismic is another area.

MR. EISENHUT: The only item that I can remember which we actually put last in the program was in fact fire protection because we thought -- and in fact, there is a benefit there that you end up with a better fire benefit program than in the past because, just based on fire protection, none of these plans, we would expect, would be required to have a dedicated shutdown system. Just fire

protection would not drive them there.

We faced ourselves the question, does the situation look bad enough with respect to fire protection required, and the answer is no. But when you take that in connection with a lot of other considerations, the answer may well be that you are looking for something better in the long term.

So we really didn't forego -- if you find the major problem, if you remember back from the objectives, one of them was that you had to have, built into the program, a system that if you find a major design deficiency or a major problem, you go ahead and fix it. Environmental qualifications is a good example.

The utilities, all eleven, all argued very strenuously that they thought this was contrary to the SEP philosophy. Our answer was we think it is important enough to be contrary to the SEP philosophy.

The LaCross liquefaction was another, so there were a number of them where we decided to put the fix in place before the completion of the SEP program.

COMMISSIONER BRADFORD: What is the role of the resident inspectors in the SEP scheme of things?

MR. CRUTCHFIELD: We have been utilizing them to help us in utilizing capability of the licensee -- how good he is performing and using him to help us locate where information is. We may be overlooking that, so we can keep in

touch with him through the project management side as to what is going on at the facility that could impact the SEP efforts.

CHAIRMAN AHEARNE: Any more questions?

Joe, Bill, do you have anything else?

MR. DIRCKS: We could have another crack at this program --

COMMISSIONER BRADFORD: I have another question.

In terms of a sense of priorities, where does this fit in in the current NRR. If you had $5 to allocate $1 apiece in five areas, would the SEP program be --

MR. DENTON: It is both casework and OL and CPs so it is up there with operating amendments and unresolved safety issues.

MR. DIRCKS: It wasn't touched during the scouring of the resources for the action plan financing which is something, because resources is almost everything.

So, to that extent, it was held apart and given that priority that we wouldn't even touch it.

CHAIRMAN AHEARNE: I guess in running back over some of these whole things I have found the notes I have made from August 3rd of 1978 which clearly predates it, that -- and at that stage, there are -- and what you have said was that SEP was identified as second in priority for NRR.

MR. EISENHUT: That is right.

CHAIRMAN AHEARNE: The first was other problems.

So I guess my only concern would be that as one of the problems with each of the shifts of the organizational type structure I am sure carries along with it a good rationale of why that is the right thing to do.

There was a notice in here in July of last year which had a different organizational structure with a good reason why it was the right thing to do. Now there is a good reason why this is the right thing to do, and I am not taking any disagreement with that.

But, of course, one of the problems with the constant shifting organization is that people are trying to run the program.

They have difficulty keeping track of what it is they are trying to run.

As you have pointed out, these are the eleven oldest plants and are the most difficult to review, but they are obviously ones that the Commission in the past, and you in the past, have indicated they are ones that must be done with very high priority.

I hope that in another six months, or in a year, you will actually reach that conclusion of the effort rather than another set of changes.

I recognize that it is very difficult.

Thank you for the information.

(Whereupon, at 3:45 the meeting was adjourned.)

This is to certify that the attached proceedings before the

NUCLEAR REGULATORY COMMISSION

in the matter of: Discussion and Vote on Briefing System and Evaluation Program

Date of Proceeding: May 6, 1980

Docket Number:

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Marilyn Shackey

Official Reporter (Typed)

Marilyn Shackey

Official Reporter (Signature)