NUCLEAR REGULATORY COMMISSION

ORIGINAL

COMMISSION MEETING

In the Matter of: DISCUSSION OF COMMISSION PROGRAM TO REVIEW OPERATING LICENSE APPLICATIONS

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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DISCUSSION OF COMMISSION PROGRAM
TO REVIEW OPERATING LICENSE APPLICATIONS

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Room 1130,
1717 H Street Northwest
Washington, D.C.

Monday, September 8, 1980

The meeting was convened at 4:05 p.m., pursuant to notice, before:

JOHN F. AHEARNE, CHAIRMAN

JOSEPH HENDRIE, COMMISSIONER

PETER BRADFORD, COMMISSIONER.

For the Office of General Counsel:

LEONARD BICKWIT

FOR THE NRC STAFF:

HOWARD SHAPAR
EDSON CASE
HAROLD DENTON
KEVIN CORNELL
MR. HANRAHAN
DARREL EISENHUT

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P R O C E E D I N G S

CHAIRMAN AHEARNE: The Sunshine Act requires that there be no short notice of a meeting voting to held on less than one week's notice, and there will be two subjects discussed. One may be able to be covered very quickly.

The two subjects are discussion of the Commission's program to review operating license applications, and discussion, and at least as was listed, vote on Sequoyah full power operating license.

Without committing to what will actually happen, I'd like to get approval to hold this meeting, on less than a week's notice.

COMMISSIONER HENDRIE: Aye.

COMMISSIONER BRADFORD: Aye.

CHAIRMAN AHEARNE: Since the notice of meeting was scheduled, as I just indicated, I thought perhaps we could probably eliminate one issue very rapidly, because I understand we are not going to get to a vote on the Sequoyah full power operating license today, independent of what the resolution is. For those of you who might be here thinking that is the case, I thought perhaps we could resolve that issue initially.

I had a note from Commissioner Gilinsky, that is passed by his assistant this morning. It says, "Commissioner Gilinsky requests ample notification of any Commission meeting this week on Sequoyah licensing case, so that he may return from travel to participate in any such meeting."

I gather, therefore, that he would -- it's a formal request that there not be any vote taken until he does return, and as I understand, he's not returning until next week. So I have been informed, at least, that I could not get a majority of the Commission present for such a vote, and so that will not be on the agenda.

COMMISSIONER HENDRIE: Is that clear to me, Len? Would you explain that?

Let me just say that it has certainly been the practice to respect an individual Commissioner's wishes where he wants to be present at a meeting and asks please to defer a vote or something. As best I can recall, I think I respected that prerogative uniformly. I don't remember, offhand, writing it down. But it is not in the least clear to me that the laws of the land and of the Commission would prevent a majority of a quorum of the Commission legally gathered in meeting to go ahead and do what they will.

CHAIRMAN AHEARNE: Joe, you misunderstood my statement, so therefore Len wouldn't be answering it quite correctly, and my point is I do not believe we would have a quorum.

MR. BICKWIT: That's the way I understood it.

COMMISSIONER HENDRIE: Peter can withdraw or as Chairman, you can say you would not vote, or move to force a vote.

CHAIRMAN AHEARNE: So, therefore, there would not be a

quorum, so the issue cannot be heard.

COMMISSIONER HENDRIE: Very nice.

CHAIRMAN AHEARNE: I would expect that perhaps if some time next week we do end up with a quorum, then we might be able to address it.

COMMISSIONER BRADFORD: Victor's note did request a willingness to return later in the week.

CHAIRMAN AHEARNE: Given ample notification, but we had two hours' notice of this meeting, and so clearly three days is not ample notification.

COMMISSIONER BRADFORD: Well, I haven't explored that with him, but it seems to me at least possible he'd be prepared to return at the end of this week.

CHAIRMAN AHEARNE: That might be. I do not know. He was not scheduled. So, independent of that, let us then move to the other issue, which is at the end of the meeting on Sequoyah last week, Mr. Bradford had indicated that he would be unable to address the Sequoyah license until the Commission specifically addressed some concerns that he had laid out in a series of memos, latest memo being one that he had written on the North Anna Unit 2 case.

Those memos refer to a number of steps that he wished to have the Commission, as he explained last week, at least explicitly address, and they then also referred back to a memo from Mr. Denton, referring to a list of five steps that he

believed would be necessary to respond to a series of actions that the Commission asked him to consider.

Peter, before Harold begins, would you like to expand on that?

COMMISSIONER BRADFORD: Let me just take a minute, John. You have summarized the innards of it perfectly fairly. The outer skin looks like this:

We have of course, Len's memo saying that we have reasonable assurance that the Commission regulations are complied with and from that, of course, would flow reasonable assurance regarding adequate protection of the public health and safety, based on this chain running from Staff experience to the standard review plan, to the regulations.

What is concerning me is the number of missing links in that picture, and they are laid out in the memoranda. Behind that, the practical significance in terms of what is troubling me is that every time events or a petition or what-have-you compel us to take a close look at what really seems to be going on in plants, what we find is not consistent with the reasonable assurance that we are told that we can extract from the review pattern.

By that I have in mind the equipment qualification situation, the TMI accident itself, the problems with seismic design, the QA/QC programs recently. There is something in the difference between what is actually occurring in the plants

and that which we are told we have reasonable assurance of, such that when we actually place our reasonable assurance up against the facts, we find that we have reasonable assurance of something very different from what actually exists.

To me, that is very troublesome, and it's not a situation of an effective licensing and regulatory posture that should be tolerated or continuing indefinitely to license in the face of.

The only way I can see to bring that to a halt is in effect to fill in the missing links, and to tighten things up to the point where what we are basing our assurance on is a much clearer picture of what is actually out there, and my memos and proposals are intended as steps in that direction.

CHAIRMAN AHEARNE: Harold.

MR. DENTON: I think we are prepared today to address the innards. I am troubled also by the fact that we continue to find things which are not as we thought they were.

Now, if you step back from the review process and step way back, we do rely on the thousands of engineers who actually design these plants, to follow good practice, meet codes, and we establish the requirements and we audit to see that it is there.

It has been a consistent pattern, I think, that when there is a problem and you look deeper, you can always, with hindsight, say, "How did we permit fire protection devices like

that, or control rod drain lines, to go in like that?"

COMMISSIONER BRADFORD: That's one I didn't mention.

MR. DENTON: Any engineer could have designed a system to have presented that, if you had thought about it longer. I'm not sure the solution to that is more or larger regulatory staff, because we will never equal probably the size of the AEs who do that, or we shouldn't try to.

I think the moves we have made toward making the utility management responsible and having enough technical competence themselves, that when they buy these plants, they get the product they expect, that probably the safest plant or the safest plant design, I think probably already exists somewhere. It's probably a combination of this system from one plant, and the system from another plant, and the system from another plant, reflecting the competence of the engineers who designed each one of those individual systems, and how careful they were.

And all these systems may meet our requirements, but many of the systems do a lot better job of meeting our requirements than others. So I can talk today about improving our audit and documentation of these areas, but the fundamental issue you seem to be raising, I think, goes beyond even the topics we were talking about today of the audit. It really goes, I think, more to a topic that came up at the IEEE-NRC meeting this spring, in which a mass of representatives, FAA,

military, as well as utility people, contrasted the tendency of the utilities to buy products from people without a lot of review, and pass those designs right into the regulatory group, as opposed to when NASA or the military buys a product, it gets in-detail review of an engineering nature, since they are the customer, at every step along the way.

We have had a few initiatives trying with some utilities to make them undertake this initial responsibility to assure the product they are getting from the architects or nuclear steam system supplier really does look at in depth and meet all of our requirements, as well as theirs, and industrial codes and good practices.

It might be that reorientation is in the long run, with the utility really having the technical competence and strength to be sure the product that's being built complies.

COMMISSIONER BRADFORD: Well, I would be the first to agree that there may be other links in the chain more important than the ones--

(Laughter.)

-- I have picked up on here. But it has seemed to me that there are -- the areas I have pointed to are ones that illustrate shortcomings in our own knowledge of what we have approved, what's actually out there, and how they relate to the regulations and the reg guides.

As you say, there are a whole set of other steps

beyond there, and the most important interface may be the one between our process and the one you have just been describing, at least from our point of view the most important, in that it would then enable us to ascertain the extent to which the industry had improved its construction practices, procurement practices, whatever it is that leaves you with drainage problems in the control rod in one plant and unqualified equipment in another.

But, anyway, this was my starting point.

MR. DENTON: Well, thi. had its beginnings in a memo from the Commission, I think, back in May that asked what would it cost in resources to document and justify departures from any regulatory type guidance, and we answered that in the memo with the five steps, and that really shouldn't be seen as my proposal as the most productive way to go.

COMMISSIONER BRADFORD: No, I'm afraid I misconstrued that at the last meeting. I think it was your description of what would have to be done, more than something that you urged upon us.

MR. DENTON: We have since rethought this issue and have a proposal -- have something we can talk about today as a direction we would go. I have a memo describing how we would propose to go in response to Bingham, that is on its way down here, and you haven't seen it.

So what I would like to do is to talk about

in general about how I think we could respond to your thoughts 2, 3, 4, and 5 of your memo.

CHAIRMAN AHEARNE: By that, you mean, Mr. Bradford, North Anna.

MR. DENTON: Yes. 4 was done. Five we are certainly committed and have a group specifically formed to carry out the improvements and tech specs. So I think it's really items 2 and 3 that should be the real focus of the review.

What we see as being needed and what would have a safety payoff for the plants that are in operation would be to revise, as I indicated in my earlier memo, revise the state of review plan, so there is a confluence between the regulations and the standard review plan, so we are sure that each of the review areas and each of the regulations is picked up in their appropriate review areas, and reference the latest reg guides, and sweep in branch technical positions or any other action plan items that may be appropriate. So that we're starting with a review which can establish the one-to-one correspondence between what our review does and what the regulations require, so we can document that.

COMMISSIONER BRADFORD: Harold, let me just ask this question about the standard review plan. I understand, with the possible exception of General Design Criterion 51, you have some degree of confidence that the safety significant regulations are picked up in the standard review plan in one way

or another.

COMMISSIONER HENDRIE: Even 51 is picked up in the review areas. It just doesn't reference the one that is explicitly mentioned somewhere as an acceptance criteria basis or in the evaluation.

COMMISSIONER BRADFORD: Now since the standard review plan was not prepared specifically against the regulations, it seems to me you might get two areas of gap. One is that you would have regulations that weren't picked up in the plan. That you say you're reasonably sure you don't have.

The other would be that the plant itself representing the type of thing that needs to be done to assure a safe reactor led you to review areas that are essentially not covered directly by the regulations. In effect, does the plan suggest areas where there should be regulations, that there aren't?

MR. CASE: I don't think that's the case. There's another point that has to be touched in this -- what we are calling it, revising the standard review plan. One mentioned in the General Counsel's memo merely the fact that a general design criterion is referenced in the standard review plan does not necessarily mean that all aspects or requirements of that GDC have been covered. So we will have to check that in upgrading the standard review plan, too.

MR. DENTON: Our standard review plans vary widely.

There are some regulations such as Appendix I which are very explicit, and we do essentially have independent calculations. We don't need the licensee's input on it very much.

There are other regulations such as in the human factors area where there are very few regulations and general guidance, and we have erected already since TMI a pyramid of requirements with regard to procedures and human factors and control of design. All point back to a very brief and concise regulation, and might eventually indicate a need to be more explicit, specifically in the regulations themselves, as the pyramid grows from the bottom all from one initial regulation.

The Bingham amendment uses the criteria of the regulations of particular safety significance. We have tried several screening alternatives on that, all of which lead me to think that we ought to ask the licensees to address this issue of compliance with the regulations, using the latest interpretative document, so to speak, of the Commission, such as standard review plans and reg guides.

CHAIRMAN AHEARNE: Harold, when you say "such as," could you eliminate "such as" and explain to me when you say interpretative documents, what does that list encompass?

MR. DENTON: Well, if we had to produce it today, it would be the existing standard review plans and the existing reg guides, now hidden at a much lower level of branch technical positions, and some staff practices which may have

never been documented.

CHAIRMAN AHEARNE: When you say you would ask the licensees to review against --

MR. DENTON: I would propose as I did to take the next six months to prepare the standard review plans so they really are the interpretative guidance of the Commission, to be sure they are comprehensive and complete, where they sweep in current regulations, and any of these other less formal means of spelling out requirements.

MR. CASE: That's what we described in our August 19 memo. Now what Harold is saying is we also believe that that will be necessary for Bingham, in order to do what Bingham requires. The only difference between the two is Bingham says you only must do this on regulations of particular safety significance, so it is a subset of the job that we described in our August 19 memo. But the details, how far in informal guidance you go down, will be the same in both cases. It will not necessarily be as broad as the Bingham approach.

MR. DENTON: Now if I had this list of regulations of significant -- particular safety significance decided, I would interpret the Commission guidance document, which we would be preparing. Then I'd ask the licensees to respond and demonstrate how they meet that regulation, following interpretative guidance; and if they don't follow it that way, then explain why it's still acceptable, if it is, or whatever

basis, and that is the job that would take them, I guess -- estimates range from four months to nine months.

MR. CASE: First, it would take us about six months, as Harold indicated, to develop a list of regulations and the interpretative guidance or the revised standard review plan. Interpretative guidance, revised standard review plan, I consider to be synonymous. It would take us about six months to develop that, and then we expect it will take perhaps up to nine months for the licensees to address, so that we'd get --

MR. DENTON: I like this idea, because it tells me under which LP it is, which at the moment, when the application comes in, I've got to find resources or search through the docket, to try to find areas, if there are any, as to where the regulations may not be met in the way we think they should be met.

So I like this idea of putting the burden on the licensee, saying using the guidance memos for all these regulations, which ones do you not meet the normal way? This helps me identify right off. I will still audit behind it, such as IRS does, but it sure sharpens my process of just having 13 volumes, all of which are purported to meet the regulations.

CHAIRMAN AHEARNE: In the latter comment, it sounds like you're talking about the future.

MR. CASE: Yes, he was, but you can also use this for the SEP reviews as a guide to which areas you should look into.

CHAIRMAN AHEARNE: Well, am I mistaken? I thought the Bingham amendment referred to --

MR. DENTON: Yes, it does, and what I'm leading toward is tying together --

MR. CASE: But it requires an evaluation of those plants, John. So I'm saying it would have the same purpose in that evaluation.

MR. DENTON: I foresee, and will eventually get around to proposing here, a plan that looks like this (indicating) called "NRR Plan to Require Licensees and Applicants to Document Deviations from Current Safety and Safeguard Requirements."

That, in effect, treats them all the same, old plants and new plants, recognizing that they are in various stages. Let me just maybe carry on what I would do with a reply that came in from old plants, just for the moment, under Bingham.

I think once we got the replies in, we'd take a quick look at them all to see if there are any immediate safety problems that showed up, and where they identified they didn't use today's interpretative guidance, and the difference between what they did use and what is required today is so big, we'd have to add to them.

Once I had screened those out, then I would propose -- then my plan would be to attack the rest of them on a much more select basis, taking into account population density, date of the application, where we just knew that our review practice had changed , and old plants since that time did much better, and would have a different set of priorities, once we got over the immediacy and devised a plan to do that.

And what I would expect is there would be more payoff for the older plants, and the deviations ought to be in the same areas, where the SEP program is already at work.

COMMISSIONER BRADFORD: By older plants, you mean the older non-SEP plants?

MR. DENTON: The SEP plants who were really licensed before the general design criteria --

COMMISSIONER BRADFORD: Am I wrong in thinking that the SEP itself will have done most of the work?

MR. CASE: Well, in a different approach. It has a safety topic approach, and we recently started to make comparisons between a safety topic approach in which regulations are covered by that approach, and there is very much of an overlap of those two approaches.

MR. DENTON: So that would be the test. If it came back that there were deviations from every regulation, and it looked major to us, in addition to the ones we have identified in the SEP Program, it would say something about the quality

of the reviews that were done back in those days, or the idea that we went into the SEP program. I would expect there to be very little payoff except in procedural documentation for plants that just received a license. For those, our review is meaningful.

I would not be anxious to even have North Anna start this process. That's last on my priority, because I would expect the lowest payoff.

So let me just leave aside for the moment how I'd do this review and go to document to give you a flavor. So what I think we would now see as having the highest payoff would be to take all the existing plants, that is all that had a license before June 30th, when the Bingham amendment was signed, and after we had gotten public comments on exactly what the plan was, and the significant safety and so forth, required of all those plants, identify and justify deviations for a revised SRP.

CHAIRMAN AHEARNE: Now would that be essentially the same thing as asking each of the plants whether they meet current regulations and regulatory guides?

MR. CASE: Yes.

MR. DENTON: Yes. As interpreted by this interpretative document, which would be the revised updated standard review plan.

CHAIRMAN AHEARNE: I assume that over the last seven

years, there have been a number of cases where you have, or the Commission has excused a plant from meeting a modification to a regulation.

MR. DENTON: I think our process has gotten more formal and certainly the granting of exemptions is now much more visible, and there are probably plants which needed exemptions, but which just weren't documented at the time.

CHAIRMAN AHEARNE: Yes. But the concept of your ratchet committee, in which you were forward looking in some, backward looking on others, I gather what you are saying here is that all of those plants that might have been excused from meeting a particular requirement will here be asked to justify having been excused?

MR. CASE: Yes. And the justification need not be any more than when the ratchet committee approved that change in the regulatory guide, it said it need not be forward-fitted -- or it need not be back-fitted.

MR. DENTON: But when we review it, I expect those decisions to stand up, by and large.

COMMISSIONER BRADFORD: Where will one, at the end of this, be able to go to find out what the technical justification was for -- the plant operator will say, "You didn't make us backfit it," but if somebody wants to know why not, how do we find that out?

MR. CASE: I think if we carefully word our B ngham

request, it will ask for both safety reasons and procedural reasons. So we will try to get both.

MR. DENTON: The licensees undoubtedly think they meet the regulations. That is not usually the issue. They don't meet it using version 6 of the reg guide, they meet it using version 5. So I would expect that we would go through every regulation, every significant regulation, their views on how they think they meet it, or how the design meets it, and if they meet it using today's guidance or yesterday's guidance, and still currently, they will say so. But we will at least get a column on all those areas where they don't meet it using today's guidance, and then they would have to provide a brief technical justification as to why the way they do meet it is adequate, and I would expect them to cite things like ratchet committee decisions.

COMMISSIONER BRADFORD: But their technical justifications as to why they might feel they shouldn't have to meet version 6, when they meet version 5, would not necessarily be the same as the justification that the ratchet committee had for not backfitting.

MR. CASE: I would say it may or may not be the same.

CHAIRMAN AHEARNE: So then if in a case, let us say, where a plant met regulatory guide 2, and we are now up to regulatory guide 6 --

MR. CASE: Revision 2, revision 6, are the same guide,

yes.

CHAIRMAN AHEARNE: Since the reg guide is a guide in how you meet the regulation, and since they already at one time had met it, I imagine they would not have normally kept reviewing how they meet the new regulatory guide. And I guess what you are saying is, however you would expect them -- in fact, require them now -- to compare against the new regulatory guide. And I am not sure where you two came out in your answer.

It sounded to me like, Ed, you were saying that just being able to meet the ratchet -- saying, well, the ratchet committee approved us having to meet it, is not going to be enough. Whereas,Harold, I thought you said that you expected that might be the case.

MR. DENTON: No, I would always want a technical justification as to why that design met it.

In addition, I think when we go to review their answer, I would give a lot of weight to the ratchet committee decisions.

CHAIRMAN AHEARNE: In general, if the ratchet committee had said the reg guide revision 6 need not be applied retroactively, would a licensee then have gone through an analysis of why it is all right?

MR. CASE: No, no, not as part of his application review.

CHAIRMAN AHEARNE: So this, then, would be -- you

would expect new work, you would expect a licensee would do, in order to evaluate this?

MR. CASE: Yes.

CHAIRMAN AHEARNE: And the older the plant, the more work that would be required; is that correct?

MR. CASE: Yes.

MR. DENTON: Yes.

MR. CASE: I think that's right.

CHAIRMAN AHEARNE: But you feel that could still be done within the nine months?

MR. DENTON: Yes. And it's more onerous for the older plant, and I guess I have heard estimates of nine as probably the older plants, and who they would turn to would be the AEs who designed those plants. They would have a difficult chore, but they would be the first ones to, in the first instance, know how the plant was designed.

CHAIRMAN AHEARNE: When you have estimated four to nine months, did you take into account if they do turn to the AEs, the finite number of AEs? Is the nine months assuming that the AE is covering all of the plants he might have to be covering?

MR. DENTON: No, we did not attempt to assess the impact on AEs.

MR. CASE: John, let me say one thing on that. It will go out for public comment, and I think that's one of

the things you'll get, is this time is not long enough because.

MR. CORNELL: One critical factor in all this, though, as far as Bingham is concerned, is what percentage of your regulations you include in the term safety significance. If you can sweep 90 percent of them under, that's one effort. If you sweep 10 percent, that's another effort. So that nine months you have to worry about would consider what the --

CHAIRMAN AHEARNE: But I would guess one of the things the Commission has to address is that if Harold is proposing if we agree with a plan to cover all the SRP and all the regulations, whether it makes any sense then for Bingham to take a subset of that and ask all the licensees and the Staff to first focus on that subset and then go back over the same kind of process for the remaining. It might just make more sense to have them do it all at once I don't know.

MR. CORNELL: The only thing I would question there is the extent to which NRC resources --

MR. DENTON: Well, if we have the replies from all the operating plants, somehow that really sharpened out ability to identify where they met current practices in the regulation and where they didn't -- let me just put that off on one side of the table and say that then for new operating licenses, once we had our standard review plan in-house, we could begin to write SERs in which we would actually find and document, as we audited the application, we would write an SER which would

find more precisely in a document how they meet the regulations, using today's guidance. And so that's my second point, is I think for all plants off in the future, say after January 1, '82, we can SERs which will identify and justify deviations from this revised standard review plan.

MR. CASE: We are going from one extreme, for operating plants in Bingham, and new operating plants --

MR. DENTON: For new operating plants, we already had office letter 9, which we intended when we could get there to do this sort of thing, anyway. So I see office letter 9 on one hand, and Bingham on the other, as --

CHAIRMAN AHEARNE: If it's office letter 9, then I assume that the date is January of '77.

(Laughter.)

MR. DENTON: But we haven't issued any licenses for plants documented after '77, I don't think.

CHAIRMAN AHEARNE: Well, you haven't issued a license, but there is a set --

MR. DENTON: So then this left some plants in the middle, and that's what I call the intermediate licensing category.

MR. CASE: This proposal would supersede office letter 9.

(Laughter.)

CHAIRMAN AHEARNE: I figured that, but I still want

the answer, explicitly, not implicitly.

MR. DENTON: Well, then, the difference, one major difference is it puts the burden on the licensee to make the initial comparison, not on the staff. In office letter 9, the Staff is obligated to identify all the differences, and this puts it more on the licensee. That's the first shot.

COMMISSIONER BRADFORD: Let me ask a question about the office letter 9 approach, which has been puzzling me, even though it may now be history.

I had assumed when I first understood office letter 9, that the standard review plan as applied to those plants would be a list of items that one went through and checked off for all plants.

I came later to understand that that isn't quite the way that the standard review plan works; that you decide which elements of it to apply to any given plant, when the license comes in.

Now how, then, could you have applied the office letter 9 approach, given that you weren't going to be reviewing the application pursuant to all elements of the plan, in any case?

MR. DENTON: Well, that's a different issue, and is at the heart of the manpower resource issue, is the extent to which you do it. I think it's a bit like IRS, that they don't audit every item in everybody's return. They have developed techniques to --

COMMISSIONER BRADFORD: Right. But when you speak of documenting the deviations from the standard review plan, it's one thing to review the licensee's documentation or deviations, and I can understand how you could do that with an audit approach. But if the Staff itself were going to undertake to document the deviations between the application and the standard review plan --

MR. CASE: Then you'd have to review the whole thing. That's one reason why office letter 9 has not ever been implemented very much. It posed a well-nigh impossible job for the Staff to do.

CHAIRMAN AHEARNE: I am still trying to make sure I understand what you have been posing. You were also, I think, proposing that in those cases where the NRC has said that a new regulation or a new regulatory guide need not be met for plants prior to some date, I assume at the time when that was said, that the appropriate or at least some level of NRC had concluded that was an appropriate action.

You are now asking in a way the licensees to justify the NRC's judgment.

MR. CASE: Yes, I think that's right.

MR. DENTON: I guess that Reed will state his basis for why he thinks he meets a regulation that our reg guide interprets. Now why the reg guides change, we learn new experience, and like in fires, at the previous review, it

wasn't deep enough.

So where the disparity gets big enough, we go back and make everybody meet it. In many cases, though, it's more incrementalism and tidying-up.

CHAIRMAN AHEARNE: Yes, but my point here was at least I guess from -- I would have thought that each time we tighten the regulation or provide more detail to a requirement, that we examine or someone examines for us, whether or not that ought to be required of existing plants. And then when we conclude it need not, we have done it for what we believed to be sufficient reason. And I am not saying we have had good and sufficient reason. I am just trying to understand the theory.

It appears what we are saying now is that we are asking licensees to verify whether or not, or to check whether or not we had good and sufficient reason.

MR. DENTON: That's true.

MR. CASE: Generally the reason was the game wasn't worth the cost. The game in safety versus the cost of implementing.

MR. DENTON: Let me hit them all. What we could do, if we re-baseline everybody, back where all the old plants and all the --

CHAIRMAN AHEARNE: That's what No. 9 does.

MR. DENTON: Yes, and the intermediate categories,

though, between June 30th of this year and when we start documenting the SER, we have a couple of options. I would propose that any license that is issued between June now and January 1, that we would go back and require that they also justify any deviations from the revised SRP after the license were issued.

Suppose we issue one next month, that those SERs were already written. They are not any better quality than the ones that were issued before June 30th. So I would bring them up to the same standard.

MR. CASE: After licensing. Same approach as Bingham.

MR. DENTON: If you wanted to get off to a head start in determining is our audit focusing in the right areas, I would go to option 2 under that, which says that, let's start with those -- let's pick those SERs which haven't yet been issued, and which are still being written down in the Staff and review is still active; for example, beginning on April 1st, we could begin the document deviations from the existing standard review plan in NUREOG 0694.

MR. CASE: In other words, they're existing documents, they're part of the base of the revised standard review plan, a good part, but not all. [illegible] something that's available today, you give it to the licensees and start working on this.

MR. DENTON: So it would hold the potential for sharpening our audit. In other words, if our audit is really

looking in the wrong areas and isn't finding deviations, by starting with the SERs issued after that date -- and the reason I picked the date is I've got to pick something, assuming you don't want a big impact while we wait to redo them all, I think that date could be accomplished with little impact.

And just from looking at the advanced schedule, I can tell you which plants fall where. Then on CPs, carrying the same sort of thought forward, there are two alternatives, likewise, for any CPs which we would issue the SER final before January 1st of '82, for which we have everything in place. We could document departures from existing standard review plans on 7/18, the new reg for CP matters, and any CP after that from the revised standard review plan.

So then if you had this and we reviewed it and so forth, and new requirements came up next year, what appears to be needed is every year that we bundle up our requirements that have changed and sweep it through all plants that have any kind of license, construction permit or operating license, and make a determination formally then that reg guide 6 either does or does not have to apply, you know, to make the ratchet committee more formal, and issue official notice and SER to everyone. So that applications stay current, and each time we come up with a new reg guide, the system is much more formal in informing everybody, no, you don't have to worry about this; or yes, you do. And I think that was missing,

perhaps, in the former.

CHAIRMAN AHEARNE: Well, wouldn't it, though, consistently be -- I would have thought that consistency -- at least the first approach would be each time we come up with a reg guide, require the licensee to justify the deviation from it? I don't understand why if we believe that is the appropriate thing for your first step, it wouldn't then be the appropriate action to take each time -- or at least once a year.

MR. DENTON: I think that's what I am saying. There is some process to make that determination, whether we ship it to him directly or --

CHAIRMAN AHEARNE: Well, all I'm saying is I think you would have already reached the conclusion from the theory at the first point that from thence on, once a year, you would request the licensees either come to agreement with or justify deviation from, and modifications.

COMMISSIONER HENDRIE: There are some of those things where it gets very cumbersome. Every year the Staff will have some improvement they believe in their understanding of the dynamic analysis plant systems, and will propose, well, now, on new analyses, let's modify the alpha parameter and substitute for it a three-turn that will give us a better fit. You don't want to go back to 70-odd operating plants and ask each of them to justify why his seismic analysis shouldn't be redone on that basis. If you think it's a profound enough difficulty in

the seismic analysis where it ought to be done, then it's much more than just a modification of the SRP. But you can make a determination right flat when you propose that. It's fair enough to do it on new analyses, but it just isn't worthwhile.

MR. CASE: But there will be some in between, easy to decide not to, and easy to decide. They've got to, where it depends on the individual plant, and I can see asking licensees on those.

CHAIRMAN AHEARNE: But you would, at least in this record you are keeping then of each plant, you would have a record of the explicit basis and the justification. I guess what you are saying is that currently the ratchet committee decisions do not exist on that kind of a justification?

MR. CASE: They do not.

MR. DENTON: I think only the two extremes do, by and large. This chart just kind of graphically portrayed the approach I had talked about, the timeframes, the 60 frame and the 182 frame, and then the ones in between. And I guess one issue I wanted to raise is where do you think it's worthwhile to try to do in this kind of context, starting in April, using the existing standard review plan, in documenting deviations? That is consistent with office letter 9, and that gives us time to require that those plants document where they think they deviate, and for us to review it, and again produce such documentation. It wouldn't be complete, but it would be a

large part of the way there, and it would still leave a little bit to pick up later on in that application. But eventually we'd get everybody, we'd have a file so we can answer the question for every applicant, how they meet today's interpretative guidance of the regulations, or why it is all right if they don't; what action they have taken.

CHAIRMAN AHEARNE: How many SERs do you think --

MR. EISENHUT: In addition to the -- between the second part -- seven plants are scheduled right now.

MR. CASE: Between 4/1/81 and 1/1/82.

MR. EISENHUT: That's right. I'll just tell you in the first one, in addition to the plants we have acted on now, there are about six more units, a couple of them multiple units. In the second group, there are seven different stations, a couple of them which are multiple units.

MR. DENTON: I don't think doing that will decrease the Staff resources. The whole thrust of our review of these plants is they meet the existing SRP, even though we don't audit at all. Supposedly our good judgment and expertise have picked up those difficult spots, and if it really is working that way, there shouldn't be much of a need for Qs and As on revised design as a result of using the SRP on those seven or eight plants that we mentioned.

CHAIRMAN AHEARNE: So that you wouldn't say that as whatever responses come back in, you would not, you are saying,

see that as a large consumer of Staff time?

MR. CASE: Provided the Staff is given the latitude of selecting the ones, if any, that they feel must be looked into, as contrasted to describing and justifying each deviation in the SER.

MR. DENTON: And that gets to the point then that this page which is titled "Our Review of the Deviations Identified," and I think that is where the differences in manpower come in. If you just go to item 2 following up on this discussion, that we supposedly do identify 70 areas in which there is some deviation between their design and our standard review plan, our approach to the regulation, and we selectively audit those and look at 15 or 25, and we pick out these areas somehow and find that in those areas, when they use their code and we use our code, we always find that it results in match, and the question is, do we have to do that in every one? Or do we do enough to gain confidence? And that's where the resource estimates, I think, have gotten widely varied.

MR. CASE: There's such a wide use of resources on what people think has to be done at this time of the NRC evaluations.

MR. DENTON: Now the best estimate of the people who do the review, they think it won't increase -- in other words, if they don't have to document every deviation found,

it won't increase their resources.

MR. CASE: After all, we have to do an audit process, and so it will just be another aid in deciding which things to audit.

MR. DENTON: It would refocus the review more sharply toward those areas where there are deviations, and we would spend less time in those areas where reportedly there is compliance.

CHAIRMAN AHEARNE: Well, you would have to document why you don't audit each deviation.

MR. DENTON: Why?

CHAIRMAN AHEARNE: Because once a licensee has identified a deviation from a regulation --

MR. CASE: No, it's not our deviation from a regulation, it's --

MR. DENTON: It's IEEE guidance.

CHAIRMAN AHEARNE: All right, but you've got to have a comment as to why you think that's acceptable.

MR. CASE: Well, I would hope it would be covered by generic comment. If it were important enough to worry about, the Staff would have looked into it.

COMMISSIONER BRADFORD: What the licensee, in effect, will be saying is that the regulation is met, but for one reason or another, the guidance, the more specific guidance document is not. What you are saying is that in 15 or 20 of

those 70 cases in which you said that, you will have checked and let's say you'll be satisfied as to the regulation.

MR. CASE: And the particular way of implementing to require some change will have to justify it being all right as proposed, or insist on a change.

COMMISSIONER BRADFORD: The assumption will be for the -- I'm not sure that I --

MR. DENTON: We tend to get ratcheted into doing them all, but suppose you were the reviewer and you started working your way through these deviations, and you were the sole reviewer. After you had done 20 and they all worked out in conclusion that they did meet the regulation, your enthusiasm would wane.

COMMISSIONER BRADFORD: What you are really saying is the SER might look like, as you say, we checked items 1 through 20, here are the others, but we --

MR. DENTON: Yes, we randomly audited this batch and found all these okay. Now if you don't find them okay, of course, you look further.

COMMISSIONER BRADFORD: But they might all be mentioned in the SER --

MR. CASE: Well, they're sure to mention the application. You could do it again in the SER.

COMMISSIONER BRADFORD: So that in your conclusion -- I guess your conclusion would be a sentence at the end of the

SER saying, "We did this many and concluded we had adequate assurance."

MR. CASE: Yes.

And then, as the lawyers would say, it's a rebuttable presumption.

(Laughter.)

MR. DENTON: So I think the advantage of starting that kind of thing is it would show whether or not our present focus is really on those areas where there are deviations. In other words, are we unnecessarily grinding through certain review areas where the result turns out to be the same, and maybe it would help sharpen the focus if we kind of started by worrying about the identified deviations that they know about, and just haven't told us specifically about, rather than on kind of a random audit of the things to get into the right areas to begin with.

Now if that's a wrong presumption, and we have to do a lot, then I think we are adding a couple more manyears to the review.

COMMISSIONER BRADFORD: But that also would tell you something else, if you found --

CHAIRMAN AHEARNE: Now I guess between 1 and 2, you cover all plans, either in one stage or another, essentially?

MR. DENTON: Yes.

MR. CASE: Yes.

CHAIRMAN AHEARNE: So No. 1 refers to plants holding operating licenses?

MR. CASE: Yes.

MR. DENTON: Yes.

CHAIRMAN AHEARNE: So then you,would figure somewhere between roughly 210, 280 professional manyears in No. 1?

MR. CASE: Well, yes, except we're going to add to the total in No. 1 by those that have been issued OLs after June 30 which was the date of the Bingham amendment, and the time to take to implement doing this review as part of the application review process. So there will be two more plants added to the number.

CHAIRMAN AHEARNE: But if I didn't have those 10, then roughly in No. 2 I would have somewhere around 180 manyears?

MR. CASE: Can I ask how you got that?

CHAIRMAN AHEARNE: 90 plants times two professional manyears.

MR. CASE: If we had to do all of them.

CHAIRMAN AHEARNE: Well, my first question was, all plants are included in 1 and 2, and the answer was yes. So, therefore, --

MR. CASE: All deviations, I mean, John. The two manyears per plant in No. 2 is if we are required to justify all deviations. If we are only required to selectively look at

deviations and include those in our review process, there is nothing to be added to the current rate.

CHAIRMAN AHEARNE: There is some block of plants that maybe already have a construction permit?

MR. CASE: Yes.

CHAIRMAN AHEARNE: That don't have the operating license. And those are approximately 70?

MR. CASE: 70. This proposal would wait through the OL stage.

CHAIRMAN AHEARNE: For those?

MR. CASE: Yes.

CHAIRMAN AHEARNE: You would not address any of those plants until the OL stage. Okay. So then that would be down-stream. You would plan, then, on picking up this say 250 professional manyears for No. 1 over how many years?

(Inaudible voice from audience.)

MR. CASE: That's the general number that we talk about among ourselves.

CHAIRMAN AHEARNE: All right. So the conclusion is that the Bingham amendment will lead you to 50 manyears per year over the next five years.

Now, of course, I don't mean to thereby imply, my gosh, because we are really addressing a different issue, we are addressing the response to Peter's request. What are we to do for an independent --

MR. DENTON: I would like to think once again that those numbers are a bit high for the more recent plants, and there is a great deal of uncertainty, and it varies between review branch and review branch, as to how difficult doing Bingham for existing plants is.

Some branches foresee great turmoil for plants that were really designed in areas where there have been substantive changes, where if you take hydrology and flooding as a big one, there probably hasn't been a substantive change since 1970. So probably in that area there won't have to be any review for any plant after 1970. We'll all be focused on plants before that. So there's a great deal of uncertainty in trying to arrive at these manyears, and they will vary very widely, depending on the age of the plant.

CHAIRMAN AHEARNE: That's professional manyears?

MR. DENTON: Yes.

CHAIRMAN AHEARNE: Have you a rough estimate of the licensee professional manyears?

MR. DENTON: No. But Bingham requires that we publish something for public comment, and that's probably where we will pick this oneup.

CHAIRMAN AHEARNE: Well, I was really trying to more focus on the broader question of what we are asking for, because it really covers a broader scope.

MR. CASE: You know, there is nothing magic in the

five years.

CHAIRMAN AHEARNE: No, I understand. My next question is going to be your judgment of since that is a fairly substantial portion of your professional manyears, and I would assume that since, as you pointed out, this is shifting the burden from our doing the review to the licensee doing the review, I would assume that there is an equivalent burden -- at least some large number of --

MR. BICKWIT: Isn't it two manyears per plant? I thought that's what your June 13th memo said.

MR. CASE: But that's for new applications, and perhaps even more than that for old applications.

COMMISSIONER HENDRIE: I think probably the five years is too short.

CHAIRMAN AHEARNE: Well, I'm not sure. At least my own position on the length of time will -- that's appropriate, will be pretty much based on your answer to the next question, which is your judgment of the safety significance of these reviews.

MR. DENTON: One that would vary with age. I think the older the plant is, the more valuable this will be. I don't expect it to have much of a payoff for ones we just issued.

CHAIRMAN AHEARNE: Well, that's too broad an answer.

MR. DENTON: Well, I think there is a payoff in the

older ones, and that's why we initiated the SEP program. Now if it turns out that we really have gotten good correspondence here, the SEP program will already be attacking the principle of efficiency. But I wouldn't take it to the end. I think there will be -- it will work the first year on those deviations which have the highest compared to all other tasks we do, such as --

CHAIRMAN AHEARNE: But as you've pointed out, what you're laying out the first six months of your program is our Staff, because it's attempting to put the SRP into an updated matrix. Now you turn around and ask the licensees. Now the amount of time you give the licensee to do this has to some in event be based upon our judgment as to how important it is to safety significance.

Now if it's very unimportant, then clearly it would go below asking them to do a number of analyses that we have already asked them on the action plan. The action plans result in asking the licensees to do a number of analyses.

If, on the other hand, this is of a higher safety significance, then we task the licensees, we would tell them that this now should take priority over those other efforts, and in particular ought to be completed no later than X period of time. And similarly, if it is of a higher safety significance, we ought to ensure that our Staff effort is devoted to that on a much more rapid time.

So I'm not saying obviously that it will be automatic, but we need some sense as to what is your relative sense of safety.

MR. DENTON: Well, based on our SEP program today, there are only a few items which I would put in a higher category than the action plan items, and if you discount the licensee's effort for the moment, once I got the replies back in, I would be in much better shape to give you a judgment as to what the significance was, because then I would know across the whole spectrum of regulations how close they are to today's practice, and then we could really make a good judgment.

I would expect if we got to such supplies, then there would be some enunciator lights going off in that matrix that we would want to move on rather immediately. But the rest of them, to me -- I think I look upon this as a 40-year long haul. They're ones in which you want to get a good basis for deviations from today's practice to put the issue to bed. But I'd be surprised if you just find rampant issues, that the whole plant design was so far out of kilter, item by item, that we would place it higher on the action plan items.

Maybe Farrell has looked at the SEP items for many years, and would like to give his perspective.

MR. EISENHUT: Well, I think there is clearly a benefit to going back to the old plants, and I think there will be very close correlation between those SEP topics that

are being reviewed and this list. And for that reason, I think certainly the safety benefit is going to get less and less, as you come up to modern plants, and come up past plateaus, and therefore one of the ways you could do it, for example, to minimize the impact on the licensee is to recognize that all kinds -- at one point in time is you could stagger the inputs. You could require the first 20 plants in sequence of time per year come in, for example, and respond to that. It minimizes and staggers out the input from the industry, and it also -- for example, you're not going to really be looking at them that fast, and all the different pieces internally, anyway. That's just one variation. There's lots of other variations.

CHAIRMAN AHEARNE: I'm not trying to minimize impact. What I'm trying to do is see if I can't get a feel for knowing that we have finite resources, and there are finite knowledgeable people on the outside who can look at the analyses, do the analyses we are laying on. Where do we require the licensees to put their effort, and where do we end up determining our effort?

And there just is a point where you cannot continuously add good ideas without trying to begin to put them in priority.

MR. EISENHUT: I think that's right.

CHAIRMAN AHEARNE: We have a lot of Staff effort, as you know, devoted to reviewing material coming in, and I was

trying to see whether you had some sense of whether or not -- and perhaps you are saying I'll just have to wait and see on the public comments, et cetera.

I was trying to see whether you had some sense as to whether these should take precedence over the action plan.

MR. CASE: I think the answer you are getting in general is no, but there may be some specifics, yes. In general, we don't think so.

MR. EISENHUT: I think that's right, and I didn't mean it in the sense of minimizing impact. I recognize this concern, too, with the number of requirements that are going out to utilities. You hear every day, you hear them saying, "I just can't keep doing all of these different things. Which do you want me to do first?" And that's really the same question.

CHAIRMAN AHEARNE: I think we have a responsibility to say what we want done first.

MR. EISENHUT: I agree.

MR. DENTON: When we did the auxiliary feedwater reliability review and looked at all plants on that, what we found is we were able to classify some plants, and it wasn't necessarily by age, either. Some plants appeared to have much more reliable designs than others, and some of them we thought needed treatment right away, and others we were much more relaxed about upgrading procedures and refinements.

I tend to think except for these outer layers of

really poor design, the bulk of our safety improvements will come in the area of operational safety, rather than fine-tuning of designs. If we find some more design problems that are high contributors to risk, like one in a thousand or so, we obviously want to fix those. But my own assessment is that things we are doing in the action plan have a greater potential for risk reduction than in attacking a lot of small design changes, unless you find something that is really just a very poor design.

MR. CASE: [illegible] But one can't completely -- I'm sure Mr. Bradford will say it if I don't -- the difficulties we found in fire prevention and in equipment qualifications --

CHAIRMAN AHEARNE: Ed, I didn't say you didn't. What I'm trying to point out is that certainly the problem the Commission based in trying to propose a budget is we can't get all the resources everybody wants, and we have to, on this side, try to decide on which of you comes in and says, "In order to do our job, we need this and we need that," we have to try to reach some balance as to what our priorities are, and in a sense of how much can we get and where do we direct that effort.

In the same way, we have got to recognize, as we go out and ask people to do things for us, in the same vein, what are our priorities? Where are the efforts we place, and how fast must those be -- appointed? There are some things we

say have to be done immediately. We have concluded they are of extreme importance. There are some we say can wait till the first outage. There are others we say we can really wait for a study and analysis, and I'm trying to see if I can't get a better sense of how this fits into that program.

The number estimates you gave were for five-year programs. That would mean in some ways you might look at this as a lifetime program. That doesn't give me the idea that you feel it should take precedence over some of those analyses in the action plan.

I am trying to draw a distinction between something that is a good idea and something that isn't absolutely necessary.

MR. DENTON: And I guess I see the 30 or so manyears reporting in the SEP program to represent our collective judgments as to the priority this sort of effort requires. Whether we call it that, or revised documentation, that's the level of effort that I think ought to go into these old plants compared to all the other tasks we are doing.

COMMISSIONER BRADFORD: What I think I'm hearing back from you is that it is really very hard to put a priority on this one until you have that one first round of responses, because if they came in very bad, in the sense that there were a lot of deviations, and then very little justification, this might suddenly seem a great deal more important than items which

presently seem less important at the time.

CHAIRMAN AHEARNE: But unfortunately we have to face that problem even before that, because we've got to be prepared to tell the licensees, whom we have already asked to do a bunch of analyses. I'm sure some of the answers will be okay. "You have asked us to do these sets of analyses, but this time do we do those, or do we do these? We can't do both."

Now, certainly in some cases they can do a lot more of both than they say, but they have the same problem, because there's a finite limit, and I think it's our responsibility to be prepared to say what comes first.

MR. DENTON: And I think we have pointed out once that these older plants have some compensating features about them. They tend to be in remote sites, low power level, very conservative designs in some areas.

COMMISSIONER BRADFORD: These are the SEP plants.

MR. DENTON: The Yankees, the Dresdens, the Lacrosses.

COMMISSIONER BRADFORD: Harold, could I take you back to your June -- what is it, 10 -- memo? June 13 memo. And could you relate the five points that were indicated there as being what would be necessary if the Commission really went after this hearing against what you now are proposing, and just quickly indicate --

CHAIRMAN AHEARNE: It probably might be at least useful to include somewhere in the record what the request was.

COMMISSIONER BRADFORD: Well, it's --

CHAIRMAN AHEARNE: We have sent Harold a memo saying it is part of his review for all the full power operating licenses, including Sequoyah, Salem and North Anna, the Commission requests the extent to which the plant complies with current rules, reg guides and branch technical positions for 10 CFR Parts 20, 50 and 100 be clearly identified. When the plant does not comply with current NRC rules, reg guides, or branch technical positions, without exception, the review should indicate the standard that is met, and nature of non-conformance, whether protection has been afforded by equivalent means, and should include a short summary of the Staff's basis for accepting the nonconformance, or determination that equivalent protection is afforded.

And we had asked, Harold, or we had asked actually Bill Dircks to give us an estimate of the Staff, licensee and resources involved in implementing that.

MR. DENTON: I think there are two differences. One is when we responded to that, we didn't have in the mind the idea of particular significant regulations, which was the language in Bingham. So that makes some difference, although it's hard to know a priori how much difference it makes.

Probably the largest one difference is the approach to the answers we get, and when we responded in those five steps, it was on the assumption that we would ourselves review

documents, provide a written piece of paper for each one, sort of by rote, regardless of the time it took, and on reflection, many of those items sure don't warrant complete coverage, and the difference would be in applying the source-selective treatment to the different ones that come back.

I think so far as the licensees are concerned, there is not much difference between that memo and what we are now proposing. It's more in how do we approach the results. We have gotten a little more experience. I have required a couple of licensees to do this sort of thing. I found in the files where we had required, I think, Zion to do this a couple of years ago in a different connection. And so I have been able to read the responses from licensees since June, which I didn't know what I was asking for in June. Now I have looked at some of these, and I see how they reply.

Now they tended to reply they are meeting the reg guides or the general design criteria. We don't have any replies in house that meet the standard review plan that I have seen. But I find it quite useful, and it helps really focus the attention on areas of concern, just from reading those comparisons. There are about 240 standard review plans. I think that is going to be -- many of the standard review plans don't have reference reg guides, so licensees -- I mean they are self-sufficient standard review plans. So it would be for the first time that the licensees have had to actually say, "I

am meeting this regulation, and do I meet the standard review plan approach that's current or not? And if not, why not?" They just haven't had to face that kind of question internally.

COMMISSIONER BRADFORD: In the past, the burden of that has rested with the Staff.

MR. DENTON: Yes.

MR. SHAPAR: Except that when the regulatory guide is not met, the applicant on occasion has to justify when his own approach would meet the regulation, rather than the reg guide. Isn't that true, Harold?

COMMISSIONER BRADFORD: But does he have to tell you that the reg guide isn't met?

MR. CASE: No.

MR. DENTON: No. And we sort of do that in the Qs and As, that this approach doesn't seem to meet the reg guide, and he writes back, and you take it from there. And in many instances, the reg guide is only one approach and there are a lot of alternatives that are acceptable. It just takes more of the reviewer's time.

MR. SHAPAR: In fact, the reg guides say that specifically in the prefaces, some of them.

COMMISSIONER BRADFORD: I don't have any more on this. I do have one other question in OGC.

CHAIRMAN AHEARNE: Why don't you go ahead and ask it?

COMMISSIONER BRADFORD: In terms of the various

recommendations that have sprung from this series of memos, there is one of yours that isn't directly in the line we have been talking about. That was your third one, in your August 14 memo, about the review process, including qualifications of applicants and applicants' contractors. Can you elaborate on that a little bit?

MR. BICKWIT: At the meeting in which that was discussed, we stated that increased emphasis might not be appropriate, but before we could make a judgment like that, we would like to know exactly what emphasis is now placed. All we wanted to say was that a very strong emphasis should be placed in that area, but I don't feel competent to make the judgment that it should be greater than what is now placed, without knowing the precise dimensions, of what emphasis is now placed on that area.

With respect to the other aspect of that recommendation, it is really an enforcement policy matter, and that, I think, the Commission and the Staff are in agreement, has to be addressed more specifically in the enforcement policy than it was addressed in the draft enforcement policy that was initially submitted.

COMMISSIONER BRADFORD: To the extent it's enforcement policy, it's pretty well outside the envelop.

MR. BICKWIT: That's right. I think everyone agreed that it was more appropriately dealt with in the context of

enforcement policy, of strong enforcement policy as it relates to the failure to report and the failure to make forthright statements.

MR. CASE: You're not saying that's the only place it should be addressed? You're not saying it should not be addressed in the licensing process at all in your comments, are you?

MR. BICKWIT: No, but I think it is primarily addressed in the enforcement policy. The best way to ensure that a licensee is making statements which are truthful is to have an enforcement policy under which, when you find a statement that is not truthful, that strong action is taken by the Commission.

CHAIRMAN AHEARNE: Len, at the last meeting, it was pointed out that what they were trying to get at is if we retain any type of a system that is fundamentally based on an audit rather than a check of every point, that we have to recognize that carries with it a very great reliance on the quality of the work that is being submitted, and one of the ways that you ensure that that quality is there obviously is through the NRR review. But then another way you ensure it's there is when you find the quality missing, then the enforcement policy is stiff on it.

COMMISSIONER BRADFORD: Let's see. The plan is headed "NRR Plan to Require Document Deviations from Current

Safety and Safeguard Requirements." I've come to learn that there's some importance in being clear as to the difference in current requirements and applicable requirements. We really are talking about, in effect, keeping the justifications current.

MR. DENTON: I haven't figured out the best scheme for keeping them current, but obviously we are to go this way and get them all baselined. Then the natural adjunct would be to keep them current, so that we wouldn't -- people sitting here 10 years from now wouldn't have the same concern.

COMMISSIONER BRADFORD: Do you have more questions? John, I have a suggestion if there are no questions.

COMMISSIONER HENDRIE: No, I just inquire, you know, we meet here and attempt to resolve an impasse which, at the moment, is the license --

COMMISSIONER BRADFORD: That's the suggestion I was going to make. I would like if you all will indulge me, to take this and just chew on it over tonight. It looks to me to be very much what I had in mind, and since we are not going to be voting on Sequoyah this evening, in any case, just let me communicate to you in the morning whether this -- what I had in mind.Obviously you still have to make up your own minds as to whether or not that is what you have in mind.

CHAIRMAN AHEARNE: I would like to clarify a few things. If you did reach this conclusion, what would be your -- Ed, you had mentioned something about public comment. Was your

proposal in betting this is the approach NRR would take, that you would put this out for public comment?

MR. CASE: No, I said that only in response to Bingham-related questions, because Bingham requires -- and correct me if I am wrong -- a development of a plan and sending it out for public comment, and then sending it to Congress.

So, implicit in Bingham you have to get public comment. Now it's not quite clear what you get public comment on, but you have to get public comment on the plan, whatever that is.

MR. DENTON: That would only apply to existing operating plants.

MR. SHAPAR: Not for applications for new licenses.

MR. BICKWIT: I can't find that in the Bingham --

MR. DENTON: We'll turn back to our Bingham reviewers.

CHAIRMAN AHEARNE: You are referencing the wrong answer. The question I asked was how much licensee restructure would be required to do this? And your answer was, you would expect that to come out in public comment.

MR. CASE: I thought you were talking about number one.

CHAIRMAN AHEARNE: I'm talking about --

MR. CASE: The whole thing?

CHAIRMAN AHEARNE: Primarily the first item on this, which is all --

MR. CASE: But that's Bingham.

COMMISSIONER HENDRIE: Steady on. Can I throw my body in the middle here?

It seems to me that we have said it would be nice to know what we're starting off to give people a chance to comment on it, at least. I do believe that the plant with the Bingham amendment either does require or strongly --

MR. BICKWIT: It does require.

COMMISSIONER HENDRIE: It's highly desirable to have an opportunity for comment, and I think what you do here is, you say, "Hi, there, folks. We've got the Bingham amendment over here, and we've also been thinking about some similar upgradings of things as follows, and we invite your comments on these complementary pieces of what together form an overall upgrading of the documentation, procedural steps, keeping up with things. Actually looking at existing plants, et cetera." And then you've got -- then you've got the whole plan, and indeed the Bingham amendment is met by some subsection of that, but you've got the whole plan.

You say, "We appreciate comments. Don't take forever about it." And then we get a lot of screams, hollers, and maybe the usual comments, and then we can see.

It seems to me now that what one would like to move toward, then, is a proposed -- is an outline of said proposed plan which suffices for your purposes, Peter, in which the rest of us could agree to. And then it could go out saying,

"Hi, there. The Commission contemplates the following." And then we'd see where we go from there.

CHAIRMAN AHEARNE: If I again --

COMMISSIONER HENDRIE: Okay.

CHAIRMAN AHEARNE: Your answer on going out to public comment would have just been the Bingham portion, which would be the first place?

MR. DENTON: Yes sir.

MR. CASE: Dr. Hendrie has expanded that.

CHAIRMAN AHEARNE: Well, if he did, it was a little hard for me to understand, how you would ask for public comment on what's going to be done on existing operating licenses and then put in place the same system for new operating licenses. But that's --

MR. CASE: My only answer to that would be office letter 9 was to be implemented without public comment, too.

CHAIRMAN AHEARNE: Yes, but it was never implemented.

MR. SHAPAR: The language in Bingham, by the way, is such sums as may be necessary shall be used by the NRC to develop, submit to the Congress, and implement as soon as practicable, after notice and opportunity for public comment, a comprehensive plan for systematic safety evaluation.

CHAIRMAN AHEARNE: Now what I wanted to ask Peter, it wasn't clear to me, Peter, in reading your memos, whether you envisioned any public comment on the procedure that we might

put in place.

COMMISSIONER BRADFORD: I haven't, but I wouldn't rule it out.

COMMISSIONER HENDRIE: I didn't read your going that way, but since you -- okay.

CHAIRMAN AHEARNE: You said you wouldn't rule it out. My question is would you accept it? I'm not trying to lead you into anything, but I would have thought that given what you have written, that that was not --

COMMISSIONER BRADFORD: It hadn't occurred to me. Let me think about it. But off the top of my head, I think it might be useful. There is a significant enough uncertainty as to what is really entailed that it might be helpful. At the same time, what it's not going to really clarify is what I understood to be the fundamental determination of the resources involved. That is, just what the responses back will really look like. Not the response, but the comments to the --

CHAIRMAN AHEARNE: That's determinative of all resources. It isn't determinative of the resources the licensee has. We have a responsibility to take that into consideration, too.

COMMISSIONER BRADFORD: That's right.

bu3 I guess I'm not sure of the steps the licensees, in preparing their comments, will actually do. Some of the work that will be required in preparing the ultimate responses,

without that work being done, then they don't know much more clearly than we do just what the actual significance of the task is, actual safety significance.

CHAIRMAN AHEARNE: The significance, they would expect to be able to make an approximate estimate of the resources required to do that.

MR. CASE: To do the initial job, but then they also -- well, we don't know how much the Staff is going to do, so we don't know how much to allot to that phase of the effort.

MR. DENTON: The feeling seems to be --

CHAIRMAN AHEARNE: Well, I was trying to get, if I could, some sense from Commissioner Bradford as to whether -- and I guess your answer is you hadn't really considered the public comment aspect, and you are not sure where you would come out as to whether allowing it would be consistent with your requirements before we could go ahead with licensing.

COMMISSIONER BRADFORD: What I'd like to come up with is just a blueprint for dealing with this question. As I say, just sitting here thinking about it, I don't see any reason to rule out public comment. It seems to me it might be useful.

CHAIRMAN AHEARNE: I'm sorry, Joe. I interrupted you earlier.

COMMISSIONER HENDRIE: No.

MR. DENTON: In trying to get a handle on it, it

seems as though the direct answer from the utilities about complying with each regulation doesn't bother them, as much as the concern that they have implicit behind this first step is a feeling that they've got to meet with today's criteria or else, that they would establish all these deviations when they think they adequately showed compliance.

Well, then, as the Qs and As develop and Staff positions harden, what flows from that finding, that today's criteria are the only acceptable means, and I think the effort that that would require is so the first step --

CHAIRMAN AHEARNE: Do you have inherent in your outline the assumption that today's criteria are the only acceptable [illegible]s?

MR. DENTON: No.

MR. CASE: Particularly not when you do selective audit. You don't look at all the deviations. I don't see how one could have in mind you've got to meet all of those.

MR. BICKWIT: But that's one of your alternatives, is to look at the deviations.

MR. CASE: That's not my alternative.

COMMISSIONER BRADFORD: I still don't see where the item makes a difference there, because whatever the standard is, is the one you apply to the items that you audited, and if you were in fact using today's criteria, then a lot of the items would flunk, and you'd have to go further, and you'd wind

up with pretty near all of them.

MR. SHAPAR: Specific requirements, of course, are grandfathered.

CHAIRMAN AHEARNE: In the past.

MR. SHAPAR: Yes.

CHAIRMAN AHEARNE: But in here, it says that that may no longer be true.

MR. CASE: A reexamination of that.

COMMISSIONER BRADFORD: At least you want to know why.

MR. DENTON: So I guess some are concerned before they would untangle from this review, they would be subject to de novo review with resultant changes to upgrade the plant from yesterday's to today's standards, and where exactly are we going to draw the line in that process.

COMMISSIONER BRADFORD: But it -- well, it's very hard to answer, sitting here. My assumption is that the people who did the review and granted the exemptions are somewhere either in memory or on paper or something, that there is some sort of a reconstructable record, and we will have that. What I'd be looking for is a pattern of either a complete failure of justification, or some areas where the exemptions have become so widespread in ways that subsequent knowledge had caused us to worry about that we might want to go back and rethink. I wouldn't assume that we were automatically going back and pulling all of the grandfatherings and all

exemptions.

CHAIRMAN AHEARNE: No, I wasn't trying to imply that we were automatically doing that. I do believe that this does -- I was answering Howard's question. I think it does mean that we would require a reexamination of everything that we have grandfathered.

Now it may be a minor reexamination and it may be major, but it does not mean that we grandfathered automatically excludes it from reexamination.

COMMISSIONER BRADFORD: No, I'm afraid one of the things that drives the examination to be much more extensive than it might otherwise need be, is if we can't easily reconstruct the basis for it, the examiners don't have to go back and do it over again.

CHAIRMAN AHEARNE: Well, except whether or not we can reconstruct the basis isn't really relevant.

COMMISSIONER BRADFORD: Somebody has to reconstruct it.

CHAIRMAN AHEARNE: That's right. What we are really saying is, to sum up the gist of my earlier questions, what we are really saying to some plants is, independent of whether we have justification of why we grandfathered you, you have to now justify it.

COMMISSIONER BRADFORD: I have a hunch if we have a record of our justification for doing it, the answer will come

back and it will look remarkably like our record.

(Laughter.)

MR. SHAPAR: Of course, that raises the question of whether or not your present backfitting criterion, as elusive as it may be, is the one that you want to apply to this circumstance.

CHAIRMAN AHEARNE: Well, there are obviously issues that will be imbedded in what criteria do you assume for acceptability.

MR. SHAPAR: It also ties in even further with the question of what your safety goal is.

CHAIRMAN AHEARNE: All right. Then I guess where we are, Peter, you will give us your views, and I'm sure that we will be considering it, and that will include the issue of public comment question, which I think is --

MR. CASE: One small caveat. If one goes out for public comment and takes an extended period of time, some of these dates might have to change correspondingly.

MR. DENTON: And we are proceeding with the update of the standard review plan.

CHAIRMAN AHEARNE: Yes, I assume that's happening independently.

MR. DENTON: Yes, that's right. Yes.

CHAIRMAN AHEARNE: Now, I guess, Peter, they're related to the earlier discussion depending upon where you come out

on this. If you finally conclude that it is not going to meet your concerns, then I would gather that you could still be in the same position you were last time at Sequoyah.

COMMISSIONER BRADFORD: Well, that's right, but I don't think that's likely, John. I think this is pretty clearly -- I had -- I mean I don't know where we're all going to come out jointly.

CHAIRMAN AHEARNE: Then perhaps you might check to see whether or not you might think it appropriate to see whether Victor would come back.

COMMISSIONER BRADFORD: I will give him a call.

COMMISSIONER HENDRIE: Earlier than Friday afternoon. I won't be here this coming Friday afternoon.

I am prepared to be absent if --

(Laughter.)

MR. BICKWIT: You keep fouling these things up.

COMMISSIONER BRADFORD: I should mention that when I did last talk to Victor, he indicated some intent to circulate a proposed modification or something of some sort. So I would think he might --

CHAIRMAN AHEARNE: That I did not know. His paper didn't mention that.

COMMISSIONER BRADFORD: No, that's right.

CHAIRMAN AHEARNE: I see.

Any other?

All right.

(Whereupon, at 5:40 p.m., the meeting was adjourned.)

* * * *

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

Commission Meeting

in the matter of: Discussion of Commission Program to Review Operating License Applications

Date of Proceeding: September 8, 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.

Ann Riley

Official Reporter (Typed)

Ann Riley

Official Reporter (Signature)

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

OFFICE OF THE
COMMISSIONER

August 20, 1980

MEMO TO: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie

FROM: Peter A. Bradford P.B.

SUBJECT: NORTH ANNA UNIT 2

I am prepared to issue the North Anna license subject to the following:

OGC
E&D
LWA's 1's
3-0

1. The finding on page one of the license should be made in terms of "reasonable assurance" rather than as an absolute finding that the regulations are met. It is clear that we are in no position to make a sweeping finding regarding the regulations as a whole.

2. A Commission agreement to take the action necessary to avoid making a bad regulatory situation worse. Specifically, I think we need to direct the staff to undertake the five steps outlined in Denton's June 13th memo, including the effort to update the Standard Review Plan (SRP).

3. All existing and future operating licensees should be included in the effort outlined in Item 2. With the possible exception of the older plants not covered by the Systematic Evaluation Plan, this effort should be targeted for completion in 18 months. The North Anna license should be modified to specifically include this requirement.

4. Modification of the Technical Specifications to include the technical specification change proposed in SECY-80-370.

5. Continuation of the effort to improve the Tech Specs for upcoming OL's. I believe that additional improvements can be made, especially to the technical specifications that were based on pre-NTOL requirements. However, I do not believe that the potential changes are significant enough to withhold issuance of the North Anna OL.

cc: William J. Dircks
Samuel J. Chilk
Edward Hanrahan
Leonard Bickwit
Harold Denton

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

OFFICE OF THE
COMMISSIONER

July 31, 1980

MEMO TO: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie

FROM: Peter A. Bradford

SUBJECT: NORTH ANNA OPERATING LICENSE - COMPLIANCE OF NRC LICENSES WITH NRC REGULATIONS, REG GUIDES, BRANCH TECHNICAL POSITIONS AND LICENSEE COMMITMENTS

I do not find anything in Harold's July 23, 1980 memo on this subject to change the opinion I expressed in my July 10 memo. We are currently waiting for OGC's memo on the legality of further licensing. Even if legal, I repeat that it cannot be sanctioned as acceptable Commission policy unless we have laid out a clear and reasonably rapid pathway toward bringing some order to this chaotic situation. Consequently, I reiterate my suggestion that OPE and OGC work with the staff to develop such a program along the lines of the five-step review outlined in the June 13 memo for the Commission to consider before it approves another operating license.

cc: Samuel J. Chilk
Ed Hanrahan
Len Bickwit

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

OFFICE OF THE
COMMISSIONER

July 10, 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie

FROM: Peter A. Bradford P.B.

SUBJECT: COMPLIANCE OF NRC LICENSES WITH NRC REGULATIONS, REG GUIDES, BRANCH TECHNICAL POSITIONS AND LICENSEE COMMITMENTS

It seems to me that, from a legal and organizational standpoint, the situation described in Harold Denton's June 13 memorandum on this subject can only be called a mess. Whether it is actually illegal and just what its implications are as to the public health and safety are issues which are less clear. However, I do not see how we can responsibly allow it to continue and to worsen with each new license application.

Briefly, the situation is as follows:

1) Because of the way the Standard Review Plan is organized, there is no detailed and specific accounting of compliance with Commission regulations. In fact, there are some regulations for which there is no corresponding guidance to the reviewers in the SRP. The most the staff can say is that "conformance with the Standard Review Plan and its references is generally believed to constitute compliance with NRC regulations."

2) The Standard Review Plan does not reference all the current Regulatory Guides, and some of those that are referenced contain grandfathering conditions.

3) Because of the audit nature of the staff reviews, not all plant features are reviewed for conformance with the SRP. If the elements reviewed are in order, compliance of the rest of the application with the rest of the plan is assumed. Thus, actual compliance with all elements of either the Standard Review Plan or the applicable regulations is a matter of inference by the staff rather than actual knowledge.

4) The staff does state that the SRP was used extensively in reviews of NTOL applications, but "strict compliance" was not required. Therefore, the staff can conclude only that "the audit reviews conducted by the staff provide reasonable assurance that the applications can eventually be shown, in detail, to be in compliance with the Commission's regulations and other NRC regulatory requirements.

5) In 1976, Ben Rusche initiated a policy requiring deviations from the acceptance criteria in the SRP to be documented in all SER's issued after January 1, 1977. However, he abandoned that policy on January 31, 1977 because of the "substantial delay" it would cause. He then made the requirement applicable to OL applications filed after January 1, 1977 which eliminates all of the near-term operating licensees. In any case, compliance with the Rusche policy would not completely solve the problem, for, as stated above, the Standard Review Plan does not reflect all of the NRC's regulatory requirements.

I am asking by copy of this memorandum for the General Counsel's opinion on the legality of issuing licenses when the Commission cannot affirmatively demonstrate that all of its regulations are met. However, it seems to me that even if licensing is in fact legal under these circumstances it cannot be sanctioned as acceptable Commission policy unless we have laid out a clear and reasonably rapid pathway toward bringing some order to this chaotic situation. Consequently, I would also request OPE and OGC to work with the staff to develop such a program along the lines of the five-step review outlined in the June 13 memo for the Commission to consider before it approves another operating license.

cc: W. Dircks, EDO
L. Bickwit, OGC
E. Hanrahan, OPE
S. Chilk, SECY

Sec4

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

AUG 19 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

THRU: William J. Dircks, Acting Executive Director for Operations (Signed) William J. Dircks

SUBJECT: COMPLIANCE OF OPERATING LICENSE APPLICATIONS WITH CURRENT NRC REGULATIONS, REGULATORY GUIDES, AND BRANCH TECHNICAL POSITIONS

This refers to and supplements my memoranda to you of June 13 and July 23 on the above subject. As I noted in my June 13 memorandum, the staff believes that better documentation in the staff safety evaluation reports of the conformance of power reactor applications with NRC safety regulations would be desirable. In light of this and the continued Commission interest in this subject, the staff now plans to undertake the first of the five steps needed to complete the overall program described on pages 2 and 3 of my June 13 memorandum on this subject. The reasons for undertaking this first step at this time are: (1) this portion of the overall program can be accomplished without serious impact on other priority NRR programs; and (2) completion of this step will put us in a much better position to estimate the time and resources needed by the staff and industry to complete the entire program.

As part of this first step the staff intends to develop a matrix between the existing Standard Review Plan sections and applicable safety regulations. This matrix would identify those instances in which there currently is sufficient correlation between the Standard Review Plan sections and the regulations, and instances where such correlation is lacking. For example, where acceptance criteria for satisfying a regulation do not currently exist in an appropriate Standard Review Plan section, this would be identified. In cases where the acceptance criteria in a Standard Review Plan section are adequate but the evaluation findings of the section do not explicitly reference the appropriate regulation, this also would be identified. We estimate that the matrix could be completed within the next two months.

Next the staff will modify the Standard Review Plan using the matrix to make the Plan congruent with the regulations. As part of this effort, previously approved staff requirements and positions not currently covered by the Standard Review Plan will be incorporated in the Plan. This will include at least a cross reference to the approved TMI requirements specified in NUREG-0694. We estimate that this portion of the first step can be accomplished in 3 to 4 additional months.

The remaining steps outlined in my June 13 memorandum to improve the documentation in the staff's Safety Evaluation Reports of the conformance of power reactor applications with the regulations will not be begun until the lessons learned from these initial steps have been incorporated in the overall plan and there have been further discussions with the Commission. In the meantime, applicants for operating licenses (starting with North Anna 2) have been requested to address, with supporting references and as part of their application for an operating license, the question of whether their facility has been designed and will be operated in compliance with all applicable NRC regulations.

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor
Regulation

cc: SECY
GC
PE

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

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JUL 23 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford

(Signed) William J. Dircks

THRU: William J. Dircks
Acting Executive Director for Operations

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

SUBJECT: COMPLIANCE OF NRC LICENSES WITH NRC REGULATIONS, REGULATORY GUIDES, BRANCH TECHNICAL POSITIONS, AND LICENSEE COMMITMENTS

On June 13, 1980, I transmitted a memorandum to you on the above subject. The purpose of that memorandum was to advise you of the costs to the NRC of having to certify in detail how structures, systems and components of a nuclear reactor facility comply with each current safety-related regulation, regulatory guide and branch technical position. My memorandum discussed the difficulties of, and consequent resource needs associated with, comprehensive documentation of compliance with every aspect of each requirement of the Commission's regulations governing nuclear reactor design and operation. On the other hand, my memo touched only lightly on the staff's overall assessment that our review provides adequate assurance that licensed facilities conform to the Commission's regulations. This dichotomy has raised a number of questions concerning our discharge of regulatory responsibilities with respect to assuring compliance with the Commission's regulations. As a result, I believe some amplification with respect to these questions is warranted.

As pointed out in my memorandum, our review is based on the Standard Review Plan (SRP). Each section of the SRP contains acceptance criteria which reflect the requirements in the Commission's regulations. In those instances where the regulation is specific (e.g., 10 CFR 50.46 and Appendix K) the acceptance criteria in the applicable sections of the SRP reference the regulation and therefore the review does focus on explicit conformance with the regulation. In those instances where the regulation is stated in broad terms (e.g., General Design Criteria) the acceptance criteria in the applicable section of the SRP reference regulatory guides and branch technical postions generally related to the regulations and therefore the review does focus on explicit conformance with these guides and positions. Thus, our review emphasizes an in depth evaluation of the principal systems and structures important to safety against detailed criteria, rather than focusing on an explicit accounting of compliance with broad principles.

Decl to COMB-80-13

Background of the SRP

The Standard Review Plan was developed in the early 1970's at the time of substantial expansion of the technical review staff and a shift in review activities to a far more penetrating in-depth review of principal structures and systems important to safety. This change in review included a substantial increase in independent technical assessment in such areas as design and performance of emergency core cooling systems, design and performance of containment and other accident mitigating safeguards, design and performance of radwaste systems, geology and seismology, and structural design techniques.

Although still an audit review in the sense that not every system and not every "nut and bolt" is explicitly evaluated, the expansion of technical review in the 1970's provided a far more comprehensive assessment by AEC-NRC of critical systems than had been conducted earlier by AEC.

As a result of expansion in staff and in depth of review, it was felt important to provide, for this newly expanded staff, clear guidance as to what was expected of the review that they were to conduct. The SRP was the written expression by experienced staff reviewers of the factors to be considered in properly reviewing particular systems. It is important to recognize that, although there is no explicit correlation between the SRP and the regulations, the experience upon which the drafters of the various portions of the SRP drew was their prior experience in reviewing applications. For these prior reviews the only criteria for judgment were those of the regulations as amplified by the GDC.

Imbedded in that judgment of "adequacy" by virtue of the experience of the reviewers involved in drafting the SRP is an assessment of conformance to the requirements of the GDC and other Commission regulations. Unfortunately for posterity and for the types of questions posed recently, but understandable in light of the time and manpower pressures that existed in the early 1970's when the SRP was being developed, the chain of reasoning of the reviewers who drafted the SRP was not preserved. To develop an explicit technical basis relating the SRP to the Commission regulations is the activity of high manpower cost indicated in my memorandum of June 13, 1980.

Congruence of the SRP and the Regulations

Each SRP is organized into four sections: areas of review; acceptance criteria; review procedures; and evaluation findings. The acceptance criteria contain a statement of the purpose of the review and the technical basis for determining acceptability. The technical basis consists of specific criteria which typically include reference to Part 50 and 100, and particularily the General Design Criteria of Appendix A, regulatory guides, codes and standards, and branch technical positions.

While, as mentioned before, there has been no fully disciplined attempt to relate every rule and regulation to every applicable standard review plan or Regulatory Guide, we have made a post facto study of these interrelationships and found, for example, that all but one General Design Criterion is specifically referenced in the SRPs. The only GDC not referenced explicitly in the SRP is GDC 51 "Fracture Prevention of Containment Pressure Boundary." However, SRP Section 3.8.2, which should have included such a reference, does specify that the materials of steel containments or steel portions of steel and concrete containments be reviewed for compliance with Article NE-2000 of Section NE of the ASME Boiler and Pressure Vessel Code. Compliance with this section of the Code will in general provide assurance that the basic requirements of GDC 51 are met.

To provide some additional perspective as to the interrelationships between the GDC, the other regulations, the SRP's, and Regulatory Guides, a preliminary survey was made of these documents. Enclosure 1 to this memorandum provides a listing of:

1. SRP sections where specific GDCs are referenced, listed by GDC (Table 1);

2. Reg. Guides where specific GDCs are referenced, listed by GDC (Table 2);

3. A cross-list of GDCs and regulations, listed by Regulatory Guide (Table 3); and

4. A cross-list of regulations, GDC, and Regulatory Guides, listed by SRP section (Table 4).

In general, the degree of congruence between a regulation and the SRP for any particular set of structures, systems or components reflects the specificity of the regulation itself and any implementing guidance, the experience of the staff, and the influence and interests of the Commission, the ACRS, the Boards, the public, and the industry.

Therefore, although there are identification and documentation concerns as expressed in my June 13, 1980 memorandum, I am nonetheless confident that the link exists in fact so that when a license review is properly carried out in accordance with the SRP, such a review adequately assures conformance with the Commission's regulations.

SRP and Licensing Process

Applicants for permits and licenses have had formal guidance on how to prepare their Safety Analysis Reports since June 1966, when a "Guide to the Organization and Contents of Safety Analysis Reports was issued by the AEC. Revision 1 to this guide was issued in October 1972, as the "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants." The Standard Format was revised again in September 1975 (Revision 2) and in November 1978 (Revision 3).

Since 1972 the staff guidance has required that applicants explicitly describe conformance with the General Design Criteria, (Appendix A to 10 CFR 50). Revision 3 (November 1978) was the first Standard Format to specify that applicants should address conformance with Regulatory Guides, but most applicants have done this since about 1973. Most SARs since 1972-73 contain sections which address the extent to which each GDC and, each applicable Regulatory Guide issued up to a time some months prior to the SAR submittal date is met.

Although justification for deviations from the Standard Review Plan has not yet been required to be explicitly documented, reviewers are expected to use the SRP as a guide in their review of all applications. In cases of facilities substantially constructed before the SRP was promulgated, the specific recommendations of the SRP or referenced regulatory guides may not have been followed or be needed. However, a design satisfying the basic safety requirements of the Commission's regulations is nevertheless required. The absence of explicit documentation justifying the deviation makes the "conformance trail" that much more troublesome.

My confidence that our overall review assures compliance with Commission regulations is supported by the staff performance in hearing cases in which the issue of compliance with particular provisions of the Commission's regulations has been challenged. In such cases, testimony in addition to the summary statements in our SER is often needed to explain how our review has lead us to the conclusion that the system in question will perform safely and in accordance with the applicable Commission's regulations. Although this may entail substantial additional explanation than that provided by the SER, the issue of compliance has been generally adjudicated favorably to the staff.

Finally, it is important to recognize that although the staff's review of an application is partially an "audit" review, the applicant for a license is obligated to assure compliance with applicable regulatory requirements. It is the applicant who bears the burden of proof on the issue. For issues in controversy the applicant bears this burden in the hearing process; for matters not in controversy before Licensing Boards,

the applicant bears this burden in the staff's review process. As a part of an application for an operating license, Section 3.1 of a typical FSAR recites compliance with all GDCs. While a useful summary of conformance, the remaining thousands of pages of an application are needed to adequately evidence specific compliance. The staff's audit review process tests these assertions. This review results in changes in principal safety systems. In general, these changes have not been limited to those necessary to comply in a minimal fashion with the language of the applicable regulation, but in general go beyond to assure the use of "good" design.

CONCLUSION

The problem of documentation of conformance with the Commission's regulations is a vexing, manpower intensive effort to which the staff, due to time and manpower limitations, has been forced to give inadequate attention. By good management effort, I hope to improve this situation and to gradually eliminate it. But to do so by an intense effort will be costly. This was the thrust of my June 13, 1980 memorandum. However, the defects in documentation should not be misconstrued as evidence of defects in the review process. Using a audit process, it is simply not possible for the NRC to state, based on its own knowledge, that every rule and regulation has been met for every applicable action by the applicant. However, considering the certifications made by the applicant, the degree to which guidance has been provided to the industry and the public regarding acceptable ways to meet the rules and regulations, the emphasis that the staff places in its reviews on areas of particular controversy and importance to safety, and the fact that both the ACRS review and the hearing process throw additional spotlights on the areas of safety significance relating to the regulations, gives confidence that our review process results in a reasonable basis for judgments as to whether the regulations have been met.

Harold R. Denton

Harold R. Denton, Director 7/23/80
Office of Nuclear Reactor Regulation

Enclosure: — IN BP.
Preliminary Survey of
Interrelationships Between
the Regulations, SRPs and
Regulatory Guides

cc: OGC
OPE
SECY

Attached to memo
7/23/88 fm. H.R
Denton.

ENCLOSURE 1

PRELIMINARY SURVEY OF INTERRELATIONSHIPS BETWEEN THE REGULATIONS, SRPS AND REGULATORY GUIDES

TABLE 1

STANDARD REVIEW PLAN SECTIONS WHICH REFERENCE GENERAL DESIGN CRITERIA

GDC	SRP Sections
1	3.22/3.9.2/3.9.3/3.9.5/3.11/4.5.2/5.2.3/5.4.2/6.3/7.1/7.2 7.3/7.4/7.5/7.6/8.1/8.2/8.3/10.3.6
2	2.4.3/3.2.1/3.3.1/3.3.2/3.4.1/3.4.2/3.5.1/3.5.3/3.8.1/3.8.2 3.8.3/3.8.4/3.8.5/3.9.2/3.9.3/3.9.4/3.9.5/3.10/3.11/5.4.6 5.4.7/6.3/7.1/7.2/7.3/7.4/7.5/7.6/8.1/8.2/8.3/9.1.1/9.2.1 9.2.6/9.3.1/9.3.3/9.3.4/9.3.5/9.4.1/9.4.2/9.4.3/9.4.5/9.5.4/ 9.5.5/9.5.6/9.5.7/9.5.8/10.3/10.4.7/10.4.9
3	7.1/7.2/7.3/7.4/7.5/7.6/8.1/8.2/8.3/9.5.1
4	3.5.1/3.5.2/3.5.3/3.6.1/3.6.2/3.8.1/3.8.2/3.8.3/3.8.4/3.8.5 3.9.2/3.9.3/3.9.4/3.9.5/3.11/5.4.1/5.4.6/5.4.7/6.3/6.7/7.1 7.2/7.3/7.4/7.5/7.6/8.1/8.2/8.3/9.1.1/9.2.1/9.2.6/9.3.1/ 9.3.3/9.3.4/9.3.5/9.4.1/9.4.2/9.4.3/9.4.4/9.4.5/9.5.4/9.5.5 9.5.6/9.5.7/9.5.8/10.2.3/10.3/10.4.7/10.4.9
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10	3.9.5/4.2/4.3/4.4/7.1/7.2/7.3/7.4/7.5/7.6
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15	3.9.1/3.9.2/3.9.4/5.2.2/5.4.2/7.1/7.2/7.6/7.7/9.5.6
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17	6.3/8.1/8.2/8.3/9.5.4
18	8.1/8.2/8.3
19	5.4.7/6.4/7.1/7.2/7.3/7.4/7.6/7.7/9.4.1/10.4.9
20	3.9.4/4.6/6.3/7.1/7.2/7.3/7.4/7.5/7.6/15.4.2/15.4.3
21	4.6/7.1/7.2/7.3/7.4/7.5/7.6/8.1/8.2/8.3
22	7.1/7.2/7.3/7.4/7.5/7.6/8.1/8.2/8.3
23	3.11/7.1/7.2/7.3/7.4/7.5/7.6
24	7.1/7.2/7.3/7.4/7.6/7.7/7.5

25	4.3/4.6/7.1/7.2/15.4.2/15.4.3
26	3.9.4/4.5.1/4.6/7.1/7.2/7.4/7.7/9.3.4/9.3.5
27	3.9.4/4.3/4.6/6.3/7.1/7.2/7.4/7.5/7.7/9.3.4/9.3.5
28	4.3/4.6/7.1/7.2/7.5/7.6/7.7
29	3.9.4/7.1/7.2/7.3/7.4/7.5/7.6/7.7/9.3.4
30	3.9.4/5.2.5
31	3.9.4/5.2.3/5.3.1/5.4.2
32	3.9.4/5.2.4/5.4.2
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34	5.4.6/5.4.7/6.1.1/7.1/7.3/7.4/7.5/8.1/8.2/8.3/10.3
35	6.1.1/6.3/7.1/7.2/7.3/7.5/7.6/8.1/8.2/8.3
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39	6.2.1/6.2.2/6.6
40	3.9.6/6.2.1/6.2.2/7.1/7.3/7.5/7.6/15.6.5
41	6.1.1/6.2.5/6.5.2/7.1/7.3/7.5/7.6/8.1/8.2/8.3
42	6.2.1/6.2.5/6.5.2/6.5.6
43	3.9.6/6.2.3/6.2.5/6.5.2/7.1/7.3/7.5/7.6
44	5.4.7/6.1.1/7.1/7.3/7.5/7.6/8.1/8.2/8.3/9.2.1/9.2.6 9.5.5/10.4.7/10.4.9
45	5.4.7/9.2.1/9.2.6/9.5.5/10.4.7/10.4.9
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50	3.8.1/3.8.2/6.2.2/6.2.5/7.1/7.3/7.5/7.6
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53	6.2.6

54	6.2.1/6.2.4/6.2.6/6.3/6.7/7.1/7.3/7.5/7.6
55	5.4.6/5.4.7/6.2.4/7.1/7.3/7.5/7.6/15.6.2/15.6.5
56	5.4.6/5.4.7/6.2.1/6.2.4/6.3/7.1/7.3/7.5/7.6
57	5.4.6/5.4.7/6.2.4/7.1/7.3/7.5/7.6
60	10.4.1/10.4.3/11.5
61	9.1.1
62	9.1.1
63	9.1.1/11.5
64	10.4.1/10.4.3/11.5

TABLE 2

REGULATORY GUIDES WHICH REFERENCE GENERAL DESIGN CRITERIA

GDC	Reg Guides
1	1.68,1.69,1.70,1.71,1.72,1.79,1.80,1.81,1.84,1.85,1.87 1.103,1.104,1.105,1.106,1.107,1.128,1.133,1.136,1.10, 1.15,1.16,1.18,1.19,1.20,1.26,1.31,1.36,1.41,1.43,1.44, 1.50,1.55,1.66,1.67,1.65
2	1.29,1.48,1.57,1.59,1.60,1.61,1.76,1.92,1.102,1.117,1.122, 1.124,1.129,1.130,1.135,1.142
3	1.75,1.120
4	1.14,1.44,1.46,1.78,1.91,1.95,1.96,1.106,1.115,1.142
5	1.104
13	1.56,1.97,1.133
14	1.31,1.36,1.56,1.83,1.121
15	1.56,1.83,1.121
17	1.6,1.32,1.75,1.93,1.108,1.137
18	1.32,1.108,1.118
19	1.78,1.95,1.97,1.114
20	1.22
21	1.75,1.118
28	1.77
30	1.45,1.65,1.84,1.85
31	1.36,1.65,1.83,1.99,1.106
32	1.83
35	1.2,1.7,1.82
36	1.82
37	1.82
38	1.82
39	1.82
40	1.82
41	1.1,1.52

TABLE 3

GENERAL DESIGN CRITERIA AND REGULATIONS REFERENCED IN REGULATORY GUIDES

Number	Reg. Guide	GDC	Regulation
1.1	Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal System Pumps	41	
1.2	Thermal Shock to Reactor Pressure Vessels	35	
1.3	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors.		
1.4	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors		
1.5	Assumptions Used for Evaluating the Potential Radiological Consequences of a Steam Line Break Accident for Boiling Water Reactors		
1.6	Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems	17	
1.7	Control of Combustible Gas Concentrations in Containment Following a Loss of Coolant Accident	35	
	Supplement to Safety Guide 7, Backfitting Considerations		
1.8	Personnel Selection and Training		
1.9	Selection, Design, and Qualification of Diesel-Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants (Comments requested by 1/26/79)		
1.10	Mechanical (Cadweld) Splices in Reinforcing Bars of Category I Concrete Structures	1	
1.11	Instrument Lines Penetrating Primary Reactor Containment	55, 56	
	Supplement to Safety Guide 11, Backfitting Considerations		
1.12	Instrumentation for Earthquakes		

42	1.52
43	1.52
44	1.27
45	1.127
50	1.63,1.80,1.81
53	1.35,1.98
54	1.96,1.141
55	1.11,1.141
56	.11,1.141
57	1.141
60	1.21,1.140
61	1.13,1.98,1.104,1.140
64	1.97
Appendix B	1.128,1.30,1.31,1.33,1.34,1.37,1.38,1.39,1.40,1.46 1.54,1.58,1.64,1.73,1.74,1.88,1.94,1.100,1.116,1.123
50.55A	1.26,1.46,1.53,1.62,1.75,1.118

1.13	Spent Fuel Storage Facility Design Basis	61	
1.14	Reactor Coolant Pump Flywheel Integrity	4	
1.15	Testing of Reinforcing Bars for Category 1 Concrete Structures	1	
1.16	Reporting of Operating Information -- Appendix A Technical Specifications	1	
1.17	Protection of Nuclear Plants Against Industrial Sabotage		
1.18	Structural Acceptance Test for Concrete Primary Reactor Containments	1	
1.19	Nondestructive Examination of Primary Containment Liner Welds	1	
1.20	Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing	1	
1.21	Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Release of Radioactivity in Liquid and Gaseous Effluents from Light Water-Cooled Nuclear Power Plants	60	
1.22	Periodic Testing of Protection System Actuation Functions	20	
1.23	Onsite Meteorological Programs		
1.24	Assumptions Used for Evaluating the Potential Radiological Consequences of a Pressurized Water Reactor Gas Storage Tank Failure		
1.25	Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors		
1.26	Quality Group Classifications and Standards for Water Steam-and Radio-Waste-Containing Components of Nuclear Power Plants	1	50, 55A

1.27	Ultimate Heat Sink for Nuclear Power Plants	44	
1.28	Quality Assurance Program Requirements (Design and Construction)		App B
1.29	Seismic Design Classification	2	
1.30	Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment		App B
1.31	Control of Ferrite Content in Stainless Steel Weld Metal	1, 14	App B
1.32	Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants	17, 18	
1.33	Quality Assurance Program Requirements (Operation)		App B
1.34	Control of Electroslag Weld Properties		App B
1.35	Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containment Structures	53	
1.36	Nonmetallic Thermal Insulation for Austenitic Stainless Steel	1, 14, 31	
1.37	Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants		App B
1.38	Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants		App B
1.39	Housekeeping Requirements for Water-Cooled Nuclear Power Plants		App B
1.40	Qualification Tests of Continuous-Duty Motors Installed Inside the Containment of Water-Cooled Nuclear Power Plants		App B

1.41	Preoperational Testing of Redundant Onsite Electric Power Systems to Verify Proper Load Group Assignments	1	
1.42	Interim Licensing Policy on As-Low-As-Practicable for Gaseous Radioiodine Releases from Light-Water-Cooled Nuclear Power Reactors		
1.43	Control Stainless Steel Weld Cladding of Low-Alloy Steel Components	1	
1.44	Control of the Use of Sensitized Stainless Steel	1, 4	
1.45	Reactor Coolant Pressure Boundary Leakage Detection Systems	30	
1.46	Protection Against Pipe Whip Inside Containment	4	
1.47	Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems		50.55A, App B
1.48	Design Limits and Loading Combinations for Seismic Category I Fluid System Components	2	
1.49	Power Levels of Nuclear Power Plants		
1.50	Control of Preheat Temperature for Welding of Low-Alloy Steel	1	
1.51	Inservice Inspection of ASME Code Class 2 and 3 Nuclear Power Plant Components		
1.52	Design, Testing, and Maintenance Criteria for Post-accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants	41, 42, 43	
1.53	Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems		50.55A
1.54	Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants		App B
1.55	Concrete Placement in Category 1 Structures	1	

1.56	Maintenance of Water Purity in Boiling Water Reactors	13, 14, 15	
1.57	Design Limits and Loading Combinations for Metal Primary Reactor Containment System Components	2	
1.58	Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel		App B
1.59	Design Basis Floods for Nuclear Power Plants	2	
1.60	Design Response Spectra for Seismic Design of Nuclear Power Plants	2	
1.61	Damping Values for Seismic Design of Nuclear Power Plants	2	
1.62	Manual Initiation of Protective Actions		50.55A
1.63	Electric Penetration Assemblies in Containment Structures for Light-Water-Cooled Nuclear Power Plants	50	
1.64	Quality Assurance Requirements for the Design of Nuclear Power Plants		App B
1.65	Materials and Inspection for Reactor Vessel Closure Studs	1, 30, 31	
1.66	Nondestructive Examination of Tubular Products	1	
1.67	Installation of Overpressure Protective Devices	1	
1.68	Initial Test Programs for Water-Cooled Nuclear Power Plants	1	
1.68.1	Preoperational and Initial Startup Testing of Feedwater and Condensate Systems for Boiling Water Reactor Power Plants		
1.68.2	Initial Startup Test Program to Demonstrate Remote Shutdown Capability for Water-Cooled Nuclear Power Plants	1	

1.69	Concrete Radiation Shields for Nuclear Power Plants	1	
1.70	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants - LWR Edition	1	
1.71	Welder Qualification for Areas of Limited Accessibility	1	
1.72	Spray Pond Piping Made From Fiberglass-Reinforced Thermosetting Resin	1	
1.73	Qualification Tests of Electric Valve Operators Installed Inside the Containment of Nuclear Power Plants		App B
1.74	Quality Assurance Terms and Definitions		App B
1.75	Physical Independence of Electric Systems	3, 17, 21	50.55A
1.76	Design Basis Tornado for Nuclear Power Plants	2	
1.77	Assumptions Used for Evaluating a Control Rod Ejection Accident for Pressurized Water Reactors	28	
1.78	Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release	4, 19	
1.79	Preoperational Testing of Emergency Core Cooling Systems for Pressurized Water Reactors	1	
1.80	Preoperational Testing of Instrument Air Systems	1, 50	
1.81	Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants	1, 50	
1.82	Sumps for Emergency Core Cooling and Containment Spray Systems	35, 36, 37, 38 39, 40	

1.83	Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes	14, 15, 31, 32	
1.84	Design and Fabrication Code Case Acceptability - ASME Section III Division 1	1, 30	
1.85	Materials Code Case Acceptability - ASME Section III Division 1	1, 30	
1.86	Termination of Operating Licenses for Nuclear Reactors		
1.87	Guidance for Construction of Class 1 Components in Elevated-Temperature Reactors (Supplement to ASME Section III Code Classes 1592, 1593, 1594, 1595, and 1596)	1	
1.88	Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records		App B
1.89	Qualification of Class IE Equipment for Nuclear Power Plants		
1.90	Inservice Inspection of Prestressed Concrete Containment Structures With Grouted Tendons	53	
1.91	Evaluations of Explosions Postulated to Occur on Transportation Routes Near Nuclear Power Plants	4	
1.92	Combining Modal Responses and Spatial Components in Seismic Response Analysis	2	
1.93	Availability of Electric Power Sources	17	
1.94	Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants		App B
1.95	Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release	4, 19	
1.96	Design of Main Steam Isolation Valve Leakage Control Systems for Boilding Water Reactor Nuclear Power Plants	4, 54	

1.97	Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident	13, 19, 64
1.98	Assumptions Used for Evaluating the Potential Radiological Consequences of a Radioactive Offgas System Failure in a Boiling Water Reactor	61
1.99	Effects of Residual Elements on Predicted Radiation Damage to Reactor Vessel Materials	31
1.100	Seismic Qualification of Electric Equipment for Nuclear Power Plants	App B
1.101	Emergency Planning for Nuclear Power Plants	
1.102	Flood Protection for Nuclear Power Plants	2
1.103	Post-Tensioned Prestressing Systems for Concrete Reactor Vessels and Containments	1
1.104	Overhead Crane Handling Systems for Nuclear Power Plants	1, 5, 61
1.105	Instrument Setpoints	1
1.106	Thermal Overload Protection for Electric Motors on Motor-Operated Valves	1, 4, 31
1.107	Qualifications for Cement Grouting for Prestressing Tendons in Containment Structures	1
1.108	Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants	17, 18
1.109	Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I	App I
1.110	Cost-Benefit Analysis for Radwaste Systems for Light-Water-Cooled Nuclear Power Reactors	App I
1.111	Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors	App I

1.112	Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Light-Water-Cooled Power Reactors		App I
1.113	Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I		App I
1.114	Guidance on Being Operator at the Controls of a Nuclear Power Plant	19	
1.115	Protection Against Low Trajectory Turbine Missiles	4	
1.116	Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems		App B
1.117	Tornado Design Classification	2	
1.118	Periodic Testing of Electric Power and Protection Systems	18, 21	50.55A
1.119	Surveillance Program for New Fuel Assembly Designs		
1.120	Fire Protection Guidelines for Nuclear Power Plants	3	
1.121	Bases for Plugging Degraded PWR Steam Generator Tubes	14, 15	
1.122	Development of Floor Design Response Spectra for Seismic Design of Floor-Supported Equipment or Components	2	
1.123	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants		App B
1.124	Service Limits and Loading Combinations for Class I Linear Type Component Supports	2	
1.125	Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants		App K

1.126	An Acceptable Model and Related Statistical Methods for the Analysis of Fuel Densification		App K
1.127	Inspection of Water-Control Structures Associated with Nuclear Power Plants	45	
1.128	Installation Design and Installation of Large Lead Storage Batteries for Nuclear Power Plants	1	
1.129	Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants	2	
1.130	Service Limits and Loading Combinations for Class I Plant-and-Shell-Type Component Supports	2	
1.131	Qualification Test of Electric Cables, Field Splices, and Connections for Light-Water-Cooled Nuclear Power Plants		
1.132	Site Investigations for Foundations of Nuclear Power Plants		
1.133	Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors	1, 13	
1.134	Medical Certification and Monitoring of Personnel Requiring Operator Licenses		
1.135	Normal Water Level and Discharge at Nuclear Power Plants	2	
1.136	Material for Concrete Containments	1	
1.137	Fuel-Oil Systems for Standby Diesel Generators	17	
1.138	Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants		
1.139	Guidance for Residual Heat Removal		
1.140	Design, Testing, and Maintenance Criteria for Normal Ventilation Exhaust System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants	60, 61	

1.141	Containment Isolation Provisions for Fluid Systems	54, 55, 56, 57
1.142	Safety-Related Concrete Structures for Nuclear Power Plants (Other Than Reactor Vessels and Containments)	2, 4
1.143	Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants	

TABLE 4

REGULATIONS, GENERAL DESIGN CRITERIA AND REGULATORY GUIDES REFERENCED IN SECTIONS OF THE STANDARD REVIEW PLAN

SRP Section	Title	Regulation	GDC	Reg. Guide
2.1.1	Site Location and Description	Pt 100		
2.1.2	Exclusion Area Authority and Control . .	Pt 100		
2.1.3	Population Distribution	Pt 100		
2.2.1-2.2.2.	Locations and Routes, Descriptions. . . .			1.78, 1.91, 1.95
2.2.3	Evaluation of Potential Accidents	Pt 100		
2.3.1	Regional Climatology			1.27, 1.76
2.3.2	Local Meteorology			
2.3.3	Onsite Meteorological Measurements Programs			1.21, 1.23
2.3.4	Short Term (Accident) Diffusion Estimates.	Pt 100		1.3, 1.4, 1.5, 1.23, 1.24, 1.25 1.27, 1.77
2.3.5	Long Term (Routine) Diffusion Estimates .			1.21, 1.23, 1.42, 1.111
2.4.1	Hydrologic Description			
2.4.2	Floods			1.29, 1.59, 1.102, 1.135
2.4.3	Probable Maximum Flood (PMF) on Streams and Rivers		2	1.29, 1.59, 1.102, 1.135
2.4.4	Potential Dam Failures (Seismically Induced).	Pt 100-App.A		1.29, 1.59, 1.102, 1.135
2.4.5	Probable Maximum Surge and Seiche Flooding			1.29, 1.59, 1.135
2.4.6	Probable Maximum Tsunami Flooding . . .			1.29, 1.59, 1.102, 1.135
2.4.7	Ice Flooding			1.27, 1.29, 1.135

SRP Section	Title	Regulation	GDC	Reg. Guide
2.4.8	Cooling Water Canals and Reservoirs . .			1.27, 1.29, 1.59, 1.102, 1.135
2.4.9	Channel Diversions			1.27
2.4.10	Flood Protection Requirements			1.25, 1.29, 1.59, 1.102
2.4.11	Low Water Considerations			1.27
2.4.12	Dispersion, Dilution, and Travel Times of Accidental Releases of Liquid Effluents	Pt 20		1.26, 1.27, 1.29
2.4.13	Groundwater	Pt 20		
2.4.14	Technical Specifications and Emergency Operation Requirements			
2.5.1	Basic Geologic and Seismic Information.	Pt 100-App.A		
2.5.2	Vibratory Ground Motion	Pt 100-App.A		1.60
2.5.3	Surface Faulting	Pt 100-App.A		
2.5.4	Stability of Subsurface Materials . . .	Pt 150-App.A		1.132
2.5.5	Slope Stability	Pt 100-App.A		
3.2.1	Seismic Classification	Pt 100-App.A	2	1.29
3.2.2	System Quality Group Classification ..	App.B, 50.55A	1	1.26, 1.29, 1.48, 1.51
3.3.1	Wind Loadings		2	
3.3.2	Tornado Loadings		2	
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Hendrie
Commissioner Bradford

THRU: William J. Dircks
Acting Executive Director for Operations

FROM: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

SUBJECT: COMPLIANCE OF OPERATING LICENSE APPLICATIONS WITH CURRENT NRC REGULATIONS, REGULATORY GUIDES, AND BRANCH TECHNICAL POSITIONS

This memorandum responds to the May 12, 1980 memorandum from S. J. Chilk to W. J. Dircks wherein the Commission requested an estimate of the staff and applicant resources required to identify the extent to which operating license applications comply with all current safety-related regulations, regulatory guides, and branch technical positions, and to document the bases for any instances of non-conformance.

Based on our review of this request, we have concluded that such an effort would require significant additional staff and applicant resources. We estimate that about two additional man-years per application would be required by both the staff and each license applicant. (The staff currently estimates about 11.5 professional man-years are needed to conduct an OL safety review). In addition, about three man-years would be required at the front-end to restructure the way the staff reviews applications for compliance with those regulations and related regulatory guidance documents that are not normally addressed in staff safety reviews and Safety Evaluation Reports, and to issue additional guidance for conducting and documenting these restructured staff reviews. The problems involved in accomplishing this activity and the bases for our estimates are presented below.

The first problem involves the fact that the staff's current review procedures are not directed toward providing a detailed and specific accounting of compliance with each and every regulatory requirement and related regulatory guide. Rather, the radiological safety review of operating license applications is based on the Standard Review Plan (SRP) which incorporates by reference applicable regulatory guides and all approved Branch Technical Positions (see Enclosure 1). Conformance with the Standard Review Plan and its references

is generally believed to constitute compliance with applicable NRC regulations, although a systematic analysis to establish this congruence has not been conducted. It should be noted, however, that compliance with individual regulations has been adjudicated favorably in some previous cases, and contentions have been admitted in some current cases which involve compliance with each of the applicable regulations.

A second problem is that the staff's review is of the audit type; that is, not all plant features are reviewed by the staff for conformance to the Standard Review Plan. Given the nature of an audit review, it is not possible for the staff to demonstrate in detail that an application is in complete compliance with all elements of either the Standard Review Plan or the applicable regulations. However, if the results of the audit review are favorable, the staff has felt that it is able to conclude with reasonable assurance that the entire application is in compliance with the regulations and the SRP.

A third problem involves the fact that there are some regulations for which there is no corresponding guidance to reviewers in the SRP. One known example is that General Design Criterion 51, "Fracture Prevention of Containment Pressure Boundary," is not explicitly referenced in the relevant SRP sections.

A fourth problem is that the staff Safety Evaluation Reports have always been written to summarize the results of the audit reviews and were not intended to document all aspects of the review. These reports tend to highlight those areas in which disagreements occurred between the staff and the applicant and the way in which these areas were resolved. Therefore, it is not always possible to find in these reports an accounting of the conformance of these applications to some of the NRC regulations or regulatory guidance that received most of the staff attention in these reviews.

In order to accomplish and document the type of review described in the May 12 Chilk memorandum, the staff would have to complete the following activities:

(1) Review each of the applicable NRC safety regulations, including all subparts, and prepare appropriate guidelines for assessing compliance in instances where such guidelines do not currently exist in the SRP. Develop a list of current regulatory guides not incorporated by reference in the SRP and a list of approved staff requirements and positions not yet incorporated in the SRP, such as new staff requirements related to TMI, and a number of staff positions given interim approval by the Director of NRR pending incorporation in the SRP.

(2) Require applicants to address in detail in their license applications their conformance with all current safety regulations, current regulatory guides not in the SRP, the SRP, and other approved staff requirements or positions.

(3) Require applicants to justify any areas of non-conformance with the regulatory requirements and guidance listed above.

(4) Review responses to (2) and (3) above. This review would be an expansion of the staff audit review to include all aspects of the application that deal with current regulatory requirements and guidance.

(5) Prepare safety evaluations to address each of the matters described above to indicate the degree of conformance and the bases for any areas of non-conformance.

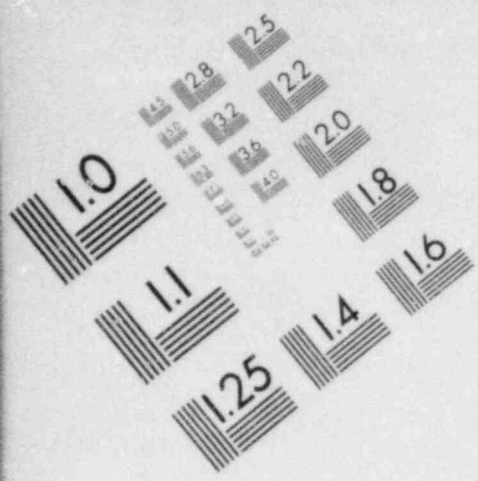
Item (1) involves considerable front-end work necessary to organize the reviews on a consistent basis. We estimate that about ~~three man-years of NRR staff~~ effort would be required to accomplish this one-time effort. ~~OELD resources would also be involved~~ in this work. We estimate that it would take each applicant about ~~two additional man-years~~ to accomplish Items (2) and (3) and a comparable effort on the part of the staff to accomplish Items (4) and (5) for each application.

While we believe a requirement for this form of documentation in the staff safety evaluation reports may be desirable, we do not recommend that it be implemented as a prerequisite for authorizing full power for near-term OLs. Rather, if the Commission decides to adopt this approach for all new applications, we recommend that a reasonable grace period for implementation be adopted (about 1½ years in our judgment) for the following reasons:

(1) We believe that the health and safety of the public is being adequately protected by the current staff safety review process. Although strict compliance with the Standard Review Plan has not been required for the near term OL applications, it was used extensively in the staff reviews of those applications. In conjunction with the TMI-related requirements, the "normal" staff review that was performed for these plants provides greater assurance of adequate compliance with the complete body of regulatory requirements than for any other plants in operation.

(2) The audit reviews conducted by the staff provide reasonable assurance that the applications can eventually be shown, in detail, to be in compliance with the Commission's regulations and other NRC regulatory requirements.

(3) The manpower costs to NRC and licensees at this time would be very disruptive of activities now underway in response to the changes in regulatory requirements stemming from Three Mile Island.



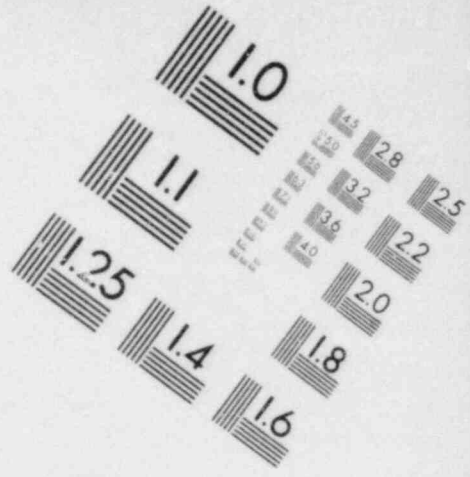
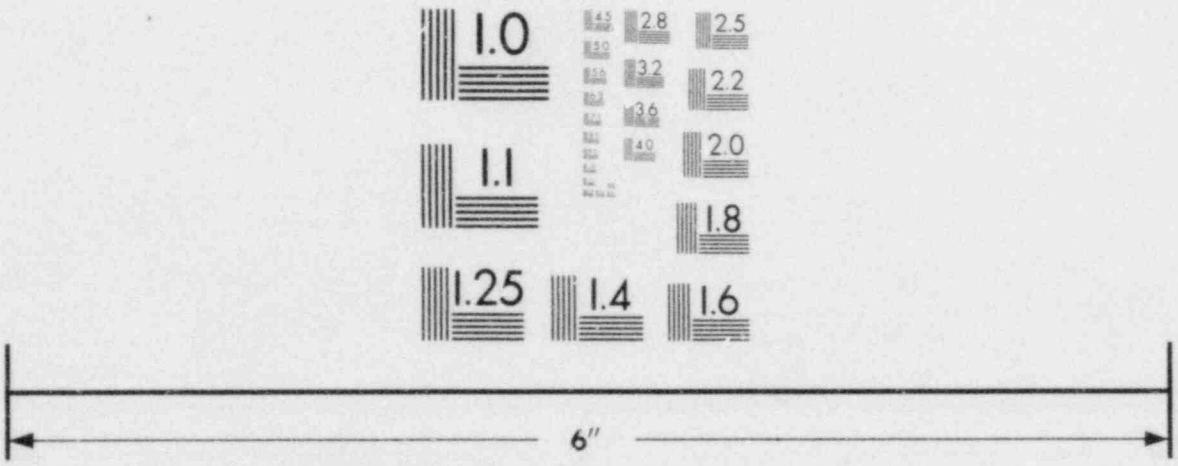
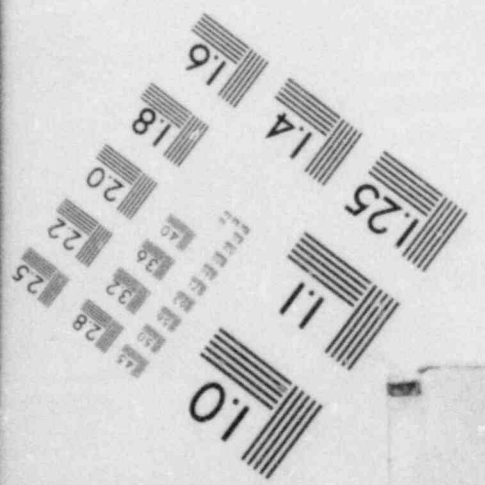
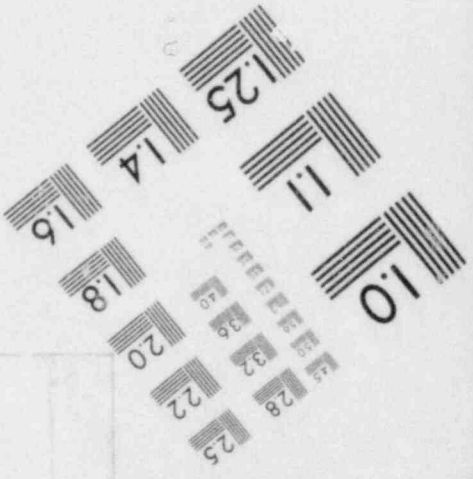


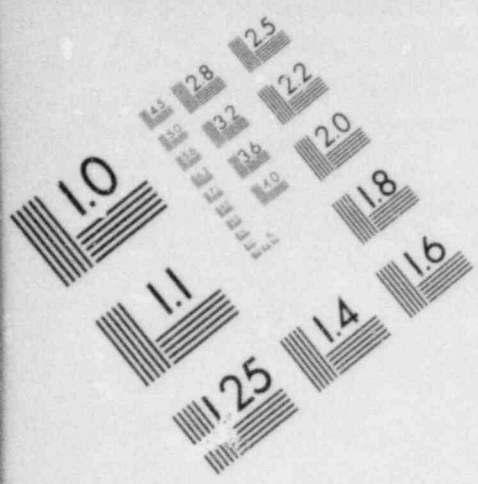
IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART







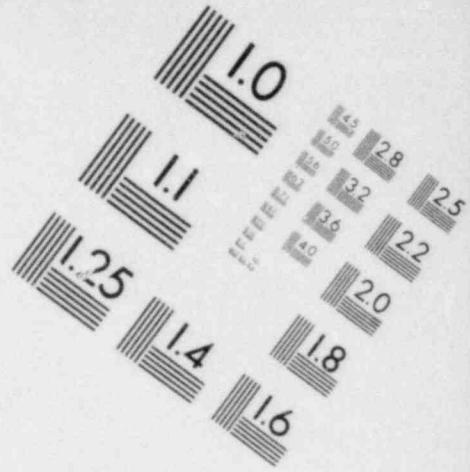
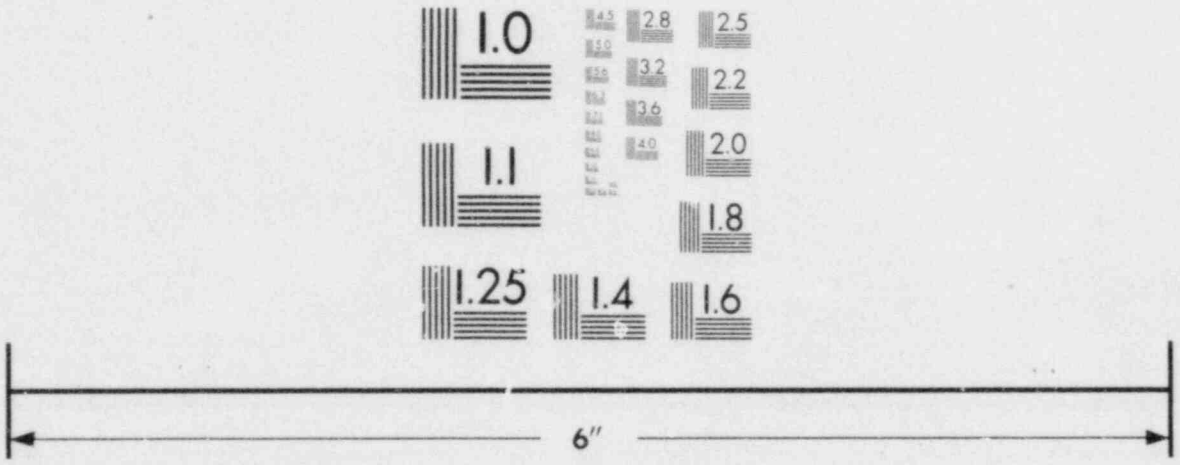


IMAGE EVALUATION
TEST TARGET (MT-3)



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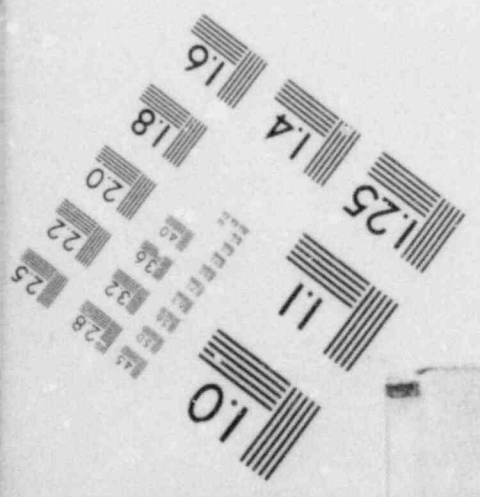

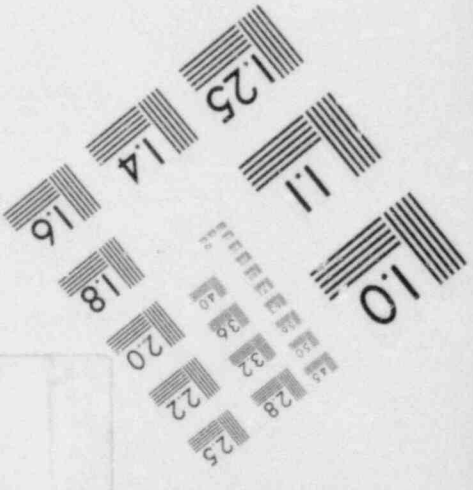

(4) There would be large economic costs in accomplishing these activities on near-term applications before authorizing full power operation because of the extensive delays that would result.

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure: - IN BP.
Background Information on
Application of Standard
Review Plan

cc: OPE
OGC
SECY

Attached to Memo 6/13/80 from W. Dircks

Enclosure 1

Background Information on Application of Standard Review Plan

On August 12, 1975, B. C. Rusche, the Director of the Office of Nuclear Reactor Regulation (NRR) issued NRR Office Letter No. 2. NRR Office Letter No. 2 directed that except for clarification and correction of errors, the Standard Review Plan would remain fixed until any proposed change of substance was considered by the Division Directors reviewed by the Regulatory Requirements Review Committee, and then authorized by the Director, NRR.

Mr. Rusche, on June 18, 1976, issued NRR Office Letter No. 9 (Attachment 1). This Office Letter directed the Divisions of System Safety, Project Management, and Site Safety and Environmental Analysis to establish and submit procedures to the NRR Office Director by August 1, 1976, for documenting the bases for all deviations from the Standard Review Plans. NRR Office Letter No. 9 also directed that these procedures were to be implemented on all operating license application reviews by January 1, 1977.

On September 20, 1976, Mr. Rusche issued a memorandum (Attachment 2) to the NRR Division Directors approving the implementary procedure for documentation of deviations from the Standard Review Plans. This memorandum directed that Safety Evaluation Reports issued after January 1, 1977, for plants under review for operating licenses incorporate documentation of deviations from the Standard Review Plan.

On January 31, 1977, Mr. Rusche issued a memorandum (Attachment 3) to the NRR Division Directors. This memorandum withdrew the directive set forth in the September 20, 1976, memorandum and in its stead issued a superseding directive establishing an alternate program as follows:

(1) Require the staff to assess the Standard Review Plan, determine any changes needed to assure that its requirements were realistic and practical of achievement, and initiate the actions needed to implement these changes.

(2) Require the staff to implement the policy established in NRR Office Letter No. 9 for all operating license applications docketed after January 1, 1977.

As a result the applications for fourteen operating licenses now in review were not required to be reviewed in accordance with the policy established in NRR Office Letter No. 9. These applications are listed below:

Salem 2
North Anna 2
Farley 2
Diablo Canyon 1 & 2
Sequoyah 1 & 2
McGuire 1 & 2
Fermi 2
Zimmer 1
Shoreham 1
Watts Bar 1 & 2

For all remaining operating license applications the policy established in NRR Office Letter No. 9 was to be implemented as part of the normal review activities for these applications.

We are currently reviewing NRR Office Letter No. 9 to determine if it is feasible to extend its applicability to more plants.

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

June 18, 1976

R. Heineman, Director, Division of Systems Safety
R. Boyd, Director, Division of Project Management
R. Denton, Director, Division of Site Safety and Environmental Analysis
V. Stello, Jr., Director, Division of Operating Reactors

NRR OFFICE LETTER NO. 9

SUBJECT: Documentation of Departures from Standard Review Plan

The purpose of this Office Letter is to establish NRR policy with respect to documentation of departures from the Standard Review Plan (SRP). Use of the Standard Review Plan as a routine tool in our review process was established by Office Letter No. 2 dated August 12, 1975. This letter directed in part that:

> "Standard Review Plans should be used by each NRR project manager and technical reviewer to assure consistent evaluation for all applications. Careful attention to the uniform implementation of SRP's by each individual NRR staff member will assure an acceptable level of safety for all plants licensed."

A special problem arises with respect to operating license reviews when these review plans are used. Because the construction permit reviews of these facilities were not reviewed along the Standard Review Plan guidelines, licensing decisions were and are continuing to be made concerning the acceptability of alternative approaches. These decisions, and especially the bases for these decisions, are often not documented in the Safety Evaluations which summarize the staff reviews. The staff spends considerable resources assuring that plants have a safe design prior to authorizing plant operation, but the staff accomplishments can be lost if the bases for staff decisions are not clearly documented for future use.

From time to time in the future, we will be called on to demonstrate the safety of operating plants and their relationship to current licensing criteria. It would be extremely difficult and inefficient on these occasions for the staff to re-review and determine the bases for acceptance of these plants with respect to various current issues.

Therefore, in an effort to minimize the number of plants where this duplicative effort may be necessary, I am directing the Divisions of Systems Safety, Project Management, and Site Safety and Environmental Analysis to do the following:

1. Establish and submit procedures to me by August 1, 1976, for documenting the bases for all deviations from the Standard Review Plans in each operating license Safety Evaluation. Special attention should be given to documenting departures from SRP Acceptance Criteria. The Division of Project Management will take the lead responsibility for coordinating this effort.

2. Implement these procedures for all operating license Safety Evaluation Reports to be issued after January 1, 1977.

Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

ATTACHMENT 2

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

September 20, 1976

MEMORANDUM FOR: Roger S. Boyd, Director, Division of Project Management
Robert E. Heineman, Director, Division of Systems Safety
Victor Stello, Jr., Director, Division of Operating Reactors
Harold R. Denton, Director, Division of Site Safety and Environmental Analysis

FROM: Ben C. Rusche, Director, Office of Nuclear Reactor Regulation

SUBJECT: DOCUMENTATION OF DEVIATIONS FROM THE STANDARD REVIEW PLAN

Reference NRR Office Letter No. 9 which established NRR policy with respect to documentation of departures from the Standard Review Plan.

I now have approved the implementing procedure for documentation of these deviations. A copy of this procedure is enclosed.

Safety Evaluation Reports issued after January 1, 1977, for plants under review for operating licenses and issued after August 1, 1977, for applications under review for construction permits or preliminary design approval are to incorporate documentation of the deviations from the Standard Review Plan.

/s/ Ben C. Rusche

Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Enclosure:
Procedure

cc w/enclosure:
NRR Technical Personnel

PROCEDURE FOR DOCUMENTATION

OF DEVIATIONS FROM THE STANDARD REVIEW PLAN

Introduction

The staff review of nuclear plant designs described in Safety Analysis Reports is performed within the guidelines established by the Standard Review Plan (NUREG-75/087), issued in September 1975, and as since amended. Use of the acceptance criteria of the Standard Review Plan as a measure of the acceptability of plant design features assures both a consistent evaluation of proposed plant designs and an acceptable level of safety for all plants licensed. The Standard Review Plan also describes and documents the acceptability of specific design approaches to satisfy certain of the acceptance criteria. We recognize, however, that alternate design approaches may satisfy these acceptance criteria equally well. Further, we recognize that, with proper justification, applicants may be able to demonstrate that particular provisions of the acceptance criteria need not be met at all.

Currently, significant difficulties arise when the Standard Review Plan is used during the operating license review of a plant design, These difficulties stem from the fact that the plant design at its construction permit stage of licensing was reviewed and approved against different guidelines due to the lack of the Standard Review Plan at that earlier stage of review; some future reviews will encounter the same difficulties due to the same reason or to changes to the Standard Review Plan that have occurred during the intervening period. In either event,

deviations will exist in the plant design relative to the then current Standard Review Plan, and the staff is or will be faced with licensing decisions regarding the acceptability of the design described in the Final Safety Analysis Report.

In the past, applicants have expended considerable efforts justifying, and the staff has spent considerable time evaluating, particular plant design features to assure an acceptable level of safety. Often these efforts have not been properly documented to clearly indicate the bases for acceptability of the design. To improve the usefulness of our Safety Evaluation Reports as a record of such decisions and to minimize the need for future reassessments of operating plants to demonstrate adequate levels of safety relative to current criteria, it is desirable that the bases for such licensing decisions be clearly documented in the Safety Evaluation Reports that summarize the staff review of the Final Safety Analysis Report. To this end, any deviations from current Standard Review Plan acceptance criteria will need to be listed and justified in the Final Safety Analysis Report and in the staff's Safety Evaluation Report prior to completion of the operating license stage of review.

A problem of similar type but of much less magnitude may exist with respect to some construction permit and standard design applications and associated staff reviews. Since all new applications for construction permits or for preliminary design approval of standard designs must address the information needs identified in Revision 2 to the Standard Format and Content of Safety Analysis Reports, deviations from the

acceptance criteria of the Standard Review Plan are expected to be non-existent or minimized. However, alternate design approaches may be proposed by the applicant, and it is possible that deviations may arise during the course of the review. In any event, any deviations or alternate design approaches, whether initially proposed or developed during the course of the staff review, will need to be listed and justified in the Preliminary Safety Analysis Report and in the staff's Safety Evaluation Report prior to completion of this stage of review.

This document presents the procedures that should be followed (1) by applicants and (2) by staff reviewers and Licensing Project Managers to assure that adequate documentation of deviations and alternate approaches in plant designs relative to the Standard Review Plan is provided in Safety Analysis Reports and in Safety Evaluation Reports, respectively.

Definition of Deviation

For the purposes of this procedure, a deviation is defined as a lack of conformance of a plant design feature to one or more provisions of the acceptance criteria given in the Standard Review Plan. An alternate and acceptable design approach to satisfying the Standard Review Plan acceptance criteria is not considered to be a deviation, but the bases for acceptability must also be documented in the Safety Analysis Report and in the Safety Evaluation Report.

Procedure

The procedure for documenting deviations from the Standard Review Plan requires the applicant initially to identify the deviation and provide the bases for acceptability. This information should be included in the Safety Analysis Report and reviewed by the staff as a part of the normal review process. The results of the review should be described in the Safety Evaluation Report to provide clear documentation of all deviations, including the bases for acceptability. The same procedure should be followed for alternate design approaches. The procedure is based on the implicit assumption that a program will be established whereby plants licensed for operation will be maintained continuously up-to-date with regard to changes in licensing requirements (i.e., at the time a new staff position is developed, a decision regarding its applicability on a generic basis or on each plant, on a case-by-case basis, will also be made and implemented).

The specific steps in the procedure for a new application are:

1. The applicant will identify and provide bases for all deviations from the acceptance criteria given in the Standard Review Plan. The information should be contained in those Safety Analysis Report sections that describe the systems, components, or structures in which the deviations exist. In addition, the applicant should provide in Chapter 1 a summary listing of the deviations and an identification of the sections in the Safety Analysis Report wherein the deviations are described and justified.

2. During the acceptance review of the Safety Analysis Report, the staff should determine that this information has been provided and should inform the applicant of any obvious deficiencies.

3. Following docketing of the Safety Analysis Report, the staff should perform a review of the deviations and their bases, identify other deviations that should be discussed in the Safety Analysis Report, and request additional information as necessary at the first round request for additional information (Q-1) stage of review.

4. At the second round request for additional information (Q-2) stage of review, the staff should inform the applicant of its positions on the deviations and their bases.

5. Following review of the applicant's response, draft Safety Evaluation Report inputs should be prepared that describe each deviation and the results of the staff review of the bases for their acceptability; the Safety Evaluation Report inputs should also include a general statement denoting acceptability of the applicant's design relative to the grouping of acceptance criteria given in the Standard Review Plan sections. As stated previously, the Safety Evaluation Report inputs should also include discussions of any alternate approaches to staff positions that have been adopted by the applicant and the bases for acceptability.

6. The Licensing Project Manager should include a section in the Safety Evaluation Report that notes that the review has been made using the Standard Review Plan criteria as of the application docket date, tabulates all deviations from those criteria, and identifies the location in the Safety Evaluation Report where the discussion may be found.

The procedural steps given above relate to future applications. Modifications to these procedural steps will be made in order to implement the procedure for applications currently in the licensing process. Specific steps will be taken to assure that the implementation will be consistent with the Commission's standardization and replication policies.

IMPLEMENTATION

1. Plants Currently Under Review for Operating Licenses

Three plants have Safety Evaluation Report issuance dates currently scheduled beyond January 1, 1977. These are Shoreham (March 1977), Zimmer 1 (July 1977), and Hatch 2 (December 1977). We will request the applicants for Shoreham and Zimmer to submit their listing of deviations with justification in our second round requests for additional information scheduled for September 1976. Reviewers should begin independent reviews of these plants at this time to permit completion of effort in time for Safety Evaluation Report issuance. A letter will be sent to the applicant for Hatch to request submittal of the needed information.

One plant, Watts Bar 1/2, has recently been tendered for docketing. The request for the list of deviations with justification will be included in our initial request for additional information.

One plant, Fermi 2, will have its Safety Evaluation Report issued late this year. However, it will be incomplete since operation is not contemplated until 1980. A major supplement will be issued a year or so before operation. A letter to the applicant will inform him that the matter of deviations will be included at that time. Other plants currently under review will not be considered even though schedule changes may slip the Safety Evaluation

Reports beyond January 1, 1977. These plant include Davis Besse-1, Arkansas -2, and McGuire 1/2.

2. Plants with Construction Permits and Which Will Apply for Operating Licenses

The LaSalle 1/2 and WPPSS 2 applications are scheduled for FSAR submittal in September and October 1976, respectively. We can implement the procedure for these plants at the acceptance review stage.

For the other 27 plants beyond these two that currently have a construction permit, a letter will request inclusion of the deviation information in the Final Safety Analysis Report.

3. Plants Currently Under Review for Construction Permits

Letters will be sent to applicants for plants which have issuance dates for Safety Evaluation Reports, or major supplements to update delayed plants, currently scheduled beyond August 1, 1977, to inform them that their Safety Analysis Reports or supplements and our Safety Evaluation Reports will need to contain the listing of deviations and justification. No non-delayed plant is in this status. The delayed plants include Douglas Point 1/2, Greenwood 2/3, Allens Creek 1/2, Montague 1/2, and Barton 1/2. New England 1/2 has been tendered for docketing. The requirement on the list of deviations and justification will be included in our initial request for additional information.

Other plants (25 in number, 15 of which are in the post-ACRS stage) will not be considered at this time even though schedule changes may slip the Safety Evaluation Reports or supplements beyond May 1, 1977.

4. Future Construction Permit Applications

The requirement for the list of deviations and justification will be included in our acceptance review letter for those applications submitted within six months of issuance of the change to the Standard Format discussed in item 6 below. The information will be expected to be in a Safety Analysis Report submitted after such a period of time.

5. Construction Permit Applications Referencing Approved Standard Designs or Replicating Base Plants

The requirement for providing the list of deviations and justification in the Preliminary Safety Analysis Report will be implemented only for those portions of the Preliminary Safety Analysis Report that require a de novo review in accordance with the Standardization Policy or the Replication Policy, as applicable. The requirement will be applied fully to the reviews of reference designs for which the scheduled issuance date of the Safety Evaluation Report is beyond August 1, 1977.

6. General

A change to the Standard Format will be processed to require the inclusion of the listing of deviations and justification in Safety Analysis Reports.

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

JAN 3 1 1977

MEMORANDUM FOR: R. Boyd, Director, Division of Project Management
R. Heineman, Director, Division of Systems Safety
V. Stello, Director, Division of Operating Reactors
H. Denton, Director, Division of Site Safety and Environmental Analysis

FROM: Ben C. Rusche, Director, Office of Nuclear Reactor Regulation

SUBJECT: REVISED PROCEDURE FOR DOCUMENTATION OF DEVIATIONS FROM THE STANDARD REVIEW PLAN

NRR Office Letter No. 2, issued on August 12, 1975, directed the staff to use the Standard Review Plan to assure consistent evaluation of all applications. It also directed that, except for clarification and correction of errors, the Standard Review Plan would remain fixed until any proposed change of substance was considered by the Division Directors, reviewed by the Regulatory Requirements Review Committee, and then authorized by the Director, NRR.

NRR Office Letter No. 9, issued on June 18, 1976, addressed the special problem associated with implementation of Office Letter No. 2 in operating license reviews when the construction permit reviews were not conducted on the basis of the Standard Review Plan guidelines. It noted the necessity to document decisions made on bases other than those defined in the Standard Review Plan and, of equal importance, the reasons for the acceptability of such bases. It then directed the staff to develop, for my approval, procedures for documenting the bases for deviations from the Standard Review Plan in each operating license Safety Evaluation, and to implement those procedures for all operating license Safety Evaluation Reports issued after January 1, 1977. My memorandum of September 20, 1976, approved an implementing procedure recommended to me by the NRR Division Directors. This procedure addressed both operating license and construction permit applications.

The experience gained in attempting to use the implementing procedure for operating license reviews nearing completion has shown that, contrary to our expectation at the time the procedure was developed, the staff is unable at this time to conform to the requirements of the implementing procedure without incurring a substantial delay in

completing the reviews for these applications. While there is no concern as to the safety level established by the staff review, the fact remains that a significant effort would be required at this time for the staff to identify, for an ongoing operating license review, all deviations from the acceptance criteria set forth in the Standard Review Plan and to document the bases for the acceptability of these deviations. The Division Directors have now recommended that I withdraw the directive set forth in my memorandum of September 20, 1976, and in its stead issue a superseding directive establishing an alternate program that would:

(1) Require the staff to assess the Standard Review Plan, determine any changes needed to assure that all requirements therein are realistic and practical of achievement, and initiate the actions needed to implement those changes in accordance with the policy established in NRR Office Letter No. 2.

(2) Require the staff to implement the policy established in NRR Office Letter No. 9 for all construction permit applications docketed after September 1, 1976.

(3) Require the staff to implement the policy established in NRR Office Letter No. 9 for all operating license applications docketed after January 1, 1977.

The Division Directors have indicated that approval of the proposed alternate program would permit the staff to conduct its review of operating license applications, almost from the start of such reviews, with the knowledge that conformance to Office Letter No. 9 would be a requisite for licensing. Such timely knowledge should limit the impact of this requirement on the schedule for completion of the staff review. I have also been informed that if the alternate program is approved, then four operating license applications that would have otherwise been required to conform to Office Letter No. 9 will not be required to so conform.

I have decided to approve the recommended alternate program. This approval is based on (1) the conviction that the singular issue is one of documentation and not safety, (2) the knowledge that the alternate program will permit a limited number of operating license applications (four) to be added to the number reviewed without the need to completely conform to the procedure, and (3) the staff itself

is not prepared to implement the procedure in a timely manner for the four applications involved. Accordingly, my memorandum of September 20, 1976, is withdrawn and is superseded in its entirety by this memorandum. In essence, the procedure for documentation (Enclosure 1) remains unchanged for construction permit reviews but modified so that only limited participation will be required of licensees involved in operating license reviews, and the implementation program (Enclosure 2) has been modified so that the appropriate Safety Evaluation Reports, including those associated with operating license, construction permit, and design approval applications, will document deviations from the Standard Review Plan and the bases for the acceptance of such deviation.

Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Enclosures:
1. Procedure for Documentation of Deviations from the Standard Review Plan
2. Implementation Program

cc w/enclosures:
NRR Technical Personnel

ENCLOSURE 1

PROCEDURE FOR DOCUMENTATION

OF DEVIATIONS FROM THE STANDARD REVIEW PLAN

Introduction

The staff review of nuclear plant designs described in Safety Analysis Reports is performed within the guidelines established by the Standard Review Plan (NUREG-75/087), issued in September 1975, and as since amended. Use of the acceptance criteria of the Standard Review Plan as a measure of the acceptability of plant design features assures both a consistent evaluation of proposed plant designs and an acceptable level of safety for all plants licensed. The Standard Review Plan also describes and documents the acceptability of specific design approaches to satisfy certain of the acceptance criteria. We recognize, however, that alternate design approaches may satisfy these acceptance criteria equally well. Further, we recognize that, with proper justification, applicants may be able to demonstrate that particular provisions of the acceptance criteria need not be met at all.

Currently, significant difficulties arise when the Standard Review Plan is used during the operating license review of a plant design. These difficulties stem from the fact that the plant design at its construction permit stage of licensing was reviewed and approved against different guidelines due to the lack of the Standard Review Plan at that earlier stage of review; some future reviews will encounter the same difficulties due to the same reason or to changes to the Standard Review Plan that have occurred during the intervening period. In either event,

deviations will exist in the plant design relative to the then current Standard Review Plan, and the staff is or will be faced with licensing decisions regarding the acceptability of the design described in the Final Safety Analysis Report.

In the past, applicants have expended considerable efforts justifying, and the staff has spent considerable time evaluating, particular plant design features to assure an acceptable level of safety. Often these efforts have not been properly documented to clearly indicate the bases for acceptability of the design. To improve the usefulness of our Safety Evaluation Reports as a record of such decisions and to minimize the need for future reassessments of operating plants to demonstrate adequate levels of safety relative to current criteria, it is desirable that the bases for such licensing decisions be clearly documented in the Safety Evaluation Reports that summarize the staff review of the Final Safety Analysis Report. To this end, any deviations from current Standard Review Plan acceptance criteria will need to be listed and justified in the staff's Safety Evaluation Report prior to completion of the operating license stage of review. Further, such deviations will also need to be listed and justified in the licensee's Final Safety Analysis Report for any facility reviewed to the requirements of the Standard Review Plan at the construction permit stage of review.

A problem of similar type but of much less magnitude may exist with respect to some construction permit and standard design applications and associated staff reviews. Since all new applications for construction

permits or for preliminary design approval of standard designs must address the information needs identified in Revision 2 to the Standard Format and Content of Safety Analysis Reports, deviations from the acceptance criteria of the Standard Review Plan are expected to be nonexistent or minimized. However, alternate design approaches may be proposed by the applicant, and it is possible that deviations may arise during the course of the review. In any event, any deviations or alternate design approaches, whether initially proposed or developed during the course of the staff review, will need to be listed and justified in the Preliminary Safety Analysis Report and in the staff's Safety Evaluation Report prior to completion of this stage of review.

This document presents the procedures that should be followed (1) by applicants and (2) by staff reviewers and Licensing Project Managers to assure that adequate documentation of deviations and alternate approaches in plant designs relative to the Standard Review Plan is provided in Safety Analysis Reports and in Safety Evaluation Reports, respectively.

Definition of Deviation

For the purposes of this procedure, a deviation is defined as a lack of conformance of a plant design feature to one or more provisions of the acceptance criteria given in the Standard Review Plan. An alternate and acceptable design approach to satisfying the Standard Review Plan acceptance criteria is not considered to be a deviation, but the bases for acceptability must also be documented in the Safety Analysis Report and, as appropriate, in the Safety Evaluation Report.

Procedure For Construction Permit Applications

The procedure for documenting deviations from the Standard Review Plan for construction permit applications requires the applicant initially to identify the deviation and provide the bases for acceptability. This information should be included in the Safety Analysis Report and reviewed by the staff as a part of the normal review process. The results of the review should be described in the Safety Evaluation Report to provide clear documentation of all deviations, including the bases for acceptability. The same procedure should be followed for alternate design approaches. The procedure is based on the implicit assumption that a program will be established whereby plants licensed for operation will be maintained continuously up-to-date with regard to changes in licensing requirements (i.e., at the time a new staff position is developed, a decision regarding its applicability on a generic basis or on each plant, on a case-by-case basis, will also be made and implemented).

The specific steps in the procedure for a construction permit application are:

1. The applicant will identify and provide bases for all deviations from the acceptance criteria given in the Standard Review Plan. The information should be contained in those Safety Analysis Report sections that describe the systems, components, or structures in which the deviations exist. In addition, the applicant should provide in Chapter 1 a summary listing of the deviations and an identification of the sections in the Safety Analysis Report wherein the deviations are described and justified.

2. During the acceptance review of the Safety Analysis Report, the staff should determine that this information has been provided and should inform the applicant of any obvious deficiencies.

3. Following docketing of the Safety Analysis Report, the staff should perform a review of the deviations and their bases, identify other deviations that should be discussed in the Safety Analysis Report, and request additional information as necessary at the first round request for additional information (Q-1) stage of review.

4. At the second round request for additional information (Q-2) stage of review, the staff should inform the applicant of its positions on the deviations and their bases.

5. Following review of the applicant's response, draft Safety Evaluation Report inputs should be prepared that describe each deviation and the results of the staff review of the bases for their acceptability; the Safety Evaluation Report inputs should also include a general statement denoting acceptability of the applicant's design relative to the grouping of acceptance criteria given in the Standard Review Plan sections. The Safety Evaluation Report inputs should also include discussions of any alternate approaches to staff positions that have been adopted by the applicant and the bases for acceptability.

6. The Licensing Project Manager should include a section in the Safety Evaluation Report that notes that the review has been made using the Standard Review Plan criteria as of the application docket date, tabulates all deviations from those criteria, and identifies the location in the Safety Evaluation Report where the discussion may be found.

The procedural steps given above relate to future construction permit applications. Some slight modifications to these procedural steps will be made in order to implement the procedure for construction permit applications docketed after September 1, 1976, and currently in the licensing process.

Procedure For Operating License Applications

The procedure for documenting deviations from the Standard Review Plan for operating license applications docketed after January 1, 1977, and for which the construction permit review was conducted in accordance with the Standard Review Plan is to be identical to that described above for a new construction permit application. The following procedure shall be followed for other operating license applications docketed after January 1, 1977:

1. The staff should perform its review of the Safety Analysis Report so as to identify any deviations from the Standard Review Plan.

2. The Safety Evaluation Report inputs provided by the technical review groups should describe each deviation and the bases

established by the staff for its acceptability; the Safety Evaluation Report inputs should also include a general statement denoting acceptability of the applicant's design relative to the grouping of acceptance criteria given in the Standard Review Plan sections. The Safety Evaluation Report inputs should also include discussions of any alternate approaches to staff positions that have been opted by the applicant and the bases for acceptability.

3. The assistance of the applicant should not be required with respect to identification of deviations from the Standard Review Plan. If specific acceptance criteria now in the Standard Review Plan were used for evaluating the application at the construction permit phase of review, even though the Standard Review Plan either did not exist as such at the time of that review, or was not used at that time, then applicable requests for information may be made of the applicant provided that the use of the specific acceptance criteria at that stage of review is documented in the record of the construction permit review and deviations from those criteria are identified by the staff during its operating license stage of review. In addition, for all other acceptance criteria used in the design of the facility, applicable requests for information may be made of the applicant to the extent needed to permit the staff to independently judge the current acceptability of the design which was based upon such criteria. In these latter instances, however, the applicant, while it may, should

not be required to justify its design by comparing it to an alternate design developed by the applicant utilizing the acceptance criteria currently in the Standard Review Plan.

4. The Licensing Project Manager should include a section in the Safety Evaluation Report that notes that the review has been made using the Standard Review Plan criteria as of the application docket date, tabulates all deviations from those criteria, and identifies the location in the Safety Evaluation Report where the discussion may be found.

As with the procedure for construction permit applications, specific steps will be taken to assure that the implementation will be consistent with the Commission's standardization and replication policies.

ENCLOSURE 2

IMPLEMENTATION PROGRAM

I. PLANT INVOLVEMENT

1. Plants Currently Under Review for Operating Licenses

Plants for which applications for an operating license have been docketed but for which we will not implement the policy established in Office Letter No. 9 are:

~~D. C. Cook 2~~
Salem 2 ✓
~~Davis Besse 1~~
North Anna 1 & 2 ✓
Farley 1 & 2 ✓
Diablo Canyon 1 & 2 ✓
Sequoyah 1 & 2 ✓
~~Three Mile Island 2~~

~~Arkansas 2~~
McGuire 1 & 2 ✓
Fermi 2 ✓
Zimmer 1 ✓
~~Hatch 2~~
Shoreham 1 ✓
Watts Bar 1 & 2 ✓

2. Plants With Construction Permits and Which Will Apply for Operating Licenses

All plants with construction permits which were not reviewed in accordance with the Standard Review Plan and for which applications for operating licenses are to be docketed after January 1, 1977, will be included in those for which we will implement the policy established in Office Letter No. 9. Such plants are:

LaSalle 1 & 2
San Onofre 2 & 3
Summer 1
Hanford 2
South Texas 1 & 2
Susquehanna 1 & 2
Waterford 3
Braidwood 1 & 2
Byron 1 & 2
Catawba 1 & 2
Comanche Peak 1 & 2
Midland 1 & 2
Grand Gulf 1 & 2
Bellefonte 1 & 2
Clinton 1 & 2

~~North Anna 3 & 4~~
Forked River 1
WPPSS 1
Callaway 1 & 2
Seabrook 1 & 2
Millstone Point 3
Beaver Valley 2
Palo Verde 1, 2 & 3
Nine Mile Point 2
Limerick 1 & 2
Hope Creek 1 & 2
Surry 3 & 4
Vogtle 1 & 2
Bailly 1

In addition, those plants listed in items 3.b. and 3.c. on page 2 of this enclosure should be included in this list as they are issued construction permits.

3. Plants Currently Under Review for Construction Permits

a. The only plants for which applications for a construction permit were docketed after September 1, 1976, and for which we will implement the policy established in Office Letter No. 9 are:

~~New England 1 & 2~~

b. Plants for which applications for a construction permit have been docketed, for which our review is complete, nearly complete, or significantly in process, and for which we will not implement Office Letter No. 9 are:

Harris 1, 2, 3 & 4
St. Lucie 2
Perry 1 & 2
River Bend 1 & 2
WPPSS-4
Pilgrim 2
~~Atlantic 1 & 2~~
Wolf Creek 1
Cherokee 1, 2 & 3
Perkins 1, 2 & 3
~~Tyrone 1~~
~~Sterling 1~~
~~Montague 1 & 2~~
WPPSS 3 & 5
Pebble Springs 1 & 2
~~Davis Besse 2 & 3~~
~~Koshkonong 1 & 2~~
~~Jamesport 1 & 2~~
Hartsville 1 & 2
Skagit 1 & 2
~~Clinch River 1~~
~~Ft. Calhoun 2~~
Marble Hill 1 & 2
~~Greene County 1~~
Phipps Bend 1 & 2
Black Fox 1 & 2
Yellow Creek 1 & 2

c. Plants for which applications for a construction permit have been docketed, for which a significant portion of our review has been completed, for which a long delay in the need for construction permits has occurred, for which the Safety Evaluation Report or a substantive update of that report is expected to be issued after January 1, 1978, but for which we will not implement the policy established in Office Letter No. 9 are:

Allens Creek 1 & 2
~~Montague 1 & 2~~
~~Douglas Point 1 & 2~~
~~Barton 1 & 2~~
~~Greenwood 2 & 3~~

4. Future Construction Permit Applications

The policy established in Office Letter No. 9 will be implemented for all future construction permit applications. The applications currently listed to be tendered during 1977 include:

~~Erie 1 & 2~~
~~Sundesert 1 & 2~~
~~Summit 1 & 2~~
~~Carroll 1 & 2~~
~~Sears Island 1 & 2~~
~~Central Iowa 1~~
~~San Joaquin 1, 2, 3 & 4~~

5. Construction Permit Applications Referencing Approved Standard Designs or Replicating Base Plants

The policy established in Office Letter No. 9 will be implemented only for those portions of the Preliminary Safety Analysis Report that require a de novo review in accordance with the Standardization Policy or the Replication Policy, as applicable.

6. Design Approval and Manufacturing License Applications

The policy established in Office Letter No. 9 will be implemented for all design approval and manufacturing license applications docketed after September 1, 1976. On this basis it is expected that the policy will be implemented for RESAR 414, GIBBSAR, and all later submitted applications.

II. IMPLEMENTATION METHODS

1. Construction Permit and Preliminary Design Approval Applications

New England 1 & 2, a replicate plant, will be the first construction permit plant to be subjected to this review. Although the application has been docketed, the review was not scheduled to begin until January 1977. We will discuss the Office Letter No. 9 requirements with the applicant as soon as practical and will formalize our information needs in a letter signed by the appropriate DPM Branch Chief. Until six months after the Standard Format is changed to require the needed information in the Safety Analysis Report, all subsequent construction permit and preliminary design approval applications will be handled in a similar manner. The discussions with the applicants will be held in as timely a manner as practical in order to provide the applicants with as much time as possible to respond to our needs.

2. Operating License and Final Design Approval Applications

In order to fully inform the first several applicants in this group of the basis of the requirements that we will impose upon them and to try to assuage their concerns as to the extent of the information we will require from them, we will arrange discussions with them as soon as practical. These will be arranged in the order of their docketing, which is expected to be Watts Bar 1 & 2, San Onofre 1 & 2, LaSalle 1 & 2, Summer 1, Hanford 2, Comanche Peak 1 & 2, Midland 1 & 2, and Grand Gulf 1 & 2. Our information needs will be formalized in a letter to the applicant. The letters will be signed by the appropriate DPM Branch Chief.

Modification of the Standard Format will require the needed information in the Final Safety Analysis Reports for plants having construction permits based on a review in accordance with the Standard Review Plan.

3. Conduct of Discussions

The discussions referred to in Sections II.1 and II.2 above are to be conducted by the DPM Assistant Director for Light Water Reactors.

4. Standard Format

The Office of Standards Development will be requested to modify the Standard Format to require the Safety Analysis Report to include the information needed to conform to the policy established in Office Letter No. 9.

5. Changes Required in the Standard Review Plan

The Directors of DPM, DSS, and DSE are to provide to the Director, NRR, by May 1, 1977, a list of items in the Standard Review Plan that should be modified to assure that all requirements therein are necessary, realistic, and practical of achievement. The Directors will at that time recommend a program to develop the required changes to the Standard Review Plan and obtain the necessary management approval for such changes.