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NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

THREE MILE ISLAND
SPECIAL INQUIRY INTERVIEW

INTERVIEW OF JOHN GILRAY

Place - Bethesda, Maryland

Date - Monday, September 17, 1979 Pages 1 - 96

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NUCLEAR REGULATORY COMMISSION

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NRC/TMI SPECIAL INQUIRY

Room 6117
Maryland National Bank Building
Bethesda, Maryland

Monday, September 17, 1979

The interview commenced at 1:40 p.m., pursuant to notice.

Present: John Gilray, William Parler, Wayne Lanning, Bill Belke, and James Tourtellotte.

* * *

C O N T E N T S

P R O C E E D I N G S

Whereupon,

JOHN GILRAY

was called as a witness and, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. LANNING:

Q Would you please state your full name?

A John William Gilray.

Q Off the record.

[Discussion off the record.]

MR. LANNING: I'd like to mark as Exhibit 1079 a letter from Mr. Mitchell Rogovin to Mr. John Gilray, dated August the 30th, 1979.

[The document referred to was marked Exhibit 1079 for identification.]

BY MR. LANNING:

Q Mr. Gilray, I show you what has been marked as Exhibit 1079. Is this a photocopy of a letter sent to you by the NRC/TMI Special Inquiry Group for your deposition?

A Yes.

Q Have you read this document in full?

A Yes.

Q Do you understand the information set forth in this

letter, including the general nature of the NRC/TMI Special Inquiry, your right to have an attorney present here today as your representative, and the fact that the information you provide here may eventually become public?

A Yes.

Q Is counsel representing you personally here today?

A No.

Q I'd like to note for the record that the witness is not represented by counsel here today.

Mr. Gilray, if at any time during the course of this interview you feel you would like to be represented by counsel and have counsel present, please advise us and we will adjourn these proceedings to afford you the opportunity to make the necessary arrangements.

Is this procedure agreeable to you?

A Yes.

Q Mr. Gilray, you should be aware that the testimony that you give has the same force and effect as if you were testifying in a court of law.

My questions and Mr. Parler's questions and your responses are being taken down, and will later be transcribed. You will be given the opportunity to look at that transcript and make changes that you deem necessary.

However, to the extent that your subsequent changes are significant, those changes may be viewed as

affecting your credibility, so please be as complete and as accurate as you can in responding to our questions.

Did you bring a copy of your resume with you?

A Yes.

MR. LANNING: I'd like to mark as Exhibit 1080 a one-page resume of Mr. John William Gilray.

[The document referred to was marked Exhibit 1080 for identification.]

BY MR. LANNING:

Q Mr. Gilray, what is your current position with the NRC?

A Senior nuclear engineer.

Q In what branch?

A Quality Assurance Branch.

Q What are your primary responsibilities in that branch?

A Primary responsibilities are to review the quality assurance programs for defining construction and operations that are contained in the SAR, generate questions in regards to the review and evaluation of that QA program, and to interface as necessary with project management in the utility, to get an adequate QA program description which meets Appendix 10 CFR 50.

Q Are you also a section leader in that branch?

A Correct.

Q How many NRC employees report to you?

A Four.

Q And how long have you been in this position?

A Since --

MR. PARLER: Approximately is all right.

THE WITNESS: '74, 1974. June 1974.

BY MR. LANNING:

Q Is that the time you joined the NRC?

A No, that's when I've been in the present position whereby I had people working for me. I joined the agency in -- let's see here, June of 1972 as a nuclear engineer in the Quality Assurance Branch.

MR. LANNING: I'd like to mark as Exhibit 1081 a memorandum from S. A. Varga to Walter Haass. The subject is review of Metropolitan Edison Company's request to extend the compliance date for ANSI N.45.2.9 for Three Mile Island, Unit No. 2. That's dated July the 13th, 1 78.

[The doc ..t referred to was marked Exhibit 1081 for identification.]

BY MR. LANNING:

Q Would you review that memorandum and affirm that you concurred in that memorandum?

A Right. I have reviewed this memorandum.

Q Met Ed evidently informed the NRC on January the 25th, 1978 that Three Mile Island Unit 2 could not satisfy this ANSI standard which is the subject of that memorandum for maintaining records until June the 1st, 1979.

Do you recall what specific requirements the licensee could not meet?

A No. No, I don't.

MR. PARLER: He has some records there. Do you want to look through those to refresh yourself or what?

THE WITNESS: I could look through this. It would take some time.

BY MR. LANNING:

Q Okay. Well, I don't know that that's viable information.

A Yeah, I know the information of the standard and recordkeeping is such that we have allowed utilities to store records that were not protected against fire and flood, we have allowed an extension of one or two years to properly construct a building to retain the records in a safe manner. That being they are protected properly from flood and fire.

Q Has this normally been onsite or offsite?

A Both.

Q What are the requirements for maintaining duplicate sets of records?

A Do you want to repeat that, please?

Q What are the NRC requirements concerning licensees keeping duplicate copies of records?

A Okay. The utility has a choice of keeping singular copy records in a storage facility which is constructed so that it's protected against tornadoes, floods and fire. The fire being a two-hour fire rating. If they choose not to construct a building like this, they can duplicate the records and storage one set of records at one place and another at another place at a reasonable distance, such that there is adequate assurance that the destruction of one would not destruct the other set. Usually in different buildings.

Q Are these what I would term exceptions criteria delinated some place? Where are these requirements for these positions set forth?

A It's in 45.2.9.

Q 45 is an ANSI standard?

A Right. Which is endorsed by a reg guide, and you will want that reg guide, probably.

Q I think not.

MR. PARLER: I think that the record should reflect if you are going to refer to an ANSI standard, you should make the connection as to how that ANSI standard is incorporated or reflected in our regulatory requirements.

BY MR. LANNING:

Q All right.

A ANSI N-45.2.9 is endorsed by Regulatory Guide 1.88, and we get a commitment to this in the QA program description of which TMI 2 has committed to.

Q In other words, it's not part of the review plan?

A It's part of our standard review plan, yes. It's reflected in there also.

Q Referring back to Exhibit 1081, since this was an outstanding item at the time that the operating license was issued, and it wasn't noted as an outstanding issue in the license, do you recall any discussions relating to why it should be or it should not be, or why it was not included in the license?

A No. Our standard review -- let's say our safety evaluation report on TMI 2 was issued in June of '75, which we found the QA program acceptable. Our ground rules today are such that if they don't meet all the standard review plan requirements, then we should reflect such in the SER, so the timing here is such that I wouldn't consider it necessary to reflect this in the -- did you say licensing?

Q Operating license issue.

A Yeah. But that matter would -- that decision would come from the project manager, not from me. Essentially my work was done.

MR. PARLER: Wait. I'd like to follow up on that, please.

BY MR. PARLER:

Q You mean that once you as a member of the Quality Assurance Branch provide your branch's input to the Safety Evaluation Report, that is it, that your work is done?

A In regards to the SER, with the following qualifications:

That any changes to the application we look at. This is concerning quality assurance. And write a letter as to the results of our evaluation of those changes.

We would document that to the project manager.

Q I gather that this particular open item that Mr. Lanning asked you about was not an item that the quality assurance branch addressed itself to in its input in the Safety Evaluation Report; is that right?

A Correct.

Q Now why was that? Was it because this plant, the TMI 2 plant, was not subject to the requirement in Mr. Rusche's letter, No. 9, as revised to deviate -- I'm sorry, to document deviations from the standard review plan? Or was it because of some other reason?

A I'm not sure. I would -- No. 1, our basis for acceptance of the quality assurance program was not done to the 1975 standard review plan, and I think Ben Rusche's letter was in regard to that standard review plan dated 1975.

So, therefore, I don't think we were obligated to

meet that request of his that we reflect any changes or any omissions in the QA program.

Q What I'm trying to get to for purposes of the record is that the requirement that Mr. Lanning has asked you about, that was not satisfied, comes from this regulatory guide that you mentioned, that endorses the particular ANSI that was also referred to a couple of minutes ago, or does it come from some other source?

A No, it comes from the regulatory guide and ANSI standard. What I think probably happened is that TMI thought that they could meet that requirement in the ANSI standard, and when they went in and went line by line item, they saw that, hey, we don't have a storage facility to properly store records in accordance with 2.9. Let's go and ask the government if we can get an extension, so we can start to build a facility to meet 2.9.

So they're coming in actually, I think, with an exception and asking for an extension.

Q Well, what I'm trying to get clarified in my own mind, and perhaps for the record is what does the standard review plan have to do with what you and Mr. Lanning have been talking about? It's not clear to me why the requirement not to document deviations from the standard review plan was not applicable to TMI 2 review has anything to do with what you're talking about.

A Well, no, I'm confused.

MR. PARLER: Well, off the record.

[Discussion off the record.]

BY MR. LANNING:

Q Let's go back on the record, Mr. Gilray, and attempt to clarify the discussion that we had regarding the standard review plan.

It is my understanding that what you've said is that the guidance for the storage requirements of these records is contained in ANSI standard which was referenced, or is referenced by Regulatory Guide 1.88.

In addition, the present standard review plan also references those requirements, but at the time this QA program review was conducted with Three Mile Island Unit 2, the standard review plan was not used in that review; is that correct?

A That's correct.

Q Okay.

BY MR. PARLER:

Q Well, was the regulatory guide 1.88 applicable for guidance at the time of the TMI 2 review by the Staff?

A Regulatory Guide 1.88 was used in the review of TMI 2.

Q And this requirement that you and Mr. Lanning have been talking about stems from the Regulatory Guide 1.88?

A Yes.

Q The question that I would ask is why was that guidance in the Regulatory Guide 1.88 and the ability of the Applicant to comply with that guidance not an apparent factor in the Staff's review?

A Well, I completed my review of the TMI 2 in and around '75. At that time they said that they would meet the requirements of that ANSI standard,reg guide.

Since then they have introduced an exception to that, and that's where this letter stems from.

BY MR. LANNING:

Q Now what is the mechanism for tracking changes or exceptions after you have provided your SER input?

A When a change comes in after we reviewed and found a QA program acceptable, we evaluate that change against what we have reviewed and found acceptable and make a determination that the QA program has not been degraded to the extent that we would find it unacceptable.

If we found that it was degraded, then we would indicate such to the utility.

Q What kind of documentation constitutes a change?

A SAR amendment.

Q SAR amendment.

How are letters handled, for example, if the licensee submits a letter saying they cannot comply with

certain requirements regarding the QA program? How is that tracked for recordkeeping purposes, or for resolution?

A Well, if a letter comes in indicating a certain noncompliance to a QA program that we have previously found acceptable, the project manager would send that over to the QA branch for our assessment, and we would send a letter back to him indicating the results of our review and evaluation, and so the SAR -- changes can be made to the SAR, I guess either by an amendment to the SAR or to letters. It's normally through an amendment.

BY MR. PARLER:

Q Normally through an amendment to what?

A To the SAR.

Q To the FSAR, you mean?

A Uh-huh.

Q But there's no requirement that the FSAR be kept current, is there?

A That's correct.

Q So where does that leave the situation now? Are we talking about the operating license is issued? Is that right? And if you have a -- or if a licensee has a change to the FSAR, but not a change which requires an amendment to the operating license, what is the procedure there for keeping current with what's going on in the area that might have some bearing on the past quality assurance program that has been

reviewed and approved by the NRC?

A Well, one, there is no requirement that the utility has to tell us of changes to the QA program description. Normally it is the case that if he wants to change that QA program description, he will come in with an amendment to the application, that is the FSAR, or he might choose to generate a letter into the docket indicating a change, and we would respond to that, to the project manager.

BY MR. LANNING:

Q You say there is no requirement for a licensee -- did you say there was no requirement for licensees notifying NRC of changes in a QA program as approved?

A That's correct.

Q And have there been examples in the past where the QA program has been changed by the licensee and there were some questions raised as to whether or not it was a change that was important enough that it should be reported that an issue has been raised by an I&E inspector, for example?

MR. PARLER: What are you talking about? Across the board, or TMI?

BY MR. LANNING:

Q Across the board.

MR. PARLER: In any event, to the best of his recollection, right?

THE WITNESS: There's been several cases where there

has been a significant change whereby the utility has not informed us and I&E has indicated such to us, and we've gotten with the utility to get that change.

BY MR. LANNING:

Q Did this result in any kind of I&E citation that you remember?

A Yes, in a couple of cases it has.

Now I've got to make a correction here. I say there's no requirement for the utility to notify us of changes to the QA program description. That's a generalized statement. There are specific cases if it involves a safety issue or an unresolved issue -- unresolved issue, that it would come in for review. I think that 50.54 --

MR. PARLER: I think you're talking about 50.59, the change procedure, I believe.

THE WITNESS: Yeah.

MR. PARLER: I'll find it for you.

THE WITNESS: In that case, that's where they are required, but it doesn't happen very often.

MR. PARLER: Off the record.

[Discussion off the record.]

MR. PARLER: Back on the record.

BY MR. LANNING:

Q Are you aware of the Applicant's, Met Ed, specifically limited storage capability onsite?

A No.

Q Okay.

MR. PARLER: What was that question? Whether he was aware that Met Ed limits its storage capability?

MR. LANNING: Had limited storage capability.

MR. PARLER: Oh, has limited storage capability.

MR. LANNING: I'm going to mark as Exhibit 1082 a letter to Metropolitan Edison Company, attention Mr. R. C. Arnold, from Robert W. Reed, Chief of the Operating Reactors Branch No. 4, and that's dated 12-14-76.

[The document referred to was marked Exhibit 1082 for identification.]

BY MR. LANNING:

Q Mr. Gilray, do you remember the thrust of that letter? Do you recall the reason that Three Mile Island 1 quality assurance program changed to the same as that that was approved for TMI Unit 2?

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A Yes.

Q What were those reasons?

A Back in 1973, we generated some WASH documents. Those WASH documents contained ANSI standards, regulatory guides, which we felt were necessary documents to be complied with by the utility to meet 10 CFR 50 Appendix B. We had regional conference meetings throughout the country, and met

with utilities and principal contractors, indoctrinating them with these WASH documents, and then Manning Muntzing came through with a dictate around 1974 asking for a review of existing operating plants that have had licenses to operate, and just to evaluate those QA programs, to see whether they meet these WASH documents.

So we went back to TMI 1 and we found that they were deficient in meeting these WASH documents, and we generated a letter to them requesting that they update their QA program to meet the WASH documents.

In lieu of that, they could choose to commit to comply with TMI Unit 2 QA program for TMI 1. So essentially that's the rationale used to upgrade TMI 1 QA program.

Q Now wasn't the Unit 2 QA program reviewed against these same WASH documents, or those, to clarify the record, do the numbers WASH-1283, 1284, and 1309 correspond to the WASH documents you're referring to?

BY MR. PARLER:

Q Are those the WASH documents that you're referring to?

A Go through those again.

BY MR. LANNING:

Q 1283, 1284, and 1309.

A Yes, right.

Q Those are guidance for implementing QA programs for what, construction?

A Yes.

Q What are the three documents for?

A Let me give you the titles of those.

WASH 1284 is "Guidance and Quality Assurance Requirements During the Operation Phase of Nuclear Power Plants."

WASH Document 1309 is "Guidance and Quality Assurance Requirements During the Construction Phase of Nuclear Power Plants."

And WASH Document 1283 is "Guidance and Quality Assurance Requirements During Design and Procurement Phase of Nuclear Power Plants."

Q Now are those the same documents that were used to judge the acceptability of the Unit 2 program?

A Correct. Yes.

Q Okay. So, in effect, Unit 1 was really committing to those documents by committing to Unit 2 QA program?

A Right.

Q Were there any differences in Unit 2 program based on the requirements of those documents that come to your recollection?

A No, they just committed to those WASH documents f or TMI 2.

Q Do you recall when that commitment took place?

A Yeah. Well, wait a minute. You're asking for

when TMI 2 application committed to the WASH documents?

Q No, when Unit 1 committed to the Unit 2 QA program.

A I think I do. December 23, 1976.

BY MR. PARLER:

Q How about the question that you thought Mr. Lanning had asked? When did TMI 2 commit itself to the WASH documents?

A Okay, in 8-74, we generated a request to TMI 2 requesting that they commit to these WASH documents, and the latter part of '74 they committed to these WASH documents.

Q Do you happen to recall the status of the construction of the plant at the time, at that time? That is in 1974 when Met Ed, GPU committed themselves to these WASH documents?

A No, they were -- the design and construction was going on, but our review was just purely on the operation phase, the FSAR.

Q Who reviews the adequacy of a utility's quality assurance program during the construction phase?

A Okay, during the PSAR stage, we look at the QA program for design and construction, and when they get the license to design and construct, then it's up to I&E to assure that those commitments that they have given at the QA program are properly carried out.

Q None of these three documents that were mentioned earlier, the three WASH documents, have to do with the

quality assurance program at the construction stage?

A They do.

Q They do?

A Yeah.

Q What I'm trying to find out, and what I'm asking you is what requirements were imposed on the Applicant and the construction permitee when the Three Mile Island 2 plant was being constructed?

A We did not go back and update the design and construction of a QA program to meet these WASH documents.

Q What was the status of the construction of the plant at the time that these three WASH documents were imposed for, I guess, operational QA purposes?

A I don't know.

Q Do you have any idea, approximately?

A No.

BY MR. LANNING:

Q Can you briefly summarize some of the differences between the requirements contained in the standard review plan -- let's address operation only -- which is standard review plan 17.2? Would you discuss the, or compare the requirements of standard review plan 17.2 and the WASH document addressing operation?

In other words, I'd like to get some feel for the differences in requirements or how they increase or

maintain the same or some of the specifics between these two sets of requirements.

A Well, the standard review plan requires a commitment to follow the WASH documents, so the WASH document is like a subset to the standard review plan.

Q Did I understand that Unit 2 QA program was back-fitted to the WASH documents?

A No, it wasn't backfitted. See, we were still in the review process of TMI 2, so we had the opportunity to update them to the WASH documents.

Q For Unit 2?

A Yes.

Q So some of the requirements set forth in the WASH documents were imposed on Unit 2?

A Right.

Q Okay.

BY MR. PARLER:

Q That's just for operational purposes?

A For operational phase only.

BY MR. LANNING:

Q And now when you upgraded Unit 1 QA program, why wasn't it done to the standard review plan? You may have already answered that.

A When we got to the TMI QA program for TMI 1, we thought it was adequate with the exception of the WASH

documents. If we got a commitment to those WASH documents, we felt that that was sufficient.

Q Were there other requirements in the standard review plan in excess or beyond what's in WASH documents?

A Yes.

Q For example?

BY MR. PARLER:

Q Some of the major ones that occur to you. You don't necessarily have to cover all of them.

A Well, there's one calibration, we asked for calibration accuracy of 1 to 4 in our standard review plan, and the WASH documents are silent in that area.

In regards to the organizational arrangements, we we have certain requirements on organization which are not in the WASH document.

Q Are you just talking about organization for quality assurance purposes?

A For QA right, quality assurance purposes.

BY MR. LANNING:

Q And calibration with respect to what?

A Calibration and measuring of test equipment.

Q Do you recall any others?

A No, not offhand.

Q Pertaining to the review of the organization for quality assurance, did you recall if Metropolitan Edison

required all contractors to perform quality assurance functions?

A Well, to a certain extent, if you're talking about the operation phase, to a certain extent, yes. But the majority of the QA functions were performed by the Met Ed people.

Q Is it normal practice for licensees to engage services of contractors to perform QA functions?

A Yes, especially in the area of nondestructive testing.

Q Are there other areas in which he solicits expertise?

A Auditing. Auditing.

Q The independent auditing of the QA program?

A Uh-huh.

Q Do you recall to what extent Metropolitan Edison relied on GPU for QA support?

MR. PARLER: Are you talking about now during the construction stage?

BY MR. LANNING:

Q During the operation.

A I don't think they relied on them very much in regards to the QA functions during the operatior phase. It was mainly done by Met Ed.

Q And so all the QA organization was within the Metropolitan Edison Company?

A Correct.

Q So you really had no reason to review the quality assurance programs of GPU?

A No.

Q Does the quality assurance branch review the proposed preoperational and start-up tests?

A The quality assurance branch does. It's done under a different group.

Q The last one in your group?

A Right.

Q You're not responsible for that review?

A Preoperational start-up and test is not under my -- it's under another group in the QA branch. We address to a certain extent the very limited in regards to quality assurance of that activity.

To expand on that, you have an ANSI standard 18.7, vintage 1972, which we get a commitment, which TMI 2 has committed to, and there, there is a section on preop start-up and test which the QA program applies to that, but we don't ask or review a separate QA program for that.

Q Therefore, a reviewer would not necessarily review the entire QA program as submitted by licensee?

For example, evidently the test programs and preoperational test programs are done by people in another section, whereas evidently you must review organization

requirements, et cetera.

A Well, the other section looks at preop start-up and test, the types of test and such. That other group does not look at the QA program that governs that. In our area, that is in my group, we do not have a special QA program for preop start-up and test. We just get a normal or a general commitment that the existing QA program that we look at will cover pre-op start-up and test.

We look at the programmatic aspects, and see we've got an organization and such that looks over pre-op start-up tests.

Q So you're really not in the position to make comment upon how the review of the pre-operational tests are conducted, or which ones need to be completed by any certain period of time?

A No, that's right.

Q Did the same reviewer review both units of TMI -- Three Mile Island units?

A No.

Q There were different reviewers for Unit 1 and Unit 2?

A Right. No different reviewers for TMI 2. It started off under a review by Sam Gummins back in 1974. He left, and then I reviewed it for a while, and then I turned it over to Bill Belke back in 1976.

Q Now which of those people reviewed Unit 1?

A I'm not sure. I don't know if anyone did.

Q None of those that you mentioned reviewed Unit 1?

A I don't think s

BY MR.PARLER:

Q You mean you are not sure whether either of those gentlemen reviewed TMI 2;the way that you stated the response perhaps inadvertently was that maybe no one reviewed TMI 1 for QA.

A That's right. I don't know the vintage of that, when they got the license. '67?

Q I can help you a little bit. The TMI 1 application was docketed on May the 3rd, 1967. This construction permit for TMI 1 was issued on May the 18th, 1968. The FSAR docket for TMI 1 was filed on March the 2nd, 1970, and the operating license for TMI 1 was issued on June the 24th, 1974.

I don't know whether that helps any.

A Well, I'm confident that the people that looked at TMI 2 QA program for operations did not look at the TMI 1.

BY MR. LANNING:

Q Has there ever been a comparison made between the approved QA program of Unit 2 to what is presently required by the standard review plan?

A Yes.

Q Is that documented some place?

A In rough notes it is.

Q Have you completed such a review?

A No. Belke did, after we wrote the SAR in 1975, they submitted an amendment to the QA program. At that time I turned it over to Bill Belke, and I said to look at it, to appraise the standard review plan, identify the deltas, and let me look at it.

In that case we did, and I stated that the QA program as docketed was acceptable, and that there was no need to go back and update them to that later standard review plan.

Q Does that mean it met requirements of the standard review plan of 17.2?

A In 1975, no, it didn't.

BY MR. PARLER:

Q Well, when you found that it was acceptable, what did that mean?

A That the criteria that we used back in 1975, the criteria that we used back in '75 was the basis for finding the program acceptable.

Q I mean what were those criteria? Is this regulatory guide that we were talking about a half an hour or so ago? Or some other criteria?

A No, it was a guidance document, a draft guidance document.

Q A draft safety guide?

A It's like a draft safety standard review plan.

Q Is one of those documents around anywhere now?

A Yes. Right.

But the review back in those days was done based on the experience of the reviewer and his judgment.

BY MR. LANNING:

Q I want to go back to comparing the standard review plan against the requirements of the program which is approved for Unit 2. Why was such a comparison completed?

A I wanted to get an appreciation of the differences. We've done this on other plants also. And what we did, through the persistence of Bill Belke, is went back to the utility to try to encourage him to update that QA program to our present standard review plan. There was no regulatory requirement to do such. We went back and tried to encourage him to do such, and he chose not to.

BY MR. PARLER:

Q How did you encourage him to do such? Is that written?

A No, through telephone conversations and meetings with I&E, and the utility.

Q Do you have any documentation in that regard, notes, or what?

A Rough notes, yes.

Q Do you recall the areas in which you or the NRC,

your branch, urged the licensee to -- that is Metropolitan Edison, to upgrade its quality assurance program?

A Yeah, we had specific items which we identified.

Q Do you recall them now, so that you could, after refreshing your recollection in your notes, provide them for the purposes of this record?

A Yes.

[Discussion off the record.]

BY MR. PARLER:

Q Back on the record.

All right, you found the areas in which the staff urged Metropolitan Edison to upgrade its quality assurance program. Would you review some of those, please, sir, and comment on them.

A Yes.

To begin with, the items that we asked them to, or tried to encourage them to update to, I felt not significant enough to merit a change in the QA program. But here were some of the items --

BY MR. LANNING:

Q Excuse me a minute. When you say not significant enough to merit a change, evidently you thought they were significant enough by requesting them to upgrade their QA program.

A Well, were not significant enough to require them

to update the QA program, but were of a nature that we thought it was fruitful to encourage them to update it.

BY MR. PARLER:

Q Well, the boundary between fruitful enough to encourage and not significant enough to require is one that I gather is not clear, not only in the quality assurance area, but in a lot of other areas. Would you care to comment before you proceed with some of the list on what or where in your judgment the dividing lines are in the quality assurance area, but between things which are important enough to encourage an applicant to comply with, but not important enough from the safety standpoint to require an applicant or a licensee to comply with?

A Uh-huh. Well, in our standard review plan, we have specific line items that we get a commitment to. Some of those line items are contained in ANSI standards and reg guides which we get a commitment to. But the reason why we had those line items expressed in the standard review plan was to emphasize the importance and to get a greater confidence that the utility recognized those particular line items.

So I felt that as long as those line items were expressed somewhere in ANSI standards or reg guides, it wasn't necessary to require them to express it in the QA program by line items.

Q Well, I'm getting kind of confused here now as to what you mean by line items, especially in the context that if something is a line item, either in the standard review plan or regulatory guide or an ANSI document which is relevant for quality assurance p·rposes, that if any of those things are present then there is no need to worry about or be concerned about from the regulatory standpoint of imposing regulatory requirements on the licensee.

Is my understanding of what you said correct?

A I'm not sure. Would you repeat that again, sir?

MR. PARLER: Let's go off the record.

[Discussion off the record.]

MR. PARLER: Go back on the record.

[Discussion off the record.]

MR. PARLER: Back on the record.

BY MR. PARLER:

Q I don't understand what you mean by lead items. That's my first question.

A By line items?

Q Line items.

A Okay. In the standard review plan, they'll have line items such as the following: procurement, documents, identify those records to be retained, controlled and maintained by the supplier and as delivered to the purchaser prior to user installation of the hardware.

Q All right. That's what you mean by a line item.

Now my next question is whether if something is a line item you are apparently most concerned about having something which is a line item imposed directly as a requirement on a licensee.

Is my understanding correct?

A Correct.

Q Why is that? What is there that is unique about a line item so that in your judgment there is less concern about a need to impose the subject matter of that line item on a licensee as a requirement?

A That particular line item is expressed in an ANSI standard which they commit to.

Q Well, there is a difference, is there not?

Well, is there a difference in your judgment between a commitment and a requirement?

I realize that that question may have legal implications to which I'm not asking yourself to address, but there is no difference from your standpoint in a commitment and a regulatory requirement that is imposed on a licensee?

A Well, when you say regulatory requirement, the standard review plan in itself is not a regulatory requirement, and the line items that are contained therein are not regulatory requirements.

Q I understand that, sir. That's why I'm trying to pursue these questions to try to understand where -- where my understanding of what you have said earlier, where it leads to.

A Well, the line items that I was talking about are requirements or criteria that are existing in the standard review plan. If these particular items are not addressed, and if I can provide rationale that they do, or evidence that they do exist in the standard review plans -- not in standard review plans, but in an ANSI standard, then I can make a judgment to say, hey, there's no sense of going back and upgrading this particular utility in this area, it's already covered in an ANSI standard.

Q Well, I assume from what you're saying that if anything is covered in an ANSI standard, that in your evaluation and your judgment, you are willing to conclude that that is good enough, and there is no need to go any further from a regulatory standpoint?

A For the particular application under review, TMI 2, that's correct.

Q Why? Why is that correct for the particular application, TMI 2?

T.3 A Because our basis for exceptions back in 1974 and '75 were not structured to the standard review plan in 1975. Our acceptance, basis of acceptance, ground rules for

acceptance was different.

Q What were those ground rules? Maybe you've already covered what I'm asking, but it isn't clear to me.

A The ground rules was based on the expertise and judgment of the people reviewing that application.

Q So what you're saying is that for a plant such as TMI 2, which was not reviewed under the standard review plan, that thereafter even until the present day, that it is up to in the final analysis the reviewer's judgment as to whether or not a particular item in the quality assurance area is covered adequately. Is that what you are saying?

A I believe so.

MR. PARLER: Go off the record.

[Discussion off the record.]

BY MR. LANNING:

Q Back on the record.

Mr. Gilray, I'm trying to clarify the basis for review and approval of TMI Unit 2. It is my understanding of what you said is that the quality assurance program for Unit 2 is approved on the basis of the reviewer's expertise and knowledge and experience of quality assurance programs, and that it's based on his judgment alone, that approves the QA program without any specific acceptance criteria, if you will. Is that correct?

A That's correct, with the additional clarification

that I review it also, and there is a draft guidance document that existed at that time that we used as guidance, like a check list.

Q Do you have a copy of that with you? Do you have a copy of that?

A Yes.

Q With you?

A Yes.

Q Could you provide us with it, so we could take a look?

A Yes.

Do you want that now?

Q Yes.

[Handing document to counsel.]

MR. LANNING: Mark as Exhibit 1083 a draft document subject of which is "Guidance for Submittal of Quality Assurance Program Description, Section 17 of PSAR," dated October the 3rd, 1973.

[The document referred to was marked Exhibit 1083 for identification.]

BY MR. LANNING:

Q Now it's my understanding, Mr. Gilray, that this, along with the knowledge -- or knowledge of the reviewer, was used to determine the acceptability of the Unit 2 QA

program?

A Right.

Q Is that correct?

A Right.

Q Now this says for a Preliminary Safety Analysis Report. Did you use the same document for Final Safety Analysis Report also?

A Right.

Q Now is it by coincidence that this document happened to address the operational phases of the QA program?

A No, their controls, programmatic controls are quite similar, quite the same.

Q But there would be nothing in here that would address the operational procedures, such things as manual surveillance testing?

A No. No. That -- well, let me see that.

That's correct. It does not address the operational procedures as such.

Q All right. I want to go on and clarify your discussion about a comparison of the existing or approved Unit 2 QA program to the standard review plan after '74.

A Uh-huh.

Q Now you indicated that you had done a comparison between the existing program and the standard review plan

which originated this handwritten list of items which you had communicated to the licensee to upgrade his program.

A Right.

MR. LANNING: We will mark this 10-page, handwritten list of questions as Exhibit 1084.

[The document referred to was marked Exhibit 1084 for identification.]

BY MR. LANNING:

Q And as I understand it now, these were communicated to the licensee informally? They were never transmitted officially with a cover letter, saying answer these questions and provide additional information?

A That's correct.

Q Okay. And it's this list which essentially documents the differences between what's required in standard review plan 17.2 and what was approved as the original QA program for Unit 2?

A As determined by the reviewer.

Q As determined by the reviewer.

Okay.

A And some of these areas were resolved through clarification and discussion with the utility.

Q And you have also indicated that you do not think that these additional clarifications or additional

commitments were of enough substance to really require the change officially. Is that --

A That's correct. It is my firm belief that the existing QA program for TMI 2 that's contained in the docket is one of the better QA programs we have for the operation phase, including those that we're reviewing today.

I'll point out one area where I find it deficient, but we have allowed this in the past, and that is the calibration of the 1 to 4 accuracy. We did not get that from TMI 2, and we have other utilities that did not commit to that.

Q Now these are calibration of instrumentation to calibrate operating equipment or calibrate torque wrenches or for what purposes?

A They should be calibrated against an instrument that is four times better than the instrument being calibrated. This is where we kind of deviate in our review process. Normally we stick to programmatic requirements. Here a specific like QC requirement, 4 to 1 requirement, and it's a learning curve we're going through.

BY MR. PARLER:

Q You referred to programmatic requirements a couple of times this afternoon. Again in the interest of a clear understanding of what you're talking about, would you say for the record what you mean by programmatic requirements in the

quality assurance area?

A Yeah. Programmatic requirements are administrative controls. They are program controls in order to meet the 18 criteria of Appendix B.

They are not specific quality control controls, which tells you what to inspect and how to inspect, and to what accuracy.

MR. PARLER: Let's take a recess, if you don't mind.

THE WITNESS: No.

[Recess.]

end AR
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BY MR. LANNING:

Q. I want to go back to Exhibit 1084. Was a program for safety regulations included, do you recall?

A. Let me see.

(Pause.)

Page 45 of the QA Program description of Section 17 has a summary of a partial list of safety instructions and components covered by the QA Program.

Q. What criteria determine whether equipment or systems are included on this list?

A. Well, to begin with, the Quality Assurance branch is not responsible for determining the acceptability of that list. We rely on DDS to evaluate that list and determine its acceptability.

Q. You rely on whom?

A. The DDS organization -- that would be Division of Systems Safety.

Q. It's my understanding that this list which the entire QA program applies, or not applies, as the case may be, -- And it is also my understanding that it is this list in your write of Sections 17.2 of the SER, which I believe the Quality Assurance branch writes, in essence references the Q list, and essentially approves it.

Is that correct?

A. We don't approve the Q list. We don't have the

rmg 2

technical competence to do that. That's a technical decision by people outside of our branch. Again, DDS has that expertise.

MR. PARLER: That's DSS you are talking about?

THE WITNESS: Excuse me, DSS. They have the expertise in determining how those systems function, the uniqueness of such, and they are the ones that should determine the acceptability of that list.

BY MR. LANNING:

Q. But does the Quality Assurance branch serve as a focal point for approving the Q list, or how is it done?

A. Todays way of doing business, we are the focal point. We make sure now that the people in DSS review this, make sure that they evaluate it according, against certain criteria.

Q. How do you ensure that?

A. Today we write, we write a letter to the project manager. Well, let's see, that letter is signed off by the project manager and also by the QA branch chief, Walter Haas, going to the principal reviewers.

And the request is that they review that Q list to determine its adequacy.

Q. You said today, the word today a couple of times. In comparison to -- when was yesterday?

MR. PARLER: When was the present way of doing

rmg 3

business implemented? After March 28, 1979?

THE WITNESS: I'm not sure. Some time this year.

BY MR. LANNING:

Q. Do you know the mechanism, or how this list was approved in the past?

A. No.

Q. Was there ever any documentation that stated the reviewers within DSS were making that determination and not the Quality Assurance branch?

A. No.

Q. Do you think it was adequately -- do you think it was reviewed at all?

A. I don't know.

BY MR. PARLER:

Q. Well, where did the list originate from under the prior approach? From DSS -- the Q list?

A. The list originated by the utility --

Q. I see.

A. -- in the form of this table that's a QA program description, and also was contained in Section 3.2 of the application.

BY MR. LANNING:

Q. Okay. Are the QA program requirements so broad that they can apply uniformly to all systems in the reactor power plant without looking at the specific applications of

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the QA program requirements?

A. No. You would have to look at the specific applications.

Q. Well, how do you do that? If you don't approve the Q list, but yet you approve the quality assurance programs, how do you know that what you are approving in the way of quality assurance requirements are applicable for the systems that appear on the Q list?

A. I don't. We rely on DSS to determine the adequacy of that Q list.

Q. But what I am getting at is, is the applicability of the QA requirements to the systems identified on the list.

A. Are you asking for criteria which DSS uses to determine is an item is Q listed or not?

A. No, I am looking for criteria for determining how the Quality Assurance branch determines if the QA programmatic requirements are appropriate for those systems.

A. We don't look at it.

BY MR. PARLER:

Q. Well, then should one conclude that, from the QA program standpoint, that the, an understanding of and familiarity with the technical areas that are involved are irrelevant?

A. No, not irrelevant.

Q. Well, I believe that's what you are trying to get to.

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Isn't that ri[illegible], Wayne?

BY MR. LANNING:

Q. I fail to understand how you can approve the quality assurance program without applying it to specific systems or equipment or procedures related to the operations of those equipment systems.

A. We have a Q list. The QA program applies to that Q list.

Q. Uniformly?

A. Right.

Q. Okay.

A. Wait. You say uniformly -- to the extent commensurate with the importance of that item or activity.

Q. What do you mean?

A. Well, the Q list applies to a Q list item, like a pressure vessel.

Q. A Q list is a safety related item, as I understand it.

A. Right. Now, the extent to which that QA program applies to that pressure vessel, some items will, some items will not apply to that pressure vessel.

Q. How do you determine the applicability --

A. That's -- we don't get into that. It is up to the utility to determine how and to what extent the QA program applies to that safety related item.

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Q. In other words, you don't review any of the implementing procedures associated with the QA program, or do you review what criteria contained in Appendix B are applied toward that particular component or system?

???

A. No. See, that's getting into the QC ampither

Q. There are separate reviewers for the quality control?

A. No. We just don't get into it. We leave that up to the utility to determine the extent of which they apply Appendix B to a safety related item. You get down to a pressure vessel, the extent of which you provide source inspection on your material supplier, the extent to which you dimensionally inspect your fabrication process.

In regards to your nondestructive testing, that's covered better because of the ASME code, where you have requirements for nondestructive testing and such.

But for specific applications of Appendix B and the extent to which that applies to specific safety related items, it is indeed left up to the applicant.

Q. I'm left with the impression that during a review, all you are looking for is a regurgitation of the criteria obtained in Appendix B without really going into determining how the QA program is implemented.

A. There is a certain amount of regurgitation, but it goes further than that. We get a certain amount of how that

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QA program is going to apply, that is, the Appendix B. A lot of those hows are contained in the ANSI standards in the reg guide.

BY MR. PARLER:

Q. Is that so we handle that how generically by relying on the reg guides and the ANSI standards, or what?

A. Yes, coupled with the standard review plan, the criteria for the standard review plan.

Q. Well, what -- if an applicant asserts in so many words that it will comply with the quality assurance principles in Appendix B to Part 50, and it further asserts that it will comply with the applicable regulatory guides and the ANSI requirements -- is that pretty much the end of the NRC's regulatory review of quality assurance?

A. You are about 85 percent or 95 percent normal.

Q. Well, what's the rest of it?

A. That's the other items that are in the standard review plan.

BY MR. LANNING:

Q. In other words, commitments to regulatory guides and industry standards?

A. No, he's already covered them. No, it is those other items. You take your organizational arrangement, we look into that, to be sure there is proper independence, authority and such, and there is enough qualifications and

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assignment of responsibilities to the QA staff.

BY MR. PARLER:

Q. What about prior performance? Either during the construction phase of a nuclear power plant, or during the operational phase of a nuclear power plant, or both? Is that taken into consideration in the quality assurance review?

A. Yes.

Q. How?

A. To the extent that we look at inspection reports that have been issued on that plant or sister plants. We also interface with I&E. We call them up on the phone and say, how is this utility responding to QA? Do they appear that they really have the technical qualifications and are implementing the QA program as it should be? So we get feedback in that area.

Q. Are there any instances that you can recall where the quality of past performance made a difference in the quality assurance review, one way or the other?

A. Yes, to a certain degree, we have interfaced with the utility and said, because of this and this and this in the past, we have some reservations with regard to your ability to perform.

Q. Anything like that involved in the review of TMI II, that is, any past performance with regard to TMI I or other nuclear power plants that GPU services was involved in -- did

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prior performance enter into the staff's review of TMI II?

A. No. We contacted I&E several times on TMI II --

Q. Was this -- go ahead.

A. They have expressed some problems with the design and construction of the quality assurance program, but they said that this is not abnormal. And it wasn't significant enough to require us to get the utility to upgrade their QA program.

Q. The design and construction program where?

A. TMI II.

Q. And you were called by who?

A. We called the I&E inspectors.

BY MR. LANNING:

Q. And what was the purpose of calling these inspectors, the subject matter?

A. To get an appreciation of the quality assurance program for design and construction of their ability to implement that QA program.

Q. And they were in a position to do that evaluation because --

A. Yes, they are on a routine inspection for TMI II, design and construction phase.

Q. Why did you contact them concerning Unit II? Any specific reasons?

A. It was a question of -- as I stated earlier, we look at past performance of utilities to get some confidence

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in yes, indeed, they have demonstrated acceptable QA performance. So that's what we do.

Q. So it was an information gathering-type telephone call.

A. Yes. And again, we look at I&E inspection reports.

Q. Did you ever visit the site?

A. Yes.

Q. During construction?

A. We had a meeting there once back in '76 to discuss these issues of areas that we were trying to encourage the utilities to update.

Q. And once they were licensed, did you visit the site any time subsequent to that?

A. After the TMI incident, I spent a couple of weeks up there on the modification end of it.

BY MR. PARLER:

Q. How about during the preoperational test phase for TMI II, were you or any representative of the Quality Assurance branch at the site along with the Inspection and Enforcement people?

A. No.

Q. Normally, that is not done, or --

A. It is not done.

Q. So during the preoperational testing phase the NRC relies for its observations and evaluations, et cetera,

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primarily, if not exclusively, on the inspectors from its regional offices; is that your understanding?

A. Yes.

Q. If one were to have a check of the fruits, the benefits of a quality assurance program, at least the operational quality assurance program, when would be a very good time to start looking hard for the benefits of such a program?

Is my question clear to you, sir?

A. Yes. If the operational organization is involved during the preop startup and test phase, that would be an excellent time.

BY MR. LANNING:

Q. I want to go back to the Q list for a second.

Once a -- when a system is identified on a Q list, does this, do you have an understanding as to the range to which the QA list is applied?

For example, if you identify the reactor coolant system as being on the Q list. Now, does that also include all equipment or hardware attached to the reactor coolant system as being safety related?

A. I would think not.

Q. Is there any criteria for distinguishing the interface between what is safety and what is nonsafety?

A. Only the criteria that is expressed in Appendix B

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coupled with Appendix A coupled with Reg Guide 1.29 and 1.26.

Q. How does Appendix B distinguish between safety grade and nonsafety grade equipment?

A. By the definition of Appendix B. That is --

BY MR. PARLER:

Q. You are talking about Appendix A and Appendix B to 10 C.F.R., Part 50, for purposes of record; isn't that right, sir?

A. Right.

(Pause.)

Okay, it's those -- Appendix B states it's those structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

That's Appendix B.

BY MR. LANNING:

Q. What is that a definition of?

A. Excuse me?

Q. What is that a definition of?

A. Whatever the Appendix B applies to.

BY MR. PARLER:

Q. What you just read, what is that a definition of, is I think the question he asked.

A. I thought it was of what is safety related. Let me go through it again.

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(Pause.)

BY MR. LANNING:

Q. It is my understanding, and it has been the testimony of other NRC employees, that there does not exist a definition of safety related, safety grade, or important to safety equipment.

A. Well, to begin with, there is confusion. There is no doubt it, within the agency and what is safety related, what is important to safety, and what Appendix B applies to. There has been a history of this confusion, and the basis --

A good share, let's say 85 percent of 95 percent of the criteria lies within Reg Guide 1.29 stating what Appendix B applies to. And -- do you want me to go through it?

Q. Well, in essence it just says all that equipment which is seismic, Category I equipment, shall be, meets the requirements of Appendix B, doesn't it?

A. It's more than that.

Q. I guess the point is, it is not totally inclusive. There are a number of safety equipment which do not meet Reg Guide 1.29

A. There are items that are safety related that do not fall under Reg Guide 1.20; that is correct.

Q. There are equipment that mitigate transients and accidents that don't fall in Reg Guide 1.29.

A. That's correct.

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BY MR. PARLER:

Q. What kind of equipment? Safety or nonsafety related equipment or both? That's your answer, too?

A. That's correct.

BY MR. LANNING:

Q. Do all the applications in general, include a Q list, that you review?

A. Well, I don't review them. And the answer to that question is yes, that you get it in Section 3.2 of the application.

Q. Are you familiar with whether or not the number of systems or equipment contained on that list can be changed by that applicant?

A. Sure.

Q. Does he have to get NRC approval?

A. No.

Q. So there is nothing really to prohibit an applicant to reducing his QA program in his application to minimal.

A. Correct.

Q. Is that correct?

A. Correct. Other than those boundaries that are contained in 50.59, you know.

BY MR. PARLER:

Q. You mean, unless there is an unreviewed safety question; those are the boundaries you are talking about?

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A. Yes.

Q Has there been any experience that you are aware of and that your office has been involved in where a change in the quality assurance area, such as a change to a Q list, has been submitted to the Nuclear Regulatory Commission as an unreviewed safety question under Section 54.59?

A. I am not aware of any.

Q. I am left with the impression that as far as the depth of regulatory involvement of the NRC in the quality assurance area is concerned, the regulatory involvement might not be too deep; is that what you are saying, in effect?

A. That's centered around the Q list?

Q. It's centered around the Q list, coupled with the earlier testimony, at least as I understood it, that if an applicant or a licensee submits information which says that the applicant is going to comply with the principles in the Appendix B to the Part 50, and will comply with the regulatory guides and will comply with the ANSI, that is, ANSI requirements, then that's it.

How the applicant or the licensee goes about complying is a detail that the regulatory agency does not get into. So it is the two things that leave me with the impression that although our QA involvement may not on the one hand be superficial, on the other hand it is not a very deep and probing involvement.

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Do you have any comment on what I just said?

A. That assessment, I would say, is correct.

Recognizing that when you state we get a commitment to the ANSI standards, regulatory guides, and you get -- 85 percent of it is there. But there is that 15 percent that we use the standard review plan to get a better, greater expression of how they are going to implement that QA program.

But again, these are programmatic controls. We do not get down into the quality control aspects of it.

Q. So we are relying very largely on the licensee's commitment to quality assurance. And I suppose one might say there is nothing wrong with that.

But on the other hand, what leverage do we have as a regulatory agency to impose requirements? That isn't entirely clear to me.

A. Those additional items that are in the standard review plan, that we asked for?

Q. Well, no, not necessarily. I suppose if a Q list is changed, for example, and an applicant decides there is no unreviewed safety question, a question that I would have, in practical terms is that the end of it, as far as the Nuclear Regulatory Commission is concerned?

A. Well, the checks and balances there when I&E goes in and inspects. They inspect, they are supposed to inspect to the docketed QA program description. If they change that,

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then the I&E discusses it with the utility and writes them up if there is an infraction or such.

But that's the checks and balances. They can change the QA program, change the Q list, and it is done a lot.

Q. In your experience, in your branch, and to the best of your recollection, are you aware of any instances in which our inspectors have found departures from an approved quality assurance program which are significant?

A. Yes. But not of a nature that is reportable under 50.59.

BY MR. LANNING:

Q. In other words, a change, a reduction in the list, the Q list, doesn't constitute a change that is required under 50.50?

A. I don't know for sure. That's somebody in another area that would have to answer that; I'm not that expert to determine.

Q. Well, do you personally think that the QA program review should be expanded to encompass implementation of the QC as it has been referred?

A. Are you asking my personal opinion?

Q. Yes, your personal opinion.

A. Yes.

Q. Do you feel that it would be necessary to review the implementing procedures to assure an effective quality

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assurance program?

A. My personal feeling is yes. Keep in mind that there are dangers involved there, because when you get that into the docket and you require that they submit any changes to that, you are going to up the paperwork considerably.

What we have done in the past, we have looked in the licensing area here. We have looked at the programmatic aspects of the program and found that -- once we find it acceptable, that the utility, the principal contractors generate a volume a heavy volume of detailed information; that is normally looked at by I&E inspectors.

And that is a judgment factor on their part as to whether that is acceptable or not.

Q. It is my understanding that I&E would only review that document to ascertain the existence of certain procedures, not necessarily to review their procedures to determine whether or not they are adequate for the purpose of accomplishing or meeting the requirements to some criteria in Appendix B.

A. I don't know. I would hope that they would look at it to determine the adequacy of the procedures.

BY MR. PARLER:

Q. But that would be done by an inspector who has skills in the quality assurance area?

A. Yes.

Q. As far as you are aware, are there such inspectors

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in each of the regional offices, or do you know?

A. I'm not aware of any. I imagine -- let's see, I know for a fact they are in Region I and Region II.

Q. Are you generally familiar with the Commission's defense in depth regulatory philosophy?

A. Yes.

Q. Does quality assurance play a role in that philosophy as it has been stated by the Commission and their representatives over the years?

A. Yes.

Q. In your opinion and personal judgment, is what the Commission actually does in the quality assurance area, commensurate with the importance that area has as a part of the defense in depth philosophy? In other words, is quality assurance given the attention and the consideration that it deserves since it has been advertised, I believe, as an important factor in the defense in depth philosophy?

A. From a personal standpoint, I think not. However, there is management and personnel higher and above me that has infinite and more wisdom than I do.

Q. We are just asking you from your own personal experience, background, and perspective.

A. No, it doesn't. And the reason why, just take a look at the organization, where QA fits in the organization. It is at a very low level. It does not sit high up in there

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where we get adequate attention.

And this safety Q list is an example where we have had a lot of pains in the past in getting adequate attention in that area.

BY MR. LANNING:

Q. What factor does the QA program contribute to the defense in depth concept?

A. Well, it sets forth the administrative and programmatic controls which gives a disciplined approach to your design, construction, and operation phase. You set up an independent QA organization, you have independent review and assessment of documents and inspection, verification of activities, and audits and things of this nature which give you greater confidence that the quality is indeed there.

Q. Well, you don't -- do you review the administrative procedures at all?

A. No.

BY MR. PARLER:

Q. To the best of your knowledge, has the Quality Assurance branch received, say, since January '75 any policy directions or guides from the Commission regarding the performance of the NRC in the quality assurance area?

A. Specific guides on how we do our business?

Q. No, not necessarily that, but specific guidance on the need for, say, more attention to be focused on the importance

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of the quality assurance program and to -- for example, to try to instill in utilities, especially those that are new in the commercial nuclear power business, the importance of quality assurance and quality control? That's just an example.

Or has there been any policy directions from the Commission that relate to the performance of the regulatory function in the quality assurance area to any degree, as far as you are aware?

A. I am not aware of any.

Q. How about are you aware of any general briefings by the staff of the Commission regarding the role that the regulatory staff plays in the quality assurance area?

A. No, I'm not aware of any.

Q. Are you aware, again, to the extent of your involvement, of any exchanges between the staff of the Commission and the Advisory Committee on Reactor Safeguards which specifically deal with the subject of quality assurance?

I realize that there may be a letter on an individual application in which quality assurance may be mentioned, but I am talking about exchanges with the Advisory Committee on Reactor Safeguards which for the most part focus on quality assurance?

A. No, I'm not aware of any, other than during the Browns Ferry incident there was several tasks generated where they, those tasks expressed QA philosophies in the way of doing business with the ACRS.

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BY MR. LANNING:

Q. Besides the location of the Quality Assurance branch in the management structure, are there other reasons you feel that the quality assurance has not received the attention it merits?

(Pause.)

A. Ask that again, would you, please?

Q. You have previously indicated that you felt that because of where the Quality Assurance branch was placed in the organizational structure within the NRC, it was not receiving the attention placed on quality assurance programs that they should.

Besides the management and the location of the organization, are there other reasons why the quality assurance requirements have not received more prominent attention?

A. Well, keep in mind this is just my personal beliefs as a quality engineer.

Q. That is what all of this is, just for the record. So that that will be absolutely clear. That is understood.

A. Yes. It looks at the big picture, and I'm just a little key down here.

One, I have been brought up in QA in the classical quality sense, that is to say, that you establish a QA organization that is responsible for all quality assurance and quality control.

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Now, this is in the area of like a utility or aerospace industries, nuclear Navy.

These concepts are not followed within NRC. We allow the flexibility of utilities to create a QA organization whereby QA can be delegated out into several different organizational elements with the utility or principal contractor.

You can have the inspection QC activity performed and an organization that is also responsible for doing the work.

Q. What is the solution? Are there changes required to our Appendix B, or is it just implementation of the Appendix B criteria?

A. To me it's a change in Appendix B.

Q. In other words, you think the regulation needs some modifications.

A. Right. You take a look at your aerospace industry, your Navy nuclear industry and the way they structure their QA, QC. And it's much more disciplined, much more structured than what we allow as a regulatory body.

Also, I might add, the way QA is handled within the agency, what determines what QA is applied is determined by people that are fragmented out into different organizations.

For example, you have got your standards; you have got your QA branch; you have got DOR; you have got I&E inspections; you have got your research, development. And there is no nucleus that is bringing qualified expertise people together

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and professionally generating a QA posture of policy that's at least equivalent what is in aerospace.

BY MR. PARLER:

Q. Do you all, that is, the people you just mentioned that are in the various offices and divisions and that have responsibility, different responsibilities in the quality assurance area, do you ever get together and chat about these things?

A. Not in a real sense. Back when, during the Manning-Munson era, there was a QA task force that was generated whereby you brought the standards, DOR, and the I&E and the QA branch together, but not much was accomplished during that.

In fact, at that meeting, the safety Q list was brought out.

Q. What was the purpose of that task force, do you recall? Was it one that was concerned with some clarification of Appendix B, perhaps because of an appeal board decision, of something else?

A. No. What precipitated this -- out of Manning-Munson's edge -- and the purpose was to identify significant QA problems that are generic in nature and to try to resolve those problems.

BY MR. LANNING:

Q. Was one of those problems the lack of a tool for implementing Appendix B? For example, a regulatory guide which provides guidance as to how to implement Appendix B?

A. No. Because they didn't think it was necessary

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at the time, because all your ANSI standards regulatory guides which are 17 or 18 in number, which we get a commitment to, they felt that that was sufficient to gain a lot of the hows on how the Appendix B is going to be implemented.

Q Have you been involved in a standards effort to develop such guides?

A. No. Again, I don't know if that has ever been identified, a need for such.

Q. If an I&E inspector called you up to say, I have identified an item which I think should be on a Q list -- for discussion purposes, say it's consumables.

??

How do you resolve to determine whether or not it should be on the applicant's Q list, the licensee's Q list?

MR. PARLER: Off the record for a second.

(Pause.)

MR. PARLER: Back on.

THE WITNESS: Okay, No. 1, when I&E calls up the region, they say, hey, keep in mind you guys should be calling the Bethesda office. And then they will ca. me.

And then secondly, I recognize your concern there about a Q list item. And the thing that I would recommend, that a meeting be held with the project manager, with the utilities with the I&E inspector and the technical expertise in a meeting, to determine if that item should or should not be on a Q list.

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Now, a particular case in point was Baltimore Gas & Electric, Calvert Cliffs. The consumable happens to be diesel fuel oil. They thought it should be on a Q list; there are certain people here who did not think it was. So we got a meeting together, and it was resolved that it should be on a Q list and the utility then put it on the Q list.

BY MR. PARLER:

Q. The Bethesda office that you mentioned earlier you were talking about the Inspection and Enforcement headquarters, the office here in Bethesda of the Nuclear Regulatory Commission that normally I&E people in the regional offices deal with; is that right?

A. Right.

BY MR. LANNING:

Q. So as a section leader you don't really encourage I&E inspectors to contact NRR personnel directly?

A. No. Personally, I encourage it. When I talk to the I&E inspectors out there, I say call me anytime, and they send me correspondence in parallel.

But, yes, I definitely encourage it. Those are our eyes and ears out there. Those are the guys are the ones that give adequate feedback. And these are the guys that should be meeting periodically with the QA branch 2 or 3 times a year in a conference to identify the needs, the better needs of QA and where the weaknesses and strengths are.

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Q. Well, have you had management directives to refer those inquiries to I&E headquarters? Has there been set forth a formal communication route?

A. Any concern that an I&E region person has is required to document, send it to the home office, I&E home office. And they determine whether it is of a significant nature to bring it over to NRR.

A lot of them are screened and not tossed to us over here. And I get calls from the region saying, hey, this didn't get through; can you help me another way? And we can work other ways on it.

(Pause.)

BY MR. PARLER:

Q. I think that the relationship between the inspectors in the field and NRC headquarters is, in the quality assurance area, is one of the items that is set forth in a memorandum from Mr. Rusche, R-u-s-c-h-e, and Mr. Volgenau, V-o-l-g-e-n-a-u, to Mr. Gossick on the subject of agreement on NRR/I&E interface and division of responsibility.

That memorandum is dated March 21, 1977, and it has been previously identified as an exhibit in an earlier deposition.

This memorandum in part under the topic of quality assurance provides that in order to assure proper coordination on QA matters, I&E and NRR agree to participate jointly in predocket conferences with new utility applicants, and

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coordinate prior to completing action on docketing of safety analysis reports, acceptance of QA topicals as preparation of safety evaluation reports, to provide joint testimony to hearing boards when issues involving the adequacy of quality assurance programs are raised, and inform each other regarding matters having significant quality assurance implications, and request comment on interfacing programs and activities.

So that is the very general guidance that presumably now exists with regard to trying to coordinate the activities in the quality assurance area of regional inspectors with the NRC at headquarters.

Wayne.

BY MR. LANNING:

Q. Are you familiar with the method that I&E used to screen these regional. what I call problems?

BY MR. PARLER:

Q. In the quality assurance area.

A. Not the details.

Q. In general.

A. I recognize the concern is documented by the region and sent into the I&E home office and they review it and screen it and determine whether it comes over here or not. Sometimes it does and sometimes it doesn't.

BY MR. LANNING:

Q. Do you have any feel for the number that successfully

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passes through the filtering concept?

A. No.

Q. Have there been examples where I&E inspectors have called you directly on an issue which was filtered by I&E headquarters which was indeed important to safety or was indeed important to quality assurance programs which require NRR review or approval?

A. No, I know of none of a specific nature of that caliber, that is significant. I have had calls where the I&E person thought it was significant and said, hey, they chose not to send it through, and asked if I could do something about it. And I said, well, maybe I can talk to the project manager and maybe get it changed.

But I have no knowledge of how many filtering --

Q. Regarding the --

BY MR. PARLER:

Q. Excuse me. But on the other hand, do you have some knowledge on those issues which do not get screened and which are referred to NRR?

A. Oh, yes.

Q. Are there many of those? Are there more than a few a year, for example?

A. Yes. We get maybe, see 2 a month.

Q. And when you say they are referred to NRR, that doesn't necessarily mean that the lead responsibility has been

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transferred to NRR, or does it?

A. Some are. Not very many. They have had a request for NRR to review it, and to provide a position on it. And we translate that back to the I&E home office, and they do what they like --

Q. For those several a month of quality assurance items that are referred to NRR that you are aware of, do you have any knowledge of how those issues are ultimately resolved? I gather for those things that are referred to NRR, that NRR would inform I&E headquarters of its, of NRR's position?

A. Yes. We resolve them.

Q. What?

A. We just resolve them. If there is a request that comes in and says clarification is needed in this area, can you provide position, we provide a position if it comes to us.

Q. And that position is the resolution of the matter, as far as you are aware?

A. Usually it is.

Q. What I am trying to get at is to see whether there is a filtering process that works in reverse.

A. Not normally. They usually will respect the positions coming out of NRR.

I have got to clarify that 2 a month. There is not that many. There might be maybe 10 a year, 10 a year.

Q. That's approximately, in any event.

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A. Yes.

Q. Go ahead.

BY MR. LANNING:

Q. Criterion 10 of Appendix B entitled Inspections it states that a program for inspection activities affecting quality shall be established and executed by or for the

??? organization supporting the activities.

A. Uh-huh.

Q. What activities are they, does that refer to? What activities require inspections?

A. It's those activities that are determined by a review of design specifications procedures, quality assurance, should jointly with design expertise types evaluate those activities, identify those that are important that merit instruction, and identify them.

Q. Is there a list contained in the SAR?

A. No. No. See, again, just pure programmatic. We make it a requirement that, hey, you analyze the designs and procedures and such, and you determine, the utility determine the need to perform inspections. It is left up to the utility.

Q. Are there qualification requirements for people who perform the inspections?

A. Yes.

Q. Where are they delineated?

A. In ANSI standard 45.2.6.

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Q Do you review those criteria? Or again, do you just review the commitment to that ANSI?

A Right, we just get a commitment to it.

Q What criterion of Appendix B addresses maintenance, either preventive or forced, in Appendix B? Is there a requirement in Appendix B for maintenance or addresses maintenance?

BY MR. PARLER:

Q Take time to look at the Appendix B if you need to refresh your recollection.

(Pause.)

A No, I don't think it is specifically stated in Appendix B. But you have the ASME codes reflected in the regulations, and you have the ANSI standard 18.7 which we get a commitment to which talks about maintenance.

BY MR. LANNING:

Q But the ASME code only applies to those components which are ASME qualified.

A That's correct. And that, when I say ASME code, I'm talking about in-service inspection, and there is, could be a semantics hangup there whether in-service inspection constitutes maintenance or not.

However --

I guess, if I was to pick one particular source, it would 18.7 that talks about maintenance.

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Q. Well, since there is no requirements for maintenance in Appendix B, there is generally no requirements for qualifications of people to perform the maintenance.

A. Wait a minute. Okay.

There is a general statement in there that people performing safety related activities should be indeed qualified, but there is no specifics as to what those qualifications are for maintenance.

The inspection of maintenance certainly is. They should fall under 45.2.6, the ANSI standard.

Q. So there is really no definition of safety related activities?

BY MR. PARLER:

Q. So far as you are aware at this time.

A. Well, if you are looking for, your definition for it, I guess not. Of course, the general statements about preventing postulated accidents --

BY MR. LANNING:

Q. For example, changing the lubrication oil in a pump.

A. Uh-huh.

Q. Now, are there requirements governing the, how that function is performed, and who would perform it?

A. No. I am not aware of any. It might be hidden in some other regulatory guide technical that that's outside

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QA.

Q. Are the QA programmatic requirements included in technical specification of operating licenses, in general?

A. Are the QA -- let's say more, there's QC.

Q. How can it be QC when you don't even review QC?

A. I don't review it, but tech specs, the tech specs, they talk about the surveillance inspection and such of instruments and such. Those are technical and QC requirements and are out of our jurisdiction.

Q. But do you recall of a requirement then put in the technical specifications requiring the latt cee to have a quality assurance program, in effect?

???

A. No. We require it. We require it to the QA program for safety related activities.

Q. But it is my understanding the operating licenses do not include a reference to any quality assurance program.

A. I don't understand what you are saying.

Q. Well -- my point was, --

I was getting to the point was, one reason that you don't get formal changes to an approved quality assurance program is because it is not part of the technical specifications, and therefore it doesn't require a licensing amendment to change the quality assurance program.

A. Correct. Okay.

Q. Whereas, if the quality assurance program had been

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included in technical specifications for license, it could not be changed arbitrarily by the licensee.

A. Yes. Good point. Back when we fought to try to get the QA program a condition of the license, and we were shot down.

BY MR. PARLER:

Q. Now, how about elaborating on that. When did you have that effort, first of all?

A. When?

Q. Approximately.

A. It was back in 1974, '75.

Q. Is that anything to do with the task force on QA that you referred to about 35 minutes ago?

A. They might have been involved in that. But I remember working -- see, Technical Specifications used to be under the QA branch.

Q. Under Mr. Scovalt?

A. It might have been Tedesco at that time. But it was under Dick Vollmar at time.

Q. I see.

A. And I remember working with Dick and also the Technical Specification guys to make the QA program.

Q. Were the Technical Specifications people under that same --

A. They were working for Vollmar at that time.

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Q. Okay.

A. And we didn't get it. And then even when Jack Helkimuss took over Bob McDermott was able to ingeniously get the preoperational startup and test the condition of the license. And at that time we tried to get QA also. We just weren't successful enough. I think it went all the way up to Ben Rusche at that time.

Q. All right, is there anyplace where these arguments pro and con have been set forth, that you know of?

A. You mean documents?

Q. Yes.

A. I'm not sure. There might be.

Q. What is the area in which this effort has been waged? Between branches, or within a branch, or under an assistant director, or where?

A. No. The latest one was with Jack Helkimuss, tried to get it through -- I think he was working through Ben Rusche's organization.

Q. What is the main argument for including QA as a license condition? I realize it is probably repetitive, but at this point in the record would you answer that question?

A. The QA program sets forth the foundation of the disciplined approach, the programmatic approach that you are going to apply to safety related structures, systems, and components.

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If indeed you spend the time and the effort to get an acceptable QA program, it seems logical that you should get that as a condition of the license. Otherwise that program can be changed, and you can compromise the quality efforts.

Q. Now, on the other hand, what is your understanding of the argument advanced by others that the QA program should not be included as a condition in the license? I realize that others that have that position are the ones that are best qualified to answer the question, but my question what is your understanding of their position?

A. I don't remember; I honestly don't.

Q. But, in any event, this is an issue that apparently has surfaced from time to time, at least as early as 1974, and the advocates who believe that for the reasons that you just stated, that QA should be a condition of a license, that those advocating that position have not successful; is that right?

A. Right.

Q. As far as you are aware, that issue has never been se t to the Commissioners; is that right?

A. Right. I don't think it has; right.

I should mention this: By the fact that we didn't get it a condition of the license, when we went through the revision of the standard review plan, we put in there a requirement that the utility, any changes to the QA program should be

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submitted to the agency here for review and concurrence prior to implementation.

Q. This is probably a legal-type question, but -- so don't answer it from standpoint -- but what is your understanding of the requirement or the provision in the standard review plan that you just described with the provision in the regulation 54.59 that talks about the submission of changes?

Just offhand, it would appear to be an inconsistency in the two.

A. Yes. I agree.

Q. But, in practice, has that inconsistency, at least in recent years, created any problems for the reviewers? Has what is theoretically a troublesome, a potentially troublesome issue because of the inconsistency or possible inconsistency that I alluded to as a problem, materialized in that area yet, as far as you are aware?

A. No. I am not aware of any.

Well, let me clarify that.

Q. Go ahead.

A. We stress the point when we interface with the utility and the PSAR and FSAR review state that, hey, we recognize ??? that the QA program is not a condition of the license. But we try to make it crystal clear to him that the basis of inspection of I&E is the QA description in the SAR. And that if you change it, you are going to be cited probably by I&E

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by the fact that you are not working or implementing your program consistent with the docketed QA program.

Q So that is your understanding of really the basis for the, or the inspection of QA; right?

A Right. It doesn't work all the time, I don't think, though.

Q I was a -- what the basis for the inspection in QA was, was a question that I was going to ask you. I have a letter here, which I don't know whether you have seen or not, from the Advisory Committee on Reactor safeguards from Dade W. Moeller, M-o-e-l-l-e-r -- his first name is Dade, D-a d-e, who at the time of the letter was the chairman of the ACRS.

It is a letter dated May 19, 1976, from Chairman Moeller to Marcus A. Rowden, R-o-w-d-e-n, who at that time was the chairman of the Nuclear Regulatory Commission.

The subject is: Report on Nuclear Reactor Inspection. This letter covers a number of things, but it part it addresses itself to quality assurance.

And the letter says in that regard that a well-defined quality assurance program developed by all responsible parties for design, construction, and operation, is essential if there is to be a coordinated and meaningful inspection program by the third party, that is, authorized inspector, and the fourth party, NRC I&E.

It says: Such a program provides criteria for the evaluation

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of the relevant components or systems. An inevitable result of a good QA program is the identification of some inadequate quality or erroneous work by an effective inspection and enforcement, since lack of perfection is implictly indicated by the need for inspection.

I don't know whether you have ever seen that letter or not, but you may find that of interest.

As I have already said, for the most part it deals with other subjects in the inspection area.

MR. LANNING: Are you entering that into the record?

MR. PARLER: Why don't we go off the record for a minute, and you can examine the paragraph in detail, and if in your judgment the both of you, it contributes anything to the discussion, you should put it in. Off target, you should not. Simple as that.

(Pause.)

MR. PARLER: Back on the record.

BY MR. LANNING:

Q Evidentally the ACRS was addressing the need for inspection programs, QA activities. In other words, Criterion 10 of Appendix B is the way I read this paragraph.

Is it my understanding that previously you said that there was no list of activities which Criterion 10 of Appendix B applies to?

In other words, there is no effort by NRC to review

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specifically activities which require QA inspection -- for example, maintenance, surveillance testing, modifications, in-service inspection, or whatever?

A. That's correct.

Q. Okay. Well, evidently the ACRS in 1976 strongly endorsed having inspections as part of a well-defined quality assurance program.

MR. PARLER: I think we will enter that -- that that will be Exhibit 1085 for identification, the document that is Exhibit 1085 I have previously described, is the letter dated May 19, 1976, from Chairman Moeller of the Advisory Committee on Reactor Safeguards, to Mr. Rowden, who was then the Chairman of the Atomic Energy Commission.

(Exhibit 1085 identified.)

BY MR. LANNING:

Q. Do you have any personal knowledge of the I&E vendor inspection program?

A. Yes.

Q. Do you consider that a necessary part of a quality assurance program as approved by NRC?

(Pause.)

BY MR. PARLER:

Q. Do you understand the question?

A. I wish you would say it again.

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BY MR. LANNING:

Q. In other words, should the NRC require vendors or licensees/vendors quality assurance programs to be part of the applicant's submitted QA program?

A. Boy. I would say no.

Q. Insomuch as the majority of the equipment and systems that goes into the construction of a nuclear power plant is constructed offsite, why not?

A. Well, we should get a sufficient description by the applicant and principal contractors of the QA program programmatic controls such that we have adequate confidence that these will be translated down to the subtier vendors.

BY MR. PARLER:

Q. I guess I'm slightly confused here. It has been my impression in the past that the Appendix B to Part 50 quality assurance principles are imposed through the NRC's licensees on the licensees' vendors. Is my understanding in error?

A. That's correct. They are obligated to translate the applicable portions of Appendix B down to the subtier suppliers.

Q. So my understanding of the requirements of Appendix B to Part 50 being imposed on vendors through the NRC's licensees is correct.

A. Yes, sir.

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Q. Now, what I don't understand then is -- what was your question?

BY MR. LANNING:

Q. But the vendors QA program is never included for review by the NRC.

A. That's correct.

Q. And when I&E inspects the vendor's quality assurance program, it is my understanding that since it is not part of the application, and since we do not license the applicant's vendors, there is really no enforceable citation that can be issued to the vendor.

But I am more interested in the importance of the licensee -- the vendor's QA program as it relates to the overall applicant's program, and why, since so much of the equipment and systems are manufactured, designed, tested away from the site, I don't see why it shouldn't be as equally important as any QA program the licensee has implemented onsite.

A. From that standpoint, we do get the QA programs of the principal contractors.

Q. You do review?

A. Architect, engineer, and the NSSS supplier. But we don't of the -- they are vendors, they are subtier vendors.

Q. You mean, you, NRR reviews the QA programs for the NSSS supplier and the architect engineer?

A. Right. I misled you there in my response last time,

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because I thought you were talking about subtier vendors outside of the realm of the principal contractors, I&E and NSSS suppliers.

BY MR. PARLER:

Q. How about taking some examples which may help my understanding and also contribute to the clarity of the record?

The supplier of the pressure vessels, presumably that supplier's QA program is reviewed by the NRC; is that correct?

He's the -- in my understanding, the pressure vessel is supplied by the NSSS.

A. Yes, but he probably goes to a subtier contractor outside of the organization, like Westinghouse or GE, they go down to some other subtier supplier and buys a pressure vessel from him.

BY MR. LANNING:

Q. So there would be no NRC review of the QA program for that subtier contractor who is fabricating the reactor vessel?

A. Other than I&E going in there.

BY MR. PARLER:

Q. Well, if I&E goes in there, what do they review against?

A. Appendix B and the ANSI standard and reg guides.

Q. So the theory, as you understand it, is that short of our reviewing the quality assurance program of such vendors,

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at least as a minimum, that program has to satisfy the requirements of Appendix B to Part 50?

A. Yes. And there is also another check and balance, and that is that these types of vendors are code shops, an ASME code. And you have the authorized inspector of the ASME going in there a[illegible] and inspecting to the code.

Q. So your judgment, there is adequate QA consideration via the regulatory agency of the suppliers of the hardware?

A. Adequate?

Q. Well, would your reservations or comments that you made earlier in this interview apply equally to the suppliers of the hardware as it does, for example, to operational quality assurance?

A. Yes. Let me --

Q. Yes. Which area would you think is of greater importance or are both of equal importance from a quality assurance standpoint?

A. It tiers down. You start off with your QA program with the utility, and then of your principal contractors, and they have to translate those quality assurance controls down to your subtier contractors.

If you have an adequate QA program and an adequate staff, you have some assurance that yes, they are going to translate that down into the lower subtier contractors.

And then coupled with that you have the check and balance

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of the ASME code, you have to have a coded shop, and then staffed.

You don't have to have M stamp, but all of them do.

Q. Was that M Staff, you said?

A. Yes.

Q. M Staff?

A. Yes. And then you have the I&E -- not the I&E, but the authorizing inspector going in there inspecting --

But getting to your point in regards to the QA program description being submitted in here by some subtier contractors, we don't require it. But at one time, we encouraged this by the fact that we have the topical program approach.

You send in the topical QA program, we find it acceptable, and then you can just reference that in future applications.

We encourage participation in this topical report program by subtier suppliers. One did participate, and that was Anaconda. Others wanted to participate, but a decision was made by higher management to cut that off.

We don't normally review QA program descriptions of subtier contracts, so therefore we shouldn't be looking at the QA program topicals.

But it would be a healthy exercise to have -- I'll use major subtier contractors to supply their topicals. They indeed would like to, because they are continually inundated with different utilities, different principal contractors

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with different concepts as how to apply QA and QC. So they might have four or five different QA programs floating around to satisfy different utilities.

Q. Are you aware of any effort in the quality assurance area that would apply to the Commission's own regulatory review and regulatory process?

In other words, in Appendix B to the Part 50, we, the NRC has taken the position that quality assurance is an important area which should receive the attention of the utility and others that are involved in the construction and the operation of nuclear power reactors.

And the question which I will restate, is are you aware of any effort that has been implement to subject the Nuclear Regulatory Commission's own regulatory review process to quality assurance-type scrutiny, as far as you are aware?

A. I am not aware of it, other than that I do know that Standards now recognizes the importance of clarifying the terms safety related, important to safety. And they think that now there is a need to change the regulations to make that clear.

Q. Well, maybe on an item-by-item basis such as the example, but there is no organizational function that you are aware of that is responsible primarily for evaluating, say, in a quality assurance fashion, the quality of the Staff's regulatory process.

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A. No. Lessons Learned might be doing that.

Q. Well, in any event, my question was prior to March 28, 1979, which I should state now, if I didn't state in the question.

A. There was a Sandia study that was performed.

Q. What, on the standard review plan? That sort of thing?

A. The Sandia investigation was to evaluate the overall QA licensing review process in determining strengths and weaknesses.

Q. Of just from the QA standards?

A. Right. Right. They issued the report, and there has been areas that are still outstanding in that. That Sandia study was precipitated under the request of Don Scovalt.

And that was the only effort that I am aware of.

Q. When did this study take place, approximately? Do you have any idea?

A. About 1976.

Q. Was this a study that --

A. There is a report out on it.

Q. You don't happen to recall the date, or what the title is, do you?

A. No.

Q. If you can get a reference to that, I would appreciate it. If you would call Mr. Lanning or myself or

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when you get the transcript and you have an opportunity to correct it, maybe you could give the reference to that report. It would be very much appreciated.

A. I will bring you a copy down, if you want.

Q. That would be even better. That would be very much appreciated.

Operational feedback information, either in the form of licensee event reports or similar reports, do you get involved in that very much?

A. Yes. We review those and make a determination whether they are of a nature where we should update or revise our QA programs.

MR. LANNING:

Q. Has --

A. Update and revise the standard review plan.

Q. You review all LERs on all the operating plants?

A. I believe so. We also get a summary, a monthly summary of all the reports, too.

BY MR. PARLER:

Q. Are you aware of whether as a result of the reviews that you refer to, whether there has been a compilation or a cataloging of the, say, the quality assurance lessons learned from licensee event reports?

A. No.

Q. There hasn't been any such document, so far as you

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are aware.

A. No.

Q. If you find in the review one of these reports, an area in which there is a quality assurance lesson or however you would describe what you find, what do you with that conclusion, or such a conclusion?

A. We try to make the determination whether it is of a programmatic deficiency of our existing requirements. And if it is not, and they are normally not -- we haven't found any yet -- that that would require either a change either to Appendix B or to our standard review plan.

Q. So the deficiencies that you have found thus far are of some other type; is that right?

A. Yes.

Q. Such as what, generally speaking? They are not programmatic which require a change in the standard review plan or to Appendix B. Have you found any other deficiencies?

A. Other deficiencies, yes.

Q. Such as what?

A. Let's see if I have got this right:

Example: Take a look at an LER that has,a company has selected the wrong materials to make a particular valve. So from that standpoint, all valves in this particular lot are rejectable or questionable.

Q. And the same sort of thing, I suppose, in the other

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materials such as concrete and things such as that?

A. Correct.

Q. In the area of operator licensing, that is, the individuals who are licensed as individuals who manipulate the controls on a nuclear power reactor, what is the quality assurance role there, or is there any role?

A. The quality assurance role is, one, he has got to follow the QA program from an administrative standpoint. When he is involved in generating procedures, he has got to assure that those are reviewed and approved by the necessary expertise.

Q. In your review of an application from the quality assurance standpoint, to what extent does that review get into the area of training programs or people who are licensed as operators, as well as others who conduct important activities in the operation of a plant?

A. We don't get involved in that. That is handled by Section 13 --

Q. By another branch, is that right?

??? A. Well, Fred Allenspach gets involved in that, who reports within the QA branch.

Q. I suppose I am trying to ask the same question that was asked some time ago, that although other branches get involved in the details, what is the interface with, say, the training area, strictly from the quality assurance perspective; that's what I am trying to ask.

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A. Well, I don't know if I understand it right, but, one, the operating staff, the licensing and operating staff, has to be trained and indoctrinated in regard to the QA program. And he must comply with that program.

And his activities and generating procedures, to the review and concurrence of those procedures and the implementation of procedures, whether there is check lists involved in completion of those check lists and verification of them, the documentation and testing and the completion of those, and the filing of those documents --

All these aspects, he should be properly trained.

Q. How many people are involved in the Quality Assurance branch in the review and approval of applicants for a license for a nuclear power plant? What are the resources that you have?

A. Well, I have four people, myself.

Q. Are those resources deemed to be adequate to do the job under normal conditions?

A. Yes.

Q. Do you have anything else to add in the quality assurance area, either because a question has not been asked or because questions which were asked were in your opinion not properly worded or framed to elicit from you information which you think should be provided for the record?

We are talking primarily about quality assurance, but not

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exclusively. Do you have any comment on any aspect of the licensing and regulatory program -- that you are welcome to make such a comment.

A. Well, from a personal standpoint, as I indicated, there are strengths and weaknesses in our review processes in the quality assurance. And I personally feel that there are areas in which it could be strengthened.

We have circled around now one of the areas that -- the depths, the frequency of inspection, the depths and frequency of verification, the depth in which procedures should be delineated during the operation phase.

And the criterion here is very weak. And it is possible of generating criteria to better set forth a more competent picture in regards to the inspection effort, verification, methods of documentation, the depths of which, the details of which procedures should be conveyed.

Q. Do you have any other comments?

A. No.

MR. PARLER: Go ahead.

BY MR. LANNING:

Q. What is the relationship between quality assurance and fulfillment reliability?

A. Well, the reliability part of it is the predictability that it is going to function on an as needed basis. And the quality assurance end of it is that indeed that it has

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been built to the specifications and requirements that you wanted.

Q. Well, in other words, the quality assurance program tends to ensure reliability of equipment, then; is that what you said?

A. No. From where I sit -- the quality assurance is that you design the part and will assure you that it is designed and built according to the way you wanted it and will function to its end use requirements, that it will not affect the health and safety of the public.

If it --

(Pause.)

No. I take that back. It's just that it is designed, fabricated in accordance with design and specification requirements.

Now, as far as its predictability to function on as need basis, particularly your reliability comes in.

Q. For those parts of the quality assurance program which address special functions such as surveillance testing, maintenance, modifications, whereas there are inspections required, there are qualifications of people required, there are procedures to be followed in the performance or in function --

Now, does that contribute to reliability of that system, or component, to perform in a safety function?

A. I would think so. But see, in the early stages of

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design, if you want to introduce reliability, you then conduct a fault tree analysis or remove-the-date analysis to hit each particular component, item of a component, or such, you go right down to the nuts and bolts. And you determine where your weakest areas are and significance if that item should fail. And if it should fail, then you improve your design or provide redundancy to assure that that item is indeed reliable.

Q. So are you aware of any effort to try to apply the quality assurance programmatic requirements to increasing reliability?

A. No. See, reliability is specifically left out in the NRC. And it is in the aerospace, by the way, that you use reliability.

MR. LANNING: Do you have anytyhing?

MR. PARLER: I have no further questions.

MR. LANNING: Well, in conclusion, let me say that this is an ongoing investigation, and that although we have completed the questions we have for you today, we will however, we may need to bring you back for further deposition.

We will, however, make every effort to avoid having to do so. We will now recess this deposition, rather than to terminate it.

We wish to thank you for your time in being here with us today.

MR. PARLER: Thank you so much again.

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(Whereupon, at 5:05 p.m., the taking of the deposition was recessed for the day.)