ORIGINAL

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY & LICENSING BOARD

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In the matter of: : Docket Nos. 50-456 OL

COMMONWEALTH EDISON COMPANY : 50-457

[Braidwood Nuclear Power Station, :

Units 1 and 2] :

- -x

Isham, Lincoln & Beale

Three First National Plaza

51st Floor

Chicago, Illinois

March 27, 1986

Deposition of: NICOLAAS C. KIST

called for examination by Counsel for Licensee, Commonwealth Edison, pursuant to notice, taken before Pamela Briggle, a Notary Public in and for the District of Columbia, when

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D503

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were present on behalf of the respective parties:

APPEARANCES:

For the Licensee Commonwealth Edison Company:

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Section 5 of the Getschow Quality Assurance Manual dated 9/27/84, Revision 0.

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A three page excerpt from the Phillips-Getschow Material Traceability Log, MT/PQ Log.

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A letter dated 2/28/85 to Shamblin from Gorski.

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Section 8 of the Phillips-Getschow Quality Assurance Manual dated 9/27/84, Revision 0.

P R O C E E D I N G S

[10:04 A.M.]

MR. GALLO: This is a deposition in the case of Commonwealth Edison's application for an operating license at the Braidwood station. The license application is pending before the United States Nuclear Regulatory Commission.

Mr. Kist is appearing today on a voluntary basis, and he is not represented by counsel. The purpose of the deposition is to inquire with respect to one of the findings made by Mr. Kist, or I should say one of the recommendations made by Mr. Kist in a report entitled "Management Evaluation of Braidwood Site QC Organization of Phillips-Getschow Company." This report was prepared by Mr. Kist.

Before I start questioning, Mr. Kist, are there any statements or questions you would like to ask at this juncture?

MR. KIST: No, not right now.

Whereupon,

NICOLAAS C. KIST,

having been called for examination by counsel on behalf of the Applicant, and after being duly sworn by the Notary Public, was examined and testified as follows:

EXAMINATION

BY MR. GALLO:

Q Would you state your full name and company affiliation for the record, please?

A My name is Nicolaas C. Kist. Nicolaas is spelled N-i-c-o-l-a-a-s. It is a Dutch spelling. I am President of N.C. Kist & Associates, Inc. of Naperville, Illinois, which is a consulting firm in quality and management.

Q Could you describe in a little more general terms the nature of your business? You say it is a consulting firm in the areas of quality and management. Could you be a little more expansive?

A Yes. We do a number of things for various clients. We perform management audits and evaluations. The management audits are directed toward finding out how the company that we are auditing is actually conducting business, not what is on paper, that is what is in their QA Manual or procedures, and we report to management on that so they can take corrective action.

The evaluations are of various natures. We have done evaluations for the NRC of a number of utility sites, four, I think. We have done an evaluation of the NRC itself

for Congress. Phillips-Getschow was a relatively small evaluation that we did.

We also prepare quality programs or quality assurance programs for all sorts of companies. We train in auditing. We give open seminars internationally. We provide hands-on assistance in implementing programs to all sorts of customers.

We have somewhat more than 130 customers world wide, Japan, Mexico, Canada, U.S.A., Western Europe, Israel.

I guess that pretty well covers the type of work we do. We have some specialties. We are considered to be expert in the ASME code requirements, ASME Code Section 3, 8, various other code sections. One of our associates attends ASME code meetings regularly in New York and keeps us posted on the developments.

We also do a lot of consulting on API, American Petroleum Institute requirements, and some other similar regulatory type requirements that are either regulated by API or by ASME or NRC. ASME Section 3 is a Federal law, or is a law here in Illinois, and therefore is a regulatory requirement.

Q Do you market your services primarily to the nuclear

industry?

A We have had a lot of nuclear industry work. I would say right now it's maybe 30 or 40 percent of our work. We are recently more active in other areas, like open seminars, the oil field equipment work and so on. We continue to assist in nuclear work. One of our fellows attended an ASME survey in Canada yesterday or this week, which came to a successful conclusion. We continue to do this nuclear work.

Q How long have you operated your company?

A Since 1972.

Q Can you just describe generally for me your educational background?

A Yes. I went to school in the Netherlands, elementary and high school, and graduated from the Technische Hoge School in Delft, which is a polytechnic institute similar to an university with a degree in civil engineering, equivalent to a master's degree in civil engineering. You get a title in Holland, IR, for this type of degree.

I have attended some business administration courses here at the University of Chicago. I am a registered professional engineer in the State of Illinois by examination. I am a registered structural engineer in the

State of Illinois by examination.

I think that more or less covers my education.

Q Would you spell the name of the University for the benefit of the Reporter?

A Technische Hoge School Delft.

Q When did you begin your professional work after graduating college?

A Let me see; that was a while ago. I would say I was briefly employed after graduation by Hazelet Erdal in Louisville on bridge design, then joined Civil Engineer Corp of the U.S. Navy and was sent out to Subic Bay as an ensign, where we administered contracts for the construction of this Naval base with Bechtel, Guy Atkinson and other major contractors.

Q When was that?

A I think that was 1956/1957; somewhere in that area. After the Navy, after nearly four years, I joined Chicago Bridge and Iron Company of Oak Brook, Illinois, and worked for them in various positions here and overseas.

Q Could you just describe generally some of those positions?

A First they have a training program. I worked in the

drafting room, did some engineering work, then was sent out on construction projects. One was refining towers near East St. Louis and Wood River. I was sent overseas as a Project Manager on the nuclear containment vessel for the Garigliano nuclear power plant in Italy, which was more or less a duplicate of Dresden.

Following that, I stayed in Europe in various positions, sales manager, deputy engineering manager, construction manager in Holland, West Germany, a ccuple of other countries. It was mainly oil refinery work at that time; tanks, some refinery towers.

In 1967, I returned to the States and was assigned to a job as International Standards Coordinator. I wrote a lot of standards that would be used internationally, interpreting DIN and German standards, French standards, standards from many countries in which CBI worked.

Following that, I was asked to join the Corporate Quality Assurance Department as the Deputy Manager and set up the construction quality assurance program for Chicago Bridge. They were heavily involved in nuclear containment vessels at the time.

I did a lot of traveling and helping to get these

programs underway.

In 1972, I left Chicago Bridge and Iron and set up my own organization. The first year -- soon after I quit, I was hired by ASME, American Society of Mechanical Engineers, as a consultant. I worked for a year on their nuclear surveys, and also in Western Europe, on companies that had applied for the ASME N Stamp.

Q You say in 1967 when you returned to the United States, you became the International Standards Coordinator. Is that a title for a position at Chicago Bridge and Iron?

A Yes.

Q What type of standards were you involved in reviewing or coordinating?

A There were material standards, what was acceptable material for particular types of construction, particular types of storage tanks, and various other pressure vessels. There were numerous materials that were on the market at that time and they still are, from Germany, Sweden, Italy, France, British standards. Any country that made steel that Chicago Bridge could buy, we had to evaluate and list in these standards.

I also created design standards for these tanks.

Q Was the ASME one of the standards you were working with?

A Yes.

Q Did a Section 3 exist at that time, in 1967?

A Section 3 was then a code case and referenced Section 8 of the Code, which is the pressure vessel standard. Just about that time, it was being published. There is a 1968 edition of the ASME Code Section 3, which is the oldest edition, I believe.

Q You mentioned in one of your prior answers that one of the things you worked with was something you called DIN.

A DIN; that is a German standard. They have a series of standards in Germany.

Q Is it a standard for material application?

A They have standards for nearly everything in Germany. They have very elaborate standards.

Q DIN is just a generic name for it?

A Yes. "D" stands for Deutsche. "I" for industrial. "N" for norm, which is standard.

Q You say after you created your own company, you became a consultant to the ASME.

A Yes.

Q You performed a number of surveys. Are you still a consultant to the ASME?

A No. I said I did it for a year. I was building up my private consulting business. I had to make a choice because some of the customers of mine were scheduled to be surveyed by the ASME and the ASME felt this was a conflict of interest. I had to either give up the consulting business and stay with the ASME or give up ASME. I gave up ASME.

Q What is the purpose of an ASME survey?

A It's to evaluate the quality manual of an organization for compliance with ASME Code Section 3, and then to go out and see if this manual is satisfactorily implemented. There is an implementation review and a manual review going on at the same time.

Q Is action taken on the results of the survey by the survey team or by some other organization?

A The survey team at the end of the survey has a closing meeting and they announce their recommendations to the ASME Committee on Nuclear Accreditation. They don't take any further action, the survey team, they are just the surveyors. The ASME Committee on Nuclear Accreditation will vote on the report of the survey. There are certain rules as to how many

negative votes they can have, up to a certain number. Otherwise, they don't get the certificate.

Q If the person undergoing the survey is successful and the Accreditation Committee approves the certification, what form does the certification take?

A They are issued an N Stamp or an NPT Stamp or an NA Stamp. "NA" is for installation. "NPT" is for manufacturing pipe spools and parts. "N" is for complete components, which could be a complete isometric from one end of pipe to the other end. They are issued a certificate, which you can hang on the wall. They are listed in a book with ASME of N Stamp holders.

Q Is the N Stamp then used by the recipient as a means for guaranteeing their work performance in accordance with Section 3 of the ASME Code?

A Yes. It is the final certification, only after the recipient of the N Stamp has verified that all requirements of the ASME Code have been met. It occurs at the time of the completion of the N-5 data reports and the walk-down. It is also verified by the authorized nuclear inspector, who is an independent third party inspector, who signs on the data report, at which time you have a released to apply the N

Stamp, or the NPT or NA Stamp, depending on what kind of part or component you are looking at.

Q What type of review is conducted under an ASME survey? Is it an evaluation, an audit? How would you characterize it?

A It is a review of the manual.

Q The QA Manual?

A Yes; the QA Manual of the company. Sometimes they include the review of supporting procedures, if the manual is rather general, then they have to review the supporting procedures. Secondly, it is an audit of the implementation, based on the manual. The implementation audit is part technical and part systems.

The technical part of the audit is of such technical processes as welding and of the examination, non-destructive examination. Those are more technical. Strict compliance with all the technical rules of the Code. Document distribution, they just look at the system. You have two types of audits.

Q How many of those types of surveys have you personally been involved with, approximately?

A About 100 or so. This is for the ASME and then

later assisting clients at the surveys, or preparing clients for such a survey.

Q Once a recipient has received his N Stamp, is he surveyed subsequently by the Accreditation Committee?

A The survey team returns every three years. If the recipient of the N Stamp holder wishes to retain the N Stamp, they have to have a renewal survey within the three year period after receiving the N Stamp.

Q Is this a complete re-evaluation by the survey team?

A Yes.

Q Have you ever been involved in a survey at Phillips-Getschow?

A No. I haven't personally been involved in one.

Q Typically how many members make up a survey team?

A For the N Stamp, it's six or seven member teams.

Q Can you name some of the important disciplines that are represented?

A The team leader is a consultant to the ASME. Then there is a team member who is a consultant to the ASME. Then there is a utility representative. The utilities usually make a QA or engineering type available for this. Then there is a National Board of Boiler and Pressure Vessel Inspectors

representative. Then there is the ANIS, the authorized nuclear inspection supervisor, and the authorized nuclear inspector. The seventh member, and never sure that he always comes, that is the jurisdictional representative, and normally the chief inspector of a state or province of Canada. Some don't wish to come and some do come, so that depends.

Q Would these people all be mechanical engineers?

A I don't think so.

Q Is there any particular technical discipline that is required to be a member of a survey team? For example, you wouldn't have seven lawyers on a survey team.

A No. Never heard of a lawyer being on a survey team.

Q They would all be engineers?

A Or practical people.

Q No particular discipline among engineering, like mechanical engineering, since we are dealing with Section 3?

A It is likely that one or two are mechanical engineers, but not necessarily so. They are also people who have taken training or came up the practical way, especially for the authorized nuclear inspection agencies. Not too many have an engineering degree. They may have worked as an engineer on tankers for some years before they took the

training required by the inspection agency, the National Board.

Q Is it likely that one of the representatives would have training in quality matters, such as yourself?

A Yes. Normally the two team members have had extensive quality assurance backgrounds. I don't know of a team leader that really doesn't have quality assurance background at this time.

Q Does the survey team review the entire Quality Assurance Manual for the company that is the subject of the review?

A Part of the survey team stays with the Manual. In an N Stamp survey, the team leader and the ANIS review the Manual. The other four members are usually broken into two groups and they go out and do the implementation, review and audit. They review the entire Manual from A to Z, from the front to the back of the Manual. They check the forms that are being used and those are supposed to be included in the Manual, so they will check the forms.

Q It would be likely they would review the material control section, for example, if there were one in the Quality Assurance Manual?

A Yes.

Q These members that are assigned to the implementation aspect, how do they go about performing their function? For example, what do they review? They are no longer reviewing the QA Manual. What do they look at?

A They will be assigned certain aspects of the quality program to review. Sometimes the team leader will break them up into a hardware team and a software team. One team looks at the flow of paperwork and the compliance of the paperwork with the requirements, codes.

Q That is what you mean by "software?"

A Yes. The hardware people would go look at the welding, the material itself, the identification, traceability, the non-destructive testing, anything that relates to the piping subassemblies or the pipe pieces, whatever.

Q Is it likely they would actually attempt to test the traceability system and its application in the field?

A Yes. One of their techniques is the tracker technique, which is commonly used. They will go and record identification numbers that you find on spool pieces on piping systems and they will go up in the structure and record this,

in the assembly yard, and come back into the office and say, let's see the paperwork on this piping. They may go back as far as wanting to see the purchase order and the certified material test report, the stores request and your log and whatever, the release by QC, and all this sort of thing. They will go all the way back to the initiation of the purchase order.

Q Based on your experience, do survey teams do what you just described, without exception?

A No; they don't always do it. It depends a little bit on the survey team members. Some use this as a normal technique. Others use other techniques.

Q My question was a little too general. You are telling me they may or may not use this tracking technique.

A Yes.

Q Do they check without exception to test the material traceability system in place?

A I can't say 100 percent sure that they always do this or that they do this properly.

Q Based on the 100 you participated in?

A In most of them, they did. There have been survey teams where one of the members may not have been feeling too

well or cases where one of the members might have been pretty old or on the verge of being retired and they didn't look at much. There are instances where maybe they didn't do an in-depth examination of the system.

Q What was the experience you had on the ones you participated in? Did you experience any of the kind you just described, where there was less than a thorough examination?

A Yes. I have seen a number; not a great number. In a case like that, the team leader is aware of this, the weakness of a team member, and he will try to compensate by going out and doing some implementation review himself.

Q Mr. Kist, at this point I would like to identify a Management Evaluation which my copy indicates it was prepared by you. Do you have a copy?

A Yes; I do.

Q I have a document that is dated December 3, 1984.

A I have the same document, the original with my signature on it.

Q It is entitled "Management Evaluation of Braidwood Site QC Organization of Phillips-Getschow Company."

A Yes.

Q Is this a management evaluation that you prepared

for Phillips-Getschow Company?

A Yes; it is.

MR. GALLO: I would like to mark for identification the report I just identified as Kist Deposition Exhibit No. 1, and have it bound into the transcript.

[Kist Deposition Exhibit No. 1 was marked for identification.]

BY MR. GALLO:

Q Can you provide me with some of the background to the extent that you know, that led to your retainer by Phillips-Getschow to prepare this evaluation?

A As was explained to me and also to Tom O'Connor by Gary Gorski, they had been authorized by Commonwealth Edison to hire additional QC staff. I guess they had been asked by Commonwealth Edison to have an independent evaluation of the key members of this QC staff. That was the reason for this evaluation.

Q What did Getschow ask you to do?

A They asked that I conduct what I call a functional analysis, to see if every key person in that QC group had been assigned the duties and responsibilities necessary to carry out the program for the site, the QC/QA program for the site.

Q You said "functional analysis." Do you mean in terms of individuals functioning properly?

A No. Let's illustrate it this way; there are certain functions and responsibilities that have to be carried out at the job site. For example, procedures need to be distributed in a controlled manner. I tried to find out if this had been assigned to somebody in the group. Corrective action requests needed to be prepared, logged somewhere and there had to be a follow-up system. It was pointed in certain directions, he has this responsibility and I asked basic questions related to one of the 18 criteria of quality assurance.

I used my own listing of these basic responsibilities. I didn't go by the manual of Phillips-Getschow. I used my own to make that determination.

Q If I understand correctly, you were furnished information that indicated that certain individuals had certain responsibilities.

A Yes.

Q Then you pursued those areas to see if those individuals understood those functions and were implementing those functions properly?

A Not implementing, if they understood those functions

and if these functions had been clearly assigned to them, if they understood what they were supposed to do. There was another aspect to this. They wanted an evaluation of the individuals, their background and experience, to see if their background and experience was sufficient for the assignment they had, if adequate.

Q How did you go about conducting your review?

A I would first ask them for their education and then their experience, where they had been, what sites or plants they had worked at and I also asked about their functions, what had they been responsible for. Then I would ask about the QA program, the code requirements, the N-5 form, the control over material, if that was in their area.

I would say, how do you handle control of material or how do you handle non-conformance reports. There would be some leading questions, trying to get them to open up and tell me what they thought about it, what their understanding was of their job and what they were supposed to do.

Q Did you do this activity through a series of interviews?

A Yes. I set it up for like four interviews a day, or something like that.

Q Is it my understanding you interviewed individuals in the QC Department at Getschow?

A Yes. They were all QC people at the site. The only person that I had a conversation with outside of the QC organization was Tom. That was more or less to determine the interfaces, to see if the QC group had reasonable interfaces with Tom or not.

Q Did you interview people in a management position at the QC Department at Getschow?

A Yes. If you call a supervisor a manager, yes, I did. Quite a number of them had the title of supervisor of something or other.

Q You interviewed those people?

A Yes.

Q Did you interview QC inspectors as well or not?

A No; I didn't.

Q Just the supervisors?

A The QC Supervisor. I did some interviews outside the QC group. I think I was requested to, and that was John Holland, with a number of his supervisors. Holland had a production function.

Q Was there some reason why you didn't interview QC

inspectors?

A I was not assigned to do that. It was a relatively short evaluation. If we interviewed everybody, it would have taken a month or so to do it.

Q Was your evaluation directed more at the supervisory level then at the QC inspector level?

A Yes; it was.

Q Is that why you maybe didn't interview the QC inspectors?

A I wasn't asked to. The supervisors, most of them were brand new, they had just come on board, some within the last week or something like that. That seemed to be the concern of Commonwealth Edison and Phillips-Getschow, that these people were indeed qualified for these new assignments. Most of the people I talked to had not been on board very long; some had been.

Q When did you conduct these interviews, generally? Year and month, if you can give me that.

A It was November, basically.

Q November, 1984?

A Yes.

Q Did you review any documents in connection with this

evaluation you conducted? You told me you interviewed various individuals.

A Very few documents, sometimes when they were explaining their job, they would show me something, how they did it. It was not an in-depth step by step review to see if the document had been filled in correctly and in accordance with regulatory requirements and so on. It was just to understand the system. It was to get a little bit of background on the function this man was going to carry out there in that QC group, or was carrying out.

Q Was it part of your assignment to review the Getschow Quality Assurance manual?

A I did review the Getschow Quality Assurance manual because that was the basis for assigning these responsibilities. That was the Getschow basis for assigning these responsibilities and duties. And so I was trying to match up my list of responsibilities and duties, which is a general listing, with their manual.

For instance, in doing that I found that the manual did not assign a responsibility for assuring close out of nonconformity reports. But in interviewing, I found that there was a person who had been assigned to do this and he had

a control log and was closing out nonconformity on a regular basis, so --

Q When you reviewed the Quality Assurance -- I'm sorry, I cut you off. You said so, and I --

A No, that's about it.

Q When you were reviewing the Quality Assurance manual, was it a general review for adequacy or was it simply to be able to track the QA manual assigned responsibilities to the individuals that you subsequently interviewed?

A I looked at the manual to see if the duties and responsibilities of these QC individuals were in the manual. They were telling me they had certain assignments, I have to do this and that, and I would check the manual.

Q Was that your primary purpose for reviewing the manual?

A Yes.

Q Well -- go ahead, I'm sorry.

A I did not review it for complete code compliance or what have you. It was more in relation to the functions and responsibilities of these QC people. There were a number -- if you look at the analysis, there were a number of possibilities, that the fellow had not been clearly assigned a

duty or a responsibility, or that he was confused about it. And the other possibility was that the manual did not assign, didn't state that this duty or responsibility had to be carried out by the QC supervisor.

And so for the organization to function properly, you'd have to verify both, both that the person understood it and both that the manual said so.

Q Was the review of the manual that you describe also performed in 1984? I'm scrry, November 1984?

A Yes, the partial review of the manual, as it related to QC functions and duties.

Q Do you remember what version or revision of the manual you were looking at?

A No. It might be documented in the report, but I'm not sure.

Q Why don't you just take a moment and look. It would be helpful if we could pin that down.

A Yes. It says, page 3 at the top, "a functional analysis of site QC responsibilities was made using the site QA manual issued on 27 September '84, Revision 0.

Q All right. Thank you.

A And the evaluation methods, I just see, are listed

on page 2.

Q Would you characterize your evaluation as an audit of the Getschow QC Department?

A Definitely not.

Q Can you explain why not?

A Well, in the first place, there was no implementation review connected with it, so we actually did not check the work -- the software or the hardware -- for compliance with the Getschow manual.

Q Is that an essential ingredient of an audit, as you understand it?

A Yes.

Q Is there any other difference, besides the one you've just explained?

A Well, I think that's the major one. An audit in the definitions of the ASME does not involve a review of the manual. But it does involve preparing or using a checklist or a procedure, which is the same as a checklist, derived from the manual in conducting the audit.

I didn't make a checklist, so that would be another point. I didn't use a checklist. I did have my own list of responsibilities and duties and tried to match it up with what

the manual said.

But an audit checklist is very specific. You'll say are stores requests signed for approval by -- and then you list a function. And you will take a sample from anywhere from three to seven stores requests and check them, that they are approved by the engineer or the QC supervisor or by other people.

And you would say do the stores requests list the material spec or the location where the pipe is supposed to be installed, and that type of thing. You have very specific questions and you go check a reasonable sample.

That's what an audit is.

Q Your evaluation was more towards determining whether or not the individuals concerned were actually -- actually understood their jobs well enough, sufficiently?

A Yes.

Q Does the ASME survey team ever embark on such an endeavor?

A To some degree they will ask these type of questions. Usually when they go to the next individual they want to interview, they'll start out with, you know, tell me what you do.

Q So they do it to some degree?

A Yes. But pretty quickly they go into specific details of how things are done by an individual.

Q Did you review the QA procedures that implement -- or the QA/QC procedures that implement the QA manual at Getschow?

A Not that I recall. And it's not listed in the report that I did, I don't think.

Q Let's look at the report itself. Let's look first on page 2 of 6. In item F on that page, it says "The current QA manual does not appear to have provisions for verifying that correct material for the application was released and installed."

Can you explain for me just what was the gist of your concern, as articulated in the sentence I just read?

A The first -- I would say I gathered, in my analysis, that there was no review that the correct material for the application was requisitioned or released.

The second one -- the second word that I'm looking at here is "released and installed." There was an as-built verification at the end of the road, when the material had been installed.

Q What are you saying? Are you saying that -- it's pretty clear you're saying there's a need for some sort of verification. Are you suggesting where, in the process -- where, in the installation process, that verification is to occur?

A No, I was not.

Q Where would you expect, based on your recommendation, where would you expect this verification to occur?

A Well, it would be either at the point of release from stores or from the yard to the construction people, or at the point of installation. Both methods are acceptable under ASME code rules.

Q And based on your review of the manual, it didn't appear that provisions existed for the verification of the correct material installation? That's the gist of this sentence?

A Yes, right.

Q Now were you aware, at the time of your evaluation in November 1984, that Getschow had in place a system for QC verification at the point of installation of the material?

A Well, it wasn't -- apparently, from what I have

here, it wasn't clear to me that they had that. There is an as-built verification which is mentioned somewhere in the manual.

But that, of course, is material that has been installed and is in place, the as-built verification.

Q Do you recall, when you were reviewing the QA manual, whether you had read Section 9, dealing with material control?

A I'm not sure that I read all of Section 9.

Q Let me show you a copy of the document.

I'll represent to you that this is an accurate copy of Section 9 of the Getschow QA manual that existed as of the time of your evaluation in November of 1984. Indeed, it's marked Revision 0.

A That's the date that I did my report on.

Q Can you, based on trying to refresh your memory from looking at that document, can you recall whether or not that was one of the sections of the manual that you reviewed prior to conducting your interviews?

A Possibly during the interview, when somebody brought this out. What I think is I was shown this paragraph 9.1.1.7, "Supervisor of Quality Control shall review the stores request

to determine that the released material or item is acceptable for construction by reviewing the MT/PQ log and indicates his acceptance by sign-off on the stores request."

I'm familiar with that paragraph, 9.1.1.7.

Q Does that mean that generally you reviewed that section or it was brought to your attention during the time of your evaluation?

A Yes, it was brought to my attention that this was one of the duties of the supervisor of QC, QC Supervisor.

Q Let's see if we can track together, from the beginning of material control, as to just how the process worked. The section is entitled material control and it has a subsection, 9.1, that's called issuance of items and materials to construction.

And the first task is to be performed by the superintendent. Bear with me Mr. Kist, but what is the superintendent supposed to do?

A Well, 9.1.1.1 says he prepares, initials, and dates the stores request.

Q I'll show you a one page document that is entitled stores request and represent to you that was the document that was in use at the time, or at least the first page of the

document. I guess the document just consists of one page.

And do I understand correctly that the superintendent -- strike that.

Is the superintendent essentially the craft organization at Getschow? Is that your understanding?

A Yes, that's what my understanding is.

Q And the superintendent or his designee is supposed to prepare the stores request by identifying the material and quantity and amount and grade that he wants, on the stores request? Is that correct?

A Yes.

Q What -- how does the superintendent know just what type and quantity of pipe that he might want for a particular application?

A Well, that's not stated here how he knows that.

Q To your knowledge?

A Normally they would look at the drawings which, I understand were customer drawings, or Sargent & Lundy drawings or something like that.

Q I'm showing the witness a drawing which is indeed a Sargent & Lundy drawing. It's drawing number M2552C. I understand that this is an installation drawing that would be

used for the installation of piping systems?

A Yes.

Q In this case, I believe this is a small bore installation drawing for the piping system. Does the drawing have on it instructions and information concerning the pipe grade and specification for the piping that might be required for that particular installation?

A Yes, it does specify ASME material specifications. I see that on here now.

Q That would be the --

A SA105CS, carbon steel, coupling and SA106 Grade B seamless carbon steel pipe. And those are recognized ASME material specifications.

Q Is that on the part of the drawing called bill of material?

A Right. Just above the Phillips-Getschow name, yes.

Q Do I understand that the superintendent or craft person would then use an installation drawing such as the one in front of you and fill out the stores request using information from the bill of material on the drawing?

A Yes.

Q What's the next step in the process?

A Well, 9.1.1.2 says that he forwards the form to the project engineer, who shall ascertain, by use of the MRR receiving inspection report, that the item or material is on the project site and available for release to construction.

Q What do you understand that to mean?

A Well, receiving and inspection report is a report that is made when the material or the item is received and will normally identify the material fully, such as with a heat number or a heat ~~lock~~ lot number, or some other kind of identification. If it's an assembly, it may have an assembly number.

Q And who is the project engineer, in relation to the superintendent? Is that the same organization or a separate organization, if you know?

A As I understood it, that's a separate organization. The superintendent is the production or construction organization and the project engineer is in the engineering organization or department or whatever.

Q Under section 9.1.1.3, what does the project engineer do next?

A He checks the customer documents to be sure that proper item or material is being requested. So it's obvious

he goes to the documents provided by the customer.

Q Would this be, in this case -- in this example, the installation drawing?

A Yes, it would be this type of drawing, could be this type of drawing.

Q Would he compare the information on the drawing from the bill of material to the information shown on the stores request to make sure it was accurate?

A Yes, that's what this should be, what I interpret it to mean, that those are checks that the size and spec of material is right.

Q Is this a type of verification, therefore, that occurs at this point in the process?

A This is a proper material or correct material verification, that's right.

Q And is this before it's been issued by the stores or the warehouse or the field? That is, before the material itself -- strike that and let me start again.

Does this verification occur before the material has been issued from the storehouse or the field location, if that's where it's stored?

A Yes, because the next paragraph says "When

acceptable, the project engineer initials the stores request and returns it to the superintendent." So it should be before the issuance of the material, which is covered in paragraph 9.1.1.5 below.

Q So now we've got a verification occurring that the craft is asking for the correct material, at this juncture, is that correct?

A Yes.

Q Then the superintendent presents the stores request to the warehouse. What does the warehouseman supposed to do, at this point, according to the procedure?

A He notes the heat number, serial numbers, or other necessary data under the stores request before issuing the item or material.

Q I said procedure. I misstated myself. I meant Quality Assurance manual section. Your answer is still fine. I just wanted to clarify my question.

Turn the page.

If I understand, at this point, the warehouseman has noted the heat number or other identification number on a material issued, on the stores request?

A Yes.

Q The superintendent gets his material and he also gets a copy of the stores request. And if you know, what does he do next? That is, the superintendent or his designee?

A Well, I'm looking at paragraph 9.1.1.6 and it says he places the blue copy of the stores request in the applicable data package, which I presume is the package that goes with the material to the installation people.

Q All right.

A And then the remaining copies are forwarded to the supervisor of QC.

Q Now what's the supervisor QC to do under the section of the Quality Assurance manual that you're looking at?

A That's in paragraph 9.1.1.7. "He reviews the store request to determine that the released material or item is acceptable for construction by reviewing the MT/PQ log and indicates his acceptance by sign off on the stores request. He shall enter the white copy of the stores request in the site Quality Control file and forward the pink copy to the project engineer."

Q Are you aware how that process worked at the time that you were reviewing and conducting your management evaluation?

A The responses I was getting was that they would -- the QC supervisor or his assistants would go to this log when they got the stores request and determine that material listed in this log was on the stores request. And then they would sign it off.

And then the MT/PQ log, as I understood -- as they described it to me -- was a log of material that has been accepted during receiving inspection.

Q Do you know whether the QC inspector or other member of the QC department, actually went out to the field and determined whether the installed pipe heat number -- that is the heat number on the installed piece of pipe -- was the same as the heat number shown on the stores request?

A Let me understand the question completely.

Q Maybe it's obtuse. Let me try again.

The supervisor Quality Control gets a copy of the stores request from the superintendent. Now, did he dispatch a QC inspector out to the field to determine whether or not the piece of pipe that the stores request said was going to be installed at a particular location had matching heat numbers? That is, the heat number on the installed piece of pipe was the same as reflected on the stores request?

A At this time, he wouldn't dispatch anybody. It was just that they reviewed this request. I think somewhere in the manual it was brought out that there is a record made, this as-built record made, of -- and I forget the name of the form.

Q Let me make sure --

A And on that it's noted what was used at the actual point of installation with identification or serial number or whatever.

Q I'm trying to get, however, your understanding of the function of the supervisor QC, after he gets a copy of the stores request from the superintendent. It says, as you've read, that the QA manual requires a comparison of the stores request with the MT/PQ log.

A Yes.

Q Do you know whether that was just an exercise that was performed in the QC main office at Getschow's offices at Braidwood, or did they go further and actually do an inspection out in the field to compare heat numbers?

A As I understood it, they just looked at the log. That's what they told me at that time. The as-built type function was at the point of installation, which was later.

Q What information on the stores request was checked against the MT/PQ log, if you know?

A As I understood it, the only thing they did was check that the material identified on the stores request had been accepted during receiving inspection.

Q Did you look at the MT/PQ log itself, to determine or to satisfy yourself as to what information was on that document?

A I may have. I'm not sure whether I did, during this review, looked at it or not.

Q I'm showing the witness an excerpt from the MT/PQ log. It's dated February 14, 19 -- oh, the year's missing. Let's see if it's on the next page. Can't tell the year. It was dated 1914 -- February 14. And the title of it is PG Material Traceability Office MRR Sort Volume 1.

A And is this the MT/PQ log?

Q Yes, I represent to you that it's an excerpt from that log. As I understand it, the log is just many pages, so this is just an excerpt for purposes of demonstration.

A And then the MRR, that's the material receiving report, I guess that's the number?

Q Yes.

A And this is the purchase order listed and then class of the vendor and the type of material.

Q Does the sheet I've shown you indicate the class of material and the specifications of the material?

A Yes.

Q If I had a stores request that had a heat number on it that said heat number M1987, could I confirm the traceability of that particular piece of pipe by looking at the sheet in front of you?

A Yes, you could. You could go to the certify~~ing~~ied material test report and see if that appears on that test report as well. So you can go to a document as well as to the pipe. It's supposed to be on both.

Q Would the heat number show up on the log itself?

A This heat number, that you're asking about, should appear on the pipe as well as on the certified material test report.

Q And if I thought that the MT/PQ log was an accurate document, would I have to go any further to ascertain the comparability of the heat numbers on the stores request as compared to the log itself?

A No, not necessarily. Not under the requirements of

the codes of record for this job.

Q So if I were able to confirm the -- if I could find the heat number that was reflected and recorded on the stores request, if I could locate the same heat number in the MT/PQ log, would I be able then to determine whether the stores request description of the material was consistent with that shown on the log?

A Yes.

Q Would it tell me whether or not the material was acceptable?

A Yes.

Q I understand that the drafter or creator of the log would have to vouch for the accuracy of the information on the log? Assuming, for purposes of my question, that the log is represented to be accurate?

A Right.

Q So returning now to the QA manual, 9.1.1.7, is the process that we've just gone through an example of what the QA manual section requires the supervisor QC to do?

A It can be interpreted to mean that, yes.

Q During your interviews, did you inquire into how that particular section was interviewed by the QC supervisors

you talked to?

A How the -- the meaning of this?

Q Yes.

A Yes. Well, that's where my concern arose because I did not get a full explanation, like you have given here from them. They said their main determination seemed to be that they would be determining that the material had been accepted.

Q But then by comparing the same documents that you and I just went through?

A That's probably correct, yes.

Q I take it at the time -- let me ask that question again.

At the time you were interviewing these QC supervisors, did either of you happen to check the MT/PQ log to see what it looked like and what information it contained?

A I have no recollection of that. I think we went in the manual to find -- to see what was required to be in the MT/PQ log and I don't recall exactly what section of the manual that is, probably under receiving inspection.

Q All right.

A But you have to understand that the way this is worded, that they are reviewing to see that accepted material

is listed on the stores request. This lists accepted material.

Q I understand.

A My words here, they did not appear to be reviewing that the correct material -- what I meant, the material specified by what this previous paragraph said, customer document -- was being used, or the Sargent & Lundy document.

That was the thing that I found was missing. That didn't come out.

Q But we've just gone so far in the process, we've -- I think you agreed with me that the correct material is verified as being requested from the warehouse, isn't that correct? Because of the project engineering check and verification that went on?

A Right. That project engineering check was not mentioned to me in the interviews, that that was done.

Q It does appear on the page preceding, the page that we just looked at.

A I think the problem with that is I was limited to interviewing QC personnel and I never talked to anybody in engineering.

Q During these discussions that you had with these QC

supervisors, did the question ever come up that the QC inspector was, in fact, verifying at point of installation that the correct material was being installed? Do you recall any discussion or conversation along those lines during your interviews?

A I believe so. I believe that we discussed that.

Q I show you another section of the Getschow Quality Assurance manual. It's section 5.2.3.1, down at the bottom.

It indicates that during fit up and final weld inspection, the supervisor QC shall verify among other things that the heat numbers are correct against the material traceability log.

A Yes.

Q Do you recall seeing that section at the time of your interviews with the Getschow QC supervisors?

A That I'm not sure of. That's not -- the material traceability log is apparently the same as this document also. I'm not sure. It's not clear from the words there, whether that's that MT/PQ log or whatever.

Q I think your judgment is correct, that it's the same document. But the point -- when we were looking over here in section 9, in material control, you made a point to me that

the QC verification was merely a material acceptability because all they were comparing was the information on the storage request against the information on the MT/PQ log.

A Yes.

Q And your concern was that that wasn't sufficient to determine whether or not the correct material was installed?

A Yes.

Q Now looking at 5.2.3.1 and assuming it was implemented properly, doesn't that get you the very objective that you're concerned about? That is, verification at point of installation that the correct material is installed?

A What this says here is that the supervisor QC shall verify these entries against the material traceability log. And so he is verifying that material that was accepted during a receiving inspection was indeed installed.

What he is not doing is going back to this drawing and saying was it SA106 grade B, or was it SA106 5 carbon steel. That didn't seem to come out at this time.

Q Let's look at the previous -- I'm sorry. The previous sentence says that throughout the installation the superintendent shall record heat and/or lot numbers of materials on the applicable process documents.

A Yes.

Q Isn't this installation drawing, that we've been talking about, one of those applicable process documents?

A I think that's open to question. It's not clear.

Q You're not sure in your mind?

A No. It could be considered a process document if the drawing, this drawing is referenced on what I would call the process sheet or traveler -- that would be at the point of installation -- and if the drawing and maybe procedures and weld procedures would be in that data package that goes out to the point of installation. I'm putting all these "if's" in there because I didn't go out and do an audit. I don't know if that is the case.

So it could be by reference from the main process document, the traveler or the process sheet, whatever was used for installation.

Q It could be, but you're not sure --

A Yes.

Q -- based on reading Section 5.2.3.1.

A Right.

Q And you didn't look further to check it beyond reading the paragraph I just referenced.

A Yes.

Q Now let me ask my question differently. If I assume for purposes of my question that this installation drawing that we have been using as an example was included in the applicable process documents and the QC supervisor verified as required by Section 5 here of the QA manual, would that get us to a determination of whether or not the correct material was installed?

A It may or it may not, and it really depends.

Q What does it depend on?

A It depends on whether -- let's say the heat numbers by the superintendent were entered here, like heat number so and so, by the superintendent, and these entries were verified by the quality control supervisor.

Q Let's assume that happens for purposes of my question.

A Yes, then he would be verifying that correct material was installed if he goes into his log and looks for that heat number and he sees it is 106 pipe.

Q Now, this process aside -- you mentioned it, I think, in response to one of my questions and I want to be clear on this -- were you aware at the time of your interview

that, regardless of what the manual had to say, that in fact QC verification was occurring at the point of installation by an inspector actually looking at the heat numbers on the pipe and recording them, or verifying that they had been accurately recorded by the craft person?

A Yes. As I said, I'm not quite sure but I was told that that was done, that there was an as-built verification. But he was not at that time -- I didn't get confirmation that at that time he also verified that it was the material specified by the drawing, and that's what I meant by correct material application. That didn't come out in interviews.

Q I have here another section of the QA manual that is entitled "5.2 Fabrication and Installation," and if you would, Section 5.2 indicates, among other things, what a data package shall consist of.

First of all, do you know how the data package is used?

A In general I would know how a data package is used. Specifically how it is used at Phillips-Getschow --

Q I mean in general.

A In general, yes, sure. Nearly every organization that builds something has a traveler packet or traveler

package or a data package that they provide to the production people. In shops you will find the same thing, too.

Q Is that just another characterization of the applicable process documents that is referred to in Section 5.2.3.1?

A Yes. Those would be the applicable process documents.

Q Is one of them the field fabrication drawing?

A Yes. It's listed there.

Q Is that the same, if you know, as the installation drawing that we have been using as an example?

A It could be. The choice of words may not be exactly descriptive. Field fabrication by the ASME is considered to be making up spool pieces in a little fabrication shop at the site, so you would weld an elbow and a piece of pipe together. That's field fabrication. But these terms are not always used in the same manner.

Q Now, if I understand your testimony correctly, your recommendation about the need for QC verification of correct material application in the QA manual is essentially based on the answers you received during these interviews; is that correct?

A Right, and looking at some paragraphs in the QA Manual that related to QC responsibilities.

Q You didn't actually, as I think you have testified, actually determine how the system was working to see whether or not QC verification indeed was occurring.

A No, I didn't.

Q Then what is the thrust of your recommendation? Is it that the manual should be somehow clarified or revised or that the material control system itself needed revision?

A The second sentence on page 2, I think, speaks for itself, and says, "It is recommended that consideration be given to including a QC verification of correct material application in the QA manual," and by that I meant at some point or other because that didn't seem to be coming out in the interviews nor from my reading paragraphs relating to QC responsibilities and duties.

Q What is not clear to me is whether you are limiting your comment to what should be included in the manual itself or whether your comment went beyond that and was intended to mean that the material control procedures and process in use by Getschow needed to be augmented to include QC verification of correct material application.

A It was not intended to relate to what they actually were doing. It just didn't seem to be clear in the manual as it related to QC responsibilities since I had not performed an audit of how they were actually doing it.

Q Now, can you identify for me the provisions of the ASME Code that govern the subject of material control? And I'm thinking in particular for Class 1 material.

A There are a number of paragraphs that relate to it. The current code, the paragraph numbers are all different, and I'm more active in the current code than the code of record for this job, which is a '74 edition. So it's a while ago. That's 12 years ago.

Q I have handed the witness excerpts from the ASME Code, 1974 Edition, and in particular Article NA4000, and to be specific, Mr. Kist, so that you don't have to just search generally, I am interested in determining whether the ASME Code requires a process of verification for material control by the use of QC inspectors as opposed to non-QC individuals.

A It is not specifically required by this code here that a correct material application be verified by QC.

Q Could it be done by, for example, a project engineer?

A Yes.

Q As was the case for Phillips-Getschow?

A Yes. You could have it done by someone who is independent from production, basically. An engineer would be just as well qualified as a QC supervisor or an inspector to do that.

Q Let me ask you a question, then. Assuming for the moment that your recommendation accurately reflects the Getschow material control system at the time of your evaluation, would that system be in violation of the ASME code requirements on material control?

A My impressions at the time that I did this review?

Q Yes.

A It would be in conflict with the interpretations of the ASME code and the survey teams at that time. However, at the time I did the interview, it was not brought out to me that this project engineer verified that correct material was being requisitioned.

Q And it wasn't brought out to you that any QC verification was occurring at the point of installation either, am I right?

A Yes, that's right.

Q So neither of those two points were brought to your attention. I would have expected perhaps a stronger urging of your recommendation than appears in your report. Wouldn't that have been the case if you thought there was a code violation involved here?

A Well, the reason for putting it in the report, it appeared to be a code violation, but I had not done an audit to verify what they were actually doing, so that I suggested some consideration be given to it. It could also have resulted in a clarification of the manual to bring out these two points of control of correct material application.

Q Is there some reason you didn't suggest a further investigation, further audit to be conducted by yourself to verify one way or the other whether your concern was valid?

A I recall that I think I suggested it to Gorski at the end that we should look into this, and I think then he said he would look into it. Gorski was the corporate QA manager for Getschow at the time. You see, you asked me was there a code requirement for this as-built verification. That's not in NA4000. That's somewhere else in the code for Class 1 pipe, under NB.

Q I don't understand your comment.

A The verification that the correct material was used is not in this article, NA4000. I was just looking at it, and I realize it's not in here. It's in the NB2000 part of the code where it's talking about an as-built verification. There are two verifications that have to be made, the as-constructed, which is the dimensional so they can go back into the stress report to see that no stresses will be exceeded, and the second one is the as-built, which is the correct material application.

Q And both of these are required by the code?

A Both of these are mentioned by the code, and they have some kind of a permanent or lifetime document that you have to record these things on. And that's in other parts of the code, that's not in this NA4000.

Q And based on your review limited to your conversations with these inspectors, inspector-supervisors, it appeared to you that there might be a code problem with respect to verifying whether or not the correct material was installed.

A Right. Now, the report states here, and one of the things that I think I should bring out, that while I was there, the responsibility for this log was assigned to Craig

Ashworth, and he had very few comments on it. He said he had to look into it. So it was transferred from someone to Craig Ashworth at the time. So it was a little bit up in the air trying to check out what the guy was doing, and said, well, I just got the assignment today.

Q So he was newly assigned to this particular function.

A Right.

Q And might that have contributed to his lack of understanding of how the process worked?

A Sure. He hadn't had time to study it. I went to the staff meeting where they announced this assignment, and I think that's stated in this report here, that some of the functions and duties were just being assigned while I was there.

Q Let me ask you the reverse. If at the time you were preparing your recommendation and your report you had known about the verification performed by the project engineer and the verification performed by the QC inspector at the point of installation, would you have made the recommendation that you made on page 2?

A No. At the most, I would have asked for some

clarification in the words of the manual because the people that were newly assigned to this job couldn't show me in the manual what they had to do and it wasn't clear to them.

MR. GALLO: Let's take ten minutes.

[Recess.]

BY MR. GALLO:

Q I just have a couple more questions, Mr. Kist. I had asked you some questions previously about the data package which you had described generally as a traveler system used by craft and quality control people in connection with piping installations, and I had pointed you to the field fabrication drawing section and asked you whether this installation drawing that we have been using as an example wasn't a field fabrication drawing which was in turn one of the process documents referred to in Section 9, and I believe your testimony was that, well, it could be, but you weren't sure.

It just now occurs to me and I have been able to see that the definition indicates that a field fabrication drawing assembly location or customer's drawing, as applicable, would be part of this data pack. Would this installation drawing that we have been using as an example be considered a customer's drawing?

A Yes. The second part of that sentence would be more applicable, I would say.

Q So that if the installation drawing or customer drawing was included in the data pack and the QC supervisor under Section 9 compared the information from the bill of material on an installation drawing against the MT/PQ log, would he be able to also verify that the correct material was installed?

A Yes.

Q I have, I guess, one last question. Would you agree that your recommendation in your report on material control was based on incomplete information?

A Yes.

MR. GALLO: Your witness, Mr. Wright.

MR. WRIGHT: Thank you, Mr. Gallo.

MR. GALLO: Oh, wait a minute. One last thing. I'm sorry. I want to mark some of these things as exhibits. Let me do that and then I will turn you over.

I would like to mark for identification a series of documents that I used to question Mr. Kist. The first is a single sheet of paper entitled "Phillips-Getschow Company Stores Request." Let's mark that Kist Deposition Exhibit 2.

[Kist Deposition Exhibit No. 2 was marked for identification.]

MR. GALLO: Let's mark as Kist Deposition Exhibit 3 Section 9 of the Getschow Quality Assurance Manual dated September 27, 1984, Revision 0.

[Kist Deposition Exhibit No. 3 was marked for identification.]

MR. GALLO: I would also like to mark as Kist Deposition Exhibit No. 4 Section 5 of the Getschow Quality Assurance Manual, Revision 0, dated 9/27/84.

[Kist Deposition Exhibit No. 4 was marked for identification.]

MR. GALLO: I would like to also mark for identification Kist Deposition Exhibit 5 Drawing No. M-2552C, Revision B like in "Boy." It's a Sargent & Lundy drawing provided for Phillips-Getschow Company's use at Braidwood.

[Kist Deposition Exhibit No. 5 was marked for identification.]

MR. GALLO: I think that's all the exhibits I want to mark. No, there is one more. Let's make this Kist Deposition Exhibit No. 6, and what it is is a three-page excerpt from the Phillips-Getschow Material Traceability Log,

what we have referred to here in this proceeding as the MT/PQ Log. [Kist Deposition Exhibit No. 6 was marked for identification.]

MR. GALLO: Now I think I'm finished. Thank you, Tim.

MR. WRIGHT: Thank you, sir.

EXAMINATION

BY MR. WRIGHT:

Q Mr. Kist, my name is Tim Wright and I am one of the attorneys for the Intervenors, BPI. I have just a few questions to ask you.

Let me follow up where Mr. Gallo left off. I think the last question that he asked was would you agree that your recommendation was based upon incomplete information, and you answered yes; is that correct?

A Yes.

Q What incomplete information?

A That there was a correct material application verification by the engineer. That was something that didn't come out in the interviews.

Q Would there be any other information that you felt you didn't have in order to make that recommendation?

A Yes, and at the end of the road that the QC supervisor again did a correct material -- or was able to do a correct material verification with the documents that I was shown, using the customer's drawing and this MT/PQ log.

Q Now, I think you said in your investigation that you did that you didn't have an opportunity to speak with

engineers; is that correct?

A Essentially, yes. I briefly, I think, talked to one engineer.

Q But you did have an opportunity interview the QC supervisors?

A Yes, these various new supervisors.

Q Did any of the QC supervisors tell you that the project engineer, the construction engineer actually did the material verification?

A No.

Q Did you ask?

A I asked if they did it, and I was getting this answer, we checked the log to see if accepted material is used.

Q But they didn't say they did an actual verification.

A Yes. They didn't say that they checked to see if this was the right material. I didn't get that from them.

Q So in fact, with respect to the QC supervisors, you did attempt to determine whether or not they did a final material verification check with that material that was installed in the field; is that correct?

A Yes.

Q And they stated that they did not do so; is that correct?

A They didn't specifically state that they did not do so. They told me what they did, and there was a certain amount of confusion. As I said, this one fellow was just assigned that day, so I didn't get much information there.

Q Did you talk to anyone who had the prior responsibility for that?

A No.

Q I got kind of lost, so I kind of want to go back through, to some extent, just to determine exactly what you did and how you actually came to this recommendation.

You read the manual and you also talked to QC supervisors; is that correct?

A That's essentially correct. I read parts of the manual that related to responsibilities of the people, and what I say in the report, I determined significant responsibilities from the QA manual, and I was checking with personnel for assignment of responsibilities.

Q And other than the two, if you will, pieces of information that you didn't have at that time -- one being the material check by the engineer and the other being the final,

I guess, in-field installation check by the QC people -- other than those two pieces of information, your recommendation would virtually remain the same; is that correct?

A If I hadn't had those two pieces of information, I would have made the same recommendation. With those two pieces of information, the most I would have asked for would have been a clarification of the manual because it didn't seem to communicate that this was being done.

Q And you got those two pieces of information by representation of counsel; is that correct?

A He provided me with the information, yes, Mr. Gallo. Let me correct that there would be no clarification needed for this project engineer verification. That's very clearly stated in the manual. I just didn't see that. It was on the page before the page of what the QC supervisor did with material control. I'm talking Section 9 of the manual.

Q But with respect to the QC supervisor, that information has been independently supplied by representation of counsel; is that correct?

A Yes.

Q And it's not stated in the manual; isn't that

correct?

A No. From the parts of the manual that were presented to me, it became clear that the QC supervisor was quite able to make this determination of correct material application. It was basically that he did have in this data package the customer drawing or equivalent, that this drawing says which material was to be applied, and that he had the log which showed the accepted heat numbers with the material spec numbers. So making that verification using the log and the process package or data package was easy to do. He would be quite able to do that.

Q In your interview with the QC inspectors, you determined that in fact they did not, from what they told you, that in fact that they did not do a final --

A I didn't interview any QC inspectors.

Q Excuse me. QC supervisors.

A There was only a brief mention that an as-built verification was made.

Q I guess my question is: In your interview with the QC supervisors, you did not determine at that time or they did not tell you at that time that they actually went out to the field and did that final verification of material as

installed.

A No.

Q Are you aware of what actions the management took, Phillips-Getschow management took with respect to this concern that you had, concern No. F?

A No, no idea.

Q I now show you a Phillips-Getschow -- I'll mark it for identification as Kist Deposition Exhibit No. 7. This is a letter to Commonwealth Edison to Mr. D. Shamblin, and it's from Phillips-Getschow, a Mr. Gary M. Gorski. It's dated February 28, 1985.

[Kist Deposition Exhibit No. 7 was marked for identification.]

BY MR. WRIGHT:

Q I ask you to take a look at the letter, paying specific attention to the second page, under report item 13.

A Okay.

Q Have you reviewed item No. 13?

A Yes.

Q Is that a response to your Concern No. F?

A Yes.

Q What action is Phillips-Getschow recommending to

take?

A It says that they are revising the manual to include a requirement for QC verification of correct material application.

Q Now, did they agree with your recommendation, Phillips-Getschow, as determined by the letter? Did they agree with your recommendation?

A I don't know if they agreed, but apparently they took some action. They may have disagreed.

Q You don't know whether or not they agreed, but they did take --

A They may have felt forced to do this.

Q Why? Why would they feel forced to do that?

A Because of Commonwealth Edison, you know, saying, well, you have to take some action in response to a concern expressed by Kist, and so they decided to do this.

Q Do you know that's what they did?

A No, I didn't know what they did.

Q No, you are saying they had to take some action because of concerns raised by Kist. Do you know that Commonwealth Edison told that to Phillips-Getschow?

A No.

Q You are just speculating.

A I said specifically may have felt they were forced to do something. This still doesn't say what they did. They are just going to do a QC verification. At what point are they going to do it, on the stores request or following installation, during the as-built verification, or just whether they are going to clarify the manual that they were already doing it? It just says they are going to put something in the manual about it.

Q Fine. Isn't that what you requested that they do?

A That's what I asked them to consider.

Q So their recommendation is that they are going to follow-up and put something in the QA manual.

A Right.

Q Do you agree with that action on their part? Would that take care of the concern you expressed in (f) of your report?

A Well, the statement is very general. It does -- it would take care of the concern that I expressed in the report.

Q Okay. I'd like to turn to your report, page 1-6, and I have a few questions.

MR. GALLO: What page?

MR. WRIGHT: Page 1 of 6 in his report.

BY MR. WRIGHT:

Q I would ask you to turn your attention to Section II, "Conclusions and Recommendations," paragraph (c).

Looking at the second sentence, you state -- strike that.

Did you write paragraph (c)?

A Yes. I wrote the whole report.

Q Okay. Now the second sentence: "One reservation about the experience of projects with excessive deficiencies of some of the new supervisors is noted."

What do you mean by that?

A Well, some of the new supervisors came from nuclear power plant construction sites where there had been excessive deficiencies.

Q Why did you note that? Why did you note the fact that they came from those plants that had excessive deficiencies? What's the significance?

A It's a reservation or a concern because these sites, such as Cincinnati Gas & Electric sites, had excessive deficiencies, and these people may have worked in a system that was not adequate, and thus produced these excessive

deficiencies. So that was a concern, and I was expressing that.

On the other hand, you could say that they had been involved in trying to resolve these deficiencies at these sites, and so were more aware of all the pitfalls of a poor material control system, for instance.

But I felt obliged to noted that a lot of these supervisors came from a number of these problem sites.

Q So it is fair to say that your concern was that if these people had led to some of these problems at those sites, that it's very likely that they could lead to some of those same problems at the Braidwood site; is that correct?

A Yes, that is one possibility. On the other hand, as I said, it is also possible that because they were exposed to all these deficiencies, they would be more aware of what would happen and would possibly do a better job.

Q Was there any recommendation that you made in regard to that fact that is not within this document?

A I think I discuss it a little further in the report.

Q Right. That's on page 4 of 6?

A Yes. I conclude that paragraph, "During the interviews, I got the impression that they knew how things

should be done right, so that the benefit of the experience with problem-solving will probably outweigh the concern expressed in this paragraph."

Q So there was no recommendation that you made to them, other than noting that?

A Yes.

Q Back to page 1 of 6, under paragraph (d), that first sentence right there: "The new site QC supervision has taken positive actions to improve the management, control, and interfaces of the QC functions."

What kind of positive actions did you note that they were taking?

A They were having regular staff meetings, and I was invited to attend one of the -- I attended one of the staff meetings.

Q They didn't have those before?

A I'm not sure whether they had them before or whether they had them that frequently. But it was a very informal meeting, and everybody could bring up their concerns and announce changes and so on, so that there was definitely -- there definitely seemed to be a good interfacing, good communication.

Also I verified with Tom that he had a good working relationship with these new people and with John Holland, the boss or the superintendent, that this was working well. So there were some indications that this hadn't been working so well with the previous group.

Q Anything else? You say "actions," as in plural.

A Yes, that's under paragraph 8 on page 4. They had instituted, then, these weekly progress --

Q Well, maybe -- let me see if I can shortcut this. I don't mean to cut you off.

But other than what you have listed here in (a) and (b), are there any other actions that you noted that they were taking that were positive actions?

A Yes. The next page, interface contacts was one of the things.

Q You talked about the staff meetings. Would that be all?

A I think so, yes.

Q Turning your attention to page 4 of 6, at the top of the page, which is a continuation of page 3 of 6, QC personnel experience review, the first sentence on page 4 of 6 states: "It was found that all personnel interviewed had supervisory

experience and extensive experience in related site QC work."

Was that determined by a perusal of their resumes?

A Yes, or by interviews. I think I also had -- yes, reviewing resumes, I say here, so I also got to see their -- I recall now. They had resumes. They had just been hired, and so they had to present their qualifications in order to get hired, so all of them had papers.

Q So is it fair to say that this is founded upon your review of their resumes and your interviews with the QC supervisors?

A Yes, right.

Q Did you do any checking of their resumes to determine whether or not the items listed in their resumes was correct?

A No, I didn't.

Q Mr. Kist, during the process of your interviews, how did you record the results of those interviews? Did you tape the interviews that you had?

A No.

Q You just took handwritten notes or --

A Yes, handwritten notes.

Q Do you have any of those handwritten notes

available?

A Yes.

Q Is it possible, if we could give you a self-addressed envelope of some sort, that we could get copies of those notes that you took?

Did you do any preliminary drafts of this report?

A Normally, yes, I would have done preliminary drafts.

Q Would you have those preliminary drafts available?

A No, I don't have any of that.

Q Okay. Is it possible that we can get copies of the notes, or I could give you an envelope from my office and make them available to Mr. Gallo also?

A I have the notes with me.

Q Oh, you do?

A Yes.

Q In that case, we can get copies. Can I see the notes, and we'll get copies now?

MR. WRIGHT: Would you like to mark them as a --

MR. GALLO: Well, those are his personal notes. I don't think we can mark those.

THE WITNESS: Well, these are the notes. This is just a form I used for evaluating.

MR. WRIGHT: Why don't we go off the record.

[Discussion off the record.]

MR. WRIGHT: Let the record reflect that Mr. Kist has just turned over a series of notes on interviews that constitute the background information for his report, the management evaluation of Phillips-Getschow, and with his permission, I shall copy these and send the originals back to his office.

MR. GALLO: Well, I've been thinking about that. I think probably the best thing to do is maybe to have him do it, and let him -- I think the best procedure would be to do one of two things: Let him do it and send you and me copies, or I can send them out right this minute for copying, and then we can sit here and wait until they're done.

THE WITNESS: I would prefer that instead of taking the risk of loss in the mail or something like that.

MR. WRIGHT: Okay.

THE WITNESS: We've just had a case of, you know, a rather important item being lost in the mail, exchange of telexes --"Where is it; it hasn't come?" -- "We don't know where it is."

MR. GALLO: Which would you prefer?

THE WITNESS: So I would prefer you copying it here, maybe. It should only take ten minutes if you have a fast copy machine.

MR. GALLO: Well, they won't feed automatically because of the way they're put together.

THE WITNESS: Well, the yellow papers are.

[Brief recess.]

BY MR. WRIGHT:

Q Okay, Mr. Kist, I have a couple more questions for you.

I believe you stated that your review or your investigation was to check on -- or partly was to check on the qualifications of newly hired inspectors; is that correct?

A Yes.

Q What was the other part of it, of your investigation, the purpose?

A To see if they had a clear assignment of their responsibilities and duties.

Q Okay. And that was only to see if they understood what their duties was and not whether they were actually implementing their duties correctly; is that correct?

A That's correct, yes.

Q I believe you also stated that you did not review the QA manual for code compliance?

A That's correct.

Q Earlier, I think, in response to question by Mr. Gallo -- and I'll see if I can reconstruct the question -- it was in regard to Kist Deposition Exhibit No. 5 -- you stated that in order to accurately determine whether or not the proper materials had been used, that this particular drawing, Exhibit No. 5, should have listed heat numbers; is that correct?

A No. At the time of preparation of the drawing, the personnel preparing the drawings don't know what the heat numbers are going to be.

I presume that this is filled in at a later stage during installation, such as during the as-built verification. So there's a spot here to fill in the heat number of the pipe and these couplings here. It just says "Heat Number," but it's not filled in.

Q Okay. And would the heat number have to be there in order for someone to determine whether or not the proper -- whether or not -- what materials were actually used or what materials were actually installed in the field, if they were

utilizing this drawing?

A If they were -- yes. If you are using this drawing exclusively, then it should have the heat numbers on there, if you want to verify that the correct material was installed.

I seem to read into your question that -- you know, it could also be recorded on another document, the heat numbers. It doesn't necessarily have to be recorded on the customer's drawing. It could be recorded on a process sheet, on a sketch, a fit-up sketch. There are many ways to --

Q Some other document that would be included in that package or the traveler.

A Yes, or the traveler.

Q But looking at this drawing alone, that wouldn't give you this information, would it, as to what material was actually installed in the field?

A No. This tells you what has to be installed, but not what was installed.

MR. WRIGHT: Could we go off the record for just a second?

[Discussion off the record.]

BY MR. WRIGHT:

Q Also, Mr. Kist, a review of Exhibit 6, which is the

MT/PQ?

A Yes, or material traceability log. They use two names.

Q Is there any way to determine what was actually installed, what materials were actually installed in the field, using this, Exhibit 6?

[Witness reviewing document.]

A No. This is a list of material that has been accepted. So you can say, if all material that was accepted was installed, then this would be a list of what was installed.

Q Okay.

A If there was some leftover material that was accepted and not installed and returned to Commonwealth Edison or sent to another site, you don't know. And this does not indicate, as far as I can see, where this material was installed. There is no indication of the ISO number or sub-ISO or drawing number. There is no column like that on there, where it went.

[Pause.]

MR. WRIGHT: Okay. I don't have any further questions. Thank you very much.

MR. GALLO: I have a few follow-up questions.

FURTHER EXAMINATION

BY MR. GALLO:

Q Mr. Kist, with respect to these five new supervisors that you describe on page 4 of 6 of your report, do you have any information as to whether these five individuals were, themselves, responsible for any of the QA deficiencies and shortcomings at the plants you indicate?

A No, not really.

Q Well, you say "not really." That perhaps suggests that you do have something, some information. Did you mean just an unqualified "no," or are you qualifying your answer?

A No, I have no positive indication that they were directly responsible for the deficiencies that occurred.

Why I said, you know, or qualified, they were working in a system that was generating deficiencies, and they may have come in later to these jobs and been there to solve the problems instead of generate them, but we didn't go into that extent to determine when they came to that job and whether they were in a problem-solving function or whether they were in an operating function there.

Q Mr. Kist, let's take a hypothetical material control system that provides for QC verification of the correct

material being issued from the stores warehouse, and also provides for QC verification that the correct material was installed at the point of installation.

How would you characterize that type of system? Is it one that just meets the code, or does exceed the ASME Code requirements?

A One where they do the two verifications of correct material?

Q Yes. Verification at point of issuance of the material from the stores and again when it's installed in the field.

A That exceeds the code. This NB-2000-something-or-other paragraph asks for one as-built verification. Or it doesn't say "one." There has to be an as-built verification.

Q And can it come any time in the installation process?

A Yes. The code doesn't specify when the as-built verification is to take place.

Q Based on your experience, do you have an opinion --

A Well, the words "as-built" --

Q I'm sorry.

A The words "as-built" would indicate that, you know, it has to be in place, I would say, so -- let me think about that. The as-built verification is probably meant at the site of installation.

Q Does that mean that, in your opinion, that the verification at the point of installation is more significant than the one at the time of stores issuance?

A Yes.

Q Looking at your report on page 2 of 6, there is a list of personnel interviewed. Are these the QC supervisors that you interviewed.

[Witness reviewing document.]

A Yes. They all reported to the QC Manager, Jack Carlson.

Q And you interviewed Mr. Carlson as well; is that correct?

A Yes, briefly.

Q Now I don't want to strain your memory too much, but can you identify for me, if you can, those QC supervisors which you had pointed out to Mr. Wright in answer to his questions, who were not able to provide you insight as to how correct material installation control was exercised at

Getschow?

A Okay. Well, that was Ashworth, whom I mentioned before, and --

Q He was the fellow newly assigned; is that correct?

A Yes.

Q Okay.

A And Murphy, Ralph Murphy. And he was also quite newly assigned. And I think my notes will indicate if there were any other people that were not clear on this.

Q All right. Now what were Mr. Murphy's duties?

A I believe he was more involved with the paperwork.

MR. WRIGHT: Excuse me, Joe, just one second. For clarification, which Murphy are we talking about?

MR. GALLO: I'm talking about Ralph Murphy. Is there more than one listed here.

MR. WRIGHT: Yes, there are two Murphys.

MR. GALLO: Oh, yes. Yes, I'm talking about Ralph Murphy,

BY MR. GALLO:

Q Isn't that the other individual you identified for me as being --

A Right, yes.

Q -- less than clear in his understanding of his responsibilities.

A [Nodding affirmatively.]

Q The fellow that you said you thought was also relatively new, Mr. Ralph Murphy?

A Yes, right.

Q What were Mr. Ralph Murphy's duties, as you understood them?

A Well, I believe that he was essentially in charge of this paperwork, going through all the papers again to verify that the material was accepted and verifying the as-built records and so on. I think he was involved in checking the records under this -- I think you call it the MTV program.

Q This was in the office itself?

A Yes, he was in the office, on that end of the work, as I recall. My notes are more clear on that, exactly what he did, because I asked them what they did.

Q And it would appear from your listing of titles on page 2 that Mr. Holland was the Assistant Supervisor in charge of the --

A QC field, yes. And I think I said he was the superintendent, but that wasn't the case.

Q So he was in charge of the QC inspectors, then, that worked in the field?

A Yes. Yes, he should be.

Q Do you recall whether he exhibited any uncertainty as to his responsibilities?

A No, I don't think so, but we can look in the notes, if you want to.

Q It's right on top. Isn't the first page an evaluation of Mr. Holland?

A Yes.

Q You show for "Understanding of Assignment," "Good;" is that correct?

A Yes, uh-huh.

Q Do you recall whether you asked Mr. Holland about the overall question of verification of material control activities?

A I think I posed some questions on it. You could find them in the notes.

Q That support this?

A Yes.

[Pause.]

Q Did you find it for Mr. Holland?

A I made no notes of discussing that with him.

Q All right.

A I say here, "He has the monitoring group and the retrospection group and" -- oh, yes -- "the retrospection group does not get the MT/PQ log," so they are not influenced by that log. They just go and -- and the retrospection is the reinspection. So he's keeping the log away from them, so they'll get an unbiased report on what was installed.

MR. GALLO: Let's go off the record a minute.

[Discussion off the record.]

MR. GALLO: That's all the questions I have.

MR. WRIGHT: I don't have any further questions.

MR. GALLO: Well, Mr. Kist, I want to thank you for coming here today, and the deposition is over.

[Whereupon, at 12:59 o'clock, p.m., the deposition was temporarily recessed.]

MR. GALLO: With the indulgence of the parties, I would like to reopen the record for purposes of identifying another exhibit. This will be Kist Deposition Exhibit No. 8, and what it is, is Section VIII of the Phillips-Getschow QA Manual, Revision 0, dated 9/27/84. I will provide it to the reporter for that purpose.

[Kist Deposition Exhibit No. 8 was marked for identification.]

MR. GALLO: And I believe now I can truly say that the deposition is over.

[Whereupon, at 1:00 o'clock, p.m., the taking of the deposition was concluded.]

CERTIFICATE OF DEPONENT

I, NICHOLAAS C. KIST, do hereby certify that I have read the foregoing transcript of my deposition testimony and, with the exception of additions and corrections, if any, hereto, find it to be a true and accurate transcription thereof.

Nicolaas C. Kist

NICHOLAAS C. KIST

22 April 1986

DATE

***

CERTIFICATE OF NOTARY PUBLIC

Sworn and subscribed to before me, this the 22nd day of April, 1986.

Shari L. Krasinski

NOTARY PUBLIC IN AND FOR
DuPage County
State of Illinois

My commission expires:

MY COMMISSION EXPIRES
9/18/89

CERTIFICATE OF NOTARY PUBLIC

I, PAMELA BRIGGLE, the officer before whom the foregoing deposition was taken do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me and thereafter reduced to typewriting by me or under my direction; that said deposition is a true record of the testimony given by the witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

Pamela Briggle

PAMELA BRIGGLE

Notary Public in and for the

District of Columbia

My Commission expires May 14, 1990.

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MANAGEMENT EVALUATION OF BRAIDWOOD SITE QC ORGANIZATION OF PHILLIPS, GETSCHOW COMPANY

N. C. Kist

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Naperville, Illinois

3 December 1984

Prepared for: Phillips, Getschow Company
Chicago and Joliet, Illinois

N.C.KIST
& Associates, Inc.

Management Evaluation Report

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1) BACKGROUND

During the first half of 1984 Phillips, Getschow Co. recognized the need for more experienced supervisors for the site QC organization at the Braidwood Site in order to handle the increased scope of activities due to the reverification programs.

In August 1984 Commonwealth Edison Company authorized the hiring by Phillips, Getschow Co. of additional senior personnel for the Braidwood Site QC staff.

Newly hired personnel started during September 1984 and effective 1 October 1984 organizational changes were made including the addition of six new supervisors.

Following the reorganization Phillips, Getschow Co. engaged N. C. Kist and Associates, Inc. to conduct a management evaluation of the site QC organizational structure and interview supervisory personnel as part of the evaluation.

The evaluation was conducted by N. C. Kist during the second half of November 1984.

2) CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of the evaluation were:

(A) The functional organization has not been clearly established in writing. Most QC duties and responsibilities listed in the QA Manual have been verbally assigned to the new supervisors, however there is no written record of these assignments.

It is recommended that a functional chart be prepared listing all the specific responsibilities of each sub-tier supervisor.

It is also recommended that a person be designated by job title, who is responsible for providing answers to Codes & Standards questions.

(B) The Braidwood Site QC Organizational structure is suitable for the increased scope of activities as occasioned by the several reverification programs.

(C) The experience of Site QC supervisory personnel in nuclear QA/QC is extensive and adequate for the scope of activities. One reservation about the experience at projects with excessive deficiencies of some of the new supervisors is noted.

(D) The new Site QC Supervision is taking positive actions to improve the management, control and interfaces of the QC functions.

(E) The current office arrangements and office spaces are not conducive to working efficiently.

It is recommended that separate offices be provided for each supervisor and that traffic patterns and groupings be improved.

(F) The current QA Manual does not appear to have provisions for verifying that correct material for the application was released and installed.

It is recommended that consideration be given to including a QC verification of correct material application in the QA Manual.

3) EVALUATION METHODS

The evaluation was conducted by:

- Interviewing personnel.
- Attending staff meetings.
- Determining significant responsibilities from QA Manual.
- Checking with personnel for assignment of responsibilities.
- Reviewing current organization chart.
- Reviewing samples of work.
- Reviewing resume's.

4) PERSONNEL INTERVIEWED

The following persons were interviewed:

Scott Forbes	-	Site QA Coordinator
Jack Carlson	-	QC Manager
Jim Murphy	-	Supervisor QC
Ernie Ullrich	-	Administrative Assistant
John Holland	-	Asst. Supervisor QC Field
Ralph Murphy	-	Asst. Supervisor QC Office
Chuck Vincent	-	Records Review Supervisor
Len Butler	-	N5 Data Report Supervisor
Ron Washington	-	Retrospection Supervisor
Craig Ashworth	-	Material Control & Calibration Supervisor
Ron Shope	-	Document Control Supervisor
Gary Marquardt	-	Compliance Supervisor

The following persons were briefly interviewed:

Tom O'Connor	-	Site Manager
Jim Stewart	-	Field Engineer.

5) QC ORGANIZATION FUNCTIONAL ANALYSIS

A functional analysis of Site QC responsibilities was made using the Site QA Manual issued on 9/27/84 revision 0.

These responsibilities were checked for completeness against Kist & Associates standards. It was found that a few significant QC functions were not included in the QA Manual as described in paragraph (12).

The majority of the significant Site QC responsibilities are assigned to the Supervisor QC in the QA Manual and also in QA Manual Supporting Procedures. The QA Manual and each Procedure contain a delegation clause and a few letters of delegation to the Asst. Supervisor QC were found for a few specific responsibilities. However no single document was available, which indicated specifically which sub-tier supervisor was responsible for what.

During the interviews it was established, that most significant Site QC responsibilities had been assigned verbally to the new sub-tier supervisors (Records Review Supervisor, Compliance Supervisor etc.). However the assignment of specific responsibilities was still in process during the interviews. For instance: the supervision of the preparation of the MT/PQ Log was assigned on 16 November; the responsibility for the review of Stores Requests had not been clearly assigned on 16 November.

Recommendation: Establish a functional chart listing under each sub-tier supervisor his specific responsibilities. Make sure all specific responsibilities are assigned.

6) QC ORGANIZATION CHART REVIEW

The current QC department organization chart (issued by Jack Carlson on 28 September 1984) was reviewed for:

- structural adequacy
- logical grouping of functions
- apparent assignment of responsibilities
- organizational freedom in matters related to quality
- access to responsible management.

The organization chart was also compared to organization charts of similar organizations.

It was found that the new organizational structure was satisfactory in all these respects and should be suitable for the increased scope of QC activities at the Braidwood Site.

7) QC PERSONNEL EXPERIENCE REVIEW

The resume's of all QC personnel interviewed were reviewed for adequacy of experience in related Site QC work and supervisory experience.

During the interviews personnel were also asked about their experience, education, training, Code and Standards knowledge and QA Program knowledge.

It was found that all personnel interviewed had supervisory experience and extensive experience in related site QC work. Many had held positions equivalent to QC Supervisor or QC Manager.

Most had a working knowledge of the ASME Codes, many had been through an ASME Nuclear Survey.

All had a good understanding of the Site QA Program.

They were all found to be good communicators. Samples of their work, such as instructions and procedures were found to be clear and understandable.

All expressed a desire to improve the programs they were responsible for and gave examples of how they were correcting problems. A general cooperative spirit was noted.

The experience of the new supervisors match the job descriptions attached to Gary Gorski's 8/31/84 Inter-Office Communication QA-223.

It is noted that the 5 new Supervisors from SAI have been associated with nuclear power plant construction sites, which had excessive deficiencies and had poorly managed QA Programs such as Zimmer, Midland, Comanche Peak and South Texas. On the one hand they may have developed skills in resolving problems similar to those which exist at Braidwood, but on the other hand they have become familiar with deficient programs. During the interviews I got the impression that they knew how things should be done right so that the benefit of the experience with problem solving will probably outweigh the concern expressed in this paragraph.

It appears that the Document Control Supervisor Ron Shope could take on some other responsibilities, once the document files have been organized and all necessary filing and indexing instructions are fully implemented. Shope has been a Site QC Supervisor for Babcock & Wilcox Construction.

8) QC MANAGEMENT

It is noted that the following actions were recently taken to improve the management and control of the QC Department:

a) Systems have been started which identify weekly progress and backlog. The new Material Traceability Verification (MTV) Status Report and Nonconformity Report (NCR) Status Report allow management to follow-up, take corrective action and plan manpower needs.

b) Monitoring using detailed technical checklists has been started for warehousing and weld rod storage, and is planned for the MTV reviews and Records Systems. This monitoring will provide assurance that all technical and procedural requirements are being met.

These actions should be continued and expanded.

9) INTERFACE CONTACTS

Interfaces with peers in QC, Engineering and Site Management have been made through staff meetings. All personnel interviewed said that good interface contacts had been established.

Two QC staff meetings were attended. They were well conducted and allowed for good exchange of information.

10) OFFICE ARRANGEMENTS

The office spaces are very cramped and noisy. None of the supervisors in the QC Dept., except for John Holland, have separate offices.

The QC Manager and the Supervisor QC currently share an office. Access to them is too easy and they are frequently interrupted.

Some offices have a considerable amount of traffic and appear to be used as a thoroughfare.

The current office arrangements are not conducive to working efficiently.

Recommendation: Provide separate offices for each supervisor. Improve groupings and traffic patterns.

11) CODE AND STANDARDS QUESTIONS

Most persons interviewed did not know whom to contact for answers to Code & Standards questions.

Recommendations: Designate the person by job title, who is responsible for providing answers to Code & Standards questions.

12) QC RESPONSIBILITIES NOT IN QA MANUAL

The following significant Site QC responsibilities do not appear to be addressed in the current QA Manual:

(A) Listing of the Code Edition and Addenda on material/purchase requisitions in paragraphs 6.2 and 6.3.

(B) Use of a CMTR/C of C Checklist in the same manner as described in paragraph 8.1.2 for the review and acceptance of customer supplied material per paragraph 8.3.2.2.

(C) The responsibility for turnover of records packages and Data Reports to the Customer in paragraph 10.8.

(D) The responsibility for verifying resolution of nonconformances and the recording of nonconformance close-out in Section 15.

13) VERIFICATION OF CORRECT APPLICATION OF MATERIAL

The QA Manual paragraph 9.1.1.7 provides for a review of the Stores Request by the Supervisor QC to determine that material listed on the MT/PQ log was released for installation.

The QA Manual paragraph 5.2.3.1 provides for a review during fit-up and final weld inspections that material listed on the MT/PQ log was used in installation.

The MT/PQ log lists material which has been accepted in general, but not for which location or application.

The QA Manual appears to have no provisions for verifying that the correct material for the application and location was released and installed.

Recommendation: Consideration should be given to including QC verification of correct material application in the QA manual.

Have Been

What #13 Means

Commonwealth Edison

Gieseker Group Ex. #2 3/25/86

TITLE:	PROCEDURE NUMBER:
LEVEL I REVERIFICATION PROGRAM	PM-18

BRAIDWOOD NUCLEAR STATION

PROJECT PROCEDURE

REV.	DESCRIPTION		APPROVALS	DATE
0	Issued for Implementation	Originator	[signature]	2-17-86
		Proj.'s Eng.	N N Kaushal	2/18/86
		Q.A. Supt.	Thomas [signature]	2/18/86
		Proj. Mgr.	David L. Shaffer for MOW	2/19/86
		Originator		
		Proj.'s Eng.		
		Q.A. Supt.		
		Proj. Mgr.		
		Originator		
		Proj. Eng.		
		Q.A. Supt.		
		Proj. Mgr.		
		Originator		
		Proj.'s Eng.	BW-010	
		Q.A. Supt.		
		Proj. Mgr.		
		Originator		
		Proj.'s Eng.		
		Q.A. Supt.		
		Proj. Mgr.		
		Originator		
		Proj.'s Eng.		
		Q.A. Supt.		
		Proj. Mgr.		

THIS PROCEDURE WAS ISSUED FOR INCLUSION IN PROJECT PROCEDURES MANUAL

1. PURPOSE

1.1 The purpose of this procedure is to establish the methods to be used by Commonwealth Edison Company (CECo) and L.K.Comstock Company (LKC) for performing the Braidwood LEVEL I INSPECTOR REVERIFICATION PROGRAM (LRP).

1.2 The purpose of LRP is to establish, through a sample reinspection of components originally inspected by L.K.Comstock/E.C.Ernst (ECE/LKC) Level I inspectors, that there are no design significant discrepancies in the plant hardware (while maintaining a minimum of 99% reliability and 99% confidence levels).

2. REFERENCES

2.1 Reg Guide 1.58 (Revision 1)

2.2 ANSI N45.2.6-1978.

2.3 S&L letter, dated July 22,1985, subject "Measurement Units for Welding Attributes"

2.4 LKC procedure 4.1.3, latest revision, "Qualification/Classification and Training of QA/QC Personnel"

2.5 LKC procedure 4.8.3, latest revision, "Weld Inspection"

2.6 LKC procedure 4.11.1, latest revision, "NonConforming Items"

2.7 LKC procedure 4.11.2, latest revision, "Corrective Action"

2.8 LKC procedure 4.3.24, latest revision, "Rework"

3. DEFINITIONS AND POLICIES

DEFINITIONS

3.1 CECo TASK FORCE (CTF) - A group of people assigned by the CECo Project Construction Superintendent to determine policy and administer the day to day activities of LRP. The CTF may consist of CECo personnel and consultants; but shall not consist of LKC personnel.

3.2 ECE/LKC CONTRACTOR POPULATION - The population of all weld inspection reports prepared by E. C. Ernst/L. K. Comstock weld inspectors during the time each of the inspectors performed weld inspections while certified as a Level I.

3.3 DISCREPANCY - A discrepancy is a lack of agreement between the as-designed condition and the as-installed condition. Discrepancies are identified after the reinspection and the Third Party overview.

3.4 INSPECTION REPORT - A form on which the results of an inspection are documented by an inspector.

3.5 LEVEL I INSPECTOR SAMPLE PERIOD - The period of time from the first inspection performed by an inspector trained as a Level I inspector until his recertification as a Level II inspector or until he left site, whichever is first.

3.6 REINSPECTION - The inspection of work after an initial inspection has been performed.

3.7 REINSPECTOR - An LKC Level II or III welding inspector, certified in accordance with LKC procedures 4.1.3 and 4.8.3, latest revisions, (references 2.4 and 2.5), and who has been selected by the LKC to perform the reverification activities for LRP.

3.8 SAMPLE SIZES

3.8.1 ECE/LKC CONTRACTOR SAMPLE - A minimum of 475 inspection reports randomly selected from the ECE/LKC Contractor Population.

3.8.2 ECE/LKC INSPECTOR SAMPLE - A minimum of 5 inspection reports selected for each of the inspectors included in this program, if available. This sample is to be selected if any inspector did not meet the minimum quantities after the ECE/LKC Contractor Sample reinspection.

3.9 THIRD PARTY OVERVIEWER - A person certifiable as a Level III inspector, in accordance with ANSI N45.2.6, 1978 and selected to perform an overview of potential deficiencies identified by the Contractor's reinspector. The third party overviewer shall not be an employee of LKC.

3.10 WORK NOT REINSPECTABLE - Those inspections which are not reinspectable have been divided into two types, inaccessible and not recreatable, as follows:

3.10.1 INACCESSIBLE: A condition where "extensive disman-tling" would be required to gain access for a reinspection. The following is a partial list of items which have been determined to be inaccessible:

- Support/Hanger surrounded by block wall
- An element of reinspection that cannot be seen for reinspection because of obstructions.

Note: The requirement to remove fireproofing, insulation, or paint shall not classify an item as inaccessible. However, firestops shall not be removed from penetrations or sleeves due to the possible damage that may occur to items going through the penetration/sleeve. Due to the variety of conditions that may entail "extensive dismantling", LKC shall notify the CTF and describe the conditions that inhibit the reinspection. The CTF shall then decide, on a case by case basis, whether the component is reinspectable.

3.10.2 NOT RECREATABLE: - A condition where a process or event cannot be recreated for reinspection; or a condition which renders an inspection report unacceptable for reinspection (e.g., the component has been deleted/reworked, or where the components' identification was not specifically recorded on the inspection documentation).

POLICIES

GENERAL

3.11 LRP is to be applied to the Level I Inspector Sample Period for each inspector certified as a Level I inspector by L. K. Comstock & Company/E. C. Ernst, and who performed welding inspections which are safety related and presently reinspectable.

3.12 The LRP does not apply to the qualification or certification of nondestructive testing personnel for the nondestructive methods specified in Reg Guide 1.58 (Rev-1), Section C.2a (Reference 2.1).

3.13 A CECo Task Force (CTF) shall be assigned to provide the coordination and direction to LKC in the management of LRP. The CTF shall also be responsible for the following, as a minimum:

3.13.1 Providing guidelines to LKC in the day to day performance of LRP.

3.13.2 Preparing desk instructions, as required to detail the day to day implementation of LRP by the CTF. The desk instructions shall be controlled, and provided for review to the CECo Project Construction Department Superintendent and CECo Quality Assurance Superintendent. The following desk instructions, as a minimum, shall be prepared:

A) Instructions for collecting and sorting of the inspection report data received from LKC;

B) Instructions for assuring the integrity of the LRP data input and processing by the CTF;

C) Instructions for the random selection process, and,

D) Instructions for processing of Discrepancy Reports/Clarification requests.

3.13.3 Determining the Level I Inspector Sample Period for each inspector.

3.13.4 Obtaining the services of, and coordinating the work for the third party.

3.13.5 Coordinating the evaluation and disposition of Discrepancy Reports, if required.

3.13.6 Providing the tabulation of the LRP results.

3.13.7 Other items required to assure the proper performance of the LRP.

3.14 The LKC Quality Assurance Manager shall be responsible for implementation of the LRP. He shall also be responsible for the following, as a minimum:

3.14.1 Coordinating with the CTF.

3.14.2 Assisting the CTF in the identification of the inspectors whose work is to be reinspected.

3.14.3 Obtaining the inspection reports applicable to LRP and providing those inspection reports to the CTF.

3.14.4 Selecting and providing inspectors to act as reinspectors.

3.14.5 Requesting clarifications involving the LRP, if required.

3.14.6 Preparing Discrepancy Reports, if required.

3.14.7 Providing the CTF with results of the weld reinspections.

3.14.8 Other tasks, as required, to assure proper performance of the LRP.

NOT REINSPECTABLE

3.15 The reinspector shall utilize the Form 19 as used in LKC procedure 4.8.3 (Reference 2.5). Item 3.2, on the Form 19 shall be considered not-reinspectable during LRP. Because of certain hardware configurations, items 3.18 and 3.19 on the Form 19 may be considered "not applicable". The reinspector shall mark the appropriate box on the Form 19.

3.16 When all the welds on an inspection report are determined to be inaccessible or not recreatable (as determined by the LKC Quality Assurance Manager, or designee), that inspection report shall not be reinspected and another inspection report shall be selected. When a weld is determined to be inaccessible or not recreatable, then that weld shall not be reinspected. The reason for excluding a selected inspection report, or any weld on that inspection report, shall be documented by LKC and reported to the CTF.

3.17 Non-Safety related hardware is excluded from the LRP, however, if a non-safety related weld attaches to a safety related structure, then that weld is within the scope of the LRP.

3.18 The LRP is not applicable to those plant components or portions of those components which have been reworked, deleted, and/or reinspected subsequent to the original inspection.

3.19 Damage, as a normal result of construction activities, is not to be counted in the LRP. If the damage is significant and renders a component not reinspectable, then another component shall be selected for reinspection. Damage is to be documented in accordance with LKC procedure 4.11.1 or 4.11.2, references (2.6 and 2.7).

3.20 In those cases where an inspection report covers an entire grid area, that report is not-reinspectable and another inspection report shall be selected. However grid reports shall be corrected under existing approved procedures.

3.21 The inspection reports selected for reinspection shall be reviewed for documentation deficiencies to determine whether the original inspection is reinspectable. If deficiencies noted during this review render the inspection report not recreatable for reinspection, LKC shall notify the CTF that the selected component is not-reinspectable and request another report to be selected. Deficiencies of this nature are to be reported and corrected in accordance with site approved LKC procedures.

3.22 If grating is not welded down or if equipment, components, or other permanent hardware do not hinder the removal of grating, such removal should not be considered extensive dismantling.

REINSPECTIONS

3.23 No reinspector shall be allowed to reinspect, or review reinspections involving his own work. This includes the original inspector and the Level II who originally reviewed the inspection report.

3.24 A listing of the inspection reports selected for reinspection shall be provided to LKC. If a discrepancy is discovered in this listing (i.e., incorrect drawing revision, inspector identification, etc.), LKC shall notify the CTF by utilizing the Notification of Data Discrepancy (Exhibit 4).

INSPECTION CRITERIA

3.25 Reinspections shall be performed utilizing the current design drawing and the current inspection criteria, including the applicable tolerances as defined in reference 2.4, latest revision.

3.26 If an inspector is unable to differentiate between a vendor weld and a weld installed by LKC, then that weld is to be considered not reinspectable.

RANDOM SELECTION

3.27 Random number tables are to be used for the selection of inspection reports for reinspection and shall be provided by a Statistical Consultant retained by CECo.

3.27.1 A separate table shall be used for each Inspector, if required.

3.27.2 The random tables shall consist of numbers at least equal to the quantity of reports to be sampled for LKC and each of the inspectors.

CLARIFICATIONS

3.28 The LRP Clarification Request Form (Exhibit 1), shall be used by LKC to request clarification of policy, not currently covered in this procedure. Upon approval, a copy will be transmitted to LKC for use. All or part of the questions resolved by a Clarification Request Form may be incorporated into the next procedure revision as deemed appropriate by the CTF. A log of all Clarification Requests shall be maintained by the CTF.

DISCREPANCIES

3.29 If, after reviewing the design documents, it is apparent that the installation and therefore the inspection is rejectable, each weld in that inspection which is not in accordance with the design shall be considered a discrepancy.

3.30 Missing or illegible welder/inspector stamps is not to be considered a discrepancy in the LRP. This should be reported by the reinspector according to LKC site approved procedures.

3.31 Each welding inspection, identified as a potential discrepancy by the reinspector shall receive an overview of the inspection by a third party.

3.32 If, after an overview, the third party disagrees with the reinspector, he shall notify LKC and attempt to reach an agreement.

3.33 For the purposes of the LRP, the decision of the third party shall govern.

3.34 The third party shall prepare a "Third Party Report" (Exhibit 3) for each overview performed.

3.35 A "Discrepancy Report" (DR, see Exhibit 2) shall be used to document potential discrepancy(ies). DR's shall be prepared by LKC on an inspection report basis, including all discrepant welds, evaluated and dispositioned, and become part of the tabulation of LRP results.

3.36 As required by Engineering, a weld map of the discrepancy(ies) is to be completed in order to aid the evaluation of the discrepancy(ies). The location of discrepancies on this weld map shall govern over any other sketch prepared to describe the location of the discrepancy(ies).

3.37 All Discrepancy Reports are to be forwarded to the CTF on a regular basis. The CTF will then forward the DR to the Engineer for review and evaluation.

3.38 Upon receiving the evaluation and disposition of the Discrepancy Report, LKC shall process the discrepancy in accordance with LKC procedures 4.3.24 (Reference 2.8), and shall be responsible for closeout of the discrepancy.

COUNTING and REPORTING RESULTS

3.39 All reinspection results shall be identified on a weld basis and reported on an inspection report basis.

4. PROCEDURE

The following steps shall be taken to perform the LRP:

PROJECT CONSTRUCTION SUPERINTENDENT

4.1 Assign members of the CTF, as required.

LKC QA MANAGER

4.2 Supply the CTF with a list of inspectors who are subject to reinspection and their respective Level I Inspector Sample Period.

4.3 Retrieve the applicable inspection reports for reinspection by photocopying the original inspection reports for each of the inspectors' respective Level I Inspector Sample Periods and forward the copies to the CTF.

CTF

4.4 As the copies of the inspection reports are received from LKC, assemble the inspection reports applicable to each inspector's Level I Inspector Sample Period.

4.5 Prepare a "ECE/LKC Contractor List" of all welding inspections performed by each of the included inspectors during their respective Level I Inspection Sample Period.

4.6 The ECE/LKC Contractor List shall be arranged in an alphanumeric order based on the date of inspection, and on the drawing number, then component number, then report number.

4.7 Sequentially number each line entry, of the sorted ECE/LKC Contractor List starting with the number one (1).

4.8 Randomly select the ECE/LKC Contractor Sample for reinspection from the sorted ECE/LKC Contractor List in accordance with the appropriate CTF work instruction.

4.8.1 If it is discovered later that one or more inspection reports were inadvertently (for any reason) left off of the initial ECE/LKC Contractor List, these new inspection reports shall be appended to the end of the ECE/LKC Contractor List as they are discovered; and numbered beginning with the next sequential number. If more than one inspection report is discovered on the same day, these reports shall be arranged in by date and alphanumeric order as described above, prior to being appended and numbered.

4.8.2 If the sorted ECE/LKC Contractor List is appended for a newly discovered inspection report, a check shall be made to determine whether any of the newly discovered inspection reports shall be reinspected. This determination is to be made by reviewing the random numbers which were discarded as being too large for selection. If any of the discarded numbers result in the selection of an inspection report(s) in the appended portion of the ECE/LKC Contractor List, that report(s) shall also be selected for reinspection.

4.9 After performing the random selection, prepare a reinspection report (Form 19) by completing the top portion of the Form 19 for each of the selected components. Provide the listing and the associated Form 19 to LKC.

LKC ENGINEERING

4.10 After receiving the listing, and the associated Form 19's, of randomly selected inspection reports to be reinspected from the CTF, determine whether the inspection reports are reinspectable by assembling a reinspection package.

4.10.1 The current design drawing shall be obtained from LKC Document Control.

4.10.2 A copy of the transmittal shall be forwarded to the LKC field crew to determine accessibility, remove paint, or otherwise clean the component, and obtain scaffolding for the reinspection.

4.10.3 If a component is not reinspectable, document the reason that the inspection report is not reinspectable and request that the CTF provide a replacement inspection report. Continue with this sampling process until the minimum quantity for the ECE/LKC Contractor Sample is obtained, or until all inspection reports from the population have been selected for reinspection.

4.11 Forward the inspection packages to the Quality Control group, via transmittal.

LKC QUALITY CONTROL

4.12 Assign the reinspectors to perform the reinspection of the selected inspection reports and begin performing the reinspections.

4.12.1 If, during the reinspection, a selected component is found not to be reinspectable, document the reason that the inspection report is not reinspectable and request a replacement inspection report from the CTF, through LKC Engineering.

4.13 If, after reinspection, a reinspected component contains a potential discrepancy(ies), prepare a Discrepancy Report and transmit the reinspection package with the DR to the Third Party for an overview.

THIRD PARTY

4.14 Upon completion of the overview, the third party completes the Third Party Report; prepares weld maps, as required; and, returns the Third Party Report and the reinspection package to the LKC Status Group. If the third party does not agree with the results of the reinspection, he will attempt to resolve with LKC.

LKC STATUS GROUP

4.15 If there are no deficiencies, or, after receiving the Third Party Report, log in the status of the inspection and transmit the report(s) and Discrepancy Report, if applicable, to the CTF.

CTF

4.16 Upon receipt of the reinspection reports, log in, separate the reports with Discrepancy Reports attached, and forward copies to the Engineer.

ENGINEER (CECo PFE/S&L)

4.17 The Engineer reviews the reinspection reports with Discrepancy Reports attached and performs an evaluation for Design Significance of the described deficiencies and provides a disposition on the Discrepancy Report.

4.18 When the Discrepancy Report is dispositioned and the Design Significance Review is completed, return the reinspection report and Discrepancy Report to the CTF.

CTF

4.19 Log in the pertinent data and return the Discrepancy Report to LKC Engineering.

LKC ENGINEERING

4.20 Process the discrepancy in accordance with approved procedures.

CTF

4.21 Collect the remaining results of the CCE/LKC Contractor Sample and perform a review for minimum quantities for each inspector. If the minimum quantity for an inspector has not been obtained, sort each inspector's work, which has not been selected for reinspection, nor deemed not reinspectable, in the manner described above. Randomly select the additional

reports required to meet the minimum quantity requirements. Continue selecting additional reports, reinspecting, and reporting results until the minimum quantity requirements are met, or that all inspection reports generated by that inspector have been selected.

LKC

4.22 Continue reinspecting, obtaining the third party overviews, and reporting results as described above.

CTF

4.23 When the reinspection activities are complete, collect the remaining reinspection reports and Engineering evaluations and determine if any design significant discrepancies exist.

4.23.1 If any design significant discrepancies are identified in the ECE/LKC Contractor Sample of 475 inspection reports, plus additional inspections required to obtain the minimum sample for each of the inspectors (i.e. Inspector Sample), then the ECE/LKC Contractor Sample will be expanded to a size sufficient to establish, again with 99% reliability and a 99% confidence level, that if there are no additional design significant discrepancies in the expanded sample, then there are no unidentified design significant discrepancies in the remaining portion of the population which has not been reinspected. If the number of design significant discrepancies identified precludes obtaining a sample size that is less than the entire ECE/LKC Contractor Population of Level I inspection reports, then the entire ECE/LKC Contractor Population will be reinspected.

5. RECORDS

5.1 LKC shall retain the inspection reports in accordance with site approved procedures.

5.2 The CECo Task Force shall maintain a file of all correspondence pertaining to the LRP.

5.3 The CTF shall retain copies of the inspection reports, reinspection reports, third party reports, Clarification Requests, Discrepancy Reports, logs, and other items, as required to provide a basis for the closure of this Program.

6. EXHIBITS AND APPENDICES

6.1	Exhibit 1	Level 1 Inspector Reinspection Clarification Request Form.
6.2	Exhibit 2	Discrepancy Report
6.3	Exhibit 3	Third Party Report
6.4	Exhibit 4	Notification of Data Discrepancy

Exhibit 1
PM-18

Contractor:_____ LRP No:_____

Request No:_____

LEVEL 1 INSPECTOR REINSPECTION CLARIFICATION REQUEST

1. QUESTION:_____

2. SUGGESTED RESPONSE:_____

Contractor signature:_____ date:_____

3. ENGINEERING EVALUATION (if reqd):_____

Engineering Signature:_____ date:_____

4. CTF RESPONSE:_____

CTF_____date:_____ PFE SUPT_____date:_____

PCD SUPT_____date:_____ QA SUPT_____date:_____

INSTRUCTIONS FOR PREPARING THE CLARIFICATION REQUEST FORM

LKC

1. Enter the Contractor Name.

CTF

2. Enter the sequential Clarification Request log number.

LKC

3. Enter the question to the CTF describing it in detail. Attach a sketch or additional documentation to further describe the question, if required.

4. Enter LKC's suggested response to the question, if possible.

5. Sign and date by the LKC QA Manager or designee.

CECo PFE/S&L

6. Enter the engineering response to the question when requested by the CTF.

7. Sign and date the engineering evaluation.

CTF

8. Enter the CTF response with sufficient detail to answer the original question.

9. Obtain approvals and return to LKC.

NOTE: Additional pages may be added to further describe the question or response, if required.

LEVEL I INSPECTOR REINSPECTION PROGRAM
DISCREPANCY REPORT NO:_____ Page: 1 of___

Contractor:_____

Inspector code:_____ Date:_____

Component:_____ Drawing:_____Rev:_____

1. REQUIREMENT: _____

_____

_____

2. DESCRIPTION OF DISCREPANCY:

_____

_____

_____

_____

_____

_____

_____ _____
Reinspector date

3. S & L EVALUATION: DESIGN SIGNIFICANT: YES _____ NO _____

REWORK RECOMMENDED: YES _____ NO _____

REMARKS:_____

_____

_____

_____

_____

_____

_____ _____

_____

_____

_____

_____

_____

_____ _____ _____ _____
prepared by date approved by date

Exhibit 2
PM-18

LEVEL I INSPECTOR REINSPECTION PROGRAM
DISCREPANCY REPORT NO:_____ Page:___ of___

Contractor:_____ Date:_____

****

INSTRUCTIONS FOR COMPLETING THE DISCREPANCY REPORT FORM

LKC

1. Enter the sequential LKC Discrepancy Report Number.
2. Enter the total number of pages of this Discrepancy report.

   NOTE: Page 2 of this exhibit is provided for additional pages, if required, to fully describe the discrepancy or engineering evaluation.
3. Enter the Contractor's name.
4. Enter the code for the inspector applicable to this discrepancy.
5. Enter the date of this report is initiated.
6. Enter the plant component identification.
7. Enter the drawing pertinent to this discrepancy with the appropriate revision level.
8. Enter the Code, specification, or procedure requirement which is applicable to this discrepancy.
9. Enter a complete description of the discrepancy. If additional space is needed utilize page 2 of this form.
10. Enter the signature of the reinspector or the LKC personnel completing this form.

PFE/S&L

11. Enter whether the discrepancy is design significant or not.
12. Enter whether rework is recommended, or not. If recommended, provide comments in the section below.
13. Optional- further description, if required.
14. Enter the signature of the person preparing this form.
15. Enter the signature of the person approving this form.

Exhibit 3
PM-18

LEVEL 1 INSPECTOR REINSPECTION PROGRAM

THIRD PARTY REPORT NO:_____ Page: 1 of___

Contractor:_____ Random Number:_____

ITEM: DRAWING:

INSPECTOR:

REINSPECTOR: DATE:

REASON FOR REJECT	AGREE	DISAGREE	COMMENTS
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

ADDITIONAL COMMENTS:

Third Party Signature _____date:_____

NOTES:
1. Add additional pages for sketches as required.
2. Add a supplemental page for more than 8 welds per inspection, if required.

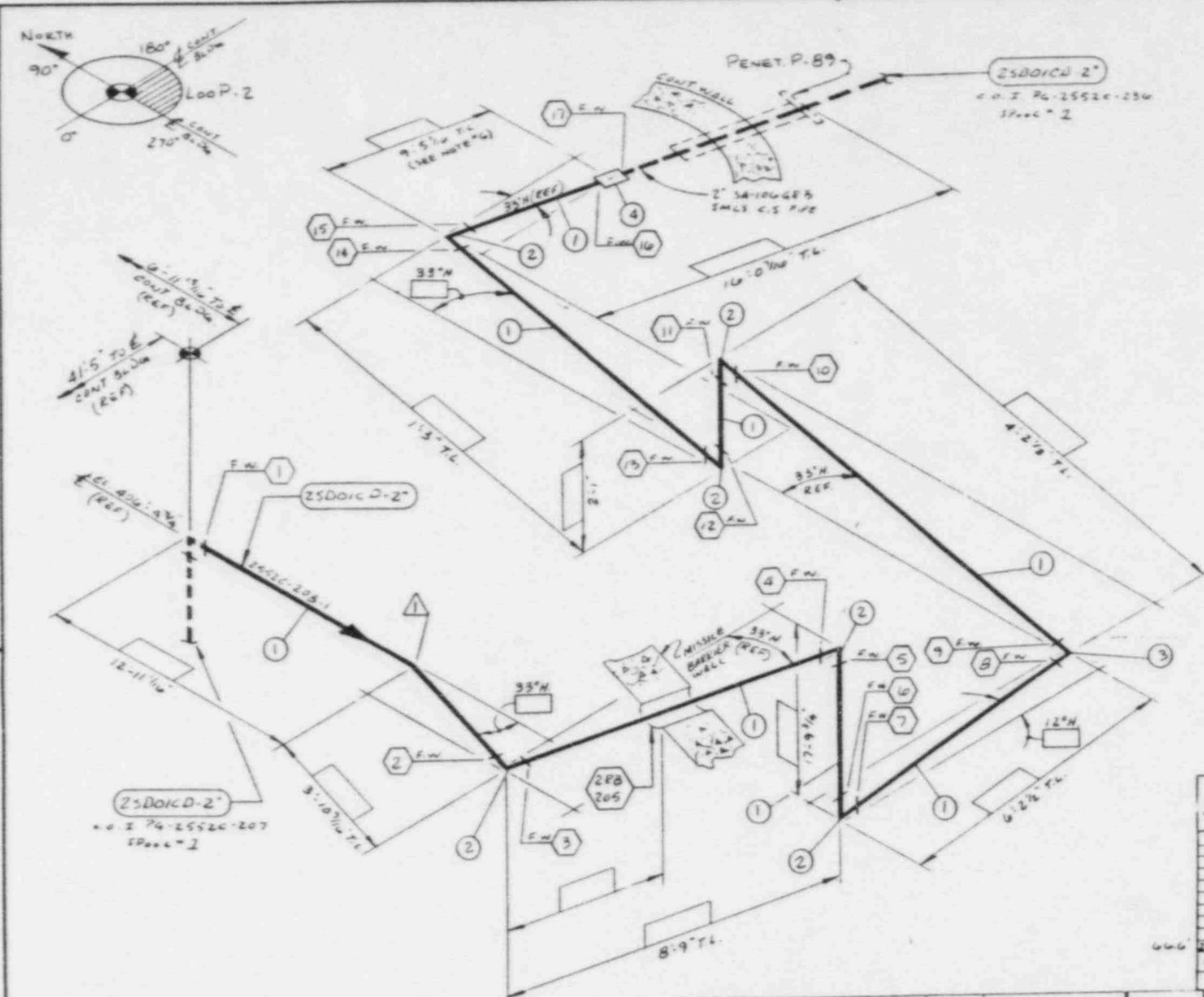
EXHIBIT 4

PREPARED BY: _____ CONTRACTOR: _____ DATE: _____

NOTIFICATION OF DATA CHANGE AFTER RANDOM SELECTION

NOTE: Indicate Random Number, Subj. or Obj., and change only.

RANDOM NUMBER	DRAWING	FORM NO.	COMPONENT	REV	INSPECTOR ID CODE	DATE INSPECTED	SUBJ.	OBJ.	COMMENTS



NOTES

1) FAB & INSTALL DATA AND INSTALL TOLERANCE PER PROCEDURES CCP-821 & PGWI 21.1. GEN NOTES PER M-585 & M-679-1
2) INSULATION: 2SD01CD-2" TYPE D, 2.5" THK
3) ⬡ DENOTES WELDS
   △ DENOTES BENDS
4) BENDS TO BE MADE PER PROCEDURE PG-CH-11
5) ▭ DIMS ARE AS CONSTR. FOR PIPING CONFIGURATION SHOWN
6) FIELD CUT TO SUIT

Kist Ex #5 3/27/86

ITEM	QUAN	DESCRIPTION
4	1	2" 3000# SA-105 C.S. S.W. CPLG. HT.#
3	1	2" 3000# SA-105 C.S. S.W. 45° EL. HT.#
2	6	2" 3000# SA-105 C.S. S.W. 90° EL. HT.#
1	67'0"	2" Sch 80 SA-106 GR B SMLS C.S PIPE HT.#

BILL OF MATERIAL

ISI 2SD01CD-2" VISUAL EXAM

DESIGNATION	DESIGN PRESS	DESIGN TEMP	OPER PRESS	OPER TEMP	SPOOL NO.
2SD01CD-2"	1185	562	1092	556	2552C-208-1

LINES

CLASS B NUCLEAR
DESIGN TABLE 905 BB
WELD PROC & INST: SEE WELD DATA SHT
SCALE: AS NOTED

REV	DATE	DRAWN	CHECKED	QC APP	SM APP	DESCRIPTION	REF DWG
0	2-13-86					FAB / INSTALL	M-2552C-208

PHILLIPS, GETSCHOW CO
BRAIDWOOD STATION SPEC L 2739
UNIT 2 BLDG CONT W.O. No.
STEAM GEN BLOWDOWN
DWG No. PG-2552C-208 REV 0

DRAWING RELEASE RECORD

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM

SCALE
PROJECT NUMBER

MAR 25 1986

UNCONTROLLED FOR INFORMATION ONLY

Doc. Sta. 2

SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO.	REV.
M-2552C SHEET 208 OF –	B

9.0 MATERIAL CONTROL

9.1 ISSUANCE OF ITEMS AND MATERIALS TO CONSTRUCTION

9.1.1 Issuance of Items and materials to construction shall be in accordance with the following:

9.1.1.1 The Superintendent shall prepare, initial, and date a Stores Request (Form PG 109-8, Ex. 9).

9.1.1.2 He shall forward this completed form to the Project Engineer who shall ascertain by use of the MRR/Receiving Inspection Report, that the Item or material is on the Project site and available for release to construction.

9.1.1.3 The Project Engineer shall check the Customer documents to be sure that proper Item or material is being requested.

9.1.1.4 When acceptable, the Project Engineer shall initial and date the Stores Request and return it to the Superintendent.

9.1.1.5 The Superintendent presents the Stores Request to the Warehouseman for withdrawal of the specified material. The Warehouseman shall note heat number, serial numbers, or other necessary data on the Stores Request before issuing the Item or material.

9.1.1.6 The Superintendent shall place the blue copy of the Stores Request in the applicable data package. The remaining copies are forwarded to the Supervisor - Quality Control.

9.1.1.7 The Supervisor - Quality Control shall review the Stores Request to determine that the released material or Item is acceptable for construction, by reviewing MT/PQ Log, and indicates his acceptance by sign-off on the Stores Request. He shall enter the white copy of the Stores Request in the Site Quality Control File and forward the pink copy to the Project Engineer.

9.1.2 No Item or material shall be released without a properly prepared Stores Request, approved by the Project Engineer except for filler metal which shall be controlled as specified in paragraph 9.3 and 9.4.

9.2 WELD MATERIAL (GENERAL)

9.2.1 All filler metal, including consumable inserts, shall be procured to meet the test requirements of Section II and Section III of the ASME Code and the Customer's specifications. Filler metal qualification testing requirements (NX2400) shall be specified in the procurement documents and shall be

the most stringent requirements specified in the Customer's specification for the applicable welding material.

9.2.2 Procurement of filler metal including consumable inserts, shall be as per Section 6. Receiving shall be in accordance with Section 8.

9.2.3 Filler metals for all classes of construction, including non-Code work, shall be controlled in accordance with this Section.

9.3 WITHDRAWAL OF COVERED ELECTRODES

9.3.1 A Welding Electrode Withdrawal Slip (Form PG 110-9, Ex. 10) shall be filled out for each welder, in duplicate, by the welder's foreman, who shall list the piping system or component support, as well as the type and size of the covered electrode to be used. The foreman shall use his fabrication drawing(s) as the source of information. The foreman shall sign and date the withdrawal slip.

9.3.2 The welder shall present the Withdrawal Slip to the Warehouseman. The Warehouseman shall complete the following spaces when presented with a properly prepared slip:

9.3.2.1 The lot number of the requested type and size of welding material to be used (lot

numbers are the controlling number for covered electrodes);

9.3.2.2 The quantity of material to be issued;

9.3.2.3 The date and time of issuance;

9.3.2.4 The welder's portable weld rod oven number, if applicable;

9.3.2.5 The Warehouseman initial at the bottom of the form.

9.3.3 For all ASME Section III welding, Welding Electrode Withdrawal Slips with the word "Nuclear" stamped in red across the form shall be used.

9.3.4 The welder shall be issued no more than a four (4) hour supply of covered electrodes unless a portable oven has been issued to him. If a portable rod oven is used, covered electrodes may be issued for a full shift.

9.3.5 Upon issuance of the welding material, the Warehouseman shall retain the original copy of the Welding Electrode Slip and issue the duplicate copy to the welder with the material. The duplicate copy remains with the material until:

9.3.5.1 It is consumed in the production activity it was issued for and the welder places his copy of the withdrawal slip into the Process

and Data Package;

9.3.5.2 The weld is completed, and the unused quantity is returned to the Warehouseman from whom it was issued for storage or disposal. When the welder has completed the welds that the material was drawn for or when he has used up the material on his Welding Electrode Slip, or at the end of the shift, he will deposit his rod stubs in a designated stub barrel.

9.3.6 He shall return any excess weld material and the duplicate copy of the Welding Electrode Slip to the Warehouseman.

9.3.7 Welding materials may be reissued to the welder on his next shift, provided that the weld materials are only used to complete the welds that they were originally requisitioned for. The individual shall notify the Warehouseman when this is the case, and the duplicate copy of the Welding Electrode Slip shall remain attached to the portable rod oven, which will be under the control of the Warehouseman (see paragraph 9.9), and shall be plugged into a reliable electrical source. Electrodes, that have not been maintained at the required temperature, shall be bent

and discarded in a rod disposal container.

9.3.8 Welding Electrode Slip's original or copy shall be forwarded to the Quality Control Department by the Warehouseman. After necessary information is transferred to appropriate Process Data Sheets these slips shall be retained for traceability purposes.

9.3.9 The Warehouseman shall maintain a log of portable electrode ovens issued and returned. Rod ovens shall be returned on a daily basis. The log is reviewed by the Warehouseman at the end of each shift to assure that all portable ovens have been returned to the Warehouse from which they were issued. If an oven is not returned at the end of the shift, the Warehouseman shall notify the welder's foreman who shall locate the portable rod oven and return it to the Warehouseman.

9.4 WITHDRAWAL OF BARE FILLER METAL AND CONSUMABLE INSERTS

9.4.1 A Welding Electrode Withdrawal Slip shall be filled out for each welder, in duplicate, by the welder's foreman, who shall list the piping system or component support, as well as the type and size of the filler metal to be used. The foreman shall use his production drawing(s) as the source of information. The foreman shall sign and date the

Withdrawal Slip.

9.4.2 The welder shall present the Withdrawal Slip to the Warehouseman. The Warehouseman shall issue the required welding material and retain the original copy of the Withdrawal Slip. The Warehouseman shall complete the following spaces when presented with a properly prepared slip:

9.4.2.1 The heat number of the requested type and size of welding material to be used;

9.4.2.2 The quantity of material to be issued in the space marked "pounds";

9.4.2.3 The date and time of issuance in the appropriate spaces;

9.4.2.4 The Warehouseman's initial at the bottom of the form.

9.4.3 Upon issuance of the welding material, the Warehouseman shall retain the original copy of the Welding Electrode Slip and issue the duplicate copy to the welder with the material. The duplicate copy remains with the weld material until:

9.4.3.1 It is consumed in the production activity it was issued for and the welder places his copy of the withdrawal slip into the Data Package;

9.4.3.2 The unused quantity is returned to the Warehouseman from which it was issued. When the welder has completed the welds that the material was drawn for, or when he has used up the material on his Welding Slip, or at the end of the shift, he will deposit his rod stubs in a Customer designated stub barrel.

9.4.4 He shall return any excess weld material and the duplicate copy of the Welding Electrode Slip to the Warehouseman.

9.4.5 Welding Electrode Slip's original or copy shall be forwarded to the Quality Control Department by the Warehouseman. After necessary information is transferred to appropriate process travelers, these slips shall be retained for traceability purposes.

9.4.6 The Warehouseman shall be responsible for maintaining proper identification and storage of bare filler metal and consumable inserts while in his care.

9.5 TRANSFER OF WELD MATERIAL FROM CENTRAL STORAGE

9.5.1 The transfer of weld material from central storage areas to field store areas shall be accomplished by use of the Stores Request (Form PG 109-8, Ex. 9) initiated by the Superintendent and handled in

accordance with Section 9.1.

9.6 MARKING (OTHER THAN WELDING MATERIAL)

9.6.1 Identification marking shall be permanently maintained on all Items and materials in accordance with paragraph 5.2.4.1 of this Manual.

9.6.2 Marking shall be clear, unambiguous (i.e. definite) and indelible (i.e. permanent) and shall be applied in such a manner and location as not to affect the function of the Item or Material (i.e., vibro-etched, low stress stamps, etc.).

9.6.3 Prior to subdividing materials, Material identification number(s) (i.e. PGCo. Heat Code Number or Manufacturer's Heat No.) shall be transferred to all pieces by the Superintendent.

9.6.4 The transfer of identification markings shall be verified by the Supervisor - Quality Control and documented on the applicable Transfer of Identity record (Ex. 18B) prior to subdividing the material.

9.7 HANDLING

9.7.1 Handling of Items and materials at any time (receiving, storage, release to field or installation), shall be accomplished in accordance with Phillips, Getschow Company Quality Assurance Procedure No. QCP-B4. This procedure contains

guidelines and requirements necessary to preclude damage during handling operations.

9.7.2 When required for critical, sensitive, perishable or high-value articles, special handling procedures shall be developed in accordance with Customer and Manufacturer's instructions. These procedures shall be developed by the Site Manager in accordance with Section 17 of this Manual. Special Handling Procedures shall include, as applicable:

9.7.2.1 Equipment requirements, weight of item, sling locations, balance points, methods of attachments, and maximum hoist line speed.

9.7.2.2 Item identification, transit routes, street and destination points and lift date.

9.7.3 Special handling procedures shall include a checklist identifying all requirements necessary for the handling operation including any prerequisites. The checklist shall provide space for the documentation of verification by the Supervisor - Quality Control.

9.7.4 Operators of special handling and lifting equipment are experienced or trained in use of the tools or equipment.

5.0 PROCESS CONTROL

5.1 PREPARATION OF CONTROL DOCUMENTS FOR FABRICATION/ INSTALLATION

5.1.1 The Project Engineer shall prepare, in accordance with Section 17 of this Manual, a Field Fabrication Drawing (Form PG 122-5, Ex. 21, typical form, subject to change with varying Project conditions) for each Item to be fabricated on Site or an Assembly Location Drawing (Form PG 123-5, Ex. 22) for the installation of subassemblies from the Customer's drawings and specifications. All drawings will include document number and revision status.

5.1.1.1 Where Customer's drawing provides sufficient clarity and space to permit listing of traceability markings (i.e. heat, lot, serial numbers) and weld numbers, these drawings may be used in lieu of the field fabrication drawing or assembly location drawing.

5.1.1.2 All Field Fabrication, Assembly location or Customer drawings (when used) shall be reviewed in accordance with Section 17 of this Manual.

5.1.1.2.1 Reviews and approvals shall take

place before fabrication or installation begins.

5.1.2 The Project Engineer shall be responsible for the preparation of the appropriate Process and Data Sheets for all Safety Related and ASME Section III fabrication/installation activities. Those process and data sheets shall include, but are not limited to the following:

5.1.2.1 For each piping butt weld, a Field Fabrication Process and Data Sheet (Form PG 119-5, Ex. 18).

5.1.2.2 For fillet/socket welds, a Fillet/Socket Weld Data Sheet (Form QCP-B21-1, Ex. 18D).

5.1.2.3 For each bolted connection, a Mechanical Joint Checklist (Ex. 18G).

5.1.2.4 For each bend, a Bend Data Traveler Sheet (Form PGCP 11-A, Ex. 18A).

5.1.2.5 For whip restraints, a Whip Restraint Process Sheet (Ex. 18H).

5.1.2.6 For NF and Safety Related Component Supports, a Weld Data Traveler (18E) or Hanger Traveler Checklist (18F), as applicable, to be stamped on the applicable drawing. The installation/fabrication of

Component Supports shall be from Customer design drawings.

5.1.2.7 Other process documents shall be developed at the site as needed to satisfy the installation requirements, such as Equipment Erection or Instrumentation installation, etc.

5.1.3 These above referenced process and data sheets shall contain the sequential order of inprocess activities, inspections and hold points, as well as space for reporting results when necessary, and sign-off by the Quality Control Inspector, ANI, or Customer. Process and Data Sheets shall reference procedures, drawings or documents to be used for installation, examination and inspection activities. Only the current revision level of the referenced procedures shall be used in accordance with paragraph 10.7.

5.1.3.1 Where field conditions or supplemental test, inspection, etc., preclude the sequential order, these additional criteria may be added in the blank spaces on these sheets, or attached as a supplement to them.

5.1.4 All Process and Data Sheets and revisions and the applicable drawings shall be forwarded to the

following personnel for assignment of data or hold points and/or review and approval.

5.1.4.1 Welding Supervisor, only when welding data is required to be added to Process and Data Sheets.

5.1.4.2 Supervisor - Quality Control, for assignment of hold points, for review for qualitative criteria and approval.

5.1.4.3 Authorized Nuclear Inspector (ANI). The ANI assigns hold points where necessary, and reviews, accepts, and signs-off in the space provided.

5.1.4.4 Verification for Quality Control review and approval shall be by sign-off in the space provided or by applying the Quality Control Review Stamp (Ex. 18I) on the drawing/document as applicable.

5.1.4.5 The Customer shall be given an opportunity to assign hold points as they feel necessary.

5.1.4.6 All reviews and approvals shall be obtained before fabrication/installation activities begin.

5.1.5 The Project Engineer shall be responsible to prepare

data packages (see 5.2.2) for fabrication/ installation activities. Data packages may be prepared and assembled by any logic consistent with the Project fabrication and/or installation specification (i.e. data may be assembled by system, subsystem, isometric, spool or individual Item, as applicable).

5.1.5.1 The Project Engineer shall be responsible for issuing data packages to the Field Personnel responsible for carrying out the fabrication or installation.

5.2 FABRICATION/INSTALLATION

5.2.1 Data packages and process documents shall be issued and controlled through the applicable Field Document Station in accordance with Section 10 of this Manual.

5.2.2 A Data Package, as a minimum, consists of the following documents:

a. Field Fabrication Drawing, Assembly Location Drawing or Customer's Drawing as applicable. Referred to as a Production Drawing from this point on.

b. The applicable Field Fabrication Process and Data Sheets for each weld or bolted connection.

5.2.3 The following documents will be generated as

necessary and accumulated in the data package by the Superintendent during fabrication/installation, or entered into the Package duplicate in the Site Quality Control file by the Supervisor - Quality Control, as applicable:

a. Stores Request (Superintendent),

b. NDE Reports (Supervisor - Quality Control),

c. Field Change Orders (Superintendent),

d. Temporary Attachment Control Sheets (Superintendent),

e. Sub-Assembly Completion/Transfer Form (Project Engineer),

f. Weld Rod Withdrawal Slips (Supervisor - Quality Control).

g. A Transfer of Identity Record (Ex. 18B), when material is to be subdivided.

5.2.3.1 Throughout installation, the Superintendent shall record heat and/or lot numbers of materials used (including welding materials) on the applicable process documents. During fit-up and final weld inspections, the Supervisor - Quality Control shall verify these entries against a "Material Traceability Log" which he shall establish

and maintain throughout the project.

5.2.3.2 Weld Rod Withdrawal Slips shall be forwarded to the Supervisor - Quality Control at the end of each shift for entry into the Site Quality Control File.

5.2.4 The Superintendent has the responsibility of filling in the required data on the applicable Process and Data Sheet, (eg. heat number, Lot number, or serial number, welder ID, weld material, etc.).

5.2.4.1 Material identification shall be maintained on the material until traceability has been established on permanent production documents in order that all material may be traced back to its supporting documentation (i.e., CMTR, C of C, Data Report, etc.).

a. Marking, when necessary, shall be clear, unambiguous (i.e. definite) and indelible (i.e. permanent) and shall be applied in such a manner and location as to not affect the function of the Item or Material.

5.2.4.2 The Superintendent is responsible for the generation of the Transfer of Identity Form, inclusion of it into the respective data

pack, transfer of heat numbers and other traceability markings on all material before cutting. He shall notify the Supervisor - Quality Control that the material is ready to be subdivided.

a. The Supervisor - Quality Control shall verify traceability markings prior to the cutting of material. Verification shall be by sign off on the Transfer of Identity Form (Ex. 18B).

5.2.4.3 The Superintendent is responsible for recording welders identification symbols for the welders making each weld on the applicable process documents.

5.2.5 The Superintendent shall contact the Supervisor - Quality Control when Hold Points assigned by Quality Control, Authorized Nuclear Inspector or Customer have been reached.

5.2.5.1 The Supervisor Quality Control shall notify the ANI or Customer, as applicable, when Hold Points they have selected are reached.

5.2.5.2 Work shall not continue until the Hold Points have been signed off by the appropriate personnel.

5.2.6 Construction changes required during or after fabrication/installation will be accomplished with the approval of the Customer and will be initiated by the Project Engineer in accordance with Phillips, Getschow Construction Procedure PGCP-1 or PGCP-1.1. These procedures utilize Field Change Orders, and ECN's, for component supports which are reviewed and approved for accuracy and completeness by the Project Engineer and Supervisor - Quality Control. The Field Change Orders or ECN shall be controlled in accordance with Section 10 of this Manual.

5.2.6.1 The Project Engineer shall prepare the necessary process documents to implement the change described on the Field Change Order and ECN's (for component supports) and reference any superseded or voided process documents on the Field Change Order or ECN, as applicable.

5.2.6.2 The Project Engineer shall maintain logs to control identification and issuance of all ECN's and Field Change Orders.

5.2.6.3 All FCO's and ECN's shall receive review and approval in accordance with paragraph 5.1.4 and are implemented by revision of the

applicable Process and Data Sheets.

5.2.6.4 The Project Engineer shall assure that all void or superseded documents are handled in accordance with paragraph 10.2.

5.2.6.5 Review and approval cycle for revised process documents will be the same as the initial review and approval.

5.3 TRANSFER OF FABRICATED ITEMS

5.3.1 The identification and traceability of Items from fabrication areas to points of installation shall be documented on the Sub-Assembly Completion/Transfer Form (Ex. 9A).

5.3.2 The transfer of Company fabricated sub-assemblies from fabrication and laydown areas to points of installation shall be handled in accordance with Procedure QAP-30, "Procedure for the Transfer of Company Manufactured Components". This procedure shall be accepted by the Authorized Inspection Agency prior to implementation.

5.3.2.1 A Sub-Assembly Completion/Transfer Form shall be utilized as a transmittal form and shall list the serial number(s) of all Items being transferred. The Sub-Assembly Completion/Transfer Form shall be prepared

by the Project Engineer.

5.3.2.2 The Supervisor - Quality Control and the Authorized Nuclear Inspector assigned to the fabrication or laydown area, shall sign and date the Sub-Assembly Completion/Transfer Form prior to transfer.

5.3.2.3 The Authorized Nuclear Inspector shall have access to the fabrication documents for each Item(s) being transferred. These documents are maintained in the Site Quality Control File.

5.4 TEMPORARY ATTACHMENTS

5.4.1 The use and control of temporary attachments in fabrication or installation shall be established as specified in paragraph 5.1.2 and the following paragraphs.

5.4.2 When a temporary attachment is required, the Superintendent shall contact the Project Engineer for issuance of a Temporary Attachment Control Sheet (Form PG-119-5.3, Exhibit 18C). The Welding Supervisor shall provide weld data on the Temporary Attachment Control Sheet;

5.4.2.1 The type and grade of material shall be entered on the Temporary Attachment Control

Sheet. The material need not be certified but must be compatible to the base material to which the temporary attachment is to be affixed.

5.4.2.2 The Welding Procedure Specification to be employed shall be stipulated (Section 11 of this Manual). The welding material to be utilized, in addition to any required post weld heat treatment of the attachment weld areas, shall be specified.

5.4.3 The Temporary Attachment Control Sheet shall be submitted to the Supervisor - Quality Control and the Authorized Nuclear Inspector for review and assignment of Hold Points and sign-offs prior to issuance.

5.4.4 Temporary Attachment Control Sheets shall be maintained in the data packet which, when needed by the Superintendent, shall be withdrawn from the Document Station described in Section 10 of this Manual.

5.4.5 Welders employed to affix temporary attachments shall be qualified and controlled in accordance with Section 11 of this Manual. Welding materials shall be withdrawn from certified stock in accordance with

Section 9 of this Manual.

5.4.6 The immediate area around the temporary attachment shall be marked in a suitable manner so as to be identified until after completion of required examination.

5.4.7 Removal of temporary attachments and Nondestructive Examination shall be as specified per paragraph 5.1.2 and the requirements of the ASME Code. Nondestructive examination procedures and qualifications shall be in accordance with the requirements of the ASME Code and project specification.

5.4.8 The acceptance by the Quality Control Department of installation and removal of all temporary attachments shall be documented on the Temporary Attachment Control Sheets.

5.5 TEMPORARY ATTACHMENTS PROVIDED BY OTHERS

5.5.1 Removal of temporary attachments which have been affixed by the Customer's vendors shall be in accordance with the requirements of the Code and the requirements for removal stipulated in paragraph 5.4.7 and 5.4.8 herein.

5.5.2 The Project Engineer shall procure authority from the Customer to remove such attachments. Additionally,

the area bounded by the temporary attachment shall be verified by the Supervisor - Quality Control to have been marked per paragraph 5.4.6, preceding, and a copy of the completed data package (Temporary Attachment Control Sheets, Records of Visual and NDE) shall be forwarded to the Customer. Defects detected during final examination shall be treated in accordance with Section 15 of this Manual and brought to the attention of the Customer.

5.5.3 The removal of temporary attachments shall be accepted by the Supervisor - Quality Control and ANI for ASME work. Such acceptance shall be documented on the Temporary Attachment Control Sheet.

5.6 COMPLETION OF WORK

5.6.1 When work is completed, the Supervisor - Quality Control shall be responsible for final review for qualitative and quantitative criteria and acceptance of the completed records. Work shall be considered complete when:

a. All necessary data has been entered on production drawings and process documents;

b. When all required in-process and final inspections, examinations and tests have been made and signed-off.

5.6.2 The Supervisor - Quality Control shall indicate his acceptance by sign-off of the applicable drawing/process document.

5.6.2.1 The Supervisor - Quality Control shall forward the accepted records to the ANI (ASME only) for his review and acceptance. The ANI shall sign-off on the applicable record, and it shall be retrieved by the Supervisor - Quality Control.

5.6.3 Incomplete or deficient Company generated documentation shall be dispositioned in accordance with Section 15.9 of this Manual.

5.6.4 When records have been reviewed and signed-off per 5.6.2, they shall be transmitted to the Quality Control vault for storage by the Supervisor - Quality Control.

5.6.5 Code Items fabricated on site shall not be stamped, nor shall ASME Data reports be prepared. Stamping and Certification of ASME Data Reports is accomplished upon completion of installation of the Items by the Supervisor - Quality Control in accordance with procedure QAP-BR/N5 and Section 12 of this Manual. The identification and traceability of these Items from fabrication areas to laydown and

points of installation shall be documented on the Sub-Assembly Completion Transfer Form in accordance with Paragraph 5.3 of this Manual.

5.7 CLEANING AND PRESERVATION

5.7.1 The cleaning and preservation of Items and materials after receipt shall be accomplished in accordance with specifications and instructions supplied by the Customer or Supplier.

5.7.2 Where specific requirements regarding cleaning and preservation are lacking, procedures shall be established by the Company and approved by the Customer prior to their use.

5.8 BENDING AND FORMING

5.8.1 Bending and forming shall be performed in accordance with bending procedures which incorporate the requirements of ASME Section III, NX-4200.

5.8.2 The bending procedure shall be prepared and approved in accordance with Section 17 of this Manual.

5.8.2.1 The bending procedure shall require a qualification test to be performed on all materials with the following exemptions:

a. Hot formed material, such as forgings, in which the hot forming is completed by the Material Manufacturer prior to

removal of the impact test specimens,

b. Hot formed material represented by test coupons which have been subjected to heat treatment representing the hot forming procedure and the heat treatments to be applied to the parts,

c. Material which does not require impact tests,

d. Material which has a final strain less than 0.5%,

e. Material that impact tests (when required) are performed on each heat and lot, as applicable, after forming.

5.8.2.2 When qualification is required, the Site Manager shall perform the required qualification and document it on a qualification report. The Supervisor - Quality Control shall approve the qualification report and maintain it in the Site Quality Control File.

5.8.3 Bending shall be controlled and documented on a Bend Data Traveler Sheet (Ex. 18A), which shall include, but not limited to the following:

a. Unique bend numbers;

b. System, drawing number and line number;

c. Quality Control and ANI Inspection verification.

5.8.4 Inspections of bends shall include the following, at a minimum:

a. radius

b. ovality

c. buckling

d. cracks/tears

e. external cleanness

PHILLIPS, GETSCHOW CO.

REQ. BY

STORES REQUEST

DATE

Q. A. CLASS ______ HT. NOS. REQ'D. YES ☐ NO ☐

SYSTEM	QUANTITY	DESCRIPTION	HEAT NO.

PREPARED BY

Kist
Ex. #2
3/27/86

FIELD ENGINEERING ______ WAREHOUSEMAN ______ Q. C. SIGNOFF ______

FORM—PG 100 & Rev. 0

SORTED BY: MRR + REV
SELECTION CRITERIA: MRR # LE "6675"

SECTION	TYPE	NCR #	HEAT #	HEAT/LOT	DATE RCVD	MRR #	P.O. #	CLASS	VENDOR
ASME III	PIPE	Y	M1987		07/18/78	2501	219169	B	B
		ITEM/GRADE: 8" S/40 SA312 TP304 PIPE							
ASME III	PIPE	Y	M2060		07/18/78	2501	219169	B	B
		ITEM/GRADE: 6" S/160 SA312 TP304 PIPE							
ASME III	PIPE	Y	M2152		07/18/78	2501	219169	B	B
		ITEM/GRADE: 4" S/80 SA312 TP304 PIPE							
ASME III	PIPE	Y	M2304		07/18/78	2501	219169	B	B
		ITEM/GRADE: 8" S/40 SA312 TP304 PIPE							
ASME III	PIPE	Y	M2735		07/18/78	2501	219169	B	B
		ITEM/GRADE: 3" S/40 SA312 TP304 PIPE							
ASME III	PIPE	Y	M8710		07/18/78	2501	219169	B	B
		ITEM/GRADE: 3" S/80 SA312/376 TP304 PIPE							
ASME III	FITTINGS		T29		07/18/78	2503	194351	C	A
		ITEM/GRADE: 10" SA234 WPB 45DEG STD ELL							
ASME III	FITTINGS		252593	AC6N	07/18/78	2503	194351	C	A
		ITEM/GRADE: 4" SA234 WPB 90DEG STD LR ELL							
ASME III	FITTINGS		271525	AN6A	07/18/78	2503	194351	C	A
		ITEM/GRADE: 4" SA234 WPB 45DEG STD ELL							
ASME III	PIPE			DO-10-10	07/18/78	2503	194351	C	A
S/N: 15343		ITEM/GRADE: 3" SPOOL ASSEMBLY							
ASME III	PIPE			DO-11-10A	07/18/78	2503	194351	C	A
S/N: 15356		ITEM/GRADE: 3" SPOOL ASSEMBLY							
ASME III	PIPE			FP-80-1	07/18/78	2503	194351	C	A
S/N: 15450		ITEM/GRADE: 4" SPOOL ASSEMBLY							
ASME III	PIPE			FP-80-4	07/18/78	2503	194351	C	A
S/N: 15453		ITEM/GRADE: 4" SPOOL ASSEMBLY							
ASME III	PIPE			SX-20-2	07/18/78	2503	194351	C	A
S/N: 10825		ITEM/GRADE: 6" SPOOL ASSEMBLY							
ASME III	PIPE			SX-5-10	07/18/78	2503	194351	C	A
S/N: 7824		ITEM/GRADE: 48" SPOOL ASSEMBLY							
ASME III	PIPE			SX-5-11	07/18/78	2503	194351	C	A
S/N: 7825		ITEM/GRADE: 48" SPOOL ASSEMBLY							
ASME III	VALVE	Y			07/18/78	2504	803066	B	BD
S/N: E6219-5-3		ITEM/GRADE: 16" 150# SA351 CF8 FLEX WEDGE GATE VALVE							
ASME III	PIPE	Y	L45989		07/17/78	2509	219164	C	B
		ITEM/GRADE: 4" S/80 SA106 GR B PIPE					CODE CASE: N242-1		
ASME III	PIPE	Y	L60144		07/17/78	2509	219164	C	B
		ITEM/GRADE: 6" S/40 SA106 GR B PIPE					CODE CASE: N242-1		
ASME III	PIPE	Y	N55781		07/17/78	2509	219164	C	B
		ITEM/GRADE: 6" S/80 SA106 GR B PIPE					CODE CASE: N242-1		
ASME III	PIPE	Y	N73207		07/17/78	2509	219164	C	B
		ITEM/GRADE: 3" S/80 SA106 GR B PIPE					CODE CASE: N242-1		
ASME III	PIPE	Y	174420		07/17/78	2509	219164	C	B
		ITEM/GRADE: 10" S/40 SA106 GR B PIPE							
ASME III	PIPE	Y	233164		07/17/78	2509	219164	C	B
		ITEM/GRADE: 10" S/80 SA106 GR B PIPE							
ASME III	PIPE	Y	244984		07/17/78	2509	219164	C	B
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							
ASME III	PIPE	Y	245691		07/17/78	2509	219164	C	B
		ITEM/GRADE: 4" S/40 SA106 GR B PIPE							

SORTED BY: MRR + REV
SELECTION CRITERIA: MRR # LE "6675"

SECTION	TYPE	NCR #	HEAT #	HEAT/LOT	DATE RCVD	MRR #	P.O. #	CLASS	VEND
ASME III	FITTINGS		184528	BK6T	04/24/80	5657	234166	B	B
		ITEM/GRADE: 3" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS		284243	BK6S	04/24/80	5657	234166	B	B
		ITEM/GRADE: 3" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS		284648	BG6T	04/24/80	5657	234166	B	B
		ITEM/GRADE: 3" S/40 SA234 WPB 90 DEG LR ELL							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 23320 TO 23324	ITEM/GRADE: 2" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 23313 + 23314	ITEM/GRADE: 2" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 23330 TO 23332	ITEM/GRADE: 2" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 28946 TO 28949	ITEM/GRADE: 1" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 23281 TO 23284	ITEM/GRADE: 1" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 22418 + 22420	ITEM/GRADE: 1" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	VALVE	Y			01/21/80	5661	803062	B	BH
	S/N: 28951	ITEM/GRADE: 1" 1500# SA182 F316 Y GLOBE VALVE							
ASME III	FITTINGS	Y	284125	BH6W	01/22/80	5662	234223	B	B
		ITEM/GRADE: 4" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS	Y	184448	BH6Y	01/16/80	5665	234223	B	B
		ITEM/GRADE: 4" STD 45 DEG EL SA234 WPB							
ASME III	FITTINGS	Y	284125	BH6W	01/16/80	5665	234223	B	B
		ITEM/GRADE: 4" STD 45 DEG EL SA234 WPB							
ASME III	FITTINGS		190020	AG8D	01/23/80	5666	234166	B	B
		ITEM/GRADE: 10" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS		190478	AJAH	01/23/80	5666	234166	B	B
		ITEM/GRADE: 8" S/40 SA234 WPB 90 DEG ELL							
ASME III	VALVE	Y			01/25/80	5669	803068	B	BP
	S/N: NC48857-02P	ITEM/GRADE: 10" 150# SA216 WCB BUTTERFLY VALVE							
ASME III	VALVE	Y			01/25/80	5669	803068	B	BP
	S/N: NC48857-02R + 02S	ITEM/GRADE: 10" 150# SA216 WCB BUTTERFLY VALVE							
ASME III	FITTINGS		182529	BB6H	06/11/80	5676	234251	B	G
		ITEM/GRADE: 4" S/40 SA234 WPB 45 DEG ELL							
ASME III	FITTINGS		184448	BH6Y	06/11/80	5676	234251	B	G
		ITEM/GRADE: 4" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS		282477	BA6J	06/11/80	5676	234251	B	G
		ITEM/GRADE: 3" S/40 SA234 WPB 45 DEG ELL							
ASME III	FITTINGS		284045	BG6U	06/11/80	5676	234251	B	G
		ITEM/GRADE: 3" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS		284648	BG6T	06/11/80	5676	234251	B	G
		ITEM/GRADE: 3" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS	Y	183981	BH6X	01/29/80	5677	234945	B	G
		ITEM/GRADE: 4" S/40 SA234 WPB 45 DEG ELL							
ASME III	FITTINGS	Y	183981	BH6X	01/29/80	5677	234945	B	G
		ITEM/GRADE: 4" S/40 SA234 WPB 90 DEG ELL							
ASME III	FITTINGS	Y	284125	BH6W	01/29/80	5677	234945	B	G
		ITEM/GRADE: 4" S/40 BW 45 DEG EL SA234 WPB							

SORTED BY: MRR + REV
SELECTION CRITERIA: MRR # LE "6675"

SECTION	TYPE	NCR #	HEAT #	HEAT/LOT	DATE RCVD	MRR #	P.O. #	CLASS	VENDOR
ASME III	PIPE			CC-13-5	05/10/77	475	194351	C	A
	S/N: 7559	ITEM/GRADE: 16" SPOOL ASSEMBLY							
ASME III	PIPE			CC-2-18	05/10/77	475	194351	C	A
	S/N: 7574	ITEM/GRADE: 14" SPOOL ASSEMBLY							
ASME III	PIPE			CC-4-1	05/10/77	475	194351	C	A
	S/N: 7704	ITEM/GRADE: 16" SPOOL ASSEMBLY							
ASME III	PIPE			CC-8-6	05/10/77	475	194351	C	A
	S/N: 7755	ITEM/GRADE: 8" SPOOL ASSEMBLY							
ASME III	PIPE			FP-14-4	05/10/77	475	194351	C	A
	S/N: 8292	ITEM/GRADE: 6" SPOOL ASSEMBLY							
ASME III	PIPE			FP-14-5	05/10/77	475	194351	C	A
	S/N: 8293	ITEM/GRADE: 6" SPOOL ASSEMBLY							
ASME III	PIPE			FP-21-5	05/10/77	475	194351	C	A
	S/N: 8380	ITEM/GRADE: 6" SPOOL ASSEMBLY							
ASME III	PIPE			FP-22-8	05/10/77	475	194351	C	A
	S/N: 8140	ITEM/GRADE: 4" SPOOL ASSEMBLY							
ASME III	PIPE			FP-22-9	05/10/77	475	194351	C	A
	S/N: 8141	ITEM/GRADE: 4" SPOOL ASSEMBLY							
ASME III	PIPE			FP-27-1	05/10/77	475	194351	C	A
	S/N: 8703	ITEM/GRADE: 10" SPOOL ASSEMBLY							
ASME III	PIPE			FP-27-2	05/10/77	475	194351	C	A
	S/N: 8704	ITEM/GRADE: 10" SPOOL ASSEMBLY							
ASME III	PIPE			SX-14-1	05/10/77	475	194351	C	A
	S/N: 8998	ITEM/GRADE: 8" SPOOL ASSEMBLY							
ASME III	PIPE			SX-14-2	05/10/77	475	194351	C	A
	S/N: 8999	ITEM/GRADE: 8" SPOOL ASSEMBLY							
ASME III	PIPE			SX-14-7	05/10/77	475	194351	C	A
	S/N: 9004	ITEM/GRADE: 8" SPOOL ASSEMBLY							
ASME III	PIPE			SX-14-8	05/10/77	475	194351	C	A
	S/N: 9005	ITEM/GRADE: 8" SPOOL ASSEMBLY							
ASME III	PIPE			SX-8-5	05/10/77	475	194351	C	A
	S/N: 7900	ITEM/GRADE: 16" SPOOL ASSEMBLY							
ASME III	PIPE			SX-8-6	05/10/77	475	194351	C	A
	S/N: 7901	ITEM/GRADE: 16" SPOOL ASSEMBLY							
ASME III	PIPE			SX-9-2	05/10/77	475	194351	C	A
	S/N: 8803	ITEM/GRADE: 12" SPOOL ASSEMBLY							
ASME III	PIPE		L22813	AF-3-6	05/10/77	475	194351	C	A
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							
ASME III	PIPE		L22813	AF-3-9	05/10/77	475	194351	C	A
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							
ASME III	PIPE		L22813	AF-6-8	05/10/77	475	194351	C	A
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							
ASME III	PIPE		L23755	AF-6-7	05/10/77	475	194351	C	A
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							
ASME III	PIPE		L23755	AF-6-9	05/10/77	475	194351	C	A
		ITEM/GRADE: 4" S/120 SA106 GR B PIPE							

Phillips, Getschow Co.

SINCE 1900

MECHANICAL CONTRACTORS

1813 South Briggs Street • Joliet, Illinois 60433 • 815/727-4824

Chicago, Illinois
Green Bay, Wisconsin
Joliet, Illinois

February 28, 1985

QA-485

Commonwealth Edison Co.
Braidwood Nuclear Power Station
Braceville, IL

Attention: Mr. D. Shamblin

Subject: PG Q.C. Management Evaluation Report

Dear Mr. Shamblin:

As you are aware, organizational changes in our Quality Control department were made and implemented in October, 1984. These changes included the addition of six (6) new sub-tier supervisors, as well as a revised site organizational structure.

Following the reorganization and allowing for a fairly short implementation period, the services of N.C. Kist and Associates, Inc. were procured for the purpose of evaluating the changes from a management viewpoint. The evaluation was conducted by Mr. N.C. Kist during the second half of November, 1984 and a report issued on 3 December 1984.

The Kist report contains several specific recommendations which have been evaluated by the Phillips, Getschow Co. management. The following describes actions we have taken or plan to take regarding the recommendations:

Report Item 5 - Q.C. Organization Functional Analysis

Recommendation: Establish a functional chart listing each sub-tier supervisor and their specific responsibilities. Make sure all specific responsibilities are assigned.

Action: The functional chart is being developed and is expected to be complete by 15 March 1985.

Report Item 10 - Office Arrangement

Recommendation: Provide separate offices for each supervisor. Improve groupings and traffic patterns.

Action: The Quality Control Manager and Supervisor - Quality Control have been provided with separate facilities. As for sub-tier supervision, we feel that our established set-up works well at this time and has been improved by the addition of plexiglass partitions, doors and the relocation of several groups. The regrouping has cut down on excess traffic in each area of the department.

Report Item 11 - Code and Standards Questions

Recommendation: Designate the person by job title, who is responsible for providing answers to Code and Standards questions.

Action: Inquiries relating to Code and Standards will be submitted to the Manager - Quality Assurance for response.

Report Item 13 - Verification of Correct Application of Material

Recommendation: Consideration should be given to including Q.C. verification of correct material application in the Q.A. manual.

Action: The next manual revision will include this requirement and should be approved for use by mid-May of this year. In conjunction with the program revision, procedures are being revised and manpower is being established to implement verification of material application.

Enclosed for your review is a copy of the complete report and information regarding N.C. Kist and Associates, Inc. If you have any questions or require additional information, please contact me.

Sincerely,

Gary M. Gorski
Manager - Qualtiy Assurance

GMG/dc

Encl.

cc: M. Wallace - CECo
R.B. Ryder
J.A. Hite
T. O'Connor
J. Carlson
S. Forbes

C0002359

8.0 RECEIVING, STORAGE AND PRESERVATION

8.1 Receiving Inspection of Company Purchases

8.1.1 The Warehouseman shall be responsible for notifying the Supervisor - Quality Control upon arrival of any shipment of ASME or Safety Related materials or Items at the Site that the Company has purchased. He shall then initiate a Receiving Inspection Report (Form PG-104-8, Ex. 4) and forward it to the Supervisor - Quality Control.

8.1.2 Before the Supervisor - Quality Control inspects the shipment, he shall prepare a Receiving Inspection Checklist (Exhibit 1 - Typical form, subject to change with various Site conditions) in accordance with Procedure QCP-B4, "Material Control".

8.1.2.1 This checklist shall provide a record to assure that all characteristics required by the purchasing documents, material specifications and the ASME Code are examined and the results recorded. The Purchase Order Package and the checklist shall be used as a basis for the inspection to assure the following:

8.1.2.1a Contents of the shipment comply with the requirements and

specifications of the Purchase Order;

8.1.2.1b Complete documentation has been received, reviewed, properly signed, and verified to be traceable to the material. The documentation shall also comply with the appropriate material specification and applicable material marking shall be verified;

8.1.2.1c Material is visually inspected for evidence of poor finishing, defects, mishandling or shipping damage, and free of deleterious matter;

8.1.2.1d As applicable, that critical dimensions conform to drawings and specifications.

8.1.3 A receipt inspection for mishandling/shipping damage shall be completed prior to off loading materials/Items.

8.1.4 If after inspecting for mishandling/shipping damage, the Supervisor - Quality Control cannot readily

complete the inspection of material, the material will be held in a designated Hold area, where practical, and a Yellow Hold Tag (Form PG-105-8, Ex. 5) shall be affixed to the material by the Supervisor - Quality Control pending receipt inspection.

8.1.4.1 The Supervisor - Quality Control shall maintain a log (Form PG-135-8, Ex. 12) listing the description, location and status of all materials awaiting receipt inspection. Hold Tags shall be removed, disposed of and the log cleared by the Supervisor - Quality Control after receipt inspection.

8.1.5 Nonconforming materials shall be documented in accordance with Section 15 of this Manual. This information shall be forwarded to the Manager - Quality Assurance for inclusion in the Vendor's History File.

8.1.6 After receiving inspection is complete and the contents of the shipment have been accepted by sign-off of the checklist by the Supervisor - Quality Control, the shipment shall be released to stock in the following manner:

8.1.6.1 Each material on the Receiving Inspection

report shall be released to stock by the Supervisor's - Quality Control sign-off on the "Release to Stock" line of the Receiving Inspection Report.

8.1.6.1 Accepted materials or Items shall be stored in predetermined areas, designated by its ASME Code Class or as safety related and the Material Traceability Log updated, in accordance with paragraph 8.4, to reflect the Material's or Item's acceptable status.

8.1.7 After acceptance, reports of the results of all tests and examinations performed in accordance with the material specifications and the special requirements of the applicable ASME III material articles are submitted by the Supervisor - Quality Control to the Authorized Nuclear Inspector for review.

8.2 Receiving Inspection of Company Requisitioned Material Purchased by the Customer

8.2.1 Receiving inspection shall be the same as paragraph 8.1 with the following exceptions:

8.2.1.1 Nonconforming materials shall be documented and controlled in accordance with Section 15 of this Manual. However, this information is not required to be forwarded to the

Manager - Quality Assurance.

8.2.1.2 The Warehouseman shall also notify the Supervisor - Quality Control upon arrival of any shipment of ASME or Safety Related materials that the Company requisitioned and the Customer purchased (8.1.1).

8.2.1.3 For services, e.g. calibration or machining, the Supervisor - Quality Control shall verify, through documentation from the Customer, that the Customer approved the vendor that is rendering those services.

8.3 Receiving and Control of Customer Owned Items and Material

8.3.1 For all ASME Code Items received by Commonwealth Edison Company, a properly completed and approved Material and Equipment Receiving and Inspection Report, Receiving Inspection Checklist (Form QP 7.1.1, Exhibit 44), and a copy of the applicable ASME Data Report transmitted to the Company shall be the Company's authorization for storage or criteria for use of the Item as described in Interface Document BM 101.

8.3.1.1 The Supervisor - Quality Control shall verify that Items received per 8.3.1 above, are supplied by Customer approved Vendors

listed on the documents provided him by the Customer (see 6.2.4).

8.3.2 For all material received by the Customer falling under the requirements of ASME Section III, a properly completed and approved copy of the Customer's Material and Equipment Receiving and Inspection Report, Receiving Inspection Checklist, Commonwealth Edison Purchase Order and a copy of the Certified Material Test Report or Certificate of Compliance, as applicable, shall be the Company's authorization for storage or criteria for use of the material as described in Interface Document BM 101.

8.3.2.1 The Supervisor - Quality Control shall verify that material received per 8.3.2 above are supplied by Customer Approved Vendors listed on the documents provided him by the Customer.

8.3.2.2 The Certified Material Test Report or Certificate of Compliance, as applicable, shall be reviewed and approved by the Supervisor - Quality Control on the CMTR or C of C to assure compliance to the Purchase Order and Code requirements and sign-off shall be on the CMTR or C of C.

8.3.3 The Item and materials control and receiving function shall be conducted in accordance with paragraph 8.3.1 of this Manual and Phillips, Getschow Company/Customer Interface Document BM 101. Changes to the interface document must receive the concurrence of the Authorized Nuclear Inspector and such changes shall not compromise or reduce the requirements of this Manual.

8.4 Material Traceability Log

8.4.1 Acceptable material/Items shall be controlled thru the PGCo. inventory control system. This inventory control system shall identify materials or items that have been accepted for use on the Material Traceability Log (MT/PQ Log).

8.4.1.1 The Supervisor - Quality Control shall be responsible for establishing, controlling, issuing and approval of the MT/PQ Log. He shall supplement, as necessary, and maintain the MT/PQ Log in accordance with PGCP-50.

8.4.1.2 The MT/PQ Log shall list all material receipt inspected, accepted and released to stock. It is subdivided in order to classify material by its physical type, i.e. pipe, pipe fittings, structural steel, etc.

Each classification shall include as a minimum, the following:

a. Manufacturer's Heat/Lot # (not required for AISC and Non-Code Safety Related Material);

b. Date material was recieved;

c. Commonwealth Edison Co. Material Receiving Report (MRR);

d. Commonwealth Edison Co. Purchase Order Number;

e. Size, specification, type, and grade of material;

f. ASME Code Class (if applicable);

g. Phillips, Getschow Co. Heat Code Number (synonymous with the PGCo. CMTR number assigned during Receipt Inspection per P-84).

8.4.2 All pipe, structural shapes and plates shall be identified by the PGCo. Heat Code number from the MT/PQ Log. Each accepted piece shall be marked by the Warehouseman, prior to release to stock (see 8.1.6.1), with the PGCo. Heat Code number assigned by the Supervisor - Quality Control during receipt inspection.

NOTE: Material received and accepted prior to manual (Revision 4, 8/14/84) may be marked with the manufacturer's heat number instead of the heat code number.

8.4.3 C of C material shall be marked with the Customer's MRR No.

8.4.4 Other materials (other than the above) shall be assigned a PGCo. Heat Code number, but the Heat Code number shall not be marked on the material. Material shall be marked, stored and controlled with the manufacturer's heat number or heat Code number.

8.4.5 The PGCo. Heat Code number shall be recorded on the CMTR/C of C/RIR and a card index file of CMTR's.

8.5 STORAGE AND PRESERVATION OF ITEMS AND MATERIALS

8.5.1 All Items and material for ASME Code work shall be segregated or otherwise identified with legible marking by the Superintendent to distinguish it from a Non-Code Item or material which may be on the project site.

8.5.2 All Items and material placed in storage shall be monitored by the Supervisor - Quality Control at least monthly. When equipment requires special storage conditions, such as inert gas atmosphere or conditions affecting warranties and guarantees, the

Customer shall provide those required storage and maintenance requirements and the intervals it wishes those requirements verified. The Supervisor - Quality Control shall verify, by sign-off on the Surveillance Sign-off Sheet (see PGCP-37 Attachment C), that all storage and maintenance (mechanical) requirements have been satisfied. It shall be the responsibility of the Superintendent to perform mechanical maintenance, maintain storage requirements and notify Q.C. when that maintenance is performed.

8.5.3 If Items or Material are found damaged during storage, it shall be handled in accordance with Section 15 of this Manual.

8.6 STORAGE AND PRESERVATION OF WELDING MATERIALS

8.6.1 Unopened containers of covered electrodes shall be stored in a dry, supervised, enclosed area which shall be locked when unattended. When a covered electrode container is opened, the covered electrode shall be stored in controlled heating ovens, set to maintain a temperature recommended by the manufacturer which is monitored by Quality Control quarterly. Each SFA specification of covered electrodes shall be stored in a separate oven. Ovens shall be marked to denote SFA specification of

covered electrode.

8.6.1.1 Different classifications of one specification can be stored in the same oven if kept in separate compartments of the oven with the classification and lot number noted on the compartment, and if all the coated electrodes require a similar holding temperature.

8.6.2 Wet or damaged covered electrodes shall be bent and discarded. Electrode's hermatically sealed containers that are punctured shall be discarded.

8.6.3 Bare filler metal and consumable inserts shall be stored by heat number and type in a dry, supervised, enclosed area which shall be locked when unattended.

8.6.4 Bare filler metal shall be stored in a container with positive identification of type and heat number at all times. Each piece of bare filler metal shall be tagged to denote type.

8.6.5 Consumable inserts shall be identified to denote size, type, and heat number.

8.6.6 The warehouseman shall be responsible for maintaining proper identification and storage of welding materials while in his care.

8.7 CERTIFICATION OF MATERIAL BY THE COMPANY

8.7.1 When existing materials previously produced and certified in accordance with Code Editions and Addenda other than the one specified for construction, the material may be used, provided all the following requirements are satisfied.

8.7.1.1 The material meets all the requirements of Article 2000 of the applicable Subsection of the Section III Edition and Addenda specified for construction.

8.7.1.2 The material was produced under the provision of a Quality System Program which had been accepted by the Society or qualified by Phillips, Getschow Co. in accordance with requirements of the latest Section III Edition and Addenda issued at the time the material was produced.

8.7.2 The Manager - Quality Assurance shall prepare a checklist, which shall be completed to assure that the requirements referenced in paragraphs 8.7.1.1 and 8.7.1.2 are satisfied. This checklist, at a minimum, shall include the following:

a. Material Specification (procured)

b. Code Edition and Addenda material procured to

c. Code Edition and Addenda material that must be

satisfied

d. Requirements needed, i.e. Chemical Analysis, Physicals, impact tests, Charpy v., etc.

e. Sign-off spaces for the Manager - Quality Assurance.

8.7.2.1 Upon completion of this checklist, if the material requirements have been satisfied, the Manager - Quality Assurance shall stamp the original CMTR verifying material acceptability for use with the "Code Conversion Stamp" (Ex. 20A).

8.7.2.2 If material requires operations be performed (i.e. impacts, Charpy v., etc.), the Company shall subcontract a qualified testing laboratory to perform those operations and provide Certified Material Test Reports reflecting compliance to the Material specifications and Section III of the Code.

8.7.2.2.1 The contents of the CMTR shall include, but not limited to the following:

a. Material specification

b. Material identification (heat/lot number)

c. Test(s) performed and results

d. Certified by authorized personnel

8.7.2.3 The Manager - Quality Assurance shall certify that the contents of the CMTR are correct, accurate and that all operations performed by the subcontractor are in compliance with material specification and ASME Section III Code. This shall become part of the material documentation.

8.7.3 The Manager - Quality Assurance shall prepare a procedure to establish measures to control the selection, identification and handling of material specimens used to satisfy the requirements of subsection 8.7.2 of this Manual.

March 4, 1986

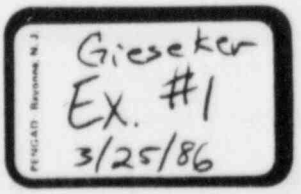
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
COMMONWEALTH EDISON COMPANY	)	Docket Nos. 50-456
	)	50-457
(Braidwood Nuclear Station, Units 1 and 2)	)	

INTERVENORS' NOTICE OF DEPOSITIONS

Pursuant to 10 CFR §2.740(a), Intervenors Bridget Rorem, et al. hereby gives notice that they shall take the depositions of J. O'Connor; T. Maiman; L. DelGeorge; J. Gieseker; G. Groth; D. Shamblin; M. Gorski; I. Dewald; R. Seltman; L. Seese and R. Saklak, who are agents or employees of Applicant Commonwealth Edison Company. The depositions shall commence on Monday, March 24, 1986, at 10:00 A.M., and shall continue thereafter until completed, at the offices of Isham, Lincoln & Beale, Three First National Plaza, Chicago, Illinois; or at such time and place as the parties may agree. The depositions shall be taken before a certified court reporter, and shall relate to the witnesses' knowledge of the subject of quality assurance for the Braidwood Nuclear Station, the matters identified in Intervenors' Amended Quality Assurance Contention, including the Quality Control



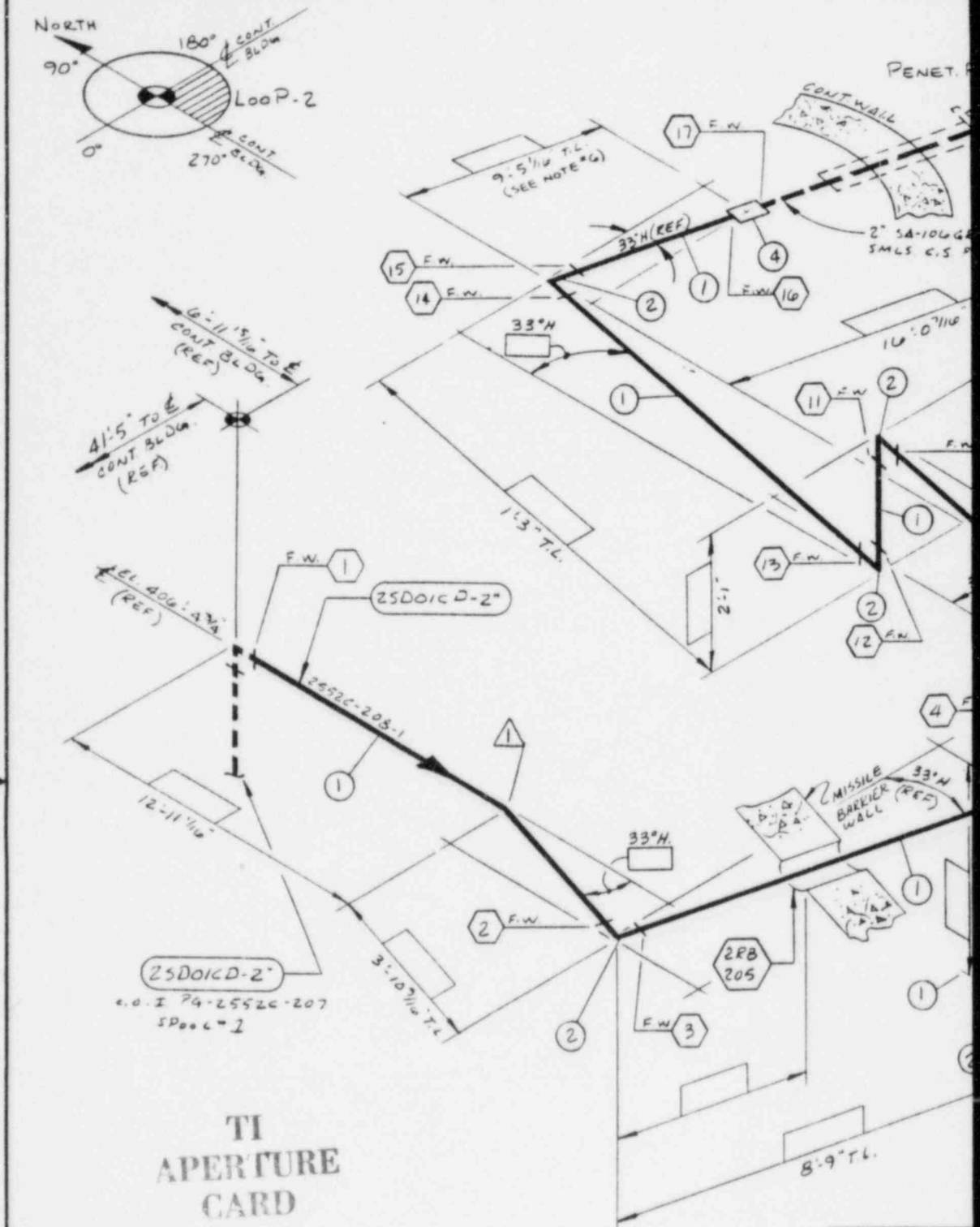
Inspector Harassment and Intimidation Contention, and the witnesses' testimony in this proceeding.

The deponents shall bring with them all documents in their possession or subject to their control which pertain to the subjects of the deposition.

Submitted by,

Robert Guild
One of the Attorneys for
Intervenors Rorem, et al.

Douglass W. Cassel, Jr.
Robert Guild
Timothy W. Wright, III
109 North Dearborn, #1300
Chicago, IL 60602
(312) 641-5570



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APERTURE
CARD

Also Available On
Aperture Card

REV	DATE	DRAWN
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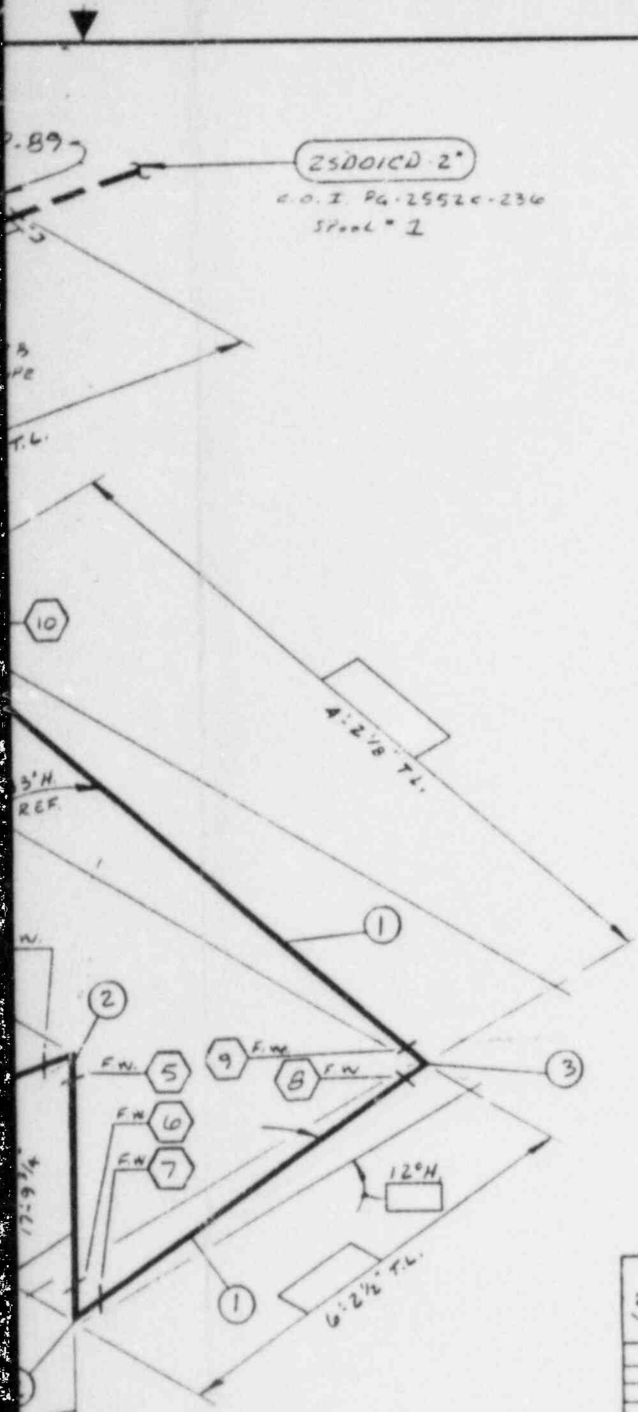
DRAWING RELEASE RECORD

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	PURPOSE



NOTES

1) FAB. & INSTALL. DATA AND INSTALL TOLERANCE PER PROCEDURE GCP-821 & PGWI 21.1. GEN NOTES PER M-535 & M-679-1.
2) INSULATION: 2SD01CD-2" TYPE B; 2.5" THK
3) ⬡ DENOTES WELDS.
   △ DENOTES BENDS.
4) BENDS TO BE MADE PER PROCEDURE PG-CP-11.
5) ▭ DIMS. ARE "AS-CONSTR" FOR PIPING CONFIGURATION SHOWN.
6) FIELD CUT TO SUIT.

Kist
Ex. #5
3/27/86

8605290486-01

ITEM	QUAN	DESCRIPTION
4	1	2" 3000# SA-105 C.S. S.W. CPLG. HT.#
3	1	2" 3000# SA-105 C.S. S.W. 45° EL. HT#
2	6	2" 3000# SA-105 C.S. S.W. 90° EL HT.#
1	67'0"	2" S/80 SA-106 GR.B SMLS. C.S. PIPE HT#

BILL OF MATERIAL

ISI 2SD01CD-2" VISUAL EXAM — SPOOL No. 2552C-208-1

DESIGNATION	DESIGN PRESS	DESIGN TEMP	OPER PRESS	OPER TEMP
2SD01CD-2"	1189	567	1092	556

LINES

66.6'

CHECKED	QC APP	SM APP	DESCRIPTION	REF DWG
		2-15-85	FAB. & INSTALL.	M-121-10 (4-8) M-2552C-208

CLASS B ☒ NUCLEAR / NON NUC
DESIGN TABLE 905BB
WELD PROC. SEE WELD DATA SHTS
SCALE NTS
PNEUMATIC / RADIOGRAPH / MAG PART / ☒ DYE PEN / ☒ HYDRO / HEAT TREAT

PHILLIPS, GETSCHOW CO
BRAIDWOOD STATION SPEC L 2739
UNIT 2 BLDG CONT W.O. No 1000
STEAM GEN BLOWDOWN
DWG No PG-2552C-208 REV 0

FILM
SCALE
PROJECT NUMBER
MAR 25 1986

UNCONTROLLED FOR INFORMATION ONLY

Doc. Sta. # 2
SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO. M-2552C REV. B
SHEET 208 OF -

N.C.KIST
& Associates, Inc.
127-A South Washington Street, Naperville, Illinois 60540 USA
Telephone: (312) 357-1180
Telex: 754536 NAPSEC UD

22 April 1986

Lisa Woolworth
Isham, Lincoln & Beale
Three First National Plaza
Chicago, IL 60602

RE: In The Matter of Commonwealth Edison Company
(Braidwood Station, Units 1 and 2), ASLB
Docket Nos. 50-456 and 50-457

Dear Ms. Woolworth:

Enclosed is a copy of my deposition with the corrections marked. The notarized Certificate of Deponent is included.

As explained over the phone, the deposition includes 2 exhibits from another deposition as follows:

(1) Gieseker Exhibit #1
(2) Gieseker Exhibit #2

Also the exhibits are not in numerical sequence.

Sincerely,

Nicolaas C. Kist

NCK/kaw

Enclosure

D503