

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

B-3

NOV 18 1981

*File  
Zimmer*

50-358

MEMORANDUM FOR: Bert Davis, Deputy Director, Region III  
Office of Inspection and Enforcement

FROM: James J. Cummings, Director  
Office of Inspector and Auditor *James J. Cummings*

SUBJECT: ZIMMER INTERVIEWS AND CORPORATE CORRESPONDENCE

Attached for your review and any action deemed appropriate are the interviews conducted by Office of Inspector and Auditor (OIA) investigators, regarding potential falsification of records at the William H. Zimmer Nuclear Power Station. Also included is correspondence transmitted between the Henry J. Kaiser (HJK) company and Cincinnati Gas and Electric (CG&E) describing attempts by Kaiser to staff the Quality Control (QC) organization in order to meet the requirements set forth in 10 CFR 50, Apperidix B. The requests which were sent to CG&E for authorization were officially disapproved by CG&E. Copies of the stipulated correspondence is furnished as an attachment. OIA has also provided a copy of a CG&E internal memorandum dated November 7, 1980, instructing Kaiser to "eliminate" the HJK requirement for system certification (review of Quality Assurance (QA) documentation) prior to the release of systems from construction to the Electric Production Department for preoperational testing. OIA had briefed persone, at IE Headquarters regarding the described documentation and attached interviews on September 16, 1981, in order to assist in the identification of any unresolved health and safety issues. As a result of the meeting it was concluded that none of the information presented any question concernings health and safety. We are, however, providing this documentation at this time to assure that no issues remain unresolved and that IE is aware of the information obtained by OIA.

If there are any questions pertaining to the material please feel free to contact me or Arthur Schnebelen, Acting Assistant Director for Investigations.

Attachments:  
As stated.

NOV 20 1981











(PHILLIP GITTINGS)  
(Deputy Quality Assurance Manager)  
Kaiser Engineering, Incorporated  
William H. Zimmer Nuclear Construction Project

Mr. (Phillip Gittings) former (Quality Assurance Manager) Kaiser Engineering, Incorporated (KEI), assigned to the William H. Zimmer Construction Project was interviewed on July 8, 1981, at the Zimmer Construction Site. Prior to any questions being asked, Messrs. Albert Puglia and John Sinclair identified themselves as Investigators, Office of Inspector and Auditor (OIA), U.S. Nuclear Regulatory Commission (NRC). Also present during the interview was James McCarten, Investigator, Office of Inspection and Enforcement (IE), Region III. Mr. (Gittings) was also provided the opportunity to review appropriate credentials and advised that the purpose of the OIA investigation was to determine his knowledge of alteration or falsification of Quality Control (QC) documentation (NonConformance Reports, Kaiser Engineering Inspection forms-KEI forms).

Mr. (Gittings) began the interview by describing his employment with the Kaiser Corporation. (Gittings) explained that he had worked for Kaiser for approximately 4 1/2 years and had held the position of Kaiser Quality Assurance (QA) Manager at the Zimmer Site for about one year. (Gittings) stated that he assumed the position in July 1980 and had recently been reassigned as the Deputy QA Manager and was scheduled to be transferred to another Kaiser project in the near future.

Investigator McCarten questioned (Gittings) as to his knowledge of "voiding" Nonconformance Reports (NR's). (Gittings) stated that prior to November 1980 most "voiding" of NR's was done by the Supervisor for Document Control, (Floyd Oltz). (Gittings) responded to questions concerning the qualifications of the Supervisor, Document Control, and his authority to "void" NR's by stating that (Oltz) did not have the technical qualifications to assess the validity of NR's or the authority to disposition the NR's as "void."

(Gittings) stated that the proper procedures for processing an NR called for a technical evaluation of the information contained on the NR to determine whether or not the deficiency described was valid, and if not, the NR could be dispositioned as "void." (Gittings) continued by explaining that the only person who had the authority to void an NR would be the QA Manager. (Gittings) also advised that the problem with NR's and their "voiding" was the topic of discussion with an NRC inspector from Region III, (I. Yin) in the fall of 1980. In response to subsequent questioning concerning NR's written by a QC inspector by the name of (Ruiz) which were "voided" by (Gittings), he (Gittings) acknowledged that he had "voided" the NR's but could not recall why he had voided them.

(Gittings) stated that during an inspection of the site, Yin discovered the problems of "voiding" NR's in the Document Control section. (Gittings) stated that the discovery of the problem had been discussed during an exit meeting between the NRC inspector, representatives of Cincinnati Gas and Electric (CG&E) and Kaiser. (Gittings) further stated that he attended the meeting and recalled that Yin questioned the voiding procedures and the process whereby the Document Control Supervisor was exercising the authority to void NR's. According to (Gittings), Kaiser advised the NRC that there would be no more voiding of NR's by the Document Control Supervisor.

When questioned about QA being intimidated by the (Construction Manager (Robert Marshall)), (Gittings) replied that he was not intimidated by (Marshall) or construction's challenges to the findings of QC inspectors. (Gittings) stated that (Marshall) has a strong personality, but he, Gittings, would not change QC findings based solely on (Marshall's) objections. (Gittings) added, however, that there were some instances where he, (Gittings), agreed with Marshall's position and subsequently overrode the findings of the QC inspector.

(Gittings) continued by stating that when he arrived at the Zimmer site he found what he believed to be inadequate QA Management. At that point he began to hire additional QC inspectors from other construction sites. This, (Gittings) stated, also caused some difficulty because some of the inspectors came from projects which were inspecting to other code requirements than the AWS (American Welding Society) that was in effect at Zimmer. (Gittings) explained that the differences resulted in Kaiser instructing the QC inspectors that the standards and requirements at Zimmer were those incorporated in the AWS code.

(Gittings) responded to questions regarding the placing of NR's in a separate file titled the Inspection Report File by stating that he was not involved in directing or placing NR's in places other than where they were supposed to be. (Gittings) stated that he had never instructed anyone to place documents (NR's) in files other than the NR system. (Gittings) was then advised that between January and February 1980 "Inspection Report" stamps began to be placed in NR log books in order to remove or recategorize the original NR as an inspection report and remove it from the NR system. (Gittings) explained that the practice at the site was for the QC inspector to call in from the field to get a control number and after the number was issued write up and submit the NR. This, according to (Gittings) is compatible with the Quality Assurance Control Manual Instructions (OACMI) procedure which states that QC inspectors can initiate an NR "that is correct." (Gittings) added that once the NR has been reviewed by a QC supervisor or himself and determined to be valid, then it was entered into the NR file.

(Gittings) continued by stating that after a second visit by NRC, Kaiser began an audit of NR's to completely review and make determinations concerning "problems" with individual NR's. (Gittings) repeated that he did not order or direct anyone to place existing NR's in the "Inspection Report" system. (Gittings) also stated that he did not order or direct that any changes be made to recording NR's in the NR log.

(Gittings) responded to questioning pertaining to a Kaiser management meeting conducted in early 1980 by stating the following. (Gittings) explained that he believed that the subject of the meeting had to do with the inspection of pipe support hangers. (Gittings) added that there were people from Kaiser QA construction and licensee personnel in attendance. According to Gittings, (Gene Knox (QA Kaiser Corporate), Rex Baker (Kaiser QC Supervisor), Bob Marshall (Kaiser Construction Supervisor) and Scott Swain (CG&E), along with some others, were present in the meeting. (Gittings) stated that there was an ongoing problem of writing up and accumulating NR's on pipe hanger deficiencies. (Gittings) stated there had been a problem with NR's on the hanger area. (Gittings) stated that a decision was reached as a result of the meeting to stop writing NR's and to "void" existing NR's. This decision was based upon the fact that Sargent and Lundy (S&L), architect engineer for the project, was to do a reevaluation of the design of the hangers and inspections would be conducted according to design modifications. A second consideration was that QC inspections of vendor hangers (Patterson) were not to be conducted. The instructions were that QC inspectors were "not to inspect hangers purchased outside."

(Gittings) continued by explaining that the previous fall (1979), there was continued "turmoil" concerning hanger inspections. (Gittings) explained there was pressure to get hangers installed and QA was "getting beat up" concerning inspections. (Gittings) stated that in one instance where 60 hangers were identified as having deficiencies and were written up on one NR, he had made the decision to separate the deficiencies and place one hanger on one NR. This, according to (Gittings) was not intended to overrule the QC inspectors. (Gittings) also stated that he was not involved and had not instructed anyone to set up any "secret files" regarding QA documentation.

(Gittings) responded that construction has not ordered him to move QC staff around in order to stop critical inspections. (Gittings) did state, however, "people have been reassigned to other systems."

At this juncture, Investigator McCarten left the interview and it continued in the presence of Investigators Puglia and Sinclair.

(Gittings) began a discussion pertaining to the Kaiser QA organization and who has responsibility for the QA program at the site by stating it is Kaiser's responsibility. (Gittings) continued, however, and explained that Kaiser was "doing the work for a very tough client (CG&E) and that

any requisition for additional manpower or staffing for QA/QC had to go through the client." (Gittings) added that he had to report everything through (Bill Schwiers, QA Manager) for CG&E.

(Gittings) stated in response to questioning that the QA organization for Kaiser is currently staffed at a "substantially higher level" than at his time of arrival or initial assignment at the site. (Gittings) added that he was continuing to recruit QC personnel for Kaiser employment. (Gittings) admitted, however, that the staffing of the QA/QC organization in the past has not been "adequate to meet the requirements of 10 CFR (Part 50, Appendix B). (Gittings) added that the client (CG&E) "did not have an adequate QA/QC staff" and "some (personnel) individuals should not have been in the system."

(Gittings) continued by denying that he had instructed anyone to "white out" NR entries in the NR log. He ((Gittings)) stated that, in fact, his instructions were to make no changes in the recordings in the NR log book.

(Gittings) responded to questions concerning the utilization of "punch lists" to record deficiencies rather than NR's by stating that punch lists were used to rectify problems instead of NR's.

(Gittings) was questioned as to the circumstances which led to the termination of the contract with the Butler quality control inspectors. (Gittings) stated that the contract was terminated after discussions with Kaiser corporate management and a meeting which took place in which the decision was made to "eliminate the shoppers" (stop the contract with Butler).

(Gittings) admitted that although Kaiser had been having difficulty in staffing QA/QC, the decision was made that Kaiser would have its own QC inspectors. As (Gittings) recalls, offers were made to approximately 21 of Butler inspectors of which 17 accepted. (Gittings) added that 34 QC inspectors left for other employment. (Gittings) also stated that the piping area was reduced from 10 QC inspectors to three inspectors partially because the work slowed down. (Gittings) stated, however, that the corporate decision to drop the "job shoppers" also played a part. (Gittings) concluded his comments on the contract issue by stating that he believes some of the reasons for eliminating the Butler people were that Kaiser could cut down on paperwork and establish a cadre for Kaiser's own QA organization. Other factors, according to (Gittings) related to cutting costs, eliminating "over inspecting" and the Butler inspectors had "no loyalty" to Kaiser.



(Gittings) further stated there were some difficulties or problems in working with (Bob Marshall) because he was loud and aggressive, but it did not effect his ((Gittings)) position or his independence as Kaiser QA Manager. (Gittings) did stated that one problem that did effect his ability to carry out his job was his relationship with the (CG&E QA Manager, Bill Schwiers). In fact, (Gittings) stated "my primary goal was to get along with him" ((Schwiers)). (Gittings) added that Kaiser lost the previous QA Manager ((Turner)) because he was unable to get along with (Schwiers). (Gittings) explained that there were numerous requests in the form of memoranda which were sent by Turner to CG&E asking for additional QC staffing which were turned down or denied by (Schwiers). (Gittings) was requested by OIA to contact Kaiser corporate and advise them that NRC requests copies of the memoranda which indicate that additional QC staffing was necessary to meet the requirements of 10 CFR. (Gittings) stated he would contact corporate and advise them of the request. (Gittings) could not furnish any additional information regarding problems with the QA program.













(William W. Schwiers)  
(Former Quality Assurance Manager)  
Cincinnati Gas and Electric  
William H. Zimmer Nuclear Construction Project

Mr. (William W. Schwiers), (former Quality Assurance Manager) Cincinnati Gas and Electric (CG&E) was interviewed on July 9, 1981, by Albert B. Puglia and John R. Sinclair, Investigators, Office of Inspector and Auditor (OIA), U.S. Nuclear Regulatory Commission (NRC). Prior to any questioning, Mr. (Schwiers) was provided the opportunity of reviewing appropriate credentials and advised that the areas being investigated pertained to intentional alteration of Quality Control (QC) Records and willful omissions regarding QC records.

Mr. (Schwiers) began the interview by providing a brief description of his duties while assigned to the Zimmer Construction Project. (Schwiers) stated that he first began working at Zimmer in the 1973 time frame as a representative for Cincinnati Gas and Electric and that continued until approximately 1975. At that time (Schwiers) stated he became the Senior Field Project Engineer in the Quality Assurance Organization which lasted for the next year. In 1976 (Schwiers) was reassigned to the functions of Quality Assurance Manager for the project. (Schwiers) stated that at that time the (Quality Assurance Manager) for Kaiser was (Bill Friedrich) (Schwiers) further stated that the CG&E Quality Assurance group at the site consisted of four other CG&E employees plus himself. According to (Schwiers) it was his responsibility to audit and monitor the Kaiser QA program.

(Schwiers) continued by explaining that it was his perception that the Kaiser QA program, at the time he ((Schwiers)) took over QA for CG&E, "did not have sufficient independence from the Construction Group." (Schwiers) stated that at some point Kaiser (QA Manager Friedrich) was replaced by another Kaiser supervisor (Bob Turner). The exact date of the change could not be recalled, however, (Schwiers) did state there was a period in which an individual from Kaiser Headquarters, (Gene Knox), was acting in the capacity of Kaiser QA Manager.

(Schwiers) stated that (Knox) was commuting to the Zimmer Site from the Oakland, California area and although he was the QA Manager for the site, he ((Knox)) would not relocate to the Cincinnati, Ohio area. (Schwiers) explained that he, as well as CG&E found the situation with Knox commuting to the site unacceptable because it did not demonstrate the commitment

required to the Quality Assurance Program. (Schwiers) further explained that (Turner) finally was placed in the position as Kaiser QA Manager which lasted until approximately October 1979. (Schwiers) stated that as he recalled, there was a problem with QA documentation within Kaiser and that (Turner) was replaced by another QA Manager.

(Schwiers) stated that part of the problem identified with the Kaiser QA documentation was discovered through a CG&E QA audit. (Schwiers) added that the Kaiser documentation problem is still being reviewed by a contractor to CG&E, Science Application, Incorporated (SAI).

(Schwiers) continued by stating that he believed (Phil Gittings), the most current Kaiser QA Manager, was hired by Kaiser from a position in "corporate" at Cleveland Electric Illuminating (CEI). (Schwiers) also stated that he believed that (Gittings) had formerly worked for a Kaiser Project in Florida pertaining to a transportation project.

In response to questions, (Schwiers) responded that "on paper" he was in control of the project. (Schwiers) also stated that initially all of CG&E QA was located at the site. Subsequently, however, the QA organization expanded and some QA functions were located at CG&E corporate in Cincinnati. (Schwiers) then stated as the QA representative part of the responsibility was to monitor Kaiser's QA/QC activity by conducting independent audits. (Schwiers) continued by stating that he had "some authority" in relation to denying requests for additional Quality Control inspections submitted by Kaiser QA.

(Schwiers) was then advised that OIA had interviewed personnel at the Zimmer site, including Kaiser QA personnel and as a result, information was developed which indicated that Kaiser QA supervisors had made repeated requests to CG&E for additional staffing of the QC department in order to meet the requirements of federal regulations, specifically 10 CFR 50, Appendix B.

(Schwiers) was also advised that the requests had been made in writing by Kaiser and that each of the requests has been denied by him (Schwiers). (Schwiers) stated that he believed that he had honored all of the requests submitted by Kaiser QA and stated that as far as he could recall, all of the requests submitted by the current Kaiser QA, (Phil Gittings) were honored. (Schwiers) was apprised that his statement concerning requests submitted by (Gittings) had been confirmed, however, the specific requests and time frame alluded to occurred at the time (Bob Turner) was the Kaiser QA Manager. (Schwiers) repeated that he believed that all requests were considered and honored. He (Schwiers) was informed that NRC had requested supporting documentation from Kaiser and believed that it was going to be provided in the near future.

(Schwiers) continued by stating that if there are such requests as described by NRC and responding correspondence denying the requests, they probably contain his signature. (Schwiers) was then questioned as to the extent of his authority as site QA Manager for CG&E in either "staffing" or denying requests for additional staff. (Schwiers) stated that he had "some authority" and repeated that he probably would have been the CG&E official whose name appeared on the paperwork. However, he believed that the decisions specifically addressing the described Kaiser requests were probably made in a CG&E management meeting.

(Schwiers) responded to questions regarding the "management meeting" by stating that he believed the attendees at the meeting were himself, supervisors from the CG&E Generation and Construction Departments and the Project Manager (Barney Culver). (Schwiers) added in response to questioning if any other CG&E officials were present by stating that he could not remember. (Schwiers) stated that he organizationally reported to (Earl Borgmann), Vice President, CG&E, however, he could not recall if he was present at the meeting.

(Schwiers) then responded to questions concerning CG&E's QA organizational structure by stating that as the senior site QA Supervisor he reported directly to (Earl Borgmann, Vice President for CG&E). (Schwiers) added that other departments within CG&E (Generation, Construction, Design) also reported directly to (Borgmann). (Schwiers) stated that although he stated in the beginning of the interview that he believed Kaiser's QA/QC organization lacked independence in performing its function he could not say there was any significant difference in the QA/QC organization within CG&E.

(Schwiers) was repeatedly asked if he had the authority to deny staffing requests pertaining to Kaiser QA/QC at which time he (Schwiers) would continually state that "his name was probably on the paper" and he could not remember if his supervisor, (Earl Borgmann), was in attendance at any meeting. (Schwiers) was also reluctant to state unambiguously that he had the authority to deny Kaiser QA staffing requests and would only state that the decisions were a result of CG&E management meetings.

(Schwiers) stated that CG&E had been conducting audits of the Kaiser QA program and that was one of the methods which disclosed QA problems. (Schwiers) was then questioned as to how his statement coincided with the fact that NRC Region III Inspectors had conducted a thorough inspection of the audit function of CG&E's QA program and found that there had been no audits done for extended periods of time and in some areas no audits at all. (Schwiers) stated he was aware of the inspection referred to, but did not have an answer regarding the violations cited by NRC pertaining to the QA audit requirements.

(Schwiers) was queried as to the type of contract with Kaiser. (Schwiers) replied that he believed it was a "cost-plus-a-fixed-fee". (Schwiers) added that he was not familiar with the specifics of the contract, however, he was aware that Kaiser had to get "authorizations" for contract changes from CG&E. (Schwiers) agreed that under the normal cost-plus-a-fixed-fee contract Kaiser would not have to have had CG&E's approval for staffing, however, he was unable to explain the contract restricts which required Kaiser to submit staffing requests to CG&E.

(Schwiers) explained that during his assignment as QA Manager at Zimmer he was under "tremendous pressure". When asked to elaborate (Schwiers) declined to comment on what type of pressure he was referring to. (Schwiers) concluded the interview by advising OIA that he was going to retire from CG&E in the October-November time frame. (Schwiers) also stated that if there were any additional requests to interview him, he was going to have to limit his responses to "yes" or "no" answers.

INTERNAL DEPARTMENT  
CORRESPONDENCE

TO: SIGNATORIES

FROM: W. W. SCHWIERS

SUBJECT: WM. H. ZIMMER NUCLEAR POWER STATION  
UNIT I - TURNOVER OF SYSTEMS FOR  
PREOPERATIONAL TESTING - W.O. #57300-  
957, JOB E-5590

DATE: NOVEMBER

Attached, for your information, is a copy of sheet titled "Turnover of Systems for Preoperational Testing". This sheet shall serve as interim approval for elimination of Henry J. Kaiser certification prior to system release for preoperational testing.

If you have any questions, please call.

  
W. W. SCHWIERS

WWS:pa  
Enclosure  
cc: E. A. Borgmann

Signatories: S. C. Swain  
J. R. Schott  
W. W. Schwiers  
Henry J. Kaiser Co.  
Attn: P. S. Gittings /



November 7, 1980

TURNOVER OF SYSTEMS FOR PREOPERATIONAL TESTING

Effective November 7, 1980, release of systems from Construction to the Electric Production Department for preoperational testing shall not require certification by Henry J. Kaiser Company that all Construction QA documentation has been reviewed. All procedures stating this requirement shall be revised as expeditiously as possible, but no later than November 14, 1980. Review of the Quality Assurance documentation shall continue on a scheduled basis for each system.

WBS Swain for SCS  
S. C. Swain, Site Construction Manager  
11-7-80 WBS

JRS Schott (FE) 11  
J. R. Schott, Station Superintendent

PS Gittings 11/7/80  
P. S. Gittings, H&A QA Manager

WWS Schwiers 11-  
W. W. Schwiers, QA Manager

THE CINCINNATI GAS & ELECTRIC COMPANY

August 20, 1981  
QA-1481

U. S. Nuclear Regulatory Commission  
Region III  
Wm. H. Zimmer Nuclear Power Station  
Moscow, Ohio 45153

Attention: Mr. F. T. Daniels,  
Senior Resident Inspector

RE: WM. H. ZIMMER NUCLEAR POWER STATION UNIT I  
DOCUMENTS REQUESTED FROM MR. P. S. GITTINGS -  
HJK/QA, W. O. #57300-957, JOB E-5590

Gentlemen:

Enclosed is Henry J. Kaiser letter KC-15694-Q, regarding several letters and other correspondence, requested by the NRC from Mr. P. S. Gittings.

The Cincinnati Gas & Electric has reviewed this letter and the referenced correspondence and is now transmitting the package to you per the request in the referenced Henry J. Kaiser letter.

If there are any questions, please contact me or Mr. D. J. Schulte.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By *D. J. Schulte*  
*for* H. R. SAGER  
MANAGER, QUALITY ASSURANCE

DJS:ec

cc: D. Howard  
P. Kyner  
J. Watkins  
E. A. Borgmann  
M. F. Rulli

HENRY J. KAISER COMPANY

P. O. BOX 201  
MOSCOW OHIO 45153

August 14, 1981  
KC-15694-Q

The Cincinnati Gas & Electric Company  
Wm. H. Zimmer Site  
P.O. Box 201  
Moscow, Ohio 45153

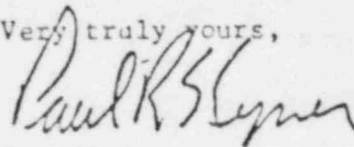
Attention: Mr. H.R. Sager  
Quality Assurance Manager

Dear Sir:

Prior to Mr. Phil Gittings leaving the Zimmer Site, the NRC requested an interview with him, this interview was in connection with the ongoing NRC investigations that were being conducted over the past year. This interview resulted in Mr. Gittings referring to several correspondences that had been transmitted back and forth between CG&E and Kaiser. The NRC requested that Mr. Phil Gittings produce these correspondences.

I am forwarding the reference correspondences to you for your action and transmittal to the NRC.

Very truly yours,



P. Kyner  
HJK Site Quality Assurance Manager

PRK/pc

cc: D. Howard  
File

| <u>Date</u> | <u>Letter</u>                 |
|-------------|-------------------------------|
| 2-20-74     | KC-1760-Q                     |
| 10-14-74    | KC-2543-Q                     |
| 11- 1-74    | McMahon to Williams           |
| 10-30-74    | KEB-7                         |
| 11- 1-74    | KC-2754-Q                     |
| 1-15-75     | KEB-12                        |
| 1-30-75     | McMahon to Friedrich          |
| 2-17-75     | Friedrich to McMahon          |
| 3- 4-75     | KEF-5                         |
| 3-18-75     | Pandorf to Friedrich          |
| 3-21-75     | Williams to Pandorf           |
| 3-26-75     | Friedrich to McMahon          |
| 3-31-75     | Minutes of CG&E & KEI Meeting |
| 4-11-75     | Friedrich to Borgmann         |
| 4-16-75     | Williams to Pandorf           |
| 9- 1-75     | Friedrich to McMahon          |
| 12-26-75    | Schwiers to Gray              |
| 11-30-75    | Knox to Williams              |

THE CINCINNATI GAS & ELECTRIC COMPANY



December 26, 1975  
KEF-87

Kaiser Engineers, Inc.  
P. O. Box 201  
Moscow, Ohio 45153

Attention: Mr. C. C. Gray

RE: WM. H. ZIMMER NUCLEAR POWER STATION -  
UNIT 1 - H. C. NUTTING CONTRACT  
W.O. #57300-902, JOB E-5590

|              |  |
|--------------|--|
| FROM:        |  |
| C. C. Gray   |  |
| TO:          |  |
| CLERK        |  |
| DATA         |  |
| RJW          |  |
| UNAVAILABLE: |  |
| HCB          |  |
| JPB          |  |
| KDF          |  |
| CLM          |  |
| CTA          |  |
| CIS          |  |
| CHS          |  |
| SIFT:        |  |
| JWP          |  |
| LWH          |  |
| FGG          |  |
| CHS          |  |
| WCS          |  |
| FILE:        |  |
| FCG          |  |
| TRSE         |  |
| RJF          |  |
| ELI          |  |
| V-H          |  |
| CRS          |  |
| OTHER:       |  |
| LWB          |  |
| FGG          |  |
| LOC. C.V.    |  |

Gentlemen:

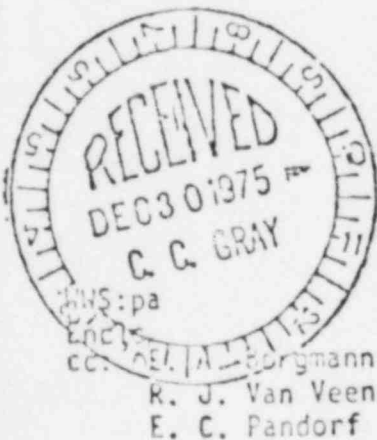
Attached is Recommendation for Award - Requisition 7070-269 R-6, which is being returned for rewriting. The attached sheet which was the basis for the addition of \$74,791.00 included 20% overtime for both the lead technician and the concrete technician. Please delete these items from the increase to the contract. Temporary personnel consisting of three (3) concrete technicians, 8 hours per day for 8 days per month, was also included. Please delete this from the contract increase since it is our intention to utilize either KEI personnel or else supplement the requirements for concrete sampling with CG&E personnel.

If the above is not clear, I would be happy to discuss it with you at your convenience.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By *W. W. Schwiers*  
W. W. SCHWIERS  
FIELD PROJECT ENGINEER  
General Engineering Department



**KAISER  
ENGINEERS**

*Notes from  
W. J. DeG...*

KAISER ENGINEERS, INC.  
P. O. BOX 201  
MOSCOW, OHIO 45153

April 11, 1975  
KC-3449-Q



Mr. E. A. Ebrmann, Manager  
General Engineering Department  
The Cincinnati Gas & Electric Co.  
139 East Fourth Street  
Cincinnati, Ohio 45202

Attention: E. C. Pandorf, Principal Engineer

Subject: Inspection of Phase II Piping

Gentlemen:

We are in receipt of your memorandum (KEQ-21) dated 2-28-75 subject, "Inspection of Phase II Piping" and we offer the following explanation for each item of the Construction/Piping Inspection Plan.

Piping Field Weld and Component Checklist

1. CG&E - Requirements of item 1 are to be verified and signed off by the construction supervisor.

KEI - Based on NA 4442 of the ASME Code Section III and Criterion VIII of 10CFR50, assurance must be made that correct material, part or component is being installed. The Construction Supervisor is not independent of the activity performing the work (Criterion X), therefore this is the responsibility of the Inspector.

2. CG&E - Delete item 2. This is a duplication of requirements of the KE Weld 1 Form.

KEI - It is agreed that this call out is a duplicate of the requirements of the KE-Weld 1 Form, but it serves as a reminder to the inspector that each of the characteristics must be accounted for on every weld included in the plan.

3. CG&E - Visual examination of the root pass is to be accomplished and signed off by the welder foreman. Although item 3 states, "Stamp off KE-1 Form", we do not find a requirement on the KE-Weld 1 Form for visual examination of the root pass.

KEI - The requirement for visual examination of the root pass is covered in Block 5 and the general instruction on the reverse side of the KE-Weld 1 Form defines when and how it is used. Visual examination of the root pass is not a requirement of the ASME Code but it is a

*This letter is written  
under - Laker  
fact in design  
with a check  
Honey*

FE requirement of Specification #22A2291. We feel that this call out demonstrates good quality control and will prevent excessive repairs. Since it is optional except on NSS systems it should remain. As for the sign-off by the welder foreman, this would be contrary to the intent of Criterion X.

4. CG&E - Delete item 4. Root pass RT is to be used only for stainless steel piping installed according to the requirements of GE Specification 22A2290, and then only when the I.D. of the weld is inaccessible for visual examination. This requirement is adequately covered on the KE-Weld 1 Form.

KEI - It is agreed that Root Pass RT is adequately covered on the KE-Weld 1 Form but you must remember that the Construction/Piping Inspection Plan is a complete plan for the High Pressure Core Spray System which will be a complete package to present to the Authorized Inspector and the NRC inspector when these systems are turned over for start-up.

5. CG&E - Delete item 5. This is a duplication of a requirement of the KE Weld 1 Form.

KEI - No disagreement. This is a duplication of the requirement of the KE-Weld 1 Form but it also provides status which is also required under Criterion XIV of 10CFR50.

6. CG&E - Retain item 6. This is to be signed off by the QA Welding Inspector.

KEI - Agree.

7. CG&E - Delete item 7. Approvals required on the KE-1 Form indicate acceptability and correctness of the form.

KEI - Approvals are essential because it serves as a check point to see that the specification and code requirements have been included. The form is prepared by the Construction Welding Engineer and approved by the Quality Assurance Engineer. This is no different than drawing approvals, DDC's, procedures or nonconformances that require approvals.

#### KE-Weld 1 Form

##### General:

CG&E - The headings of columns which now read "QA Stamp" is to be changed to read "Verified By".

KEI - We have no objection of changing the heading but these are preprint forms which we have on hand (5000) and to line out QA Stamp and reidentify "Verified By" would take quite a few man hours which we feel is unnecessary. When a new order is placed this correction will be made.



1. CG&E - Item 1 is to be verified and signed off by the welder foreman.  
KEI - Verification by the welder foreman would not meet the intent of Criterion X of 10CFR50.
2. CG&E - Item 2 is to be verified and signed off by the welder foreman who can also record the spool mark numbers.  
KEI - The spool mark numbers can be entered on the form by the welder foreman but the verification must be by QA for reasons stated above.
3. CG&E - Item 3 is to be verified and signed off by the welder foreman.  
KEI - The welder foreman could sign-off item 3 but the verification must be by QA.
4. CG&E - Delete item 4. NDE of weld preparation surfaces is required only for materials having a thickness of 2 inches or greater.  
KEI - We agree, only those sections 2 in. or greater require NDE but at the present time all the thicknesses have not been identified.
5. CG&E - Root pass NDE is to be used only when required by S&L or CE design documents. Verification by personnel qualified to SNT-TC-1A Level II or III is required.  
KEI - Agree. We intend to use only qualified personnel.
6. CG&E - Delete "NDE - Interpass". Acceptance is to be based on NDE of the completed weld. The welder foreman is to record the interpass temperature and sign-off verification.  
KEI - This call-out is optional and is up to the discretion of the Welding Engineer to call it out. As for the recording of the interpass temperature it can be recorded by the welder foreman or even the welder but it must be verified by the inspector.

After a complete review and analysis of your comments it appears that you do not fully understand the functions or the intent of the Construction Inspection Plans or the KE Weld 1 Form.

The Construction Inspection Plans are an integral part of our Quality Assurance Manual (Section 7 - Planning) and contain the minimum requirements to satisfy ASME Code Section III and 10CFR50. It has been used since the beginning of the Wm. H. Zimmer Project and has provided sufficient control and valuable documentation. This documentation becomes more valuable during the start-up phase.

The KE-Weld 1 Form was developed as a standard form encompassing all the essential variables from the various codes, its effectiveness is only as good as the Welding Engineer's input. It also serves as valuable documentation if

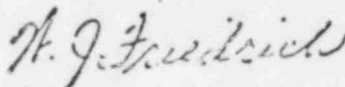


properly utilized and administered. That administration and responsibility can only be effective when managed by the Quality Assurance Organization who understand and appreciate the real reason for initiating, implementing, compiling and storing documentation.

To modify or make the changes recommended would be a complete alteration to our manual and the philosophy used to develop the QA Program.

Very truly yours,

KAISER ENGINEERS, INC.



W. J. Friedrich  
Site Quality Assurance Manager

WJF:sbc

cc: J. H. Hoffman  
bcc: D. H. Williams ✓  
V. P. McMahon  
C. C. Gray

TO V. P. McMahon  
AT Oakland

COPIES TO C. C. Gray  
D. H. Williams ✓



PK August 1, 1975

FROM H. J. Friedrich

*H. J. Friedrich*

AT Moscow, Ohio

JOB NO. 7070

SUBJECT QA INSPECTION REQUIREMENTS FOR THE 6 MONTH PERIOD  
SEPTEMBER 1975 THROUGH FEBRUARY 1976

*See Vice*

In April 1975, a request was submitted for 5 additional inspectors. The result of that request was the approval of two (2) mechanical inspectors which were just recently added to the staff. We are still in dire need of inspectors and I am requesting management approval for the addition of the following inspection positions:

- 1 Mechanical Inspector - September 1975
- 1 Mechanical Inspector - October 1975
- 1 Electrical Inspector - September 1975
- 1 Electrical Inspector - October 1975

(Attachments should support the above requirements)

These additions will bring our total inspection staff to 17. This represents a ratio of one inspector for every 51 direct craftsmen. By comparison this is far less than any nuclear plant being built under 10CFR50. It is also risky business to operate so lean that sickness, vacation or personnel quitting without timely replacements could seriously jeopardize quality.

The concrete schedule shows a decline in November and December at which time we will consider retraining and reassigning the civil inspectors in the mechanical and electrical areas.

Again it is suggested that you consider an additional clerk for the QA Site Documentation Center. This area has been operating rather smooth under the direction of Chuck Makowsky but the demand for retrieving documents has yet to come. As equipment is installed information in regard to limit settings, pressures, Code Data Reports, frequency, temperature, etc. will be requested and it will take some one full time to comply. Right now we are getting by with temporary summer help, under the Affirmative Action Program Summer Employment of Youths.

As you can see, every effort is being made to operate with a minimum work force and inspite of the extension of the schedule QA has been able to stay within the original allocated budget.

WJF:sbc

Attachments

**KAISER**  
ENGINEERS

KAISER ENGINEERS, INC.  
P. O. BOX 201  
MOSCOW, OHIO 45153

October 14, 1974  
KC-2643-Q



Mr. E. A. Borgmann, Manager  
General Engineering Department  
The Cincinnati Gas & Electric Co.  
139 East Fourth Street  
Cincinnati, Ohio 45202

Attention: E. C. Pandorf, Principal Engineer

Subject: Request for Additional Quality Assurance Personnel

Gentlemen:

This memo is written as a special request for hiring Quality Assurance personnel in accordance with the attached manpower loading requirements. With the advent of the piping installation, structural steel erection, special coating, receipt of valves, installation of cable trays, wire pulling and terminations, it is absolutely necessary to hire the inspection personnel to assure the requirements of 10CFR50, Appendix B are met.

Every effort is being made to comply with the drawings and specifications, codes, and standards with a minimum number of people, but it is becoming virtually impossible to continue working in all the areas with the present staff.

The Quality Assurance program as written and approved by ASME and AEC was predicated on the attached organization chart. In order to continue the program and maintain the current confidence that the system is sound and adequate, it behooves us to complete the manpower staffing as quickly as possible. Since qualifications of Quality Assurance personnel is always subject to careful scrutiny, sufficient lead time is required in locating experienced or qualified personnel. Therefore, your immediate attention should be given this request. An early response would be greatly appreciated.

Very truly yours,

KAISER ENGINEERS, INC.

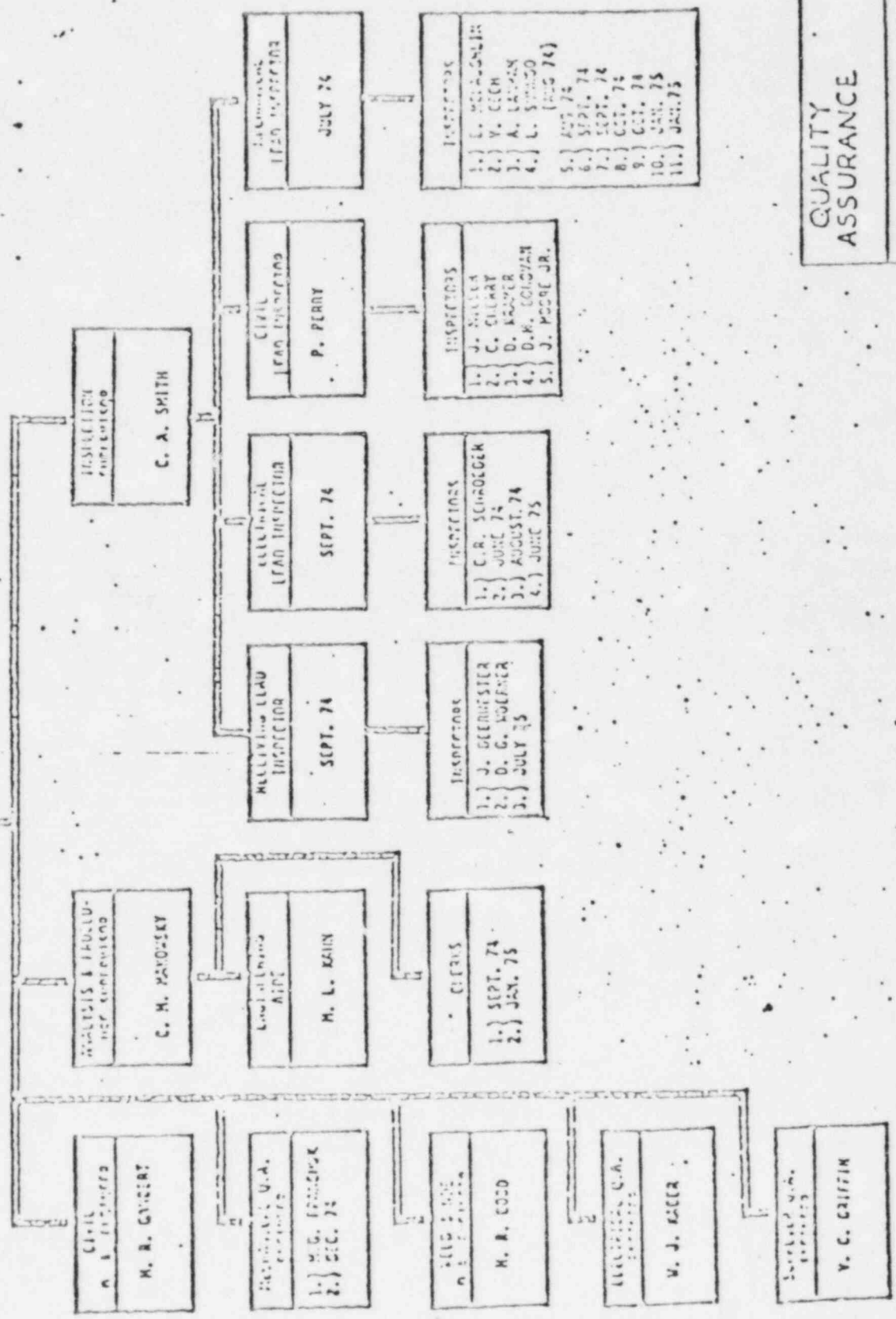
*W. J. Friedrich*

W. J. Friedrich  
Site Quality Assurance Manager

WJF:abc  
Attachments  
cc: W. W. Schwiers  
W. R. Murray

cc: D. R. McSparrin  
D. H. Williams  
V. P. McMahon

TO CONTACT PERSONS  
D.A.M. (10)



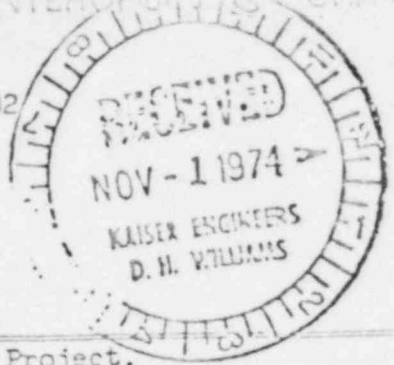
TO : D.H. Williams  
AT : Kaiser Mall - Suite 202

DATE : November 1, 1974

FROM : V.P. McMahon

AT : Kaiser Mall - Suite 220

JOB NO.



COPIES TO W.J. Friedrich

SUBJECT : Personnel for Zimmer Project.

Attached are copies of letters from W. J. Friedrich to E. Pandorf of C.G.E. and from W. Dickhoner of C.G.E. to W.J. Friedrich. I believe that after reading them you can understand my concern and problem.

Bill Friedrich advises me that prior to sending his letter to Ed Pandorf he submitted personnel requisitions to Bill Murray, the C.G.E. Site Representative for concurrence and that Bill was not sure of what he was supposed to do with them, consequently no action was taken.

Bill Friedrich is now taking another tack, he is preparing two requisitions for submittal to E. Borgmann for his concurrence.

Needless to say, we cannot conduct a proper Q.A. program without the necessary manpower. Our workload in the mechanical and electrical area will start to build up in a short time. Recruiting efforts should commence so that the needed personnel will be available.

I believe that Bill Friedrich has been very careful to bring people on board as needed, and has demonstrated a capability to utilize his personnel effectively.

I ask your help in this problem by reviewing this with Bill Friedrich while at Zimmer and taking the necessary action with C.G.E. management.

VR:EW

- Yes
- 1. DICKMÖNER  W.W. SCHIERS
  - 2. VANGILSE  J.R. SCHOTT
  - W. BERINGHAUS  D.R. MC SPARRIN
  - .. DIRR  H.C. BRINKMANN
  - J. VAN VEEN  R.J. REIMAN
  - 2. PANDORF (S)  H.E. CRAIL
  - E. A. Bergmann  W.J. FRIEDRICH (S)
  - 
  - GEN. FILE

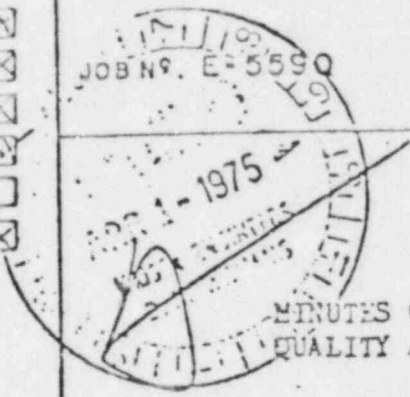
SUBJECT: WM. H. ZIMMER NUCLEAR POWER STATION UNIT 1

March 31, 1975

JOB NO. E-5590

W.O. 57300-957

SHEET NO  
FILE NO



- Attached
- Under separate cover

MINUTES OF JOINT CC&E - KEI  
QUALITY ASSURANCE MEETING

FEBRUARY 28, 1975

Items listed as follows:

- Bills of material
- Cable tabulations
- Contracts
- Drawing reproductions
- Instruction sheets
- Permits
- Quotations
- Reports
- Specifications
- Work Orders
- Minutes of meeting
- 

Which are:

- Approved for construction
- Approved for record
- Approved as noted
- As requested
- For your use
- For your review
- 

| FROM:                                       | DATE   | ROUTE | INITIAL |
|---|--------|-------|---------|
| McSPARRIN                                   | 4-1-75 |       |         |
| <input checked="" type="checkbox"/> DMW (2) |        |       |         |
| GLR   |        |       |         |
| RJW   |        |       |         |
| JPD   |        |       |         |
| JTB   |        |       |         |
| HCU   |        |       |         |
| HOC   |        |       |         |
| WE  |        |       |         |
| RIF   |        |       |         |
| WJF   |        |       |         |
| HCG   |        |       |         |
| CCG   |        |       |         |
| CMN   |        |       |         |
| CLL   |        |       |         |
| HVM   |        |       |         |
| FAL   |        |       |         |
| FMM   |        |       |         |
| CNS   |        |       |         |
| CHS   |        |       |         |
| C. SWAN                                     |        |       |         |
| WBM   |        |       |         |

Please forward your comments or statement of "no comment" to \_\_\_\_\_ By Date: \_\_\_\_\_

Please return the number of copies noted below:

\_\_\_\_\_ for approval \_\_\_\_\_ corrected  
 \_\_\_\_\_ for distribution \_\_\_\_\_ for record

Remarks:



*E. A. Bergmann*



QUALITY ASSURANCE & STANDARDS SECTION

GENERAL ENGINEERING DEPARTMENT

Minutes of Joint CG&E - KEI  
QA Meeting at Wm. H. Zimmer on February 28, 1975

Attendance:

| <u>CG&amp;E</u>   | <u>KEI</u>      |
|-------------------|-----------------|
| E. C. Pandorf     | W. J. Friedrich |
| R. P. Ehas        | M. G. Franchuk  |
| J. H. Hoffman     | M. R. Gandert   |
| W. W. Schwiers    | H. R. Good      |
| J. F. Weissenberg | V. C. Griffin   |
| R. L. Wood        | W. J. Kacer     |
|                   | C. M. Makowsky  |
|                   | C. A. Smith     |

Mr. Pandorf opened the meeting by reading the announcement of W. W. Schwiers replacing W. B. Murray as Field Project Engineer effective March 17, 1975. As of the date of this meeting, a replacement for Mr. Schwiers had not been designated.

Mr. Pandorf announced that the semi-annual management audit of the QA Program was scheduled for March 10 and 11. This audit will be conducted by Mr. C. W. Beringhaus.

Following is a summary of the discussion topics as outlined in the published agenda:

1. Follow-up on Items from January 17, 1975 Meeting

KEI has been submitting Construction Inspection Plans for CG&E review. CG&E has not as yet commented to KEI on all of the CIPs transmitted.

2. KEI Warehouse Receiving Procedure

This item will be held for discussion at a later date.

3. Procedure for Outside Storage of Piping Materials

This was also held for action at a later date.

4. Inspection Tolerances for Rebar Installation

J. H. Hoffman and M. R. Gandert will work on this. DDCs will be written where necessary.

5. Control of KEI Sketches

Mr. Pandorf stated that efforts must be made to reduce the number of drawings and sketches. It is KEI's position that construction aids are not design drawings and do not have to be submitted to S&L for approval. Construction Aids are initiated in the field to consolidate information needed by the crafts to assist them in performing their job. All construction aids must be used for the purpose intended. The purpose is clearly defined above the original title block. It is the responsibility of supervision for controlling the construction aids and seeing that the crafts use them for their intended purpose. KEI will inspect to the Construction Inspection Plan which will reference the latest S&L approved drawing.

Since construction needs sketches and will use sketches, inspection will only use them as reference drawings and final inspection will be performed to the latest released S&L drawing. In fact, all construction aids will carry the stamp, "This is a KEI sketch, use only for purpose noted above. Not to be used for final inspection".

This will be kept as an item which requires further review.

6. Nonconforming Material Control

This agenda item was generated as a result of the return of the Okonite cable to the manufacturer without QA release. This was an instance of violation of existing procedure and no new procedures appear to be needed at this time.

7. KEI QA Audits - Increasing Effectiveness of Follow-Up

It was agreed that future KEI audits will include a review of corrective action on the status of corrective action from previous audits.

8. Issue of Bristol Steel Drawings for Erection Purposes

W. W. Schwiens stated that Bristol drawings should be handled like any other vendor drawings and should not be issued from the Configuration Control Center. KEI position is that all erection drawings used on the jobsite should be registered and issued from the Configuration Control Center because it gives QA the proper control and assurance that only the latest released drawing will be used in the field. It is virtually impossible to control without it. This would apply to Waldinger (HVAC contractor) and any other subcontractor coming on to the site.

This item was held open for further study.



9. Independent Inspection of Bristol Erection Procedures

KEI will inspect bolting operations as required by the S&L Specification.

10. Subcontractor Personnel Qualifications

M. R. Good stated that the NDE personnel qualifications were on file. All Nutting inspection personnel have submitted resumes including qualifications. These are on file in the QA documentation center. Although it is not a requirement unless specified in the contract, KEI will evaluate subcontract QA personnel assigned to the jobsite.

11. Final Resolution of Coating Requirements Including Inspector

J. H. Hoffman will again conduct an audit to review all the documentation available in the Site Document Center and determine whether it is satisfactory relative to agreements and statements made to J. Sutton of NRC. KEI has one outstanding NR #E-140 on the downcomers which should be inspected after touch-up is complete. M. Franchuk will assist J. Hoffman on additional information.

12. Drawing Control:

a. Retrieval vs. Destroy Method

R. Ehas suggested a retrieval accounting system be used instead of the destroy action method. He stated that it would be a simple matter for the recipient of new drawings to return the old drawings on the same acknowledgement form with any notation for keeping "void" drawings. No check or verification would be required. W. W. Schwieters will write a memo to J. Billings requesting this change.

b. Field Initiated Sketches

Isometrics will be used by pipefitters but will not be used for inspection unless they are signed off by S&L as design documents.

13. Classification of Various Service Water Structures

The letter (W. W. Schwieters to E. C. Pandorf dated April 26, 1974) requesting classification of various service water structures was never answered. E. C. Pandorf requested J. Hoffman to follow-up and get a reply from S&L.

14. Cancellation of DDN's for Non-Essential Equipment

W. W. Schwierts has been signing off on an individual case basis where needed to release equipment for installation. This practice will be continued.

15. Vendor Evaluation/Approval of Suppliers for Class I Materials

KEI will continue to submit requests to perform vendor evaluations until further direction is given.

16. Training

Informal training sessions are held with KEI inspectors as well as subcontracted inspection personnel. Only the subject matter and the attendees are recorded. R. Ehas recommended a training outline be prepared prior to a training session. This will be considered for any future training. E. C. Pandorf cautioned KEI not to go overboard on training and to use the inclement weather for such activity. It was suggested that all QA Engineers, KEI and CG&E, be involved in developing training programs.

17. Inspection Personnel Requirements

R. Ehas estimated that it would take 20 inspectors for the electrical effort but these people would not necessarily be highly skilled. They could be trained with a minimum effort to do a satisfactory job. It was also mentioned that maybe CG&E operation personnel could be utilized to perform the electrical inspection. Ray Good said that the welding inspection requirements for piping to meet the ASME Code would take at least 12 people. He also said that at least one additional man would be required to read the film. E. C. Pandorf proposed using a Conam inspector to perform the work if the work load became too great. That certainly would be considered by KEI if and when the time comes. Structural Steel Bolting will require one inspector full time to witness the torquing of 10% of the bolts in each joint or a minimum of two bolts per joint. This work must be done by someone other than the erector. It has been determined that the KEI QA operates as an independent agency and can perform this work when required.

*E. C. Pandorf*

E. C. Pandorf

THE CINCINNATI GAS & ELECTRIC COMPANY

RECEIVED  
CINCINNATI OHIO 45201  
October 30, 1974  
KEB-7

W. K. DICKHOFFER  
ENGINEER IN CHARGE

Mr. D. R. McSparrin  
Kaiser Engineers, Inc.  
P.O. Box 201  
Moscow, Ohio 45153

RE: WM. H. ZIMMER NUCLEAR POWER STATION -  
REQUEST FOR ADDITIONAL INSPECTION PERSONNEL  
W.O. 57300-957, JOB E-5590

Dear Mr. McSparrin:

This is in response to your letter, KC-2643-Q, dated October 14, 1974.

As you are aware, we are making every effort to maintain the minimum labor force on all projects, consistent with acceptable levels of supervision, craft labor, and inspection of the work.

We have reviewed your request for authority to build up your inspection forces and it appears to us that there is no justification for increasing the current staff strength, based on the following considerations:

1. The Personnel Schedule dated 6/15/73, attached to your letter, shows 32 persons projected as being required in QA as of October, 1974, rising to a maximum of 35 in June, 1975, compared to a total of 25 now employed. This schedule was based on a project completion date of mid-1977, which has since been significantly extended.
2. Certain subcontractors such as CB&I and Bristol have the responsibility for first-line inspection spelled out in the specifications for their work. KEI is responsible for maintaining surveillance to assure that those inspections are accomplished, but KEI must not relieve the subcontractors of their inspection responsibilities or duplicate the subcontractors' inspection efforts.
3. Much of the concrete inspection work has been transferred to Nutting, which was not anticipated at the time the Personnel Schedule was developed.

To: V.P. McMahon  
From: W. J. Friedrich

To: Mr. D. R. McSparrin  
Faiser Engineers, Inc.

October 30, 1974

Re: Wm. H. Zimmer Nuclear Power Station -  
Request for Additional Inspection Personnel  
W.O. 57300-957, Job E-5590

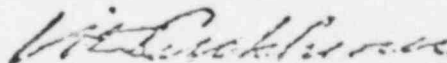
Page #2

4. If certain short-duration inspection assignments are required, these can be filled on a temporary basis by outside specialty contractors such as Nutting, Magnaflux, or others.
5. With the supervisory assistance of GE-NED, GE-I&SE, Reactor Controls, and perhaps others which were not contemplated in the Personnel Schedule, the KEI inspection function should be subject to some degree of reduction below the numbers shown in the schedule.

On the basis of the foregoing, we are unwilling to accede to your request for new hiring at this time. Should individual areas of obvious weakness in inspection capability become evident, they will be considered on a case-by-case basis.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY



W. H. Dickhoner

ECP:dew

cc: E. A. Borgmann  
W. B. Murray  
W. W. Schwiers  
E. C. Fandorf

To: U.P. McMahon  
From: W.J. Friedrich

Previous sheet  
& this sheet



**KAISER**  
ENGINEERS

KAISER ENGINEERS, INC.  
P. O. BOX 201  
MOSCOW, OHIO 43133

November 1, 1974  
KC-2754-Q



Mr. E. A. Borgmann, Manager  
General Engineering Department  
The Cincinnati Gas & Electric Co.  
139 East Fourth Street  
Cincinnati, Ohio 45202

Attention: E. C. Pandorf, Principal Engineer

Subject: Painting Inspector/Documentation Clerk

Gentlemen:

Attached hereto is a requisition for a Civil Inspector and a documentation clerk for your review and approval. The need for an additional inspector is based on the specification requirements for painting. It would be desirable to hire a Civil Inspector with experience in painting, but since Carboline Co. will be conducting on-site training, such prior experience is not mandatory.

The documentation clerk is required at this time to accomplish the record keeping required on re-steel heats, concrete pours, fabrication materials and weld filler materials. This will relieve our engineering assistant from these duties and allow him to concentrate his efforts on assembly of the QA documentation in preparation for filing.

Very truly yours,

KAISER ENGINEERS, INC.

*W. J. Friedrich*

W. J. Friedrich  
Site Quality Assurance Manager

*did not hire*

WJF:sbc

Attachment

cc: W. W. Schwiers

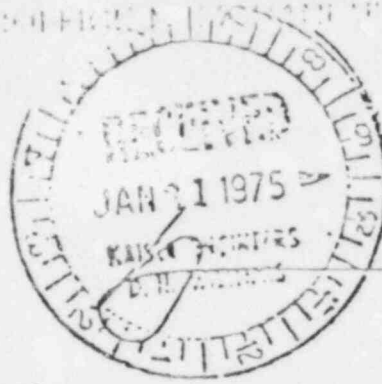
bcc: D. R. McSparrin

D. H. Williams

V. P. McMahon

W.J. Friedrich  
Moscow, Ohio

D.H. Williams ✓



January 30, 1975

V.P. McMahon

KM - #220

7070

11.07 ✓

Efficiency of QA operations

Attached are a letter from E. Bergmann and a memo from D.H. Williams on the subject of cost consciousness on the Zimmer project.

As we discussed on the telephone, you are going to review your activities in depth with the objective of determining if there are activities which can be streamlined, simplified, or possibly, in some cases, deleted, which would not have a negative impact on the conduct of your quality assurance program, but would result in a more efficient operation. The results of your review, including activities reviewed, actions taken or to be taken, you will transmit in a memo to me by Feb. 7.

Attachment  
VFM:gv



THE CINCINNATI GAS & ELECTRIC COMPANY



January 15, 1975  
KEB-12

Kaiser Engineers, Inc.  
Kaiser Center  
300 Lakeside Drive  
Oakland, California 94666



Attention: Mr. D. H. Williams

RE: WM. H. ZIMMER NUCLEAR POWER STATION -  
UNIT 1 - MANPOWER AUTHORIZATION  
W.O. 57300-902, JOB E-5590

Gentlemen:

This will acknowledge receipt of your letter KC-2903-C dated December 9, 1974 concerning your current six month forecast of additional required non-manual personnel. In that letter, you requested 23 additional non-manual personnel and attached a description of each required category of persons with reasons why they were being requested. I discussed this with you in some detail at the Wm. H. Zimmer Site on January 8, 1975. At that time I agreed to your proceeding with adding five people to your staff with the possibility of adding a sixth man in the electrical area sometime in the middle of 1975, if the work load so warrants. The persons authorized to be hired are as follows:

- 1 - Welding Engineer
- 1 - HVAC Engineer
- 2 - Piping Engineers
- 1 - Piping Draftsman

The sixth man considered for possible hiring in June of 1975, should the work load warrant, is as follows:

- 1 - Area Superintendent for Foothill  
Electric Corporation

A systems engineer with start-up experience was also discussed with no decision reached other than, if an extremely good prospect turns



To: Kaiser Engineers, Inc.

January 15, 1975

Re: Wm. H. Zimmer Nuclear Power Station -  
Unit 1 - Manpower Authorization  
W.O. 57300-902, Job E-5590

Page #2

up, the situation will be reviewed to determine whether he should be added to your staff. The need for an architectural engineer was also reviewed in some detail and I indicated that in my estimation further additions to the structural staff at this stage of the project cannot be justified.

I believe the above accurately summarizes our discussion on January 8 but I would like to supplement our personal discussion with some thoughts in general on the management of this project.

I, personally, as well as other members of the General Engineering Department cannot completely judge your needs for either non-manual or craft personnel in the field. Compared to our own force, however, there is still the general impression within our organization that Kaiser Engineers should have sufficient non-manual people in the field, particularly with the above authorized additions, to adequately supervise and direct the work. Perhaps assignments are not optimumly distributed but the quantity of personnel appears adequate to us.

As I indicated verbally to you, it must be impressed upon your staff that the Owners of this project cannot issue a blank check with regards to personnel, particularly with the financial situation being what it is today. We both should attempt to utilize each man to his capacity and attempt to do the job with what we have at our disposal until it becomes apparent that physical progress is being affected. In instances where it is evident that the project can be expedited through staff changes, the first order should be to investigate the competence of the Section or person involved rather than to immediately insist on additional people. Quality rather than quantity is the real answer on a project of this nature and you should exhort your staff to attain the highest effort possible before instituting complaints about being overworked.

There is no need for my dwelling on the current situation in the utility industry; there are trying times ahead of us and if Kaiser Engineers expects to remain a significant factor on this project, it will have to adapt to the situation now facing us which is one of austerity and hard work.

To: Kaiser Engineers, Inc.

January 15, 1975

Re: Wm. H. Zimmer Nuclear Power Station -  
Unit 1 - Manpower Authorization  
W.O. 57300-902, Job E-5590

Page #3

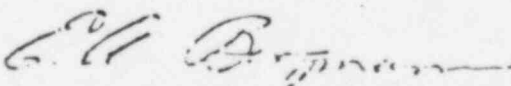
It is difficult to write a letter such as this which attempts constructively to go beyond mere complaining about overhead costs. My intent is to get you and your field management to impress upon everyone connected with this job that there is a finite limit to our financial resources and the faster they are dwindled away, the more likely it ~~becomes~~ that this and future nuclear projects are in danger of falling by the wayside.

It is dangerous for us to tamper with a constructor's responsibility by trying to assess and decide the proper level of his manpower. However, the level of expenditures attained to date on this project makes it mandatory to tighten the control reins, hopefully without jeopardizing your efforts. As I mentioned earlier, I am trying to establish a project philosophy and trying to inject some sense of cost concern and project spirit into every employee on the staff of Kaiser Engineers.

I believe that I have set forth my concerns on your manpower situation and trust that this will be taken as constructive comments on my part. You have many dedicated and competent people on your staff; it becomes your task to utilize them fully and to minimize the non-essential addition of further overhead to this project. I trust that with this spirit, we can proceed with prosecuting this job to a conclusion that will satisfy both the Owners and Kaiser Engineers.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By   
E. A. BORGMANN, Manager  
General Engineering Department

EAB:dew

cc: D. R. McSparrin

TO V. P. McMahon  
AT Oakland  
COPIES TO D. R. McSparrin



DATE February 17, 1975 <sup>lu 17</sup>

FROM W. J. Friedrich <sup>3/3</sup>

*W. J. Friedrich*

AT Moscow, Ohio

JOB NO. 7070

SUBJECT EFFICIENCY OF QA OPERATIONS  
(Reference letter dated 1-30-75 V. P. McMahon to W. J. Friedrich  
same subject)

I have reviewed the QA activities on the Zimmer project with the objective of streamlining, simplifying or deleting certain activities and present the following results:

1. The Quality Engineering Section has a complete complement, one engineer in each discipline. It was originally planned that one additional Mechanical Quality Engineer would be required for the Nuclear Steam Supply System but after CG&E signed the contract with the I&SE department of General Electric this requirement has been dropped.
2. There is still a need for an additional clerk in the Site Documentation Control Center because CG&E has not made any arrangements with their suppliers to retain the documentation or radiographs for the life of the plant. Because of this, we receive dribbles and dabs of documentation which takes special care in sorting and filing. At the present time we are utilizing co-op students and getting by.
3. Receiving Inspection is always a busy spot. We have two inspectors working with Vic Griffin. This is not near enough, but we have been able to keep things moving. Most people are impressed with the warehouse operation, but it would not be that good if it were not for the conscientious people assigned. That includes warehouse people like Fred Norton, Bill Ferree and Maurice Davis. Gene Knox and Art Billy were certainly impressed by the warehouse operation.
4. Civil inspection constitutes the majority of our work. There are six (6) civil inspectors including (Peter Perry) the Lead Civil Inspector and one (1) co-op student. These inspectors are responsible for the back-fill program, rebar placement, cadwelding, form erection, cleanliness, concrete pours and final inspection. Although we apply our requirements straight across the board we concentrate on Class I or Essential structures with maximum effort and minimize our efforts on Class II or Nonessential. This fulfills our responsibility to management that the plant is being built in accordance with the Sargent & Lundy design.
5. The mechanical inspection is slowly rounding out. With Luke Sunwoo coming on board we have four (4) inspectors who are responsible for the calibration lab, the pipe shop, the ironworkers shop, F&S Machine Shop, fabrication of the sacrificial shield, installation of pipe and

embedments. They maintain the cidair building, perform NDE, and keep the stick file (drawings) up to date. We have been able to keep up with the current rate of work, but it is obvious that (4) four mechanical or welding inspectors cannot cover the work of 150 or 200 welders. I will continue to request more inspectors in this discipline until I have a sufficient number to inspect the work satisfactorily.

6. Thank God the electrical portion of the work has not started because we have only (1) one inspector. He performs the inspection on cable tray installation, conduit and wiring. This should build up to a 5 or 6 man inspection crew before the job ends. Hopefully, I will be able to get these men when the civil work is completed reducing the need for civil inspectors.
7. QA subcontractors have been held to a minimum. MTL has only one man on the job and he is kept busy qualifying welders via radiography and the day to day production. The responsibility for scheduling and overall performance has been absorbed by Construction. QA is only responsible for the quality.
8. Nutting is working with a minimum crew. Currently they have five (5) temporary men assigned to the job. The QA Civil Engineer reviews periodically the need for the number of men for the job and based on his judgement, this number is increased or decreased.

This analysis represents the minimum effort required by the codes and standards, the AEC, and that necessary to provide the control needed by Kaiser Engineers. Needless to say, we cannot conduct a proper QA program without the necessary manpower. Our workload in the mechanical area is just beginning and the electrical area has not really started. Class I or Essential Painting is scheduled without any inspection coverage. It may become necessary to inspect the painting by Carboline or some other outside consultant, after the fact.

Only one (1) inspector has been added to the staff since April of 1974, so I can safely say that I have been very careful to bring people on board as needed. Based on the analysis as presented, I solicit your help in getting the personnel necessary to do a satisfactory job.

*Mr. Van Veen*

THE CINCINNATI GAS & ELECTRIC COMPANY

CINCINNATI OHIO 45201

March 4, 1975  
KEF-5

Kaiser Engineers, Inc.  
P. O. Box 201  
Moscow, Ohio 45153



Attention: Mr. D. R. McSparrin

RE: WM. H. ZIMMER NUCLEAR POWER STATION  
UNIT 1 - PAINTING AND COATING INSPECTION  
W.O. #57321, ITEM #3860, JOB E-5590

Gentlemen:

We have reviewed your proposed requisition asking to hire a full time inspector from an independent agency for our painting and coating work, and have made the following decisions:

1. In Service Level 2 areas, the painting foremen and the craft superintendent can perform the necessary inspection. The responsibility for inspection in Level 2 areas can be excluded from your Quality Control and Quality Assurance Sections.
2. In Service Level 1 areas, continuous inspection of the field coating work will be required. This inspection should be by a KEI inspector. Kenneth Tator Associates should be engaged to conduct a training session as outlined in their letter of December 16, 1974. KEI should have three or four inspectors qualified under this training program.

We believe that the above inspection procedure will meet NRC requirements and also insure good workmanship in the application of our coatings. We realize that S&L Specification H-2174, Sections 5-5 and 9-4 will have to be revised to conform with the above procedure and, by a copy of this letter, request that Sargent & Lundy make the necessary revision.

*Bill  
Should  
have  
inspected  
the step  
with the  
go to  
outside  
agency*

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

*Richard J. Van Veen*  
By R. J. VAN VEEN  
Principal Structural Engineer  
General Engineering Department

*What do you  
think?*

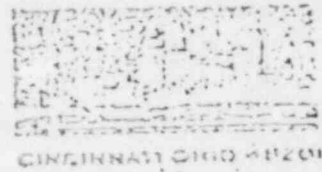


cc: W. G. Hegener  
E. A. Borgmann

E. C. Pandorf  
R. J. Van Veen



THE CINCINNATI GAS & ELECTRIC COMPANY



*Approved Constructed  
Committee to study your  
original study & implement  
a QA program*

March 18, 1975

Mr. W. J. Friedrich  
Kaiser Engineers, Inc.  
P. O. Box 201  
Moscow, Ohio 45153

To: W. J. Friedrich  
C/O V. P. McMahon  
From: C. A. Smith

Page 1 of 5

RE: WM. H. ZIMMER NUCLEAR POWER PLANT  
QUALITY ASSURANCE,  
W.O. 57300-960, JOB E-5590

Dear Mr. Friedrich:

As we discussed at a meeting in your office on March 11, 1975, I am convinced that the KEI QA/QC organization on the Wm. H. Zimmer Project cannot provide for optimum utilization of the Engineers and Inspectors in the organization. In writing this letter I am trying to summarize my impressions of the weaknesses which I feel exist, and the corrective actions which appear appropriate. This letter is not a directive. It is written to set forth my thoughts and to invite consideration and comments by you and by anyone else who wishes to make a contribution.

1. Inspection

In the original concept of contracting with KEI as the constructor for the project, many of us assumed that KEI would perform direct craft supervision without engaging subcontractors for most of the erection and installation work. Under that concept KEI would be required to provide the first level of inspection for routine and continuing work, which I define as a Quality Control function. The X-1000 inspection section was developed to provide this capability, and was placed under the supervision of the Site QA Manager.

2. Direct Construction

KEI is performing concrete placement, piping erection, and electrical construction directly, and is responsible for the inspection and QC in these activities. Because of the magnitude of the work KEI has engaged specialists such as Nutting and Magnafix to assist in the inspection work.

*Why  
not  
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inspection  
work*

To: Kaiser Engineers, Inc.

Re: Wm. H. Zimmer Nuclear Power Plant  
Quality Assurance

Page 2

### 3. Subcontractors

Each subcontractor who is involved in any field work which is categorized as Essential, Class I, Safety Related, or ASME Section III by the designer is required to supply a QA Manual and to be capable of fulfilling his commitments for supplying inspection personnel and QA documentation.

As it has worked out CBSI came on the job with a good QA program and performed as described above on the containment liner installation under KEI QA surveillance and periodic auditing. On the other end of the spectrum, Inland-Ryersen/Klinger appear to have left the inspection of rebar placement mostly up to KEI inspectors. KEI should have required the subcontractor to do his job, but at this late date it would probably be unwise to attempt a change.

As new subcontractors start work on the job, such as Reactor Controls on reactor component installation, Bristol on structural steel, and Waldinger/Y&B on HVAC, they are required to fulfill their QC obligations under KEI QA surveillance.

### 4. Instructions, Procedures, and Plans

KEI seems to have adopted an overly complex paper work system, which has required too much time and effort by the QA Engineers. If these activities continue in the future, the QA Engineers will not be able to function effectively on their primary duties of surveillance and auditing.

Some of the paper work on which the QA Engineers have obviously spent time is described below:

- a. QAP - The KEI QA Manual is made up of Quality Assurance Procedures, with one responsive to each of the 18 QA criteria in 10CFR50 appendix B. These are complete except for occasional updating, and are not subject to criticism.
- b. QACMI - This is a "Quality Assurance - Construction Methods Instruction." The index shows that 33 of these have been prepared dealing with a variety of subjects such as office procedures, reports, construction methods, testing, handling and storage. Many of these have been prepared by QA Engineers. I feel that a QA method or procedure should be limited to one which generates QA documentation, and that many of these should be specified as construction or management directives.

*When was  
prepared  
by QA Engineers*



c. SPPM - The Special Processes Procedures Manual contains about 50 procedures for fabrication, welding, proof testing, NDE, and documentation, all of which were prepared on the job, with approvals by Oakland and by the Site Weld/NDE QA Engineer. They are very detailed, and represent a great deal of work. I find it hard to imagine that such documents, and particularly qualified welding procedures, were not already available within the Kaiser Engineers organization.

d. CIP - A Construction Inspection Plan is a step-by-step direction to an inspector detailing the points he should look for throughout an entire construction process.

The plans which we have seen go far beyond the reasonable detail which should be required. A plan should be generic rather than specific, and should form the basis for a check list which is to be filled out by an inspector.

In my opinion a construction plan should be developed by the people responsible for construction. An inspector should utilize a construction plan in following the process of the work. The inspection report would be a check list based on the construction plan. For any generic plan the documentation of inspection should be designated to be more thorough for an Essential activity than for a Non-Essential one, since the Essential documentation will be subject to more detailed QA auditing.

I understand that we have not seen all of the CIP's, but the ones we have seen have been prepared by QA Engineers. I further have been told that most of them required for the project have been written. However, I would like to see this responsibility removed from the QA Engineers immediately.

e. DDC and NR Preparation - A Design Document Change is a request to the designer to permit a deviation from the original design. Normally it is prepared before or during construction.

A Nonconformance Report is used to document an aspect of construction which is at variance from the design.

Up until this time, some of these reports have been initiated and prepared by QA Engineers.

*Did someone  
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reference  
K.E.*

*Object  
assumes  
K.E. responsibility*

*OK*

To: Kaiser Engineers, Inc.

Re: Wm. W. Zimmer Nuclear Power Plant  
Quality Assurance

Page 4

*K.E. overall responsibility*

It is my opinion that the KEI procedures should place the responsibility for these reports on Construction Engineering for work for which that activity is directly responsible. Obviously, the inspectors who find nonconformances would have an input, but the preparation should go back to the most knowledgeable party, which is Construction Engineering. Certainly the preparation should not be done by QA Engineers. Their responsibility in these matters is to audit to assure that the procedures are carried out. If the procedures are correct and the activities are carried out in accordance with the procedures, the work done will be in compliance with approved designs. Contractors should also be instructed to use the DDC and NR procedures when applicable.

*agreed*

In this connection, there should be mandatory rules as to when a DDC or a NR is required. This will prevent foot-dragging and finger-pointing.

#### 5. Receiving And Warehousing

?  
0 We have been trying to revise the Receiving Procedures to place more responsibility on the warehouse and receiving inspectors, and to relieve the QA Engineer of routine duties. Another objective is to put greater emphasis on the assurance of control of Essential components.

#### 6. Conclusion

I have included the foregoing discussion to demonstrate the point I made at our meeting; namely, that the KEI QA Engineers have picked up so many paperwork and inspection functions that they cannot concentrate on the surveillance auditing which is their basic responsibility. At the meeting, when I asked that you consider removing inspection from the QA activity, you expressed concern that your QA Manual and many procedures would have to be drastically altered, which might involve us in new reviews by the NRC and ASME.

Therefore my present request is a compromise by which you will maintain your QA/QC organization as is, but will work with Construction Engineering and Inspection to turn over the routine activities to them.

?  
The duties of QA Engineering will be redefined so as to concentrate on surveillance and audits of KEI construction and of all subcontractors on the project to assure that procedural requirements are being fulfilled and that the required documentation is provided. In the event of noncooperation or noncompliance in any of these areas, the responsibility for obtaining corrective action

To: Kaiser Engineers, Inc.

Page 5

Re: Wm. H. Zimmer Nuclear Power Plant  
Quality Assurance

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7. Your Response

After you have had time to review this letter and to analyze its ramifications within the KBI organization, please advise me, and we will hold another meeting to discuss the subject in further detail. We have a number of QA matters pending, but I should like to suspend action on all of them until the basic program discussed herein is settled.

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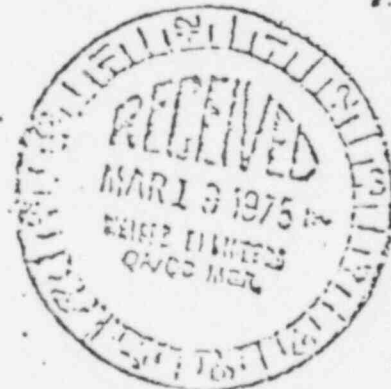
THE CINCINNATI GAS & ELECTRIC COMPANY.

BY

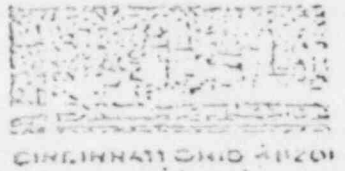
*E. Pandorf*  
EDWARD C. PANDORF  
Principal Quality Assurance &  
Standards Engineer  
General Engineering Department

ECP:jeb

cc: V. P. McMahon  
D. R. McSparrin  
W. H. Dickhoner  
E. A. Borgmann  
C. W. Beringhaus  
R. J. Van Veen  
R. L. Dirr  
W. W. Schwiers



THE CINCINNATI GAS & ELECTRIC COMPANY



*agrees to construct*  
*Commit to design your*  
*original state of design*  
*on QA issues*

March 18, 1975

Mr. W. J. Friedrich  
Kaiser Engineers, Inc.  
P. O. Box 201  
Moscow, Ohio 45153

To: W. J. Friedrich  
C/O V. P. McMahon  
From: C. A. Smith

Page 1 of 5

RE: WM. H. ZIMMER NUCLEAR POWER PLANT  
QUALITY ASSURANCE,  
W.O. 57300-960, JOB E-5590

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*Why  
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*Whitney  
Paul  
P...*

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K.E.*

*Accepted  
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*at*

*K.E. overall responsibility*

*agreed*

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To: Kaiser Engineers, Inc.

Re: Wm. H. Zimmer Nuclear Power Plant  
Quality Assurance

Page 5

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Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

By

*E. C. Pandorf*  
EDWARD C. PANDORF  
Principal Quality Assurance &  
Standards Engineer  
General Engineering Department

ECP:jeb

cc: V. P. McMahon  
D. R. McSparrin  
W. H. Dickhoner  
E. A. Borgmann  
C. W. Beringhaus  
R. J. Van Veen  
R. L. Dirr  
W. W. Schwiers



**KAISER  
ENGINEERS**

KAISER ENGINEERS, INC.  
KAISER CENTER • 300 LAKESIDE DRIVE  
OAKLAND, CALIFORNIA 94666

March 21, 1975

D. H. WILLIAMS  
VICE PRESIDENT

Mr. E. C. Pandorf  
General Engineering Department  
The Cincinnati Gas & Electric Company  
139 E. 4th Street  
Cincinnati, Ohio 45202

*please advise Dave  
Williams, and Vince  
McMahon  
yes*

Dear Ed:

The following is in reference to your letter of March 18, 1975 to Bill Friedrich outlining your concerns and thoughts with respect to the KEI QA/QC organization. I received a copy of your letter while Bill Friedrich was here in Oakland for a management review and update of the Zimmer program, and our other corporate QA activities. The timing was ideal as it afforded me an opportunity to have an understanding of your thoughts and concerns and discuss them in some detail with Bill Friedrich and Vince McMahon.

There are a number of points in your letter which cover QA, our construction activities and overall management philosophy. I would like the opportunity to review these points carefully and respond to you rather than leave this entirely up to Bill. I plan to have my comments in writing to you in approximately two weeks. Following this we would certainly appreciate the opportunity to sit down with you and discuss each of the points.

Very truly yours,

*D. H. Williams*

D. H. Williams  
Vice President  
Power Division

DHW: ad

- cc: W. J. Friedrich
- V. P. McMahon
- D. R. McSparrin
- W. H. Dickhoner
- E. A. Borgmann
- C. W. Beringhaus
- R. J. Van Veen
- R. L. Dirr
- W. W. Schwiers
- R. J. Wolf
- G. L. Roberts ✓



*DAVE WILLIAMS RETURN TO BHM  
LAST WEEK if we're OK*

*18*

TO V: P. McMahon  
AT: Oakland

COPIES TO D. R. McSparrin  
D. H. Williams ✓



March 26, 1975

W. J. Friedrich

*W. J. Friedrich*

Moscow, Ohio

JOB NO. 7070

SUBJECT REQUEST FOR ADDITIONAL QUALITY ASSURANCE PERSONNEL

- Ref. (a) Letter W. J. Friedrich to E. A. Borgmann, Attn. E. C. Pandorf dated 10/14/74 - KC-2643-Q, same subject ✓  
(b) Letter W. H. Dickhoner to D. R. McSparrin dated Oct. 30, 1974 KEB-7, same subject  
(c) Letter D. R. McSparrin to E. A. Borgmann dated 12/9/74 - KC-2903-C 6 Month Non-Manual Forecast ✓  
(d) Letter E. A. Borgmann to D. H. Williams dated 1/15/75 - KEB-12 Manpower Authorization

Six months have passed since my original request for manpower (Ref. a above). CG&E responded by denying my request (Ref. b) saying that subcontractors should supply their own inspection forces and that KEI has been assisted by Nutting and Magnaflux to perform their inspection, therefore, the present staff is adequate. Of course I disagree violently with this interpretation, and I am again requesting additional personnel in accordance with the 6 month schedule dated 2/28/75 attached. (My second request was part of 6 month forecast (Ref. c) and again I was denied by Mr. Borgmann's letter (Ref. d)).

The structural steel and the painting and coating requires one (1) man full time and a fraction of a man for part time. We have been relieved of inspection responsibilities for Service Level 2 areas (Ref. letter R. J. Van Veen to D. R. McSparrin dated 3/4/75 - KEB-5). Inspection will be required on Service Level 1 areas which CG&E is saying that 3 or 4 inspectors should be qualified. The question is where do I get the 3 or 4 inspectors to train. I can get by with one.

The S&L Specification H-2174, Sec. 5.3, Form 1705 requires the bolts to be tightened to the tension indicated in the AISC Specification. The inspector will verify in each connection on the structure approximately 10% of the bolts that are tested but never less than two. This work will start in April. The man I propose for painting can be used for the structural steel inspection as often as possible, the other man or portion thereof will come from the existing force.

Electrical Tray and Conduit does not require any additional people until they begin cable pulling which is not scheduled, but it would be comfortable if we had a requisition approved so that the man could be on board when the cable activity starts. Since Foothill is doing the cable pulling should I use Pandorf's philosophy and say they should provide their own inspection? I recommend one electrical inspector be put on board by August 1975.

Equipment will be placed in June, July and August. Much of this equipment will require inspection at installation because its Class I and a maintenance program thereafter. Monitoring or surveillance of this equipment is necessary and we should have one (1) mechanical inspector added to the staff in June.

Floor drains can be handled by the present staff of mechanical/welding inspectors, but the increase in process piping in various areas and elevations would require one additional welding inspector.

Summary

| <u>March</u> | <u>April</u>              | <u>May</u>                 | <u>June</u>  | <u>July</u> | <u>August</u> |
|--------------|---------------------------|----------------------------|--------------|-------------|---------------|
|              |                           | 1 Welding                  |              |             | 1 Electrical  |
|              | 1 Structural/<br>Painting |                            | 1 Mechanical |             |               |
|              |                           | 1 Welding<br>(Swing Shift) |              |             |               |

Construction intends to start a third shift (May 1). We do not even have coverage on the second shift which is building up. We try to cover the best we can by holding men over whenever we see a need. We are not in trouble yet but with the piping and electrical work starting to accelerate we will be in trouble before you know it. In February, there were 678 craftsman on board, March we now have 786, within 6 months we will have 1000 craftsman on the jobsite and I do not believe our current staff is sufficient to take care of that much activity. Your assistance is hereby requested.

WJF:sbc  
Attachment

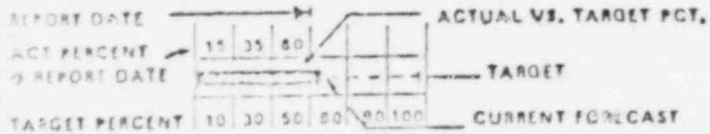
*No. of inspectors current  
assignment of each  
additional work areas + allocation of staff*

*How much equip scheduled  
for June July + Aug - what type etc.*

*How many welding insps now  
what are they doing people doing.*

*How many inspectors current staffing*

LEGEND



"PHYSICAL PROGRESS"

JOB SUMMARY

ISSUE DATE \_\_\_\_\_

REVISION DATE \_\_\_\_\_ R \_\_\_\_\_

REPORT DATE February 28, 1975

| DESCRIPTION                  |            | MARCH   |  | APRIL  |  | MAY    |  | JUNE   |  | JULY   |  | AUGUST |  | "1975" |  |
|------------------------------|------------|---------|--|--------|--|--------|--|--------|--|--------|--|--------|--|--------|--|
|                              |            |         |  |        |  |        |  |        |  |        |  |        |  |        |  |
| Electrical (Tray, Cond)      |            | ( 24)   |  | ( 26)  |  | ( 28)  |  | ( 34)  |  | ( 53)  |  | ( 54)  |  |        |  |
| (Light, etc.)                |            | ( 17)   |  | ( 17)  |  | ( 17)  |  | ( 22)  |  | ( 20)  |  | ( 21)  |  |        |  |
| Piping (Proc.)               |            | ( 10)   |  | ( 11)  |  | ( 27)  |  | ( 28)  |  | ( 25)  |  | ( 19)  |  |        |  |
| (Fl. Drns.)                  |            | ( 15)   |  | ( 15)  |  | ( 15)  |  | ( 15)  |  | ( 15)  |  | ( 15)  |  |        |  |
| Struct. Steel                |            | (4.5)   |  | ( 12)  |  | ( 12)  |  | ( 12)  |  | ( 3)   |  | ( 3)   |  |        |  |
| Earthwork                    |            | ( 13)   |  | ( 21)  |  | ( 29)  |  | ( 29)  |  | ( 21)  |  | ( 21)  |  |        |  |
| HVAC                         | - MONTHS - |         |  | ( 6)   |  | ( 6)   |  | ( 6)   |  | ( 6)   |  | ( 6)   |  |        |  |
| Blockwork                    |            | ( 28)   |  | ( 25)  |  | ( 25)  |  | ( 25)  |  | ( 25)  |  | ( 25)  |  |        |  |
| Concrete                     |            | (42)    |  | (428)  |  | (384)  |  | (433)  |  | (400)  |  | (365)  |  |        |  |
| Painting & Coating           |            | ( 20)   |  | ( 20)  |  | ( 20)  |  | ( 20)  |  | ( 20)  |  | ( 20)  |  |        |  |
| Equipment                    |            | ( 8)    |  | ( 10)  |  | ( 7)   |  | ( 50)  |  | ( 60)  |  | ( 70)  |  |        |  |
| Misc. Steel                  |            |         |  |        |  |        |  |        |  |        |  |        |  |        |  |
| Dewatering                   |            | ( 3)    |  | ( 3)   |  | ( 3)   |  | ( 3)   |  | ( 3)   |  | ( 3)   |  |        |  |
| TOTAL                        |            | (560.5) |  | (594)  |  | (573)  |  | (677)  |  | (651)  |  | (622)  |  |        |  |
| % p. p. (Based on 41,040 MM) |            | (1.36)  |  | (1.44) |  | (1.39) |  | (1.64) |  | (1.58) |  | (1.51) |  |        |  |



**KAISER  
ENGINEERS**

KAISER ENGINEERS, INC.  
P. O. BOX 201  
MOSCOW, OHIO 45133

February 20, 1974  
KC-1760-Q



Mr. A. E. Rothenberg, Manager  
General Engineering Department  
The Cincinnati Gas & Electric Co.  
139 East Fourth Street  
Cincinnati, Ohio 45202

Attention: E. C. Pandorf, Principal Engineer

Subject: Vendor Surveys for ASME Code Materials

Gentlemen:

As a manufacturer and holder of an "N" stamp, we are obligated under section NA 3361 of the code for surveying and qualifying the Quality System Programs of suppliers.

Our Quality Assurance Manual QAP #5, Procurement Document Control, paragraph 6 was rewritten to satisfy the Code Committee (Mr. Fritts). He was very emphatic at that time that this paragraph be included and complied with. He stated that this is one item that is reviewed by the Code Inspector assigned to the project.

At the present time KEI is purchasing code materials such as weld rod, pipe, and pipe fittings. It has been our practice to perform surveys at the suppliers plant, and we wish to continue and not put our ASME status in jeopardy.

Recently you have disapproved requests for such surveys. At the time of your decision it was discussed with me and I did agree. However, since that time I have had an opportunity to review the code and discuss the details with the KEI personnel involved. I am convinced now that you and I erred, and I would like you to reconsider.

This same requirement is imposed in Appendix B of 10CFR50 Criterion VII, and it would behoove you to review your procedures relative to essential hardware and act accordingly.

Very truly yours,

KAISER ENGINEERS, INC.

*W. J. Friedrich*

W. J. Friedrich  
Site Quality Assurance Manager

WJF:sbc

cc: D. R. McSparrin  
D. H. Williams ✓  
T. A. Bedford  
V. P. McElhannon

**KAISER  
ENGINEERS**

KAISER ENGINEERS, INC.  
KAISER CENTER - 300 LAKESIDE DRIVE  
OAKLAND, CALIFORNIA 94604

April 16, 1975

Mr. Edward C. Pandorf  
General Engineering Department  
The Cincinnati Gas & Electric Company  
139 East Fourth Street  
Cincinnati, Ohio 45202



Dear Mr. Pandorf:

In your letter of March 18, 1975 to Bill Friedrich you expressed numerous concerns and thoughts with respect to the KEI Quality Assurance organization, specific points on methods of operation, and corrective actions which appear to you to be appropriate. I think, as managers, it is important that we periodically review our program and the objectives and performance of the organization, and I appreciate your suggestion that we make such a review at this stage in the project.

Before responding to each item in your letter, I believe it is important to cover the basis for development of the present KEI program.

Kaiser Engineers' interpretation of the requirements of 10CFR50, Appendix B, is that the field quality assurance functions, which include auditing, surveillance, and inspection, are to be kept independent of the actual construction organization. Most, if not all, present day major nuclear projects follow this concept. Adoption of this approach precludes performance of inspection functions by personnel reporting through the construction organization.

This position was taken after careful review of industry practices and problems on past nuclear projects in regard to QA programs and actual experience of our personnel on other nuclear projects. As you know, this area is of current interest to intervenors and we believe that our approach eliminates the possibility of question on any conflict of interest.

The KEI program is based upon advanced planning and effective control. We believe that this is essential to make certain that the required inspections are identified and properly performed with a minimum expenditure of inspection time. Equally important, our experience has been that through careful advanced planning many issues with regard to requirements are raised and resolved in the office prior to work being performed, rather than in the field in the midst of operations, resulting



in omissions, unnecessary delays, and work stoppages. In addition, through the planning process, all personnel involved become more knowledgeable of the requirements that may affect their areas of responsibility, which in turn contributes to the success of the overall project.

In your conclusions you suggest transferring some functions from quality assurance to construction personnel. In addition to avoiding any question of conflict of interest, we, as managers, are interested in maintaining a maximum utilization of manpower with clearly defined responsibilities. To transfer functions which might require hiring of additional personnel in the construction organization to perform these functions and possibly dilute the controls, defeats this objective.

There are currently five quality engineers assigned to the site Quality Assurance organization, which we feel is minimal but adequate to perform the quality assurance functions of our program during the course of this project. There is a need for additional inspection personnel as the volume of the job expands, and we will be reviewing our needs with CG&E in this area very shortly.

The basic quality assurance functions as defined in the recent amendment to 10CFR50 on Organization are: "(a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, such as by checking, auditing and inspection that activities affecting the safety-related functions have been correctly performed." A brief summary of the specific functions of the quality engineers and inspectors in our program is as follows:

#### Quality Engineers

- o Plan the inspection program in their respective discipline, based upon the requirements of the drawings and specifications.
- o Perform evaluation of selected KEI suppliers quality assurance programs.
- o Review purchase orders for inclusion of quality assurance requirements.
- o Prepare calibration procedures.
- o Monitor changes to configuration documents to assure incorporation into plans and instructions.
- o Perform surveillance and audits.
- o Review quality documentation for completeness and compliance.
- o Provide technical assistance to inspectors, as required, including preparation of nonconformance reports.

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### Inspectors

- o Perform receiving, special process, installation inspections.
- o Monitor calibration.
- o Document inspections.
- o Document nonconformances.
- o Verify qualifications of personnel, where required.

For the quality engineer to be effective and contribute to the overall success of the program, he must be knowledgeable of all the requirements in his discipline as well as related disciplines that may affect his area of responsibility. He accomplishes this by preparing CIP's and QACMI's which are used by the inspector in assuring that the drawings and specifications, regulatory guides and code requirements are consistent and provide technical direction to the inspectors, in lieu of each inspector providing his own interpretation and judgment.

The inspector implements the quality assurance program by verifying the characteristics outlined in the Inspection Plan. He has the authority to stop work, delay pours when they are not ready, and identify deficiencies by reporting them on nonconformance reports so that they receive the proper attention and disposition. The inspector works very closely with the QA engineer, thus minimizing the number of personnel required to assure complete compliance.

We believe the program as defined above does provide for efficient conduct of the work and, when viewed with the NRC requirements of 10CFR50, provides optimum overall use of project manpower.

The following are comments to the numbered topics in your letter.

#### 1. Inspection

It is normal practice on nuclear power projects to subcontract specialty items such as containment liner, field erected tanks, etc. Your assertion that KEI is providing first level of inspection as the constructor is valid and we will continue to provide this service for the work we do. When work is subcontracted, whether it be by CG&E or KEI, we will expect satisfactory QA programs to be part of the agreement. It is our intent to enforce all terms of the subcontracts including QA requirements. When subcontractors fail to perform as expected, we have an obligation to see that the requirements of the drawings and specifications are complied with.

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## 2. Direct Construction

With respect to your comments on Direct Construction, Magnaflux was contracted because they provide a specialty service of non-destructive examination, and it was never intended that KEI perform radiography and ultrasonic testing. Use of a specialty contractor, such as Magnaflux, is standard practice on nuclear projects throughout the country.

Nutting was engaged by KEI at the direction of CG&E, reference letter A. E. Rotenberg to D. R. McSparrin, dated August 31, 1971, to perform soils testing, concrete testing, rebar testing, batch plant inspection and other tests, such as slump, temperature and air content.

## 3. Subcontractors

We agree with your statement that each subcontractor involved in any field work categorized as Essential, Class I, Safety-Related or ASME Section III must supply a QA program which includes inspection and documentation.

It has been our policy to review each subcontractor on the basis of the type of work to be performed, the magnitude of this work, the nature of their organization, and the potential impact of possible errors, and to make a determination as to the level of control to be required by KEI QA. With regard to CBI they did come on the job with a good QA program and did perform well. KEI QA limited their efforts to monitoring this program. With regard to the rebar placement program, a decision was made early in the program, with concurrence by CG&E personnel, that it would be necessary to have KEI QA perform a thorough inspection of the rebar installation prior to placement of concrete.

Regarding subsequent subcontractors, such as Reactor Controls, Bristol, etc., where an adequate QA program is defined and implemented, the KEI efforts will be limited to surveillance and auditing.

Since these QA programs have been approved by CG&E, we suggest a joint review of these programs by CG&E and KEI and the establishment of the ground rules for KEI to follow in controlling these subcontractors.

## 4. Instructions, Procedures and Plans

We agree with your opinion that the QA engineers spent considerable time on paperwork; however, planning and organizing are a part of their fundamental duties and involves much paperwork. This is the method of operation in which they have complete control, continuous monitoring and a full understanding of their area of responsibility.

The specific types of paperwork you mentioned we elaborate on are as follows:

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- a) QAP -- Quality Assurance Procedures are the responsibility of the Site Quality Assurance Manager because they establish policy and the QA engineer spends very little time on the initiation or changing thereof.
- b) QACMI -- Quality Assurance - Construction Methods Instructions. Included in this category are two types of instructions, namely (1) Quality Assurance Instructions and (2) Construction Methods Instructions. The Quality Assurance Instructions are prepared by quality engineers in consultation with construction personnel, and the Construction Methods Instructions are prepared by construction personnel.

10CFR50, Appendix B, requires that activities affecting quality shall be prescribed by documented instructions. When more detailed procedures are required than specified elsewhere in the Quality Assurance Manual for implementation of the quality assurance requirements of CG&E, GE, NRC, ASME and KEI, a Quality Assurance - Construction Methods Instruction is prepared in order to ensure compliance with the requirements and to effect uniformity of inspections. This is outlined in further detail in QAP #8 of the QA Manual.

In addition to meeting requirements, QACMI's are essential to KEI's Quality Assurance Program; it is a direct and positive communication between the QA engineer and the inspector. Without them our program would be weak and ineffective. We will make every effort to limit them to those which generate QA documentation as you requested.

- c) SPRM -- Kaiser Engineers has in the past had welding procedures for their numerous projects in other fields but it was explained early in the negotiation for this job that, because of the stringent requirements on a nuclear project, specific procedures would be developed for this job to make certain that the latest regulatory guides and code requirements were met.

- d) CIP -- A Construction Inspection Plan serves as an instruction to the inspector as you stated in your letter. We agree that these inspection plans should be generic whenever possible. A recent decision in the piping area to use isometrics, for example, now allows us to use a more generic inspection plan on piping. We are reviewing other areas to see if generic plans can be used rather than specific plans.

Construction planning is performed by the Construction Department. Quality engineers prepare inspection planning, when required. Where the construction plans can be directly utilized as part of the inspection documentation, as in the case of isometrics, every attempt is made to do so. To transfer the responsibility

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of writing the inspection plans would require additional construction personnel, more coordination and, in our opinion, dilute the efforts of the program with an increase in site manpower. It is therefore our intent to continue having the quality engineers prepare inspection planning.

- e) DDC and NR Preparation -- Your definition of a Design Document Change and Nonconformance Report is correct and they are from time to time initiated and prepared by a QA engineer.

You state that this should be the responsibility of Construction Engineering and the inspectors who find nonconformances would render some input. DDC's are normally initiated by Construction Engineering. NR's are prepared by inspectors or QA engineers to report conditions which do not conform to drawings or specification requirements. This method meets the requirements of 10CFR50, Appendix B, and permits organizational freedom to identify quality problems.

As for the rules as to when a DDC or NR is required, they are:

Rule 1 -- A DDC is written before the fact.

Rule 2 -- An NR is written after the fact.

I believe these rules have been adhered to throughout the job.

##### 5. Receiving and Warehousing

For proper management control and manpower utilization, we feel that the existing operation has been proven to be effective and, therefore, changes in the program would be unwarranted at this time.

##### 6. Conclusion

To meet the requirements of 10CFR50 involves much paperwork to provide historical plant records and to substantiate that plant meets the high standards required for public safety. We believe our program is responsive in this regard and do not feel the quality engineers are unnecessarily burdened.

The duties of the quality engineers are as we defined, and we feel the current level of staffing of QA engineers is minimal but adequate for the project.

We will continue to review the activities of these engineers to see that they are not involved in other routine tasks that should be handled by others. In addition, every attempt will continue to be made to minimize the paperwork on the project.



Mr. Edward C. Pandorf

-7-

April 16, 1975

After you have had an opportunity to review our comments, we will be pleased to meet with you to resolve any outstanding items and reach mutual agreement on the program.

Very truly yours,

MAISER ENGINEERS, INC.

ORIGINAL SIGNED BY

D. H. WILLIAMS

D. H. Williams

Vice President

Power Division

DEM:ed

cc: W. H. Dickhoner  
E. A. Forgmann  
W. J. Friedrich  
V. P. McMahon  
C. C. Gray

bc: R. J. Wolf  
G. L. Roberts ✓



November 30, 1976

E. V. Knox

KB 16

Telephone Conversation with Bill Schwiers on 11/29/76

Bill Schwiers of CG&E called me this morning and it was obvious from the questions and concerns that he expressed that he was trying to determine my degree of support for Bill Friedrich. Mr. Schwiers' concerns were:

- 1) NRC audit item which found "Installation inspection procedures had not been established which would verify conformance to provisions established in design documents". This pertained to conduit hangers and bonding to the station grounding system.

Mr. Schwiers was also concerned that Kaiser Engineers was performing design calculations to determine which was the proper hanger to use.

- 2) Changes in Quality Assurance Personnel. Even though Mr. Schwiers admitted to being informed of the changes (Kaiser and MacLaughlin) he indicated he had not given his specific approval. He also commented that the Zimmer job was not a place to put people that come and go to other projects or employers.
- 3) X-Ray of Wrong Weld in Containment. I do not know the full story on this but Schwiers indicated that the mistake was caught. Because of this, he suspects other weld x-rays. He has requested that CG&E be put on distribution for all x-ray reader-sheets and stated that an independent review was going to be made by CG&E or their representative.
- 4) Accept-as-is decisions on weld defects. Mr. Schwiers made the statement that Kaiser Quality personnel alone was making "accept-as-is" decisions on weld defects and in some cases was overriding "reject" decisions made by the x-ray lab personnel. Accept-as-is decisions are controlled by procedure, QAP #16. It requires a MRB decision by the CG&E QA Engineer, KEI QA Engineer, CG&E sponsor Engineer, and when required the S&L Engineer.
- 5) Assignment of Civil Inspectors. Mr. Schwiers expressed concern over Kaiser Engineers still having 3 civil inspectors assigned to the job. He felt this could be reduced to one, and the other two replaced by mechanical or electrical inspectors.

- 6) Locate Kaiser & CG&E Quality Personnel together. Schwiers' comment was that since CG&E had the final responsibility for the quality of the plant and the fact that CG&E and Kaiser should be striving towards a common goal of building the plant to the drawings and specifications, it seemed to him that a benefit could be achieved by being physically located together making it easier for he and his people to be kept informed of day to day activities.
- 7) Have Inspection Personnel Report to Construction. Mr. Schwiers expressed his opinion on organization that inspection personnel should report to Construction Engineering for control and Quality Engineers should audit and surveil for assurance that things are done properly.

My comments regarding the above were:

- 1) NRC Audit Item. This will be looked into to determine the reason for not having an inspection plan during the hanger installation.
- 2) Changes in QA Personnel. I feel we have the responsibility to staff the job as required and unless we previously had agreed to obtain CG&E approval when changes in personnel occur, I see no reason to obtain their approval for changes in personnel at this level.
- 3) X-Ray Wrong Weld. This one error was caught. (There are many checks and balances in the QA system). We should not make the whole welding operation suspect because of it. This is witch hunting at its worst and can only hurt CG&E's Zimmer plant in the eyes of NRC, anti-nuclear personnel, etc.
- 4) Accept-as-is decisions. I doubt very much that we are violating the MRB procedure as outlined in QAP #16, but I would be interested in Bill Friedrich's comment.
- 5) Assignment of civil inspectors. Another case of CG&E trying to tell Kaiser Engineers how to manage the job.
- 6) Kaiser and CG&E QA Personnel located together. This will not work and I told Mr. Schwiers it wouldn't. My argument was that Kaiser Quality personnel would not know who was calling the shots, that there would be confusion as to assignment of responsibilities and that there would be a great tendency and very easy for CG&E personnel to direct Bill Friedrich's people to do unscheduled activities that do not support the production schedule.

- 7) Inspection reporting to Construction. I disagree with this type of an organization and so does ICCFR50, Appendix B.

I agreed to have a meeting on December 9th with Bill Schwiers to further discuss his concerns about our Quality Assurance program. This has since been changed with our phone conversation with Don Sahlberg and Bill Friedrich.

EVK/dsr