



ARKANSAS POWER & LIGHT COMPANY  
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T. GENE CAMPBELL  
Vice President  
Nuclear Operations

July 13, 1987

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Mr. James Lieberman  
Director, Office of Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Units 1 & 2  
Docket Nos. 50-313 and 50-368  
License Nos. DPR-51 and NPF-6  
AP&L Response to Allegations of Discrimination

Dear Mr. Lieberman:

The purpose of this letter is to brief the NRC on the issues that arose last Fall at the Arkansas Nuclear One site involving allegations by a contractor QC inspector, Mr. David Williams, the measures taken by Arkansas Power & Light Company (AP&L) to address those allegations and the present status of the matter. Through this briefing, we intend to provide the NRC with a full and frank explanation, which we believe demonstrates that AP&L is blameless of the charges against it, and that AP&L addressed the allegations aggressively and responsibly. We are, of course, prepared to provide any additional information that the staff may need.

We are fully aware of, and fully support, the policy and purpose of Section 210 of the Energy Reorganization Act of 1974. We believe our responsibility under this section is one of ensuring that no discriminatory actions, including job assignments or terminations, can result from employee expressions of safety concerns. We recognize that even the appearance of discrimination in this context could result in a chilling effect on the willingness of other employees to bring forth safety concerns. Any such effect would be completely at variance with AP&L's commitment to safe nuclear operation and AP&L's responsibilities under federal law and NRC regulations.

It is, therefore, of great concern to AP&L if allegations of discrimination are raised by employees, particularly those having safety responsibilities.

The first indication that AP&L had that Mr. Williams had concerns was in early October 1986, when Mr. Williams expressed his concern to AP&L site QC

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July 13, 1987

management. AP&L's response was prompt, aggressive and thorough, as the attachments to this letter demonstrate. These attachments present a chronology of relevant events and a detailed description of AP&L's response to each concern.

Upon learning of Mr. Williams' concerns, AP&L management, the next day, assembled a special investigation team which spent approximately the next week investigating the concerns. While the team did not identify any of Mr. Williams' concerns as having safety significance, it did identify some items that warranted improvement, and recommended changes were made to management. The changes were later approved by management for implementation. Further, the results of the team's investigation were discussed with Mr. Williams, who indicated at that time that his concerns were resolved.

Despite the results of the investigation, AP&L had not satisfied itself that the situation had been addressed fully. The Company recognized that both safety and labor-related issues were at hand and felt a need to satisfy itself that the Williams' matters had no broader implication of effects, such as widespread dissatisfaction with the ANO quality program among quality personnel or a reluctance of quality personnel to report non-conforming conditions. While there were no definitive signs of any such programmatic problems, the Company was faced for the first time with an expression of dissatisfaction regarding the quality program. The Company concluded that a deeper probe was warranted into the safety aspects of the allegations.

Accordingly, AP&L referred the results of the Quality organization's investigation to the Corporate Safety Review Committee (SRC) for an indepth look at the safety aspects and implications of the allegations and findings. The SRC activities are addressed in detail in Attachment 3 to this letter.

The conclusion of this investigation was that the AP&L quality organization functions in an atmosphere that encourages, rather than discourages, all Nuclear Quality personnel to be quality conscious and to report deficiencies. The investigation found no indication among AP&L QA/QC employees of our infringement upon the organizational freedom mandated by Appendix B. On the contrary, the investigation revealed a spirit of pride and a sense of mission among virtually every AP&L QA/QC person interviewed. The investigation also revealed a good level of familiarity with appropriate QA/QC procedures, which was attributed to the longevity of most individuals in the QA/QC program.

The investigation also indicated that a few of the contractor QC inspectors had questions about certain aspects of the quality program at ANO. One issue was a difficulty in understanding certain procedures. A related issue was the adequacy of training of contractor inspectors. Another issue was a job assignment system that placed one contractor in a superior role to another contractor.

An important issue that this investigation addressed was whether the Williams' matter had any effect on AP&L QA/QC personnel which would cause them to be hesitant to identify concerns. Some of those interviewed had little familiarity with Mr. Williams' allegations or the facts surrounding

July 13, 1987

them, while those that did, expressed incredulity that any harassment or intimidation had occurred. Some contractor QC inspectors expressed concern with the allegations, but all stated that they had not and would not compromise the integrity of their inspections because of the allegations. The investigation concluded that there had been no chilling effect resulting from the allegations.

While these investigations were being performed, AP&L management was addressing the merits of Mr. Williams' allegations. A detailed description of those activities is provided in Attachment 4 to this letter.

In sum, AP&L found no issue raised by Mr. Williams to present a safety question. Nevertheless, certain immediate changes were made to improve the quality program. The job assignment system was revised to place contractor QC inspectors under an AP&L QC supervisor. Certain procedures were revised to improve the quality program. The training program was evaluated for adequacy in training contractor QC inspectors. In addition, a training course was conducted by AP&L's outside nuclear counsel for all management personnel at ANO, from first-line supervisors to senior managers, to address the interrelationships and importance of labor law and atomic energy law.

As the NRC is aware, in early December 1986, another contractor QC inspector, Mr. Richard Couty, filed complaints against AP&L, alleging violations of Section 210 of the Energy Reorganization Act. Later that month, upon completion of his investigation of those complaints, the Department of Labor's Area Director issued his finding that violations of Section 210 had occurred in both cases. As to the first complaint (of Mr. Williams), the Area Director concluded that neither reinstatement nor backpay was warranted because Mr. Williams had completed the term of his employment contract with full compensation. As to the second complaint (of Mr. Couty), AP&L is appealing the decision of Department of Labor and, accordingly, it will not be discussed further here.

Shortly thereafter, AP&L filed its request with Department of Labor for hearings on both matters. The request was assigned to a Department of Labor Administrative Law Judge, and discovery commenced in due course. An important reason to AP&L for requesting the hearing in this Williams' matter was so that the Department of Labor compulsory process would be available to determine all the facts surrounding Mr. Williams' allegations. Upon completion of discovery in the Williams' case, AP&L concluded that all pertinent information necessary to understand the concerns raised and to allow for proper disposition had been identified. Further prosecution of that appeal was not justified in light primarily of the human resources that would have been required.

Accordingly, on June 19, 1987, AP&L moved to discuss its appeal from the Department of Labor Area Director's finding on Mr. Williams' complaint. That motion was unopposed by Mr. Williams. An order dismissing the appeal was entered by the Department of Labor Judge on June 26, 1987. The companion case involving Mr. Couty will go to trial on July 13, 1987. Thus, this letter does not deal with Mr. Couty's allegations.

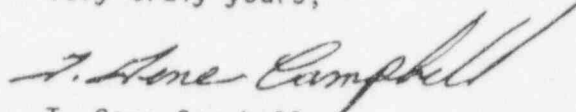
July 13, 1987

While AP&L believes, nevertheless, that it was blameless in the Williams' matter, we recognize that the finding of a Section 210 violation by Department of Labor will be of concern to the NRC under 10 CFR § 50.7. It is in recognition of that concern that we have taken the opportunity to provide you with the foregoing information.

Attachments are provided which further detail our activities. We have attempted to keep the NRC fully informed of our activities throughout our investigation by communications with the Resident Inspector. Full records of our investigation are, of course, available on-site for your review.

Irrespective of the merits of Mr. Williams' allegations, AP&L has examined its quality program. We have taken positive steps to strengthen our quality program and confirm and strengthen our commitment to the free expression of safety concerns by all employees. We are confident that our quality program in the past was in full compliance with regulatory requirements. We are further confident that our recent activities will strengthen that program.

Very truly yours,

  
T. Gene Campbell

TGC:lw

Attachments

- Attachment 1 - Organization chart showing position of frequently named individuals
- Attachment 2 - Summarized sequence of events
- Attachment 3 - SRC activities
- Attachment 4 - Summary of Mr. Williams' concerns and AP&L's actions in response

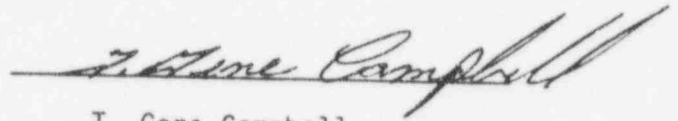
cc: Mr. Robert D. Martin  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011



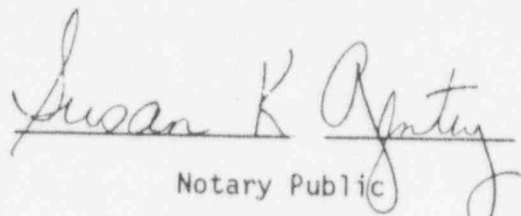
STATE OF ARKANSAS )  
COUNTY OF PULASKI )

SS

I, T. Gene Campbell, being duly sworn, subscribe to and say that I am Vice President, Nuclear Operations for Arkansas Power & Light Company; that I have full authority to execute this oath; that I have read the document numbered ØCANØ787Ø9 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.

  
T. Gene Campbell

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 14 day of July, 1987.

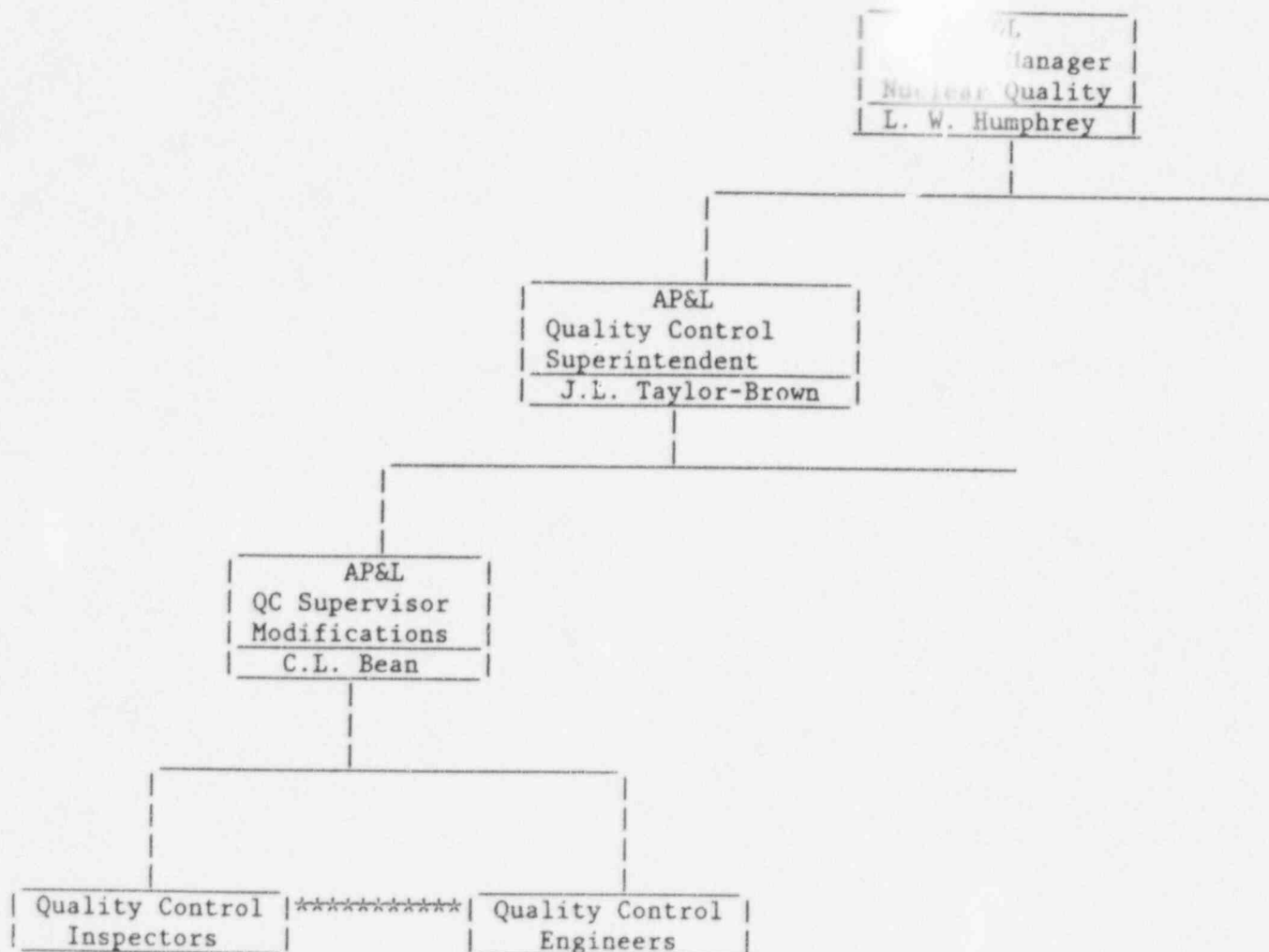
  
Notary Public

My Commission Expires:

May 7, 1993

# Attachment 1

## QUALITY CONTROL ORGANIZATION 1986 REFUELING OUTAGES



- AP&L - G. Parks
- Bechtel - M. Tester
- S&W - D. Williams, et al.
- AP&L - M. McFarland
- Bechtel - D. Novin, E. Steiner

### \*Background

During the ANO 1986 refueling outages, AP&L utilized contract quality control inspectors from S&W Technical Services to support the outage inspection workload. These quality inspectors received work assignments and technical direction from quality control engineers which included quality control engineers supplied by Bechtel. The Bechtel quality engineers reported to AP&L quality control personnel. (This management chain was in effect during all of the ANO-2 outage and part of the ANO-1 outage.)

Attachment 2  
SEQUENCE OF EVENTS

<u>Date</u>	<u>Descriptions</u>
08/28/86	ANO-2 Post Refueling Exit - David Williams signed that he had no Safety or Code Compliance concerns.
09/26/86	Verbal Confrontation between S&W and Bechtel personnel.
Next Few Days	Personnel involved were interviewed by AP&L Quality Control Superintendent.
10/01/86	During interview, David Williams identified concerns.
10/01/86	David Williams interviewed by Larry Humphrey, et. al. Several concerns were identified. When confronted with exit form he changed form.  Williams documented concerns upon request.
10/02/86	Investigation Team assembled.  Items identified during 10/1-2 interviews investigated. (Daily discussions with management followed.)
10/03/86	Vice President Nuclear Operations (VPNO) assigned action to Safety Review Committee (SRC).
10/10/86	Investigation complete.  No Safety Concerns identified. All items believed satisfactorily resolved.  Some improvement items identified - Recommendations made. Investigation results discussed with Williams - Williams indicated his concerns were resolved and considered his original concerns were minor.
10/15-16/86	Investigation results reviewed by SRC (8 hours of meetings).  SRC did not identify any safety concerns.  Concurred with previous recommendations.  Recommended independent review by Corporate Security.
10/21/86	Summary Report of SRC Findings to VPNO.
11/03/86	Corporate Security conducted interviews at ANO.
11/07/86	SRC meeting with Corporate Security to review their report.

11/10/86 SRC meeting with Corporate Security and legal counsel to re-review report and SRC Findings.

- SRC concurred in previous conclusion that no safety concerns existed.
- Recommendations were developed for the VPNO.

11/11/86 Briefing with VPNO.

VPNO directed that additional independent investigation be conducted by BLCP&R (legal counsel).

SRC had concerns that items identified might be symptoms of a deeper problem and wanted to do additional work to make sure nothing was overlooked.

11/12/86 BLCP&R contacted and instructed to begin investigation.

11/19-20/86 BLCP&R conducted interviews on-site - No new items identified.

11/21/86 Williams exited site - signed exit form that safety/quality concerns existed - indicated report to be filed with NRC.

NOTE: Beginning the week of 10/13/86, weekly meetings were held with all S&W and Bechtel Quality personnel to review previous weeks activities and identify quality concerns. Williams signed each week since then that he had no quality/safety concerns.

12/02/86 VPNO memo on Reporting Relationship of contractors.

12/08/86 Letter to David Williams providing a copy of his original handwritten concerns.

12/08/86 GAP Complaint filed on Williams.

12/09/86 BLCP&R Report - No Safety Concerns identified to date.

12/16/86 BLCP&R to continue interviews on site.

12/22/86 Department of Labor preliminary determination finds that AP&L discriminated against Williams and Couty.

12/30/86 AP&L files telegram with Department of Labor requesting hearing on Couty and Williams complaints.

01/15/87 Administrative Law Judge schedules hearing for 3/17/87.

01/23/87 Report to Board of Directors.

02/24/87 Results of BLCP&R investigation for the SRC.

03/02/87	Williams and Couty request postponement of hearing.
03/09/87	Administrative Law Judge reschedules trial for 5/11/87.
04/10/87	Administrative Law Judge reschedules trial for 5/12/87.
04/13/87	Investigation Team formed to review items identified in Williams Deposition.
04/21-22/87	Supervisory/Management training on identification of safety concerns.
04/28/87	Couty and Williams request prehearing conference for 5/13/87.
05/13/87	Administrative Law Judge holds prehearing conference in Little Rock.
05/18/87	Administrative Law Judge reschedules hearing for 7/7/87, in Little Rock.
05/29/87	Investigation Team (from Williams Deposition) work concluded. All items satisfactorily resolved.
06/09-10/87	Williams and Couty conduct depositions of ANO personnel.
06/17/87	Parties exchange pretrial statements and witness lists.
06/19/87	AP&L moves to dismiss its appeal from Department of Labor preliminary determination regarding David Williams.
06/26/87	Administrative Law Judge dismisses AP&L appeal of Department of Labor preliminary determination regarding David Williams.



## Attachment 3

### SAFETY REVIEW COMMITTEE ACTIVITIES

#### INTRODUCTION

AP&L recognized that there were two aspects of the concerns raised that needed investigation and disposition, that is labor issues and safety issues. The investigation team was charged with discovery of facts and development of appropriate recommendations both in the labor relations area and the safety area. The Corporate Safety Review Committee (SRC) was charged with reviewing the results of the investigation team from a safety perspective to assure safety issues were properly addressed.

#### DISCUSSION

The SRC first met on this issue in an extended special session on October 15 and 16, 1986. During this meeting the SRC reviewed documentation of the quality investigation team's results in detail and interviewed Nuclear Quality management personnel. Focus of the SRC's review was on the safety implications of the concerns and comments raised. Each concern was evaluated and dispositioned by addressing the item against the following 3 questions.

- 1) Is there any evidence or concern that physical plant systems and/or structures are not adequate to meet safety standards?
- 2) Is there any evidence or concern that the Quality Program and/or Procedures are inadequate to provide adequate Quality Control?
- 3) Is there any evidence or concern that improper direction was provided by supervisory personnel?

From that review, the SRC unanimously reached the following conclusions:

- 1) The SRC does not believe that there is any evidence to indicate that physical structures or systems currently exist in the plant that are unsafe, or that would be jeopardized as a result of the concerns raised.
- 2) The SRC believes that the Quality Program being implemented at the time of the alleged events was adequate to ensure quality, safety, and compliance with regulations. Evidence was presented that the Quality Program could be improved in certain areas but these improvement areas were not deemed to be indicative of significant program weaknesses.
- 3) No conclusive proof was presented, or made available, that would substantiate any wrong doing, procedural violation, or compromise of the Quality Program with one exception.

Mr. David Williams signed a routine statement at the end of the ANO-2 outage indicating he had no safety concerns as a result of activities conducted during the outage. When he later brought his

subject concerns forward, he stated that he "lied" when signing the original form, but did so because of concern for his job. It should be noted, however, that no evidence was witnessed which indicated that Mr. Williams has ever falsified a Quality document sign-off. To the contrary, evidence was presented that, on more than one occasion, he has refused to sign off a Quality job that he did not feel right about.

#### Disposition of SRC Recommendations

Management guidance was issued on December 2, 1986 which instructed that reporting chains of a contractor reporting to another contractor should be avoided whenever possible stating that "... the intent is to have contractors report directly to an AP&L individual but I realize there may be instances where this is not possible. In these cases I expect you to be aware of these instances and ensure the reporting relationship is effective and workable."

- 4) The upgraded program (under development at that time) for indoctrination of new contractor employees should be completed and implemented.

#### Disposition of SRC Recommendations

The new program was reviewed by the SRC and deemed appropriate to address the SRC's recommendations/concerns. This program has now been implemented.

- 5) Documentation relevant to disposition of Mr. Williams' concerns should be forwarded to Mr. Williams.

#### Disposition of SRC Recommendations

Due to anticipation of litigation, AP&L legal counsel advised that all contact with Mr. Williams be through his counsel during the discovery process. Documentation has now been made available through that process.

- 6) The largest concern of the SRC is the number and variety of minor events that have taken place over the past few weeks. Each one taken individually does not pose a significant concern, but taken on the whole, we are concerned they may be symptoms of a deeper and unknown problem. We believe further investigation is necessary to try to determine root cause of the symptoms and to allow us to take prompt and thorough corrective measures (if necessary) that go to the core of the issue. Further, we recommend that this investigation be conducted by individuals outside the AP&L organization. We recommend the scope of the investigation to be as follows.

Determine the AP&L QA philosophy as perceived by those employees involved in the quality process at ANO. Investigate AP&L

Management direction provided to those individuals performing quality inspections.

Discuss with individuals whether or not they have felt, or been made to feel, restrained or are reluctant to report deficiencies by anything which was said, implied, or inferred by AP&L management, including any AP&L contractors.

If significant problems are noted, establish root cause.

#### Disposition of SRC Recommendations

An independent investigation was conducted by Bishop, Liberman, Cook, Purcell & Reynolds. The results of this investigation are summarized as follows.

The process undertaken to conduct the investigation was primarily the interviewing of QA/QC personnel, from senior management down through line QC inspectors. The process also included a review of appropriate QA/QC procedures. On two visits to the ANO site, 43 QA/QC personnel were interviewed. Thirty-one individuals in the AP&L nuclear quality organization were interviewed. In addition, ten contractor QC inspectors (including Mr. Williams) and two contractor quality engineers were interviewed.

The conclusion of the investigation was that the AP&L nuclear quality organization functions in an atmosphere that encourages, rather than discourages, all QA/QC personnel to be quality conscious and to report deficiencies. The investigation found no indication among AP&L QA/QC employees of an infringement upon the organizational freedom which must be preserved for quality organizations, independent of cost and schedule considerations, in accordance with 10 C.F.R. Part 50, Appendix B, Criterion I. On the contrary, the investigation found a spirit of pride and a sense of mission among virtually every AP&L QA/QC person interviewed. The investigation also found a good level of familiarity with appropriate QA/QC procedures, which was attributed to the longevity of most individuals in the QA/QC program.

The same conclusion was not reached with respect to a few contractor QC inspectors, who expressed dissatisfaction with or had questions about certain aspects of the AP&L QA/QC program. The investigation found the root cause to be that certain contractor QC inspectors had difficulty in understanding some QA/QC procedures, together with a job assignment system that placed one contractor in a superior role to another contractor.

An important issue that the investigation explored was whether the problem with the contractor QC inspectors had any "chilling effect" on AP&L QA/QC personnel. In particular, the investigation attempted to determine whether the allegations of harassment and intimidation for reporting nonconforming conditions might

discourage other QC inspectors from performing their job functions.

The investigation found that no such effect resulted among the AP&L QA/QC personnel. Some had little familiarity with the allegations or the facts surrounding them, while those who did, expressed incredulity that any harassment or intimidation had occurred.

Some contractor QC inspectors expressed concern with the allegations, but all stated that they had not and would not compromise the integrity of their inspections because of the allegations.

### CONCLUSION

The results of the independent investigations and the total of information gathered during the discovery process have not altered the SRC's conclusion that no safety concerns exist. Recommended improvements have been (or are being) implemented as necessary.

As the appeal on Mr. Williams has now been dismissed, all pertinent information is available. The SRC is now planning a final review of this matter to assure all points have been addressed (from a safety perspective).

ATTACHMENT 4

ALLEGATIONS AND AP&L RESPONSES



### Allegations and Responses - Background

In October 1986, Mr. David Williams (contractor Quality Control Inspector from S&W Technical Services) documented several concerns with regard to the ANO Quality Program and workmanship.

As part of the followup investigation, Mr. Williams was interviewed by AP&L's Corporate Security personnel and AP&L's nuclear legal counsel. During the discovery process in preparation for the appeal of Mr. Williams' case to the Department of Labor, Mr. Williams was deposed under oath.

The documentation from the above has been thoroughly reviewed. The following information provides an item-by-item listing of the allegations pertinent to nuclear safety and an AP&L response of findings and disposition. The allegations are grouped in two major categories:

1. Alleged Deficient Conditions at the Plant
2. Alleged Reprisals Against Mr. Williams

I. ALLEGED DEFICIENT CONDITIONS AT PLANT

1) Equipment problems caused by alleged poor quality control.

- a) Alleged Welding Concerns (Flaws in the welding, i.e., undersized welds, welds with undercut, slag)

AP&L Response (Background Information)

This generic response deals with the general allegation regarding the overall ANO welding program and its implementation.

ANO is committed to ASME III, ANSI B31.1, and AWS D1.1 construction/fabrication codes for welding. These codes include acceptance criteria for flaws, undercut, size of welds, shape of welds, contour, and reinforcement of welds, etc.

AP&L Technical Specification APL-G-2410 (Rev. 0, 3/31/83), Structural Steel Welding Standards, provides the acceptance criteria for flaws, undercut, size of welds, shape of welds, contour, and reinforcement of welds, etc. for structural welds. This specification meets requirements for AWS D1.1-1982 for welded structures.

AP&L Technical Specification APL-M-2415 (Rev. 0, 12/17/81), Nuclear Welding Standards (ASME), provides the acceptance criteria for flaws, undercut, size of welds, shape of welds, contour, and reinforcement of welds, etc. for pressure boundary welds. This specification meets requirements for welding to the original construction codes for pressure boundary components.

ANO 1000.37, "Administrative Control of Welding", has adequate provisions for detecting and documenting flaws, undersized welds, weld undercut, slag and other discontinuities. This is accomplished by 100% inspection of all completed code welds, which is in accordance with ASME III, ANSI B31.1, and AWS D1.1. ANO Procedure 1000.37, "Administrative Control of Welding", does not specifically include acceptance criteria for welds, but rather it refers to APL-M-2415 and APL-G-2410 for determination of the acceptability of a weld.

The AP&L welding program procedures/specifications concerned with welding flaws (undersized welds, undercut, slag) are adequate to meet ASME/ANSI/AWS Code requirements. The implementing specifications (APL-M-2415 and APL-G-2410) also meet the current weld acceptance criteria of the applicable codes.

As shown by the above description, the ANO welding program requires 100% inspection of code welds and meets the

applicable industry standards. The ANO program has been in place for several years, and based upon the inspection records associated with code welds, has proven itself to be sound.

- b) Allegation/Concern/Comment: The lower brace on ANO Unit 2 hanger 2HCC-282-H29 was found during inspection to be welded only on three of the required four sides. David Williams, (S&W inspector) said he identified it to Doug Novin (Bechtel QC engineer) who said he would get weld rod and get it corrected without the welder I.D. symbol because they wanted the system accepted quickly. Mr. Williams also said that another inspector had accepted it prior to his discovery.

AP&L Response:

The hanger is identified as 2HCC-282-H29 and was installed under job order (JO) 703886. An investigation team discussed this concern with David Williams (S&W inspector). Mr. Williams stated that the weld in question was the bottom weld on the lower brace and that he and Mac Tester (Bechtel QC inspector) both witnessed the welder weld the fourth side of the brace to the baseplate joint. Mr. Williams stated that he does not know if the welder was the same one who welded the other three sides and that he did not check the weld rod or see if the welder stamped the weld after welding. Mr. Williams said the welder asked him how the finished weld looked and he said fine. Mr. Williams could not recall the date he performed this inspection when asked by the team.

The team also talked to Mac Tester on 10/10/86. Mr. Tester stated that he did witness the welder weld the fourth side of the lower brace to the baseplate joint. Mr. Tester also stated that he still considered the welding of the weld joint to be "in-process" because he had not signed the weld package for this particular weld. After completion of the weld, Mr. Tester stated that he signed the weld package for this weld.

The weld checklist/traveler for this hanger shows that Mac Tester signed the weld package on 6/30/86. The filler material withdrawal form shows that weld rod was issued for hanger 29 on 6/29/86 and 6/30/86. A walkdown of the hanger was performed on 7/24/86 by Terry Freeman (Bechtel field engineer) who verified that the lower brace to the baseplate joint was welded on four sides.

On 10/13/86 the team talked with R. Best (Daniel welder C-19) who performed the welding on hanger 29. The welder stated that he has never been called back to perform additional welding on a hanger that had been signed as complete. Welder symbol C-19 was the only symbol located on hanger 29, when

examined by Joe Brown (AP&L QA Sr. inspector), who also verified that the weld was welded on all four sides.

The team concluded that welding on hanger 29 was controlled in accordance with code requirements and that the welding of the fourth side of the lower brace joint was not made on a completed/accepted weld.

In regard to the alleged Doug Novin statement; Mr. Novin told the team it was not accurate. Mr. Novin stated that it would get corrected but did not tell Mr. Williams that it would be corrected without the welder's I.D. symbol next to the weld so that the system could be accepted quickly.

- c) Allegation/Concern/Comment: While in the ANO Unit 2 Auxiliary Building at elevation 335', David Williams (S&W inspector) alleged that he noticed a pipe weld on the emergency feedwater system that appeared to lack  $\frac{1}{4}$ " from tying in on the cap. Mr. Williams identified it to Mike McFarland (AP&L QC engineer) and had him go look at the weld. Mr. McFarland failed to see the concern until Mr. Williams pointed it out to him. Mr. Williams made the following statements: "Mike checked the paperwork in the office, and an inspector had accepted the weld as complete. Mike decided not to write an NCR, but to let a foreman get a weld rod and another welder repair it without documenting the repair or placing his weld I.D. symbol at the weld. The foreman called me and said that he had the weld rod and a welder to make the undocumented repair. I told the foreman to call Mike McFarland. The foreman later told me that he and Mike had decided to let the dayshift correct their own mess-up."

AP&L Response:

The pipe weld in question was part of the ANO Unit 2 EFW system being installed as part of DCP-82-2086. The weld is on line class 2HCC-282-12. David Williams did not know the weld number or exactly where it was located in the auxiliary building because when he saw it, the spooled pipe was still lying on the floor. Mike McFarland and Terry Freeman (Bechtel field engineer) tried to locate the weld for the investigation team, but were also unable to locate it since this spool had been subsequently installed. Mac Tester (Bechtel QC inspector) who performed the weld inspection stated that the weld was next to a 45° bend or short radius 90° and that it was one of the welds on drawing 2HCC-282-3, 4, 5 or 6, but he could not remember the specific weld. At the time of the team's inspection, the pipe had been installed.

Ray Reamey (AP&L ASNT Level III) walked down the line associated with the noted drawings on 10/6/86 and visually examined all welds next to a 45° bend or 90° bend. All welds were found acceptable per Code requirements.

In regard to Mike McFarland's statement about not writing an NCR, etc., he said the statement was not correct. Mike McFarland said that when he originally looked at the weld from a distance it did appear incomplete. He said he went back later and took a closer look at the weld and found the suspect area to be flush with the pipe O.D., but discoloration in this area of the weld gave the appearance when viewed from a distance of looking incomplete. He sent Mac Tester to look at the weld also. Mac Tester stated that the weld was good and there was no incomplete weld on the cap pass.

Dave DuPriest (Daniel weld foreman) was notified of a pending weld repair prior to McFarland's and Tester's re-examination of the weld, but he was never shown the weld to be repaired and was later told to forget it by QC. He was told this because it was determined by Mike McFarland that a repair was not required. Mr. DuPriest did have a welder selected to make the repair but said it would have been up to the welder to get the necessary weld rod per ANO plant procedures.

- d) Allegation/Concern/Comment: David Williams (S&W inspector) accompanied Doug Novin (Bechtel QC engineer) to the field and watched Mr. Novin perform a fit-up inspection of a 6" vent (Code Class B31.1) to a 36" diameter drain line. Mr. Williams stated that Mr. Novin accepted the fit-up even though the fit-up gap was  $\frac{1}{2}$ ".

AP&L Response:

An investigation team determined that the weld joint in question was made under controlled work package (CWP) 82-2086/704673 and Plant Engineering Action Request (PEAR) 86-1461. The welding checklist/traveler identified the weld as an ANSI B31.1 Code weld, even though the CWP was marked non-Q. The weld was made in accordance with Sketch #1, Rev. 1 of the CWP, which shows a 4" drain line welded to the side of a 36" drain pipe. The drawing also shows the two pipes to be non-Q, based on their line classification.

Doug Novin did accept the fit-up on 6/5/66. He stated that the fit-up appeared to be sloppy and that the gap looked excessive in a small percentage of the gap area. However, he stated that he did not measure the gap because (a) it was a non-pressure retaining weld, (b) it was non-Q, and (c) based upon his experience, he didn't think the welder would have any problem with the root pass.

The weld procedure was P1-AT-LH, Rev. 1, which specifies a maximum gap of 3/16". Don Barney (Daniel weld foreman) and Mr. Mason (Daniel welder #C-27) both stated that they remember the weld gap to be within 3/16" all around the weld joint. The welder stated that the fit-up tacks and root weld were both made using the GTAW process to make the root pass.



David Williams stated he measured the gap using a 6" steel rule. It's questionable that David Williams could accurately measure the gap with this method, based on the location of this weld joint.

An investigation team concluded, based upon statements presented by the welder and weld foreman and the fact that the weld is non-Q and non-pressure retaining, that the quality of the weld is acceptable. The team also concluded that since the root pass was welded by the GTAW process, the width of the gap in any given area could not have been  $\frac{1}{2}$ ".

- e) Allegation/Concern/Comment: David Williams (S&W inspector) identified to Doug Novin (Bechtel QC engineer) that the fab shop was using masking tape on stainless steel pipe. This was brought to Mr. Novin's attention numerous times before they finally removed the masking tape and started using certified Tuck-tape. Mr. Williams stated that he is unaware of this piping being checked for halogen and chloride contamination.

AP&L Response:

The masking tape identified by David Williams was procured without certification for halogen content. This tape was used to seal some pipe ends prior to welding. However, the control of halogens and sulfur at this stage of fabrication is not critical. Prior to fit-up, the pipe ends are required to be cleaned (groove face and adjacent surfaces) to remove all grease, oil, rust, scale or other foreign material. An investigation team talked to Rick Holman (Daniel welder) to determine how tape is removed from prepped weld ends. Rick stated that all the welders know that tape will leave a residue on the pipe surface and if not removed will result in a rejectable weld. The welders, therefore, use a flapper wheel to remove this tape residue from prepped weld ends. Rick stated that the flapper wheel is an effective method in removing tape residue. Rick also stated that Spot-check solvent (acetone) has also been used to clean prepped weld ends, when available. Specification APL-M-2415, paragraphs 5.1.4 through 5.1.6 and paragraph 3.0 to Section 2 of this specification, cover cleaning requirements. This is also a requirement of the ASME Codes. This cleaning operation would remove halogens which might have come in contact with the pipe end.

Tuck-tape is an approved tape for nuclear use and has been certified for halogen and sulfur content. Jerry Ray (AP&L QC engineer) and Don Graham (AP&L QA engineer) went to the fab shop on 10/6/86 and observed that this tape is currently being used by all welders in the fab shop to seal pipe ends. Based on conversations with Eugene Tapp (Daniel weld foreman), they are aware of this requirement.

The team concluded that the need to check stainless steel pipe ends, which come in contact with masking tape, for halogen contamination is not warranted. This conclusion is based on the fact that all pipe ends are cleaned prior to welding in accordance with ANO plant procedures.

- f) Allegation/Concern/Comment: David Williams (S&W inspector) identified that fit-up and preheat hold points were bypassed and the welds completed on three unistrut hangers. He discussed this with Mike McFarland (AP&L QC engineer) and Doug Novin (Bechtel QC engineer) who stated that any time the back of a fillet weld can be seen, the fit-up inspection could be performed at any time.

AP&L Response:

The three unistrut hanger support welds in question were part of ANO Unit 2 DCP-83-2198. The welding checklist/traveler showed these welds to be non-Q and non-seismic as does Drawing E-2080, dated 2/12/86, which was also attached to the welding checklist and traveler. The material ticket (#10911) calls for 200 feet of unistrut material on items 55 and 56 and is marked non-Q on the ticket.

Mike McFarland and Doug Novin both stated that unistruts are only welded on two sides and this was verified by reviewing Drawings E-2080, Sheet 158A and 172E. The weld symbols on these drawings specify fillet welds on opposite sides only. They also stated that it is AP&L policy that fit-up can be inspected either prior to or after welding on unistruts since two sides of the joint are not welded. Chester Bean (AP&L Modifications QC Supervisor) and Jerry Ray (AP&L QC engineer) also confirmed this statement.

Preheat was not an inspection requirement on the welding checklist. Doug Novin and Mike McFarland both stated that they did not tell David Williams to signoff preheat any time you can see the back side of a fillet weld. Their statements were applicable to unistrut welding only.

An investigation team concluded that the fit-up inspection points had not been bypassed based on the type of welds involved and the ability to inspect fit-up after welding. Procedure 1000.037 does not state when fit-up inspection on unistruts has to be performed. It should also be noted that fit-up inspection is not a required inspection by ANSI B31.1 and AWS D1.1; therefore, there was also no Code violations.

- g) Allegation/Concern/Comment: David Williams (S&W inspector) made a statement about excessive grinding on a support beam and stated that he discussed it with Mike McFarland (AP&L QC engineer) who told Mr. Williams first to write a nonconformance report and later to forget it because Engineering was taking care of the problem.

AP&L Response:

Mr. Williams did not provide any information which would have helped to identify the support beam in question. An investigation team reviewed the daily inspection entries made by Mr. Williams in the QC inspector log books. The inspectors were instructed to enter their daily inspections and inspection results in this log book. The team was unable to locate any entry by Mr. Williams pertaining to excessive grinding on a support beam.

An investigation team talked with Mike McFarland who stated that the inspectors were instructed during initial indoctrination training to discuss all possible nonconformances with a QC engineer to determine if a nonconformance report (NCR) or another type document needed to be written. The inspector and/or QC engineer were also to discuss the situation with Engineering. If the activity was still "in process" and if Engineering was already aware of the situation and identified actions to resolve it [Plant Engineering Action Request (PEAR) or Engineering Action Request (EAR)], the QCE may deem an NCR not to be required. Mr. McFarland did not recall any discussion with Mr. Williams related to excessive grinding on a support beam.

The team also talked to Chester Bean (AP&L Modifications QC Supervisor) who concurred with Mr. McFarland's statement. Mr. Bean also stated that he does not recall any discussion related to excessive grinding on a support beam. The team concluded that the decision process used by Mr. McFarland in deciding when to write an NCR is acceptable and is not a violation of the AP&L QA Manual or plant procedures.

- h) Allegation/Concern/Comment: David Williams (S&W inspector) raised a concern pertaining to excessive suck-back on sockolet welds on the feedwater lines and that the weld foreman asked him not to write anything down because he would get the day shift inspector to buy off the welds.

AP&L Response:

An investigation team talked to Chester Bean (AP&L Modifications QC Supervisor) who stated that he does not recall any incidents where Mr. Williams confronted him about seeing excessive suck-back on stainless steel pipe due to welding sockolets on the pipe. The team also talked to Mac Tester (Bechtel QC day shift inspector) who stated that he cannot recall this situation. The welding foreman Mr. Williams is talking about is Dave DuPriest (Daniel weld foreman). Mr. DuPriest is no longer employed at ANO and the team was unable to question him regarding the alleged statements made by Mr. Williams.

Since Mr. Williams only provided a generic statement about suck-back on stainless steel sockolet welds, an investigation team was unable to determine the specific weld(s) pertaining to Mr. Williams' statement. Jerry Ray (AP&L QC engineer) and Dan Spond (AP&L metallurgist), therefore, talked to Terry Freeman (Bechtel field engineer) who recalled welding activities involving sockolets on stainless steel pipe during the ANO-1 and ANO-2 refueling outages. Mr. Freeman showed Mr. Ray and Mr. Spond where some of the welds accessible for inspection were located.

The coupling to condensate line piping welds which were examined by Dan Spond are located in the close proximity of the following valves: CS-4336 (1 weld); CS-4349 (1 weld); 2CS-1104 (1 weld); and 2CS-1117 (1 weld). The coupling to condensate line piping welds which were examined by Jerry Ray are located in the close proximity of the following valves: 2CS-1087 (2 welds); 2CS-4328 (1 weld); 2CS-1160 (1 weld); 2CS-1089 (2 welds); 2CS-4330 (1 weld); 2CS-826 (1 weld); 2CS-1085 (1 weld); 2CS-4339 (1 weld); 2CS-4350 (1 weld); 2CS-1100 (1 weld); 2CS-1095 (1 weld); 2CS-1109 (1 weld); 2CS-1116 (1 weld); 2CS-1118 (1 weld); 2CS-1103 (1 weld); 2CS-1096 (1 weld); 2CS-1097 (1 weld); CS-4338 (1 weld); and CS-4337 (1 weld).

There was shrinkage of the larger pipe at each of these sockolet welds such that the diameter of the larger pipes was reduced by no more than 1/8". This amount of shrinkage was one-half or less than that stated by Mr. Williams. The shrinkage at these welds was gradual and did not leave any notch effect nor prevent valid NDE penetrant tests. In short, the appearance of these welds is satisfactory.

Shrinkage of thin wall stainless steel pipe, such as schedule 10, is really an unavoidable development for several reasons. First, the thin wall thickness does not afford the pipe much stiffness or resistance to deformation. Second, the high coefficient of thermal expansion of stainless steel, as compared to carbon steel, produces high distortion stresses in the pipe material adjacent to the weld. Such stresses are not uniform as a weld bead is deposited around the circumference of the pipe weld. More specifically, any particular location of the pipe will expand when in contact with the liquid weld puddle, but then it contracts as that segment of the weld bead solidifies and cools. The result is high stress that tends to distort and shrink the pipe material. Third, since stainless steel has a low coefficient of thermal conductivity as compared to carbon steel, the pipe stays hotter longer. The result of this is that stainless steel has low resistance to the deformation stresses since it stays at high temperature for a relatively long period of time.

There are some practical welding techniques that AP&L and others use to mitigate the distortion problem when welding thin wall stainless steel. First, a low heat input is used. This is accomplished by using small diameter wire for GTAW welds or small diameter electrodes for SMAW welds. These smaller sized filler materials are deposited with lower amperage and thus lower heat input. Second, stainless welds are deposited by the stringer bead technique rather than by a weave bead with the result being that heat input in any linear section of the weld is at a minimum. Third, smaller welds are used where possible as they produce less distortion. This means a 3/4" socket weld would have less shrinkage than a 1" socket weld. Fourth, stainless steel welds are not preheated with the beneficial result of the weld cooling as quickly as possible. Fifth, a maximum interpass temperature (350°F) between successive weld passes is specified in the welding procedure. This facilitates rapid cooling which minimizes distortion and retains corrosion resistance of the weld. As stated above, personnel involved with welding at ANO are aware of these good welding practices with stainless steel and employ them to attain high quality welds.

One final method AP&L and others utilize that mitigates this concern is to specify larger diameter pipe than is required to achieve a certain flow rate. Thus, the small reduction in cross-sectional area at the point of shrinkage is more than offset by the larger-than-needed diameter of the pipe that is used. It should be noted that since shrinkage of thin wall stainless steel welds can be effectively minimized by proper welding techniques, neither the ASME B&PV Codes nor ANSI B31.1 Power Piping Codes have had to address this issue. Thus, shrinkage of thin walled stainless welds is an accepted reality and it is left up to the good judgment of an engineer, experienced welding inspector or welding foreman to determine the amount of distortion considered acceptable.

- i) Allegation/Concern/Comment: David Williams (S&W inspector) raised a concern pertaining to the lack of drawings related to the installation of instrument tubing in the ANO Unit 1 reactor building. Mr. Williams stated that he discussed this with Mr. McFarland (AP&L QC engineer) who said they were going to install it, prepare as-built drawings, and just correct any deficiencies found. Mr. Williams also said he found three or four deficiencies that should have been written on a nonconformance report, but Mr. McFarland said, after he went with Mr. Williams to look at the deficiencies, that he would take care of them.

AP&L Response:

An investigation team determined that the probable tubing installation to which Mr. Williams is referring to is associated with DCP-84-1014-B. In talking with Mike



McFarland, Terry Freeman (Bechtel field engineer) and Mike Goodson (AP&L Project Engineering Supervisor), the team noted that tubing installations are handled differently than installation of major components. Engineering utilizes Tubing Installation Specification M2511 and Controlled Instrument Installation Detail drawings (M504 series) to identify how tubing should be installed. The need for AP&L to maintain controlled isometric drawings on tubing is not necessary since Specification M2511 contains all the necessary installation criteria.

Prior to the issuance of a job order to install tubing, a field engineer prepares a sketch identifying the proposed routing of the tubing for compliance to M2511 and, if applicable, associated Instrument Installation Details and identifying proposed field weld locations. This sketch is included within the job order package. During installation, the field engineer monitors the activity to ensure compliance to M2511 and that the applicable detail drawings are being followed.

As-building of tubing installations is not standard practice at AP&L since specification M2511 provides standardized configuration details that are verified to be met during job order closeout. However, for DCP-84-1014-B, the Instrument Installation Details were as-built on field change notices to show actual dimensions and configurations, which were reviewed/approved by Project Engineering.

An investigation team talked to Mike McFarland who stated that he does not remember going in the reactor building to look at possible deficiencies with Mr. Williams. Mr. McFarland also stated that he did not recall Mr. Williams identifying three or four deficiencies to him nor did he write any NCRs. As long as a welding activity (could involve multiple welds) has not been signed off by Field Engineering on the Controlled Work Package/job order package and a discrepancy is found, corrective action can be taken without documenting on an NCR per existing plant procedures (1000.37).

The team concluded that the tubing installation on DCP-84-1014-B was installed in accordance with plant procedures and that no Code violations were evident.

## 2. Allegations Regarding Material Traceability of Valves and Pipes

### AP&L Response (Background Information):

In the area of material traceability, AP&L is committed to the following regulatory requirements and codes:

- 10CFR50, Appendix B, Criterion VII - Identification and Control of Materials.

- ASME Code, Section III, Division 1 - This Code requires that material traceability can either be maintained on the part or on records traceable to the part.

AP&L procedures were reviewed by an investigation team to determine if adequate procedural controls exist in the area of material traceability.

The following procedures were reviewed by the team:

- Procedure 1000.11 - A procurement procedure which requires an engineer to document any marking/identification requirements required by the design standards on the purchase order (P.O.).
- Procedure 1033.01 - Requires a receiving inspector to verify identification markings on parts if specified on P.O. and to document it on a Receipt Inspection Report (RIR).
- Procedure 1033.02 - Requires identification markings to be maintained and transferred to each piece when cut.
- Procedure 1033.06 - a) Requires a material ticket (MT) to be completed when items are withdrawn from warehouse; the P.O. number, RIR number and job order number associated with the item are recorded on the MT for material traceability; b) requires identification markings to be maintained and transferred to each part when cut.
- Procedure 1004.18 - Requires QC to verify material identification/traceability when required during in-process and/or final inspection activities.
- Procedure 1032.01 - Requires verification of heat numbers and material identification markings as part of final installation walkdown, when required by the design engineer.

Based on the above, the team concluded that when material traceability is required, adequate controls have been established.

- Allegation/Concern/Comment: David Williams (S&W inspector) raised a concern to Mike McFarland (AP&L QC engineer) and Doug Novin (Bechtel QC engineer) about heat number verification and traceability and was told not to worry about it. Mr. Williams stated that he was told heat numbers would be checked at walkdown inspection and any material without a heat number would be cut out. Mr. Williams and Mac Tester (Bechtel QC inspector) then performed hanger inspections and reported to Doug Novin that a large percentage of the hanger material didn't have visible heat numbers. Mr. Williams stated that Mr. Novin told him that traceability was maintained on the material tickets and they were to write a note on the inspection report documenting this fact, after

editing by Mr. Novin and Chester Bean (AP&L Modifications QC Supervisor).

AP&L Response:

An investigation team determined that this hanger inspection pertained to emergency feedwater pipe hangers at elevation 335' in the auxiliary building of ANO Unit 2. This work was being performed as part of DCP-82-2086-B and JO-703886. These hangers are ASME Class 3 hangers.

In regard to a large percentage of hanger material not having heat numbers on them, a walkdown on hangers 2HCC-282-H20 through H33 and H35 through H38 was performed by Joe Brown (AP&L QA Sr. Inspector). Joe Brown observed that one or more heat numbers were visible on all the hangers, and he recorded the heat numbers on the appropriate hanger drawing. Mac Tester denied reporting to Doug Novin that a large percentage of hangers did not have heat numbers on them.

ASME Code, Subsection NF, paragraph NF-2150, states that for Class 2, 3, and MC supports and hangers, identification of material to the Material Manufacturer Certificate of Compliance is not required after the component support manufacturer has verified that the material meets the requirements of this Section. Certified Material Test Reports (CMTRs) are not required for Class 2, 3, and MC supports and hangers.

The material tickets or purchase order for all the heat numbers recorded by Joe Brown have been located. Based on the use of material tickets to record material used on this job, Code requirements have been satisfied since stamping of the material is not required for Class 3 hangers.

In regard to the explanatory note written in the remarks section of the inspection report, the material tickets associated with JO-703886 did have heat numbers written on them. Based on the above discussion, the note is a valid statement and is all that is needed to meet Code requirements.

In regard to Mike McFarland's and Doug Novin's alleged statements in the first part of the concern, they both said the statement was not true. Doug stated, "The heat number could be on material or on records traceable to the material. If material is found to be wrong during walkdown or closeout, it could be cut out." Mike McFarland stated material traceability is handled through the material tickets.

The team concluded that the material used in these hangers has been properly identified and that Code requirements have been met.

- b) Allegation/Concern/Comment: David Williams (S&W inspector) raised a concern to Doug Novin (Bechtel QC engineer) pertaining to snubber hanger 2HCC-23-H27 not having heat numbers stamped on the material. Mr. Williams stated that Mr. Novin told him that tomorrow he could go with a fitter and watch them stamp the heat numbers. Mr. Williams stated that he still refused to sign for heat number verification because the fitter stamped the numbers from a small piece of paper of which Mr. Williams did not know its origin.

AP&L Response:

An investigation team determined that the snubber hanger in question was installed as a result of DCP-85-2106-C. The work was performed under CWP-85-2160C/00710652.4 and associated Quality Control Inspection Report (QCIR) 85-2160C/710652.4-1-P-2.00.

Procedure 1033.006, "Stores Receipt Issue and Return", paragraph 6.2.7 requires that material cut from plate be re-marked. Terry McCarthy, the Daniel fitter on this job, stated that heat numbers were stamped on the plates for this hanger when fitted up in the fab shop. He said heat numbers were stamped on the top and side edge of plates and, when welded, the welds either partially or completely covered them up. The fitter was instructed by Maurice Foster (Daniel weld foreman) to restamp the hanger with the heat number Maurice Foster gave him on a sheet of paper which was taken from the material ticket. The fitter stated that the same heat number was stamped and still visible on the end plates of the hanger and that partially covered heat numbers were also visible when he went in to restamp the hanger. Pete Voordepoorte (Bechtel field engineer) stated that he remembered the fitter going back to stamp the hanger and the fitter stating that he found the heat number stamped on the hanger, but he stamped it again on the plates which make up the hanger. Don Graham (AP&L QA engineer) as part of the investigative effort, went to the fab shop on 10/6/86 and verified that heat numbers had been stamped on cut plate by examining those plates within the fab shop and storage area behind the fab shop.

In regard to Doug Novin's statement, D. Novin signed off the traceability step on the Quality Control Inspection Report (QCIR) on 9/16/86 based on heat number verification on Material Tickets 178708 and 143887. The material tickets were reviewed by the team and identified that the plate material was all cut from HT#801E09460. Doug Novin stated he told David Williams that heat number traceability could either be on the material or on records traceable to material per ASME NCA3866.6.

The team also reviewed the welding checklist/traveler for hanger 2CCA-23-H27 that had an entry made in the remarks area which identified the hanger material as HT #81E09460. The

team was unsuccessful in identifying who wrote the material heat number on the welding checklist/traveler and, therefore, did not utilize this document during its investigation to verify Code compliance for material traceability. Material Ticket 143887/178708 identified the hanger material as HT #801E09460 and this is the number that is stamped on the hanger plates. The team concluded that the omission of the 0 in the heat number written on the welding checklist/traveler was apparently due to human error when copying the heat number. The team also reviewed receiving documents for the same type/thickness of plate material and verified that there were no heat numbers similar to HT#801E09460.

The team concluded that material traceability was maintained on this snubber hanger and that the material welded was from "Q" stock.

### 3. Alleged Procedural Inadequacies

- a) Flawed administrative procedures which prevented accurate reporting of nonconforming conditions and the improper reliance on forms substituted for the nonconformance report.

#### AP&L Response (Background Information):

In the area of nonconformance control, AP&L is committed to the following regulatory requirements and/or standards:

- 10CFR50, Appendix B, Criteria XV and XVI - Pertain to nonconformance and corrective action control.
- Regulatory Guide 1.33/ANSI N18.7 - Provides guidance for the control of nonconformances and corrective action.

The basic program for nonconformance control, in both contaminated and non-contaminated areas of the plant, is documented in Procedures 1000.07, "Deviations and Nonconformances" and 1000.08, "NRC Reporting and Communications". These procedures provide the following guidance related to Mr. Williams' allegations:

- Procedure 1000.07:
  - States it is the responsibility of each individual to identify a nonconforming condition and report it to their supervisor.
  - States NCRs are not intended for use when dispositions are authorized by approved procedure prior to final acceptance.
  - Provides guidance to generate a RAC per 1000.08 if a significant nonconformance is determined.



- States that if another approved procedure provides disposition, follow those requirements and discard the potential nonconformance report.
- Procedure 1000.08:
  - States that the individual identifying the occurrence shall report it to his supervisor and to the Shift Supervisor.
  - Generate a RAC upon discovery of a Tech Spec violation, failure of safety-related equipment, or a reportable occurrence.

For construction-related activities, during the 1986 refueling outages, QC utilized Procedure 1004.18, which provides guidance in using reporting forms other than the NCR if work is still "in-process." This procedure also states that a QC engineer will make the determination to document the nonconformance on an NCR or utilize other reporting forms.

As an additional check in assuring that potential nonconforming conditions identified by an inspector are resolved, steps are provided in Procedures 4011.03 and 1004.18. Procedure 4011.03 requires QC to be notified of pending job order closeouts in order to review the associated Control Work Package (CWP). QC review is to assure that all noted QC inspection points were performed and accepted and to assure that any nonconforming conditions were identified and resolved. QC does not sign the CWP until their concerns are resolved. Procedure 1004.18 addresses various travelers used by QC which identifies QC inspection points associated with a job order and provides areas to document their acceptance. QC does not sign the traveler until their concerns are resolved.

If a potential nonconformance is identified in a contaminated area of the plant, AP&L does have a procedure to assure accurate information can be recorded outside the contaminated area. An investigation team talked to Dale Wagner (QA Specialist - Health Physics) who stated that when removing recorded information from controlled access, an HP technician will survey the documents for contamination prior to entering the clean area. If the documents are found to be contaminated and the information is needed, there are several ways to get the information. The HP technician may place the documents on a table next to the clean area and allow the individual to copy the information. The contaminated documents may also be individually sealed in clear plastic bags and taken (accompanied by an HP technician) to a copier for copying. The contaminated documents are then disposed by HP in accordance with plant procedures.



Based on the above, the applicable procedures provide adequate reporting requirements for nonconforming conditions, and controls for substituting other forms for the NCR are adequate.

- 1) Allegation/Concern/Comment: David Williams (S&W inspector) stated that AP&L had no inspection documents or checklists on which to report deficiencies (rejects).

AP&L Response:

An investigation team talked with Chester Bean (AP&L Modifications QC Supervisor) and Mike McFarland (AP&L QC engineer) regarding the system utilized in identifying rejectable conditions. When an inspection was to be performed, the assigned inspector utilized either a welding checklist/traveler (for weld inspections only) or a Quality Control Inspection Record (QCIR) to document their acceptance/rejection of the activity. The QCIR form provides a specific block for the inspector to identify a rejectable condition pertaining to an activity. Instructions for the QCIR are contained in Procedure 1004.18, and Mr. Williams attended training on this procedure on 5/27/86. The welding checklist/traveler form contains a space for the inspector to signify his acceptance of an activity and also provides a "Remarks" section where the inspector could record any rejectable conditions or other comments, if he so desired. Instructions for the welding checklist/traveler is contained in Procedure 1000.37, and Mr. Williams attended training on this procedure on 6/10/86. If an inspector did not sign the acceptance space for a particular activity and failed to identify why, and a different inspector was assigned to the activity, the inspection would be performed just like a first-time inspection subject to the same reject/acceptance criteria.

The team concluded that the forms utilized by QC to document their acceptance of an activity also contain appropriate spaces for an inspector to document any potential nonconforming conditions.

- 2) Allegation/Concern/Comment: David Williams (S&W inspector) made the comment that AP&L often came up with drawings after the fact and then made the paperwork fit what they had done.

AP&L Response:

Mr. Williams' comment was made in regard to the as-building of drawings during the installation of instrument tubing. The installation of instrument tubing has previously been addressed in Part I.8 of this report, which identifies the standard practices for controlling this activity.

An investigation team talked with Terry Freeman (Bechtel field engineer) and Mike McFarland (AP&L QC engineer) in regard to the ANO system for assuring drawings reflect the actual configuration of the plant. For plant modifications, a walkdown of the installation is performed by a field engineer, as a minimum, as part of the job order (JO) closeout. The field engineer assures the modification was installed to the drawings or specifications in the JO package. If deviations are identified, the applicable drawings will be marked-up to reflect the as-built configuration and submitted to Project or Plant Engineering for acceptance. As a check in assuring that potential non-conforming conditions previously identified by QC are resolved, steps are provided in Procedure 4011.03 and 1004.18 as discussed previously. Also, as part of the CWP/JO closeout, the controlled drawings will be revised to reflect the "as-built" drawings in accordance with plant procedures.

- 3) Allegation/Concern/Comment: David Williams (S&W inspector) stated that whenever an inspector identified a potential nonconforming condition, the QCE made the decision whether to write a NCR or use another reporting form. Mr. Williams felt like this violated AP&L procedures.

AP&L Response:

During refueling outages, the majority of AP&L QC inspectors are contracted. Since contracted personnel are not familiar with the numerous documents utilized at AP&L and to assure continued compliance to our quality program, they were required to discuss any potential nonconforming condition with a QC engineer or the QC supervisor per Procedure 1004.18. The QC engineer/supervisor was to assist the inspector in determining if the condition meets the criteria for a nonconformance. For weld inspections, the criteria to be followed in determining if an NCR is required is addressed in Procedure 1000.37, paragraph 8.4.

An investigation team also reviewed 10CFR50, Appendix B and ASME Code requirements pertaining to "control of nonconformances" against the AP&L QA Manual Operations and ANO procedures to verify compliance. No deviations from 10CFR50, Appendix B and the ASME Code requirements pertaining to "control of nonconformances" were identified.

- 4) Allegation/Concern/Comment: David Williams (S&W inspector) made the comment that when in a contaminated area of the plant performing an inspection, drawings would usually be located outside the contaminated area in the Health Physics office. This required the inspector to rely on memory when signing weld inspections, resulting in inspectors signing for welds that had not been welded.

AP&L Response:

Mr. Williams' comment was made in regard to the welding of the instrument tubing inside the ANO Unit 1 reactor building. An investigation team talked with Chester Bean (AP&L Modifications QC Supervisor) who stated that all inspectors were verbally instructed to record weld numbers inspected on a sheet of paper and to transpose them on the welding checklist (which is kept outside the containment area). Chester also stated that this was given as part of the QC Indoctrination training. Mac Tester (Bechtel QC inspector) stated that he did use this method to keep track of welds inspected and remembered being instructed to use this method.

An investigation team also talked to Mike McFarland (AP&L QC engineer) who stated that he was not aware of any inspector signing for welds that were not welded (not even fit-up). In reviewing the documentation for this installation, the installation sketch did identify the field welds (FW) by number and the welding checklist also listed the same FW numbers. Refer to Part IV.1 of this report for additional information on this subject.

b) Alleged Welding Documentation Deficiencies

AP&L Response (Background Information):

The various construction codes used at ANO (ASME III, ANSI B31.1 and AWS D1.1) require welding inspections and, as such, imply that these inspections should be documented. ASME III is not specific regarding what steps in the welding process should be visually inspected. ANSI B31.1 requires inspection only on completed welds. AWS D1.1 states that inspections shall be performed as necessary prior to assembly, during assembly, during welding and after welding.

ANO Procedure 1000.37, "Administrative Control of Welding", has provisions for documenting all welds made to ASME III, ANSI B31.1, AWS D1.1 as well as non-code welds. This procedure specifies the steps before, during, and after welding that must be inspected per the applicable code. ANO Procedure 1000.37 also details the method for documenting welding including: (a) specifying welding procedure, welding filler material, welder qualification requirements, and code welding, inspection and NDE requirements by Plant Engineering; and (b) establishment of inspection hold points by Plant Engineering and Quality Control. The procedure also describes initiation of NCRs for certain types of welding discrepancies.

ANO Procedure 1000.37 adequately addresses requirements for making, inspecting, examining, and documenting welds in accordance with the codes used at ANO. There is input from Plant Engineering and Quality Control to ensure that requirements for documenting code welds are met. With this system, the loop is closed, i.e.,

Plant Engineering and Quality Control, which establishes requirements for making, inspecting and NDE examination of welds, also review inspection and examination results after welding is completed. Thus the welding documentation is designed to identify intentional or inadvertent violations of code requirements for welding.

Inspection of welds per ANO Procedure 1000.37 meets and, in some cases, exceeds requirements of the various welding codes. For welds made to ASME III, the procedure specifies several inspection steps before, during, and after welding. For welds made to ANSI B31.1, all completed welds are inspected by QC. In addition, critical (seismic) welds made to ANSI B31.1 also have inspections of fit-up and preheat, which actually exceed code requirements. For welds made to AWS D1.1, inspection of all completed structural welds is performed by QC. At the discretion of Plant Engineering, QC inspection of fit-up and preheat for structural welds is sometimes specified, although it is not code required.

Even though there does not have to be 100% inspection before and during welding for AWS D1.1 and ANSI B31.1 welds, these codes specify that certain requirements must be met at these stages of work. In these cases, compliance to the welding procedure specification (WPS) by the welder is sufficient assurance that these code requirements are met. (It should be noted that AP&L WPSs are carefully developed to ensure that they include all applicable code requirements.)

- 1) Allegation/Concern/Comment: David Williams (S&W inspector) raised the concern that inspectors were having to inspect many tube welds while in containment, then do the paperwork later, often guessing about which welds they had inspected. The inspectors would make mistakes and the QC engineers would destroy the initial record rather than report that the inspector had erred. Mr. Williams also alleged that Mac Tester (Bechtel QC engineer) signed for FW-30 to DCP-84-1014-B and that Peter Cave (S&W inspector) signed for FW-41 to DCP-84-1014-B, when, in fact, the welds were not completed per Mr. Williams.

AP&L Response:

In regard to inspectors signing for wrong welds and then destroying the records, an investigation team talked to Chester Bean (AP&L Modifications QC supervisor), Mike McFarland (AP&L QC engineer), and Mac Tester. Mr. McFarland and Mr. Bean both stated they had no knowledge of any inspectors or QCEs destroying a checklist if an inspector signed for a wrong weld. They also stated that all inspectors were instructed to "line-out" their sign-off and initial/date it whenever they mistakenly signed for a wrong activity. The team reviewed several welding checklists which showed errors being "lined-out" and initialed/dated by the inspector. The team talked to Mac Tester, who stated that he

never destroyed an inspection record to cover up a wrong sign-off. Mr. Tester said he would "line-out" his name and initial/date it, per instructions received from Mr. McFarland. The paperwork referred to by Mr. Williams is the welding checklist, which contains welders' signatures and Code Inspector signatures, as applicable, in addition to the inspectors' signatures. Also, it should be noted that to destroy such a record would require getting all parties involved to re-sign a new checklist.

In regard to field weld (FW) 30, an investigation team reviewed Williams' spiral notebook which indicated it to be associated with DCP-84-1014-B/715495-6 and that Mac Tester was the inspector. The team reviewed the daily QC Inspection log book and found that Mr. Williams' entry on 10/7/86, did not list FW-30 as a weld he allegedly inspected. The team found that FW-30 was welded under DCP-84-1014-B/715495-10 and that Rocky Haworth (S&W Inspector) signed for the fit-up on 10/9/86 and Peter Cave signed the final on 10/10/86.

In regard to FW-41, an investigation team reviewed Mr. Williams' spiral notebook which indicated it to be welded under DCP-84-1014-B/715494-10. The team reviewed the daily QC inspection log book and found that Peter Cave's entry on 10/6/86 indicated that he inspected fit-up on FW-41 but was unable to sign the checklist because the welder's symbol was not on the paperwork. The team reviewed the welding checklist, which indicated that Peter Cave signed for the fit-up on 10/6/86 and that the welder had recorded his welder's symbol on the checklist. The welding checklist also indicates that Williams signed the final on FW-41 on 10/8/86.

The team concluded that errors on the welding checklists are being properly documented and that the specific errors identified by Williams cannot be substantiated.

- 2) Allegation/Concern/Comment: David Williams (S&W inspector) raised the concern that ASME weld repairs were performed on the emergency feedwater system and hanger 2HCC-282-H29 without being documented, without filler material being traceable and without welder I.D. symbol stamp. Mr. Williams stated that both Doug Novin (Bechtel QC engineer) and Ed Steiner (Bechtel QC engineer) were aware of this but did nothing.

AP&L Response:

The activities involving hanger 2HCC-282-H29 have previously been discussed in Part I.1 of this report. The results of that investigation indicated that a repair package was generated when modifications to the hanger were made and that weld filler material and the welder were identified per Code requirements. For this class hanger, ASME Section III does not require filler material to be traceable to a specific



weld. Mac Tester (Bechtel QC inspector) stated that he did witness the welding of the fourth side of the lower brace to the baseplate joint. An investigation team concluded that this weld was not unauthorized welding because the welding was not made on a completed/accepted weld.

The activities involving the emergency feedwater system have previously been discussed in Part I.2 of this report. The results of that investigation indicated that no additional welding was performed because the weld was determined acceptable upon further inspection by Mike McFarland (AP&L QC engineer) and Mac Tester.

The team concluded that for these two issues Code compliance has been maintained.

c) Alleged Improper or Indeterminate Procedures, Preventing Determination of Which Inspectors Performed Which Work

- 1) Allegation/Concern/Comment: Nowhere to record deficiency, therefore, second inspector might come along and approve.

AP&L Response

In this area related to the identification of inspectors, AP&L is committed to the following regulatory requirements and/or standards:

- 10CFR50, Appendix B, Criteria XVII: Requires inspection and test records, as a minimum, to identify the inspector or date recorded, the type of observation, the results, the acceptability and the action taken in connection with any deficiencies.
- ANSI N18.7 - 1976, Paragraph 5.2.17: States that the person approving the inspection results shall be identified.

Procedure 1004.18 provided the necessary controls to assure that the inspector involved with an activity was identified. This procedure identified the various forms that were used by an inspector, which provided a space for the inspector to initial/date their acceptance of an activity. This procedure also provided for the preplanning and performance of inspections, exams and tests during pre-process, in-process, and post-process activities.

The QC engineer, then under the guidance of the Modifications QC Supervisor, assigned an inspector to an activity. Assignment of inspectors are based on their qualifications to ANSI N45.2.6, which documents their areas of expertise. It is the prerogative of the QC Supervisor to assign any qualified inspector to a job.



Adequate controls exist to identify what inspector performs which work. QC maintains a Signature/Initial log which all inspectors complete. If any question arises as to what inspector initialed for a particular activity, the log may be referenced.

d) Alleged Improperly Trained Welders Doing Indeterminate Work

AP&L Response:

10CFR50 Appendix B, Criterion IX, "Control of Special Processes", states that welding shall be accomplished by qualified personnel using qualified procedures in accordance with applicable codes. ANSI N45.2-1977 states the same requirements. ASME IX, "Welding and Brazing Qualification", specifies welder qualification requirements for welding pressure boundary components; and AWS D1.1, Structural Steel Welding Code, specifies welder qualification requirements for welding structural steel. It should be noted that neither ASME IX nor AWS D1.1 includes any requirements for welder training prior to administration of a welder qualification test. However, both Codes require that a welder receive additional training or practice prior to qualification testing if he failed his first attempt at the test. (Alternately, he may make two qualification test welds if immediate retest is attempted.)

10CFR50 Appendix B, Criterion II, "Quality Assurance Program", states that the program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

The Appendix B requirements above state that welders should be trained and certified. The codes used to implement these requirements have very detailed requirements regarding qualification testing, but they are virtually silent regarding training. Therefore, the training "as necessary" term of 10CFR50, Appendix B, Criterion II is difficult to evaluate for welders.

ANO Procedures 1032.20 and 1032.22 specify welder qualification requirements for pressure boundary welding and structural welding, respectively. These procedures were written directly from ASME IX and AWS D1.1. Both AP&L welders and contract welders working to the AP&L welding program are certified according to these procedures. ANO Procedures 1032.20 and 1032.22 allow testing of welder qualification tests by radiography or bend testing as permitted by ASME IX and AWS D1.1. The current practice at ANO is to test all welder qualification test coupons by radiography since this is considered the more stringent of the two test methods.

In addition, ANO Procedure 1000.37, "Administrative Control of Welding", has provisions to assure that welds are made only by certified welders.

An investigation team investigated several areas regarding training and certification of contract welders, particularly Daniel welders since they are the topic of Mr. Williams' allegation. The team concluded that the program for certification and maintenance of certification for Daniel welders is in accordance with ANO administrative procedures and AWS D1.1 and ASME IX, as applicable. It should be noted that Daniel does not control any phase of the certification process so that no compromise of Code requirements should occur. Also, it should be noted that Mr. Williams was not involved in welder training or certification during his work at ANO.

Plant Engineering Services, with support from Little Rock General Office, issues the Welder Qualification Matrix which lists the welder qualifications achieved by certification with any of the ANO welding procedure specifications (WPSs). This form thus provides guidance to the plant's welding test administrator. Because WPSs may have been issued since the latest issue of the Welder Qualification Matrix, the plant's welding test administrator certifies welders only for the WPS used in the welder qualification test. This actually may be overly conservative as in many cases more than one certification can be awarded for a successful qualification test.

The team also reviewed the Daniel method for screening and training welders before they are administered welder qualification tests. Their practice is to hire welders with experience (no set amount) in power plant or pressure boundary welding. Before each qualification test, Daniel welders are given four to eight hours of hands-on welding training. (Daniel records show that most welders receive eight hours of welding practice prior to each qualification test.) If a welder fails a qualification test, he is given additional welding practice/training. As stated earlier, there are no code requirements regarding amount of welding training, and Daniel appears to be giving welders a reasonable amount or practice before taking qualification tests.

Daniel has also conducted classroom-type training for welders. When welders are initially hired and certified, they are given training in various aspects of the ANO welding program, with special emphasis on weld rod control, welding to the designated WPS, and welding only on the assigned weld. Also, Daniel has given their welders short training classes on recurring problems such as prevention of arc strikes. Finally, the Daniel welding foreman generally reviews with the welder the content of the WPS before each welding job is begun.

- e) Alleged Inadequate or Non-existent Quality Control at the Warehouse

AP&L Response:

In the area of quality control at the warehouse, AP&L is committed to the following regulatory requirements and/or standards:

- 10CFR50, Appendix B, Criteria XIII: Requires measures to be established to prevent damage or deterioration to material and equipment.
- Regulatory Guide 1.38/ANSI N45.2.2: Requires measures to be established and implemented for the packaging, shipping, receiving, storage and handling of specified items to be incorporated in the nuclear plant and for the inspections, examinations, testing and documentation to verify conformance to specified requirements.

The following procedures govern the receipt, storage, handling and issuance of materials at the warehouse level. These procedures were reviewed by an investigation team and determined to provide the necessary controls to meet AP&L commitments. Ray Reamey (AP&L weld engineer) and Joe Brown (AP&L QA Sr. inspector) performed an observation on 12/16/86 of warehouse activities and concluded that appropriate controls are being adequately implemented.

- Procedure 1033.01:

- Requires all items be inspected upon receipt as indicated on the Receipt Inspection Instruction Form (RII). Inspections are to be documented on a Receipt Inspection Record (RIR).
- Requires all items and their containers be plainly marked so that they are easily identified.
- Requires material to be tagged or have copy of the Material Receiving Report (MRR) describing the material accompanying it to the warehouse.

- Procedure 1033.02:

- Requires material to be stored as stipulated on the RIR.
- Requires warehouse personnel to perform inspection of the warehouse areas each month and to document the results.
- Addresses identification markings and transfer of markings when material is subdivided.
- Addresses shelf-life requirements, contamination control and handling of materials.

- Procedure 1033.06:

- Requires material to be properly identified (with storage instructions) when received.
- Provides requirements for material identification and transfer of markings when material is subdivided.

- Provides controls for the issuance of materials and for the return of materials to stores.

Based on the above, an investigation team concluded that appropriate controls are in place at the warehouse and that they are being adequately implemented. The QA audit and QC surveillances performed in this area in 1986 also revealed that adequate controls exist.

- f) Allegation/Concern/Comment: David Williams (S&W inspector) made the statement that craft personnel were calling the S&W trailer directly, rather than the QC engineer to request an inspection. Mr. Williams felt this resulted in unequal assignments.

AP&L Response:

This practice was discussed with Glenn Parks (AP&L QC Sr. inspector) and Mike McFarland (AP&L QC engineer) both of whom stated that they were aware of craft personnel contacting the S&W inspectors and non-S&W inspectors directly. Mr. Parks and Mr. McFarland both stated, however, that probably less than 10% of inspection requests went directly to S&W inspectors. They also stated that if an S&W inspector was contacted directly, the inspector would call a QCE to inform him of the requested information and to obtain concurrence that he should do the inspection. If a craft person contacted an S&W inspector directly, it was usually because the S&W inspector requested that he do so.

- g) Allegation/Concern/Comment: David Williams (S&W inspector) made the comment that another S&W inspector (Jack Sievers) was not familiar with instrumentation tube weld inspections and asked for training. However, Ed Steiner (Bechtel QC engineer) kept assigning him to do these inspections without giving him the training.

AP&L Response:

An investigation team talked to Glenn Parks (AP&L QC Sr. inspector), Chester Bean (AP&L Modifications QC supervisor) and Mike McFarland (AP&L QC engineer) to see if Mr. Sievers had approached any of them asking for additional training on inspection of tube welds (socket welds). None of the individuals talked to by the team were aware of Mr. Sievers' request. The team talked to Ed Steiner who stated that he does recall Mr. Sievers telling him that he did not feel real comfortable about a particular type of inspection. Mr. Steiner could not recall, however, the type of inspection to which Mr. Sievers was referring and stated that he would not have sent out an inspector if the inspector was uncomfortable with the task. Mr. Steiner stated that he recommended Mr. Sievers go with another inspector for on-the-job training (OJT) and he recalls that this was done by Mr. Sievers.

The inspection of tube welds is covered in Procedure 1000.37 and is also covered in the QC indoctrination training. Records indicate that Mr. Sievers received the QC indoctrination training on 10/22/86 and received training on Procedure 1000.37 on 11/5/86. Training records also indicate that Mr. Sievers was certified by AWS as a Certified Welding Inspector in 1984 and that AP&L certified him in accordance with ANSI N45.2.6 as a Level II welding inspector on 10/24/86. The team identified the tube welds inspected by Mr. Sievers but was unable to examine any of these welds due to their location in the reactor building, which was at power.

The team concluded that Mr. Sievers had received adequate formal training and, based upon his past certifications through AWS and other utilities, he should have been familiar with socket welds which were utilized for tube welding.

4) Desire to avoid NCRs.

- a) Allegation/Concern/Comment: David Williams (S&W inspector) stated that whenever an inspector identified a potential nonconforming condition, the QCE made the decision whether to write an NCR or use another reporting form. Mr. Williams felt like this violated AP&L procedures.

AP&L Response:

During refueling outages, the majority of AP&L QC inspectors are contracted. Since contracted personnel are not familiar with the numerous documents utilized at AP&L and to assure continued compliance to our quality program, they were required to discuss any potential nonconforming condition with a QC engineer or the QC supervisor per Procedure 1004.18. The QC engineer/supervisor was to assist the inspector in determining if the condition meets the criteria for a nonconformance. For weld inspections, the criteria to be followed in determining if an NCR is required is addressed in Procedure 1000.37, paragraph 8.4

An investigation team also reviewed 10CFR50, Appendix B and ASME Code requirements pertaining to "control of nonconformances" against the AP&L QA Manual Operations and AND procedures to verify compliance. No deviations from 10CFR50, Appendix B and the ASME Code requirements pertaining to "control of nonconformances" were identified.

- b) Pressure on quality control inspectors by construction workers and supervisors.

- 1) Allegation/Concern/Comment: Before vacation, Novin told him (Williams) not to record any safety concerns at exit interview if he wanted a job when he got back.



AP&L Response:

The Unit 2 refueling outage ended in late August 1986. On August 28, Mr. Williams signed a Special Exit Interview form stating that he was aware of no problems with the quality of workmanship or the engineering design of the unit and that he was aware of no possible code violations that were or had been committed at the project. AP&L presented each of the S&W inspectors with such a form, in an effort to identify any concerns that might not have been reported otherwise.

When Mr. Williams related his series of technical concerns to Mr. Humphrey and Mr. Taylor-Brown on October 1, they, after listening to Mr. Williams' identification of a series of technical issues, asked whether any of them related to Unit 2. Unit 2 had been returned to service not long before, and Mr. Humphrey, in particular, was concerned that possible hardware or other deficiencies might immediately need reinspection or reverification. Mr. Humphrey and Mr. Taylor-Brown consulted Mr. Williams' Special Exit Interview form, on which Mr. Williams had been expected to list any concerns, such as the ones he was now raising. When they secured Mr. Williams' form, they found that he had expressed no concerns at the time. When presented with the form, and asked why he had not identified any concerns, Mr. Williams had no explanation. Mr. Williams eventually acknowledged that he "lied" in executing the form, and, although he stated that he felt that had he identified concerns on the form he would have lost his job, he offered no basis for that belief.

At the time of his deposition, more than five months later, Mr. Williams had a different, more detailed explanation for neglecting to identify concerns on the form designed for that purpose. He claimed that Mr. Doug Novin, one of the Quality Engineers, had told him that unless he checked "no" for each of the two questions, he would not have a job when he came back from the vacation that Mr. Williams took following the outage. Williams testified that there were no witnesses to this conversation other than himself and Mr. Novin.

The reasons for which Mr. Williams checked "no" on the interview form may never be known with certainty, because the question principally boils down to Mr. Williams' word against Mr. Novin's. This much can be said, however: Mr. Williams testified that he felt comfortable checking the "no" boxes because he had already reported each issue of which he was aware to his supervisors and "technically, I had reported these incidents to my supervisor, therefore, the responsibility fell on him." We elsewhere explained in



detail the basis on which Mr. Williams' technical issues, on analysis, cannot be substantiated. Moreover, Mr. Williams was aware, as were all QC inspectors, that Mr. Novin and Mr. Steiner worked for Bechtel and has no authority to terminate any S&W inspector.

- 2) Allegation/Concern/Comment: Mr. Williams alleged that he was pressured to sign off on unacceptable items.

AP&L Response:

Mr. Williams stated that he witnessed two occasions on which inspectors were pressured to sign off on unacceptable items. In one case involving anchor bolts, an inspector "said they were unacceptable and he wasn't going to sign it; Ed [Steiner] was trying to force him to sign them off as being acceptable." Mr. Williams also stated that and he heard Mr. Novin tell Mr. Couty "that if he couldn't inspect like he wanted him to inspect, he didn't need his service."

We believe that Mr. Williams' observations must be discounted, to some extent, due to the context in which he made these remarks -- i.e., as a litigant against AP&L. Nonetheless, we conclude that, as with certain other issues raised by Mr. Williams, much depends on the inspector's perception of a given event. During the 1986 outages, the inspectors frequently raised technical issues with the Bechtel Quality Engineers; that, after all, was the engineers' function. Often, a Quality Engineer's attempt to persuade an inspector as to the proper interpretation of a procedure or application of a code in a given inspection context could be, and was, interpreted by another inspector as representing an attempt to "force" that interpretation on the inspector. In fact, the Bechtel engineers had no power to "force" any inspector to accept otherwise unacceptable work. Mr. Williams, for example, testified that he had never failed to identify a discrepant or nonconforming condition of which he was aware.

- 3) Allegation/Concern/Comment: Mr. Williams alleged that inspectors were told by Mr. Novin and Mr. Steiner that those two had the authority to fire them for "making waves."

AP&L Response:

The lack of authority in the Bechtel engineers to fire inspectors is discussed in paragraph I.4(b)(1) above. The statement regarding "making waves" is discussed in paragraph I.4(c) below.

- c) Allegation/Concern/Comment: At a training class on procedures, Mr. Novin and Mr. Steiner stated "don't make waves or you'll be back on the road" and that inspectors would not get training on writing NCRS. If there was a problem on an inspection, they were

to inform a QCE who would decide on the NCR and "work out the problem."

AP&L Response:

Mr. Williams stated that during training at the outset of the first outage, the Bechtel engineers told the inspectors, "don't make waves," or they would be fired. On balance, we are unable to substantiate this statement. Mr. Williams first made this statement in his interview with Mr. Humphrey and Mr. Taylor-Brown on October 1. Mr. Taylor-Brown, in turn, asked each of the other S&W inspectors whether they recalled such an instruction. The large majority of the inspectors who had attended the training did not recall any such statement. A few others seemed to recall such an expression. Mr. Taylor-Brown emphasized to all of the inspectors during the interview that AP&L expected them to report any and all discrepant conditions.

Mr. Ed Steiner denied making any such statement, and Mr. Novin, who also did not recall making such a statement, thought that something else that he might have said in training had been misinterpreted. If such a statement was made, it appears that its interpretation depends on the predilections of the inspector.

The claim by Mr. Williams that inspectors were told that they would not receive training on NCRs is contradicted by the fact that the S&W inspectors were trained in the site NCR procedure. We have found no evidence even suggesting, as claimed by Williams, that if an inspector identified a nonconforming condition "the QCEs would work it out with the craft."

## II. REPRISALS AGAINST WILLIAMS

- 1) Complainant was forced to work in contaminated areas of the plant to an extent out of proportion with what was required of other inspectors in the same position and with the same responsibility.
  - a) Allegation/Concern/Comment: Mr. Williams alleged that Mr. Novin and Mr. Steiner were not allowed to make assignments after October 5, 1986, but they continued to do so. Mr. Williams felt they were retaliating.

AP&L Response:

Shortly after Nuclear Quality management interviewed all of the S&W inspectors early in the first week of October 1986, Mr. Humphrey directed that the Bechtel engineers be relieved of any responsibility for making assignments to inspectors. Mr. Humphrey believed that the program would be better served by having contract personnel, such as the S&W inspectors, reporting directly to AP&L personnel, rather than to other contractors. He also perceived that some of the S&W inspectors did not get along with the Bechtel engineers, and

decided to eliminate the assignment interface, thereby relieving a point of friction.

Mr. Novin and Mr. Steiner made no assignments after that directive. Mr. Richard Couty, who has a palpable interest in discrediting Mr. Novin, Mr. Steiner, and AP&L, confirmed that Mr. Novin, at least, stopped making assignments during that period, and that the new policy created some problems. When Mr. Novin was the only person in the QC trailer, and craft would call for QC coverage, Mr. Novin would take the call, write down the pertinent details on an assignment sheet, and then place the sheet on the desk of Mr. Glenn Parks (an AP&L supervisor), or some other AP&L supervisor's desk. After a time, Mr. Couty explained, craft began to complain about delays in securing QC coverage. Mr. Couty's solution to the problem was to suggest to craft that they call him directly if they needed an inspection in his discipline. Craft adopted that arrangement.

- b) Allegation/Concern/Comment: Mr. Williams alleged he had gone over his radiation limit twice, and they had raised it twice.

AP&L Response:

Mr. Williams is correct in stating that AP&L raised his radiation limit twice in October. The principal reason for him exceeding his limit, as explained in paragraph II.1(f), below, was the limited number of welding inspectors available for QC coverage. The necessity for raising his limit is due, in part, to his failure to provide AP&L with [identify NRC dosage form from last job or jobs]. Had he supplied the form, his limit would have been 300 mr/week; in the absence of the form, AP&L assigned him a more conservative 100 mr/week. As explained below, Mr. Williams never came close to exceeding relevant regulatory limits at any time.

- c) Allegation/Concern/Comment: Mr. Williams alleged that Mr. Steiner told him the respirator jobs would be distributed more evenly, but this was not done after he wrote down his concerns.

AP&L Response:

Mr. Williams refers to a conversation with Mr. Ed Steiner and Mr. Glenn Parks, in which, he states, he was promised that he would be given fewer respirator jobs during the Unit 1 outage (the second 1986 outage). This conversation took place shortly before the end of September. If, as Mr. Williams states, Mr. Steiner and Mr. Parks promised to do something about the matter, as it turned out, they could not assume responsibility for doing so. Mr. Steiner made no further assignments beginning the following week, and Mr. Parks moved to the night shift at the same time.

Records show that Mr. Williams was given more respirator jobs than most, but not all, of the other inspectors during October and November. In October and November, Mr. Williams was given 25 inspections requiring the use of a respirator. Another inspector, Mr. Glen Houle, was also given 25 respirator jobs. Mr. Joe Vidunas was given 18. All other inspectors had fewer respirator assignments. The fact that Messrs. Williams, Houle and Vidunas were given such a large number of respirator jobs is significant, because they were the only inspectors in the modifications group certified in welding. There is no evidence that Mr. Williams was singled out for respiratory duty because he had previously identified concerns.

- d) Allegation/Concern/Comment: Mr. Williams alleged that he picked up more radiation than any other inspector.

AP&L Response:

Due to the limited number of inspectors available in the welding area, Mr. Williams drew a large number of jobs. Most of the welding that was being conducted during the subject period was inside the Reactor Building. AP&L had lost three inspectors available to perform inspections during that period. In other months, Mr. Williams' exposure are not only unremarkable, they are generally lower than for the other S&W inspectors. In November, two other welding inspectors (Brown and Vidunas) received higher dosages than Mr. Williams, and the other welding inspector (Houle) received about the same. We note that an AP&L inspector, Mr. McFarland, received a significantly higher dosage in November than did Mr. Williams.

- e) Allegation/Concern/Comment: Mr. Williams alleged that AP&L knew of what Mr. Steiner and Mr. Novin were doing, but did nothing to stop it.

AP&L Response:

Mr. Williams alleges that AP&L was aware that Mr. Steiner and Mr. Novin were exposing him to disproportionately high radiation levels, but did nothing to stop them. The allegation as to Mr. Novin is illogical; Mr. Novin moved to night shift early in October, remained there for the duration of Mr. Williams' employment at ANO, and had little or no contact with Mr. Williams, who remained on days. Mr. Steiner did not make assignments after the first week in October, so we cannot, of course, ascertain that AP&L was "aware" that Steiner was making assignments.

AP&L supervisors were aware of Mr. Williams' radiological exposures. Those exposures, in October, November, and at all other times that Mr. Williams was employed at ANO, were well within regulatory limits.

- 2) Complainant was being flagrantly pressured not to identify nonconforming conditions. This pressure was applied by threats and coercion by construction personnel; non-support and deliberate voiding of NCRs; and the intimidating effect of the termination of other inspectors who raised concerns.

AP&L Response:

Mr. Williams alleged in his Department of Labor complaint that he had been "flagrantly" pressured not to identify nonconforming conditions. This pressure, he stated, was in the form of threats by craft, voidance of NCRs, and the intimidating effect of terminations of other inspectors.

We have found no evidence that anyone other than Mr. Williams perceives that craft coerced or pressured quality control inspectors at ANO. None of the inspectors interviewed by Nuclear Quality management in October shared this concern. Perhaps the best source on this subject is Mr. Richard Couty, who has every reason to disparage AP&L. Mr. Couty testified that he never had any trouble with craft at ANO. In fact, on October 1, Mr. Couty told Mr. Taylor-Brown that the quality of welding by Daniel was basically good.

We have found no cases in which Nuclear Quality supervision, or quality engineers, voided NCRs where a nonconforming condition, in fact, existed. There were instances in which an inspector, who believed that he had identified a nonconforming condition, consulted with the Bechtel Quality Engineers on the subject. In some such cases, the engineer perceived that the condition was not a nonconforming condition under relevant procedures, and that the discrepancy could and should be reported on a Deficiency Notice or other reporting document. In such cases, the QCE's function was limited to that of persuasion. This did not represent "voiding" of NCRs.

AP&L denied access to ANO to two S&W inspectors during the 1986 outages, both in October, 1986. One of these was Mr. Couty, based on his repeated confrontations with his supervisors. AP&L denied access to the other for legitimate business reasons that we will not disclose in this context, to protect the privacy of the individual. Neither of these terminations was based in any way on the inspectors raising quality concerns. Neither of these terminations was intended to have an intimidating, or any other, effect on other inspectors. As regards Mr. Couty, AP&L will not tolerate the kind of conduct exhibited by that inspector.

- a) Allegation/Concern/Comment: The other inspectors received classes on NCRs, but Mr. Williams did not. In the initial training session, they were all told that they would not receive the training, then later the others got it. In October, he told Mr. Taylor-Brown and Mr. Humphrey about this and he was given the procedure. He asked a question, but was



told that since the procedure was being revised it was irrelevant.

AP&L Response:

Mr. Williams' statement that he did not receive training in the site NCR procedure may be correct. During training in late May and early June, 1986, all of the incoming S&W inspectors were trained in the NCR procedure, and signed standard training forms stating that they had undergone such training. For reasons that we cannot explain, Mr. Williams' name does not appear on these forms. We have been unable to establish whether Mr. Williams attended the training, and for some reason did not sign the relevant sheets, or whether for some unknown reason he did not attend training with his fellow inspectors. When management was alerted to his claim, in October, he was trained in the NCR procedure. We note that Mr. Williams prepared a nonconformance report prior to his training in October, and testified that he was generally familiar with nonconformance, and NCR procedures, from his work at other plants. Mr. Williams also testified that he "never saw one [an NCR condition] I failed to report."

- b) Allegation/Concern/Comment: Mr. McFarland hinted that if he (Mr. Williams) kept checking the work of other inspectors that he would be fired.

AP&L Response:

Mr. Williams claims that an AP&L inspector, Mr. McFarland, "hinted" that if Mr. Williams continued checking the work of other inspectors, he would be terminated. We cannot substantiate this allegation, and, in fact, the claim is contrary to AP&L policy. Mr. Williams' alleged disagreement with Mr. McFarland involved a single weld, and the merits of that technical issue cannot be determined, because the weld in question cannot be positively identified. As to the claim regarding reinspection, Mr. Richard Couty testified that, when he expressed doubt to one of the Bechtel engineers as to the qualifications of another S&W welding inspector, the engineer directed Mr. Couty to reinspect a random sample of that inspector's work. Mr. Couty did so. In addition, we have reinspected, to the maximum extent possible, hardware as to which Mr. Williams has alleged deficiencies, irrespective of which inspector performed the inspection.

- c) Allegation/Concern/Comment: Mr. Williams alleged that he was told of an earlier inspector who had been fired for following other inspectors.

AP&L Response:

Mr. Williams alleges that, prior to the 1986 outages, an inspector was fired for "going behind" the work of another



inspector, and finding deficiencies in the other inspectors work. Mr. Williams could not identify the inspector, and, in fact, was not on the site when this alleged event occurred. We cannot substantiate this allegation.

- 3) Allegation/Concern/Comment: David Williams (S&W inspector) alleged that he was confined on one occasion against his will by his supervisor.

AP&L Response:

On 10/1/86, Mr. Larry Humphrey (AP&L General Manager of Nuclear Quality) and Mr. Jim Taylor-Brown (AP&L Quality Control Superintendent) talked to Mr. Williams. During this conversation, Mr. Williams stated he had quality-related concerns and voiced the concerns. Due to the nature of the concerns and to avoid any misunderstanding, Larry Humphrey requested that Mr. Williams document his concerns. He documented the concerns while sitting in an office adjacent to Mr. Humphrey's office. Mr. Williams at no time stated or complained that he was being held against his will. Mr. Humphrey's recollection is that Mr. Williams did communicate that his wife was to prepare dinner, that he (Mr. Williams) had a headache, and he (Mr. Williams) asked if the report could wait until the following day. Mr. Humphrey's response was that the information was needed that day. This was because some of the concerns dealt with hardware on Unit 2 which was at 100% power. Mr. Williams in no way voiced or communicated that he considered this to be holding him against his will. Mr. Williams was paid for the time during which he documented his concerns.

- 4) Allegation/Concern/Comment: David Williams (S&W Inspector) alleged that he was "laid off" from his position while there was still work to do that was being done by other inspectors. He alleged that he was told by Mr. Ed Steiner (Bechtel QC engineer) that he would be the last contract inspector on site and perhaps even be retained for another two years.

AP&L Response:

Mr. David Williams, as well as the other initially employed S&W inspectors, reported to ANO with the understanding that the work should be completed by 11/7/86. When the modification workload was significantly reduced in late October 1986, plans were made to stagger the contract end date for various S&W personnel depending upon remaining work and the needed expertise for these tasks. In addition, Chester Bean (AP&L Modifications QC Supervisor) took the position that it would be the most equitable arrangement to have those inspectors who reported to site late in the outages be retained as long as possible.

Mr. Williams was among the first few S&W personnel involved in the work force reduction. This was not punitive or discriminatory in any way; rather, the decision was based upon work force needs and

expertise in various inspection disciplines. Even though Mr. Williams was considered an adequate QC inspector, his scope of work experience/qualification was limited to the mechanical/welding field. Other inspectors were retained for a slightly longer period of time due to their certifications in electrical inspections. It should be noted that the mechanical/welding workload is reduced and the electrical workload increased near outage termination. Hence, multi-discipline inspection personnel were generally retained for final work closeout. The S&W inspectors who reported as replacement personnel late in the outage were multi-discipline inspectors.

Contrary to Mr. Williams' testimony, Mr. Ed Steiner testified that he did not indicate that Mr. Williams would be the last inspector on site nor retained for an additional two years. It is likely that Mr. Williams misconstrued some information that was supplied to him and the other inspectors regarding a proposed AP&L engineering project. He was told of an AP&L project to involve contracted help in walkdowns of Seismic Class I systems to begin in 1987. He was simply made aware of this long-term project (approximately two years in duration) and given the freedom to pursue the project through the Project Coordinator.

- 5) Complainant has been told by agents of AP&L that he would be blacklisted from the nuclear industry if he filed the DOL complaint. This includes threats to fire him.

Allegation/Concern/Comment: Mr. Williams alleged that his site rep. told him that he thought he would be "blackballed" and that Ed Wheat of S&W advised him to hold off on DOL complaint, otherwise he would probably end up being blacklisted.

AP&L Response:

Mr. Williams alleges that he has been told by agents of AP&L and others that he would be blacklisted in the nuclear industry if he filed a complaint with the Department of Labor. No AP&L employee, or, to our knowledge, agent of AP&L, made any such statement to Mr. Williams. Mr. Williams alleged that he had independent proof that he had been blacklisted, consisting principally of the statements of other individuals in the nuclear industry, but refused to provide the names of those individuals to AP&L at his deposition. We cannot, therefore, substantiate the existence of independent sources on this issue.

- 6) Mr. Williams was treated badly and threatened after pointing out safety problems.

- a) Allegation/Concern/Comment: Mr. Novin told Mr. Williams' site rep he wished Mr. Williams would quit since they weren't going to fire him.

AP&L Response:

Mr. Williams alleges that Novin told him that he wished Mr. Williams would quit "because AP&L wasn't going to fire him." It is a fact that AP&L would not and did not terminate Mr. Williams for having raised safety concerns. AP&L laid Mr. Williams off in the normal course of business at the end of the second 1986 outage, as work in Unit 1 came to an end. We cannot substantiate Mr. Williams' allegation regarding this statement by Mr. Novin.

- b) Allegation/Concern/Comment: David Williams (S&W Inspector) stated that Mike McFarland (AP&L QC engineer) treated him coldly for finding and reporting an incomplete weld, felt he had "screwed up" and almost fired him over this incident.

AP&L Response:

An investigation team talked to Mike McFarland in regard to the above statement by Mr. Williams. Mr. McFarland stated that Mr. Williams' statement was not correct and that he would never make such statements.

Mr. McFarland also stated that he did not quit speaking to Mr. Williams but continued to talk with him as usual, related to work activities. Mike stated that he did not socialize with Mr. Williams after work and that he did not have that much in common with Mr. Williams, so as to talk to him about other things at work.

- c) Allegation/Concern/Comment: David Williams (S&W Inspector) stated that Larry Humphrey (AP&L General Manager, Nuclear Quality) told him that at the time he wrote down his concerns, that he didn't know whether he would fire him or not.

AP&L Response:

In regard to the above statement by Mr. Williams, Mr. Humphrey stated that he recalls Mr. Williams asking him something about his employment status at the end of the day on 10/1/86. Mr. Humphrey responded to Mr. Williams by saying, "I don't know." Mr. Humphrey said that he made this response to Mr. Williams because that same day Mr. Williams had stated that he lied on his Unit 1 outage completion form on which Mr. Williams signed that he had no safety/quality concerns.

- d) Allegation/Concern/Comment: David Williams (S&W Inspector) stated that Jim Taylor-Brown (AP&L QC Superintendent) told him after a meeting (10/10/86) with an investigation team that his concerns cost AP&L a lot of money and asked whether he thought he should be fired.

AP&L Response:

In regard to the above statement by Mr. Williams, Mr. Taylor-Brown did talk to Mr. Williams about the costs involved in conducting the investigation on his concerns and expressed that he should have gone through the appropriate chain of command to resolve any concerns, at the time they occurred. Mr. Taylor-Brown also stated that he did not ask Mr. Williams whether he thought he should be fired. Mr. Taylor-Brown said that Mr. Williams told him that he no longer felt intimidated and he no longer feared that he would lose his job.

- e) Allegation/Concern/Comment: David Williams (S&W Inspector) stated that he was assigned a respirator job before they were ready for an inspector. Mike McFarland (AP&L QC engineer) told him to stay, even though he was in a respirator for a couple of hours. Mr. Williams stated that he got sick due to this event.

AP&L Response:

In regard to the above statement made by Mr. Williams, Mr. McFarland stated that he does not recall telling Mr. Williams to stay inside a respirator until the inspection is ready. From the information given by Mr. Williams and a review of the QCI inspection log book for October, the team was unable to determine the specific inspection he was assigned to perform in his statement above.

7) Alleged Cover Up of Concerns Raised By Williams

- a) Allegation/Concern/Comment: David Williams (S&W inspector) made the comment that the investigation team was only interested in covering up problems, convincing him to accept their explanations and then getting rid of him.

AP&L Response:

The investigation team referred to by Mr. Williams consisted of Don Graham (AP&L QA engineer), Jerry Ray (AP&L QC engineer) and Chester Bean (AP&L Modifications QC supervisor). The team interviewed craft personnel, other S&W inspectors, QC engineers, field engineers, design engineers and Bechtel personnel, as they related to Mr. Williams' concerns/comments. Team members, with assistance from other applicable departments, also conducted re-inspections, when accessible, of Mr. Williams' concerns related to hardware items. The team documented its findings and provided its conclusion pertaining to each of Mr. Williams' concerns/comments. The team held a meeting with Mr. Williams on October 10, 1986, and told him the results of the investigation. At the end of that meeting, Mr. Taylor-Brown (AP&L QC superintendent) asked Mr. Williams if he concurred

with the team's conclusions and he said that his concerns appeared to be covered. As a result of that investigation, recommendations to enhance the AP&L quality program were made and they are currently in the process of being implemented at ANO.

- b) Allegation/Concern/Comment: David Williams (S&W inspector) made the statement that AP&L gave its chief security officer (Mr. Wilson) an altered list of his concerns when Mr. Wilson had a meeting with him on November 3, 1986.

AP&L Response:

An investigation team talked with Mr. Wilson (AP&L investigator) who showed us the typed copy of concerns he showed to Mr. Williams. The team compared the typed copy to Mr. Williams' handwritten copy and found them to be in concurrence with each other. All of Mr. Williams' initial concerns were identified on Mr. Wilson's typed copy. Mr. Wilson also stated that he did check the two lists of concerns earlier and could not see any significant differences between the two.

- c) Allegation/Concern/Comment: David Williams (S&W inspector) made the comment that the investigation team tried to make it appear that they had already discovered the concerns that he raised on October 1, 1986.

AP&L Response:

The investigation team was not assembled until October 2, 1986, at which time the team leader (Don Graham - AP&L QA engineer) was made aware of Mr. Williams' concerns.