



Commonwealth Edison

One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

DMB

April 25, 1985

James G. Keppler
Regional Administrator
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Braidwood Station Units 1 & 2
Actions Taken For SALP Category 3 Issues
NRC Docket Nos. 50-456 and 50-457

Reference (a): J. G. Keppler letter to Cordell Reed
dated November 6, 1984

Dear Mr. Keppler:

On March 15, 1984, a group from Commonwealth Edison including Messrs. T. J. Maiman, M. J. Wallace, and W. J. Shewski, met with Messrs. E. Greenman, R. F. Warnick, and W. S. Little, and others of your staff. They discussed actions which Commonwealth Edison Company has taken and/or initiated in the three areas which were rated category 3 in reference (a), piping, safety related equipment, and quality assurance. The purpose of this letter is to provide documentation of the information which Commonwealth Edison provided to members of your staff relative to actions taken to improve performance in these areas. The discussion topics were testing, the mechanical contractor and Quality Assurance. The attachment begins with summaries of each of these topics. These are followed by copies of the viewgraphs presented.

If you or your staff have any questions regarding this matter, please direct them to this office.

Very truly yours,

David H. Smith
Nuclear Licensing Administrator

/klj

0043K

APR 29 1985

8505170454 850425
PDR ADOCK 05000456
Q PDR

11 1E40

SUMMARY OF
PRESENTATION TO NRC
MARCH 15, 1985

TESTING

The Braidwood Test and Startup Program was developed initially from the same Startup Manual that Byron used. The production of that manual strongly considered LaSalle experience as well as the Byron experience to that point. The Braidwood Startup organization was developed to address difficulties experienced at LaSalle County and Byron, particularly the requirement that the Technical Staff personnel complete the end of the testing program and all of the preparatory activities for Station operation at fuel load in the same time frame. During the course of time, the Braidwood and Byron programs diverged due principally to Lessons Learned, inputs from Quality Assurance, and commitments made to the NRC. At this point, it is our intention to realign the Braidwood program with the present Byron program. This should provide familiar activity for Quality Assurance, Project Engineering Department, and the NRC and should produce a "duplicate program" for each succeeding unit. To accomplish this realignment, the Braidwood Startup Manual will be compared with Byron's and the Braidwood manual will be made to parallel the Byron manual unless there is reason to change both manuals to a new method of operation. To assure similarity between the tests for subsequent units and the original Byron tests, an example procedure will be written. This procedure will be applicable to one of the remaining units. A joint test review board from Byron and Braidwood will approve the technical content of the procedure. For each subsequent unit the procedure will be reviewed to assure that physical differences between the units have been accounted for. If a technical problem is found with the example procedure, this information will be fed back to the joint test review board and the example procedure corrected. Tests which have been previously approved will be reviewed against a checklist to assure that the test at least includes all items covered by the original Byron 1 testing program. To track this testing realignment, a tracking manager has been assigned. The Braidwood Lessons Learned program which includes findings from Quality Assurance and the NRC at both Byron and Braidwood has been put into place and, where necessary, administrative procedures are being changed to assure alignment between the two units. The Byron Unit 2 tester, and the Braidwood Startup Superintendent worked closely on the Byron 1 startup. They agree on the basic method that is being used to pursue this particular program. Commitments to the NRC will be reviewed for both units and, subsequently, commitments to the NRC will be made for both units.

In the area of specific concerns, independent verification of jumpers and lifted leads has been implemented. A form for documenting minor test change requests is in use. Checklists are being prepared for the test review board to use in conducting their reviews. The checklists will be applied to all reviews completed prior to checklist implementation. A separate verification of compliance with ANSI 18.7 will be completed when the Braidwood Startup Manual has been modified.

MECHANICAL CONTRACTOR

In response to IE Report 83-09, dated July 1984, Commonwealth Edison Company outlined a number of management actions taken by Commonwealth Edison and their Mechanical Contractor, Phillips, Getschow Company. These management actions addressed the need to improve the Mechanical Contractor quality and regulatory performance.

Since the initial management actions, both Commonwealth Edison and Phillips, Getschow Company have taken additional management actions to improve quality and regulatory performance. These actions are outlined on the attached presentation slides.

1. Mechanical Contractor - Late 1983/Early 1984 Actions
2. Mechanical Contractor - Beyond 1984 Actions
3. Mechanical Contractor - Recent Actions-1985
4. Mechanical Contractor - Outside Assessments
5. Mechanical Contractor - Q.C. Management Evaluation
6. Mechanical Contractor - Commonwealth Edison Project Management Actions
7. Mechanical Contractor - Management Feedback Sessions

A summary of the actions presented on the above slides indicates that nuclear construction experienced people have been added to the Phillips, Getschow Company Project Management, Engineering, and Quality Control Departments. When Phillips, Getschow Company did not have the expertise in-house, Commonwealth Edison Company obtained nuclear construction experienced people from other nuclear construction experienced organizations, such as Daniel Construction Company. Installation and inspection procedures were revised and enhanced. Work Instructions supplemented installation and inspection procedures. Quality Control increased monitoring of all process activities, warehousing, and housekeeping. Trend analysis systems were improved and provided feedback to all Phillips, Getschow Company departments. Data management tools were provided and put in-place, thus allowing more effective management of retrofit and on-going activities. Other feedback type activities have recently been undertaken to further improve quality and regulatory performance. Lastly, outside assessments have provided further recommendations for quality and regulatory performance improvements.

Commonwealth Edison and Phillips, Getschow Company have been pro-active towards quality and regulatory performance improvements. Management actions have been or are being taken to achieve an improved SALP rating.

QUALITY ASSURANCE

Braidwood Site Quality Assurances has focused considerable effort toward improving effectiveness in several areas over the past year. The overall goal has been to continue the improving trend noted at the end of the previous SALP period and achieve a rating of "1" for this period. Positive changes have occurred in the area of organization, staff size and experience, and audit program depth and techniques. Also there has been increasing interface with the Operating Quality Assurance Group as preoperational testing and system turnover activities become increasingly important. The nine slides which follow summarize the high points of each of the major areas of change. We believe these changes place us in a position to achieve a SALP "1" rating with our current level of effort in the Site QA organization.

0043K

AGENDA

MARCH 15, 1985

- I. INTRODUCTION - MIKE WALLACE
- II. TESTING - CHUCK TOMASHEK
- III. MECHANICAL CONTRACTOR - DAN SHAMBLIN
 - PIPING
 - SAFETY-RELATED EQUIPMENT
- IV. QUALITY ASSURANCE - TOM QUAKA

AGENDA

MARCH 15, 1985

I. INTRODUCTION

- MIKE WALLACE

PROJECT MANAGER
Mike Wallace

SECRETARY
Deb Krug

BRAIDWOOD CONSTRUCTION
ASSESSMENT PROGRAM DIRECTOR
Minu Kaushal
See 02.0

QUALITY FIRST DIRECTOR
Ray Preston
See 03.0

ADMINISTRATIVE
SERVICES DIRECTOR
Terry Hallaren
See 01.0

PROJECT FIELD
ENGINEERING MANAGER
Warren Vahle
See 10.0

PROJECT LICENSING
AND COMPLIANCE
SUPERINTENDENT
Chuck Schroeder
See 20.0

PROJECT CONSTRUCTION
SUPERINTENDENT
Dan Shamblin
See 30.0

PROJECT STARTUP
SUPERINTENDENT
Chuck Tomashek
See 40.0

PROJECT STATION
SUPERINTENDENT
John Gudac
See 50.0

APPROVED:

af Wallace
DEPARTMENT HEAD

CHART No. 00.0

11/29/84

DATE

II. TESTING

- CHUCK TOMASHEK

TESTING CONCERNS

BYRON/BRAIDWOOD INTERFACE

SPECIFIC CONCERNS

BRAIDWOOD TEST AND STARTUP DEVELOPMENT

STARTUP MANUAL & SCHEDULE INITIALLY THE SAME

STRONGLY CONSIDERED LA SALLE AND BYRON

ORGANIZATION DEVELOPED TO ADDRESS PROBLEMS

- **LA SALLE**
- **BYRON**

DIVERGENCE

- **QUALITY ASSURANCE**
- **NRC**
- **LESSON LEARNED**

RE-ALIGNMENT

- **FAMILIAR ACTIVITIES**
- **DUPLICATE PROGRAMS**

See 00.0

PROJECT START-UP
SUPERINTENDENT
Chuck Tomashek

ADMINISTRATIVE
ASSISTANT
Chris Lenth
See 44.0

PROJECT O.A.D.
SUPERVISING ENGINEER
Nick Tomis
See 41.0

PROJECT STARTUP
TEST SUPERVISOR
Hank Zimmerman
See 42.0

TURNOVER SUPERVISOR
John Thunstedt
See 43.0

TEST REVIEW BOARD
SUPERVISOR
Bill Bryant
See 43.0

WESTINGHOUSE SITE
ENGINEERING TEAM
Mike Asztalos
See 43.0

APPROVED:

CHART No. 40.0

DEPARTMENT HEAD

DATE

TESTING RE-ALIGNMENT

STARTUP MANUAL REVIEW

- **COMPARE BYRON & BRAIDWOOD**
- **BRING BRAIDWOOD TO BYRON**
- **APPROVE AND IMPLEMENT**

SUBSEQUENT UNIT TEST PROCEDURE REVIEW

- **EXAMPLE PROCEDURE**
- **JOINT REVIEW**
- **INDEPENDENT UNIT REVIEW**
- **FEEDBACK TO EXAMPLE PROCEDURE**
- **PREVIOUSLY APPROVED TESTS**

INTERFACE TRACKING

- **TRACKING PERSONNEL**
- **BRAIDWOOD LESSONS LEARNED**
- **PROCEDURE MODIFICATION**
- **AGREEMENT BETWEEN TESTING MANAGEMENT**
- **COMMITMENTS TO NRC**

SPECIFIC CONCERNS

INDEPENDENT VERIFICATION OF JUMPERS AND LIFTED LEADS

FORM FOR MINOR TEST CHANGE REQUESTS

TEST REVIEW BOARD CHECKLIST

REVIEW OF COMPLETED TEST REVIEW BOARDS

VERIFY COMPLIANCE WITH ANSI 18.7

III. MECHANICAL CONTRACTOR

- DAN SHAMBLIN

- PIPING

- SAFETY-RELATED EQUIPMENT

MANAGEMENT ATTENTION TO
PIPING CONTRACTOR PERFORMANCE

- I. PROJECT REVIEW MEETING -- PIPING QUALITY CONTROL EFFECTIVENESS
 - WALLACE, FITZPATRICK, SHAMBLIN, QUAKA, VAHLE, SCHROEDER
 - FEBRUARY 14, 1985 - 3 HOURS
- II. PIPING QUALITY CONTROL FEEDBACK SESSION I
 - SHAMBLIN, QUAKA, VAHLE, PHILLIPS, GETSCHOW
- III. PIPING QUALITY CONTROL FEEDBACK SESSION II
 - WALLACE, FITZPATRICK AND SESSION I PEOPLE

IV. PROJECT REVIEW MEETING - PIPING AND OTHER QUALITY AREAS

- ° FEBRUARY 28, 1985 - 6 HOURS
- ° 69 ITEMS -- TOP 11 PRIORITY ITEMS

V. BRAIDWOOD PRIORITY ISSUES (BPI) LIST

- ° REVIEW WEEKLY
- ° GUIDELINES FOR ITEMS ON LIST

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

IE REPORT 83-09 ACTIONS

LATE 1982 TO MID 1983

- ° IN EARLY 1983, COMMONWEALTH EDISON PROJECT MANAGEMENT DETERMINED THE NEED TO SUBSTANTIALLY INCREASE THE LEVEL OF MANAGEMENT TALENT IN THE MECHANICAL CONTRACTORS ORGANIZATION.
- ° THE BRAIDWOOD STATION MECHANICAL CONTRACTOR HIRED A NUMBER OF TOP MANAGEMENT PERSONNEL PREVIOUSLY EMPLOYED BY THE LASALLE COUNTY STATION MECHANICAL CONTRACTOR.

AUGUST 1983

- * SITE MANAGER
- * ASSISTANT TO SITE MANAGER
- * SITE SUPERINTENDENT
- * STAFF ASSISTANT TO QUALITY CONTROL/ENGINEERING
- * PROJECT ENGINEER

SEPTEMBER/OCTOBER 1983

- * AREA SUPERINTENDENTS
- * ASSISTANT AREA SUPERINTENDENTS
- * AREA GENERAL FOREMAN
- * NIGHT SHIFT SUPERINTENDENT

- ° THE MECHANICAL CONTRACTOR ENGINEERING DEPARTMENT WAS STRENGTHENED BY ADDITION OF PROJECT ENGINEER, ASSISTANT PROJECT ENGINEER AND 4 - GROUP SUPERVISORS WITH A COMBINED TOTAL NUCLEAR EXPERIENCE OF 45 YEARS. MOST OF THESE PEOPLE HAS LSCS EXPERIENCE. LATER 7 OTHER EXPERIENCED PERSONNEL WERE ADDED TO THE ENGINEERING DEPARTMENT.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

IE REPORT 83-09 ACTIONS

LATE 1982 TO MID 1983

- ° IMPROVE QUALITY DOCUMENTATION AREA BY "DOCUMENT STATION CONCEPT". THIS CONCEPT PLACED STANDARDIZED AND STRINGENT CONTROLS OVER ALL PROCESS DOCUMENTS. THIS SYSTEM EMPLOYED MANY EX-LSCS MECHANICAL CONTRACTOR PERSONNEL.
- ° MECHANICAL CONTRACTOR QUALITY CONTROL ORGANIZATION WAS SPLIT INTO A FIELD SECTION AND AN OFFICE SECTION. QUALITY CONTROL WORKFORCE INCREASED FROM 57 PEOPLE TO 125 PEOPLE. A NEW QUALITY CONTROL SUPERVISOR WAS ASSIGNED TO THE BRAIDWOOD SITE MECHANICAL CONTRACTOR. GENERAL FOREMAN OF FIELD INSPECTIONS WERE APPOINTED TO PROVIDE MORE DIRECT FIELD SUPERVISION. LEAD QUALITY CONTROL TECHNICIAN POSITION WAS ESTABLISHED AND FILLED IN PART WITH LSCS EXPERIENCED PEOPLE.
- ° NUMBER OF MECHANICAL CONTRACTOR Q.C. TECHNICIANS INCREASED FROM 18 TO 56. THESE TECHNICIANS INCREASED THEIR INVOLVEMENT IN THE INITIAL AND FINAL REVIEWS OF QUALITY DOCUMENTATION.
- ° NUMBER OF MECHANICAL CONTRACTOR FIELD INSPECTORS INCREASED FROM 25 TO 50.
- ° FULL TIME ON-SITE MECHANICAL CONTRACTOR Q.A. MANAGER AND 3 Q.A. ENGINEERS WERE ADDED IN LATE 1982/EARLY MID-1983.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

LATE 1983/EARLY MID-1984 ACTIONS

- ° EXPERIENCED MECHANICAL CONTRACTOR PERSONNEL ADDITIONS
 - * ENGINEERING
 - * QUALITY CONTROL (OFFICE AND FIELD)
 - * PRODUCTION
- ° REVISED/ENHANCED ALL MAJOR INSTALLATION AND INSPECTION PROCEDURES (LB/SB PIPING, HANGERS, INSTRUMENTATION, WHIP RESTRAINTS, HYDROSTATIC TESTING, MATERIAL CONTROL, EQUIPMENT, ETC.)
- ° WROTE/IMPLEMENTED NEW INSTALLATION, RETROFIT AND INSPECTION PROCEDURES (CALIBRATION, DOCUMENT DEFICIENCY REPORT, MTV, IRV, IDENTIFICATION OF IN-PROCESS DEFICIENCIES, ETC.)
- ° STARTED IMPLEMENTATION OF VARIOUS DATA MANAGEMENT PROGRAMS.
- ° IMPROVED Q.C. INSPECTION RECORD OF DEFICIENCIES (I.E. 9006 FORM)
- ° INCREASED Q.C. MONITORING ACTIVITIES TO INCLUDE ALL PROCESS ACTIVITIES, WAREHOUSING AND HOUSEKEEPING.
- ° CONTINUED PREVIOUS IMPROVEMENT IMPLEMENTATIONS IN ALL AREAS.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

BEYOND MID 1984 ACTIONS

- ° MECHANICAL CONTRACTOR INSTALLATION/INSPECTION PROCEDURES
NUMBER 107 (MID 1983 AT 71 PROCEDURES)
 - * WORK INSTRUCTION NOW SUPPLEMENT PROCEDURES
- ° MECHANICAL CONTRACTOR Q.C. PERSONNEL NUMBER 239 (MID 1983
AT 87 Q.C. PERSONNEL) (MID 1983 NUMBER)
 - * Q.C. MANAGER - 1 (0)
 - * Q.C. SUPERVISOR - 1 (1)
 - * ASST. Q.C. SUPERVISOR - 1 (1)
 - * Q.C. OFFICE SUPERVISORS - 10 (0)
 - * Q.C. LEAD TECHNICIANS - 13 (2)
 - * Q.C. TECHNICIANS - 83 (21/7 TRAINEES)
 - * Q.C. CLERKS - 10 (3)
 - * Q.C. AREA G.F. - 1 (1)
 - * Q.C. G. F. - 5 (1)
 - * Q.C. FOREMAN - 18 (5)
 - * Q.C. INSPECTORS - 99 (29/16 TRAINEES)
- ° PERSONNEL ADDITIONS HAVE BEEN EXPERIENCED IN NUCLEAR
CONSTRUCTION WORK
- ° OCTOBER 1984 HIRED 6 EXPERIENCED Q.C. SUPERVISORS TO
MANAGE SPECIFIC DISCIPLINES.
- ° MODIFIED Q.C. OFFICE SPACE TO IMPROVE WORKING ENVIRONMENT
TO MAINTAIN HIGH MORALE.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

BEYOND MID 1984 ACTIONS

- ° SIGNIFICANTLY STRENGTHENED THE SPIRIT OF COOPERATION BETWEEN QUALITY CONTROL, ENGINEERING, PRODUCTION AND SITE MANAGEMENT SO ANY TYPE OF PROBLEMS CAN BE IDENTIFIED, QUICKLY ADDRESSED AND CORRECTIVE MEASURES IMPLEMENTED.
- ° IMPLEMENTED IMPROVED TREND ANALYSIS SYSTEM WITH FEEDBACK TO ALL MECHANICAL CONTRACTOR DEPARTMENTS.
- ° STARTED "QUALITY CIRCLES" BETWEEN Q.C. DOCUMENT REVIEW GROUPS, FIELD INSPECTORS AND LEAD PERSONNEL.
- ° HIRED A PROFESSIONAL TRAINER TO ASSIST CRAFT TRAINING EFFORTS WITH EMPHASIS ON PIPING SUPPORT ERECTION ACTIVITIES.
- ° EXTENSIVE DATA MANAGEMENT CAPABILITIES HAVE BEEN IMPLEMENTED FOR PRODUCTION AND QUALITY RELATED RECORDS.
- ° PROJECT MANAGER CONDUCTED SELF-IMPROVEMENT STUDIES THROUGH INTERVIEWS OF PERSONNEL IN ALL DEPARTMENTS. FEEDBACK OBTAINED IS BEING PUT INTO SPECIFIC IMPROVEMENT ACTION PLANS.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

RECENT ACTIONS - 1985

- ° Q.C. DEPARTMENT MANAGER PERFORMED A COMPREHENSIVE "NEEDS" ANALYSIS TO IDENTIFY AREAS NEEDING ADDITIONAL PERSONNEL. REQUEST MADE TO COMMONWEALTH EDISON COMPANY FOR 18 ADDITIONAL Q.C. PERSONNEL. THESE EXPERIENCED PERSONNEL ARE BEING PROVIDED THROUGH DANIEL CONSTRUCTION COMPANY, SCIENCE APPLICATIONS, INC. AND NUCLEAR POWER SERVICES, INC.
- ° MECHANICAL CONTRACTOR IS BEING FURTHER PROVIDED WITH DATA MANAGEMENT TOOLS THROUGH COMMONWEALTH EDISON COMPUTER SYSTEMS GROUP.
- ° TWO FULL TIME TRAINERS HAVE BEEN ASSIGNED FOR CERTIFICATION TRAINING AND ACT AS TECHNICAL ADVISORS FOR PROBLEMS. THIS RELIEVES SOME BURDENS OF Q.C. INSPECTOR GENERAL FOREMAN AND ALLOWS MORE TIME FOR SUPERVISION OF INSPECTORS.
- ° SITE MANAGEMENT/Q.C. MANAGEMENT CONDUCTED A SERIES OF FEEDBACK SESSIONS WITH ALL DEPARTMENTS. IDENTIFIED A LISTING OF SELF-IMPROVEMENT ACTION ITEMS.
- ° CONTINUE TO STRESS TO ALL PERSONNEL THE PERFORMANCE OF THEIR JOB IN A QUALITY MANNER. IN SOME CASES PERSONNEL EMPLOYMENT HAS BEEN TERMINATED FOR LACK OF QUALITY WORK.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

OUTSIDE ASSESSMENTS

A. INSTITUTE OF NUCLEAR POWER OPERATIONS CONSTRUCTION PROJECT
EVALUATION - JUNE/JULY 1984.

1. RECOMMENDATION - "MANAGERS AND SUPERVISORS SHOULD TAKE INITIATIVES TO BECOME MORE KNOWLEDGEABLE OF AND INVOLVED IN DAY-TO-DAY WORK ACTIVITIES INCLUDING INSTALLATION AND INSPECTION WORK."

RESPONSE - ADDITIONAL EXPERIENCED PERSONNEL ADDED TO MECHANICAL CONTRACTORS ORGANIZATION. SOME DEPARTMENTS, SUCH AS QUALITY CONTROL, WERE RESTRUCTURED TO ALLOW FOR SPECIFIC PERSONNEL TO HANDLE DAY-TO-DAY ACTIVITIES (Q.C. SUPERVISOR) AND OTHERS TO LOOK AT PROGRAMMATIC ASPECTS (Q.C. MANAGER).

2. RECOMMENDATION - "IMPROVEMENTS REQUIRED IN IMPLEMENTATION OF MECHANICAL CONTRACTOR'S MATERIAL TRACEABILITY VERIFICATION PROGRAM."

RESPONSE - ADDITIONAL EXPERIENCED PERSONNEL ADDED TO SUPERVISE MTV PROGRAM. FOCUSED TRAINING GIVEN TO PERSONNEL PERFORMING MTV PROGRAM.

3. RECOMMENDATION - "IMPROVE PIPING SUPPORT ACTIVITIES."

RESPONSE - ONGOING TASK FORCE OF UTILITY, MECHANICAL CONTRACTOR AND ARCHITECT ENGINEER PERSONNEL RECEIVE FEEDBACK ON ALL PIPING SUPPORT ERECTION ASPECTS AND EFFECT IMPROVEMENTS. SPECIAL AND FOCUSED TRAINING GIVEN TO CRAFT AND Q.C. PERSONNEL. TREND PROGRAM ACTIVITIES IDENTIFY SPECIFIC PROBLEMS FOR CORRECTIVE ACTION.

4. RECOMMENDATION - "IMPROVE Q.C. INSPECTOR PERFORMANCE."

RESPONSE - ADDITIONAL SUPERVISORY PERSONNEL ADDED TO MONITOR Q.C. INSPECTOR EFFECTIVENESS AND FORWARD TRAINING GIVEN. FEEDBACK SESSIONS BETWEEN CRAFT AND Q.C. INSPECTORS HELD TO IMPROVE JOB PERFORMANCE. ONGOING TASK FORCE CONTINUALLY ADDRESSES Q.C. INSPECTOR EFFECTIVENESS.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

OUTSIDE ASSESSMENTS

A. INSTITUTE OF NUCLEAR POWER OPERATIONS CONSTRUCTION PROJECT
EVALUATION - JUNE/JULY 1984 (CONT.)

5. RECOMMENDATION - "IMPROVE CHANGES TO AND REVIEWS OF
QUALITY RECORDS."

RESPONSE - ESTABLISHED BETTER RECORDS REVIEW PLANS
AND PROCEDURES. ADDED EXPERIENCED PERSONNEL.
CONDUCT ONGOING TRAINING SPECIFICALLY FOCUSED TOWARDS
RECORDS REVIEWS.

6. TANGIBLE STRENGTHS - "THE MECHANICAL CONTRACTOR'S
WELDER QUALIFICATION PROGRAM ENFORCES HIGH STANDARDS
FOR PERFORMANCE CAPABILITY.

B. MECHANICAL CONTRACTOR Q.C. MANAGEMENT EVALUATION REPORT

- ° AUGUST 1984 - CORPORATE MANAGEMENT DECIDED TO CONDUCT
MANAGEMENT EVALUATION OF BRAIDWOOD SITE Q.C.
ORGANIZATION.
- ° OCTOBER 1984 - MANAGEMENT EVALUATION DELAYED UNTIL
RECENT Q.C. ORGANIZATION/ADDITION CHANGES COULD BE
COMPLETED.
- ° NOVEMBER 1984 - N.C. KIST & ASSOCIATES, INC.
CONTRACTED TO PERFORM MANAGEMENT EVALUATION.
- ° NOVEMBER/DECEMBER 1984 - MANAGEMENT EVALUATION
PERFORMED.
- ° DECEMBER 1984 - MANAGEMENT EVALUATION REPORT ISSUED.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

OUTSIDE ASSESSMENTS

B. MECHANICAL CONTRACTOR Q.C. MANAGEMENT EVALUATION REPORT
(CONT.)

- ° JANUARY/FEBRUARY 1985 - MECHANICAL CONTRACTOR REVIEW AND DISCUSSION OF REPORT RESULTS IN-HOUSE AND WITH CONSULTANT.
- ° FEBRUARY 1985 - MANAGEMENT EVALUATION REPORT AND ACTION PLAN FORWARDED TO COMMONWEALTH EDISON COMPANY FOR INFORMATION.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

Q.C. MANAGEMENT EVALUATION

- ° PURPOSE - CONDUCT A MANAGEMENT EVALUATION OF THE BRAIDWOOD SITE Q.C. ORGANIZATIONAL STRUCTURE AND INTERVIEW SUPERVISORY PERSONNEL FOLLOWING ADDITION OF EXPERIENCED PERSONNEL ADDED TO HANDLE INCREASED SCOPE OF ACTIVITIES DUE TO REVERIFICATION PROGRAMS.

- ° EVALUATION METHODS -
 - * INTERVIEWING PERSONNEL.
 - * ATTENDING STAFF MEETINGS.
 - * DETERMINING SIGNIFICANT RESPONSIBILITIES FROM Q.C. MANUAL.
 - * CHECKING WITH PERSONNEL FOR ASSIGNMENT OF RESPONSIBILITIES.
 - * REVIEWING CURRENT ORGANIZATION CHART.
 - * REVIEWING SAMPLES OF WORK.
 - * REVIEWING RESUME'S.

- ° PERSONNEL INTERVIEWED -
 - * SITE Q.A. COORDINATOR
 - * Q.C. MANAGER
 - * SUPERVISOR - Q.C.
 - * ADMINISTRATIVE ASSISTANT - Q.C.
 - * ASST. SUPERVISOR - Q.C. FIELD
 - * ASST. SUPERVISOR - Q.C. OFFICE
 - * RECORDS REVIEW SUPERVISOR
 - * N5 DATA REPORT SUPERVISOR
 - * RETROSPECTION SUPERVISOR
 - * MATERIAL CONTROL & CALIBRATION SUPERVISOR
 - * DOCUMENT CONTROL SUPERVISOR
 - * COMPLIANCE SUPERVISOR
 - * SITE MANAGER
 - * PROJECT ENGINEER

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

Q.C. MANAGEMENT EVALUATION

° CONCLUSIONS AND RECOMMENDATIONS

- * PREPARE A WRITTEN FUNCTIONAL CHART LISTING ALL THE SPECIFIC RESPONSIBILITIES FOR EACH SUB-TIER SUPERVISOR.
- * DESIGNATE BY JOB TITLE ONE INDIVIDUAL WHO IS RESPONSIBLE FOR PROVIDING ANSWERS TO CODE & STANDARDS QUESTIONS.
- * THE BRAIDWOOD SITE Q.C. ORGANIZATIONAL STRUCTURE IS SUITABLE FOR THE INCREASED SCOPE OF ACTIVITIES.
- * THE EXPERIENCE OF SITE Q.C. SUPERVISORY PERSONNEL IN NUCLEAR QA/QC IS EXTENSIVE AND ADEQUATE FOR THE SCOPE OF ACTIVITIES.
- * THE SITE Q.C. SUPERVISION IS TAKING POSITIVE ACTIONS TO IMPROVE THE MANAGEMENT, CONTROL AND INTERFACES OF THE Q.C. FUNCTIONS.
- * THE CURRENT OFFICE ARRANGEMENTS AND OFFICE SPACES ARE NOT CONDUCIVE TO WORKING EFFICIENTLY.
- * THE Q.A. MANUAL NEEDS TO REFLECT IN BETTER DETAIL THE CURRENT PROVISIONS FOR VERIFYING THAT CORRECT MATERIAL FOR THE APPLICATION WAS RELEASED AND INSTALLED.

° MECHANICAL CONTRACTOR ACTIONS

- * WRITTEN FUNCTIONAL CHART LISTING EACH SUB-TIER SUPERVISOR AND THEIR SPECIFIC RESPONSIBILITIES WILL BE ISSUED IN MARCH, 1985.
- * OFFICE SPACE IMPROVEMENTS AND GROUPING OF FUNCTIONAL GROUPS HAS BEEN COMPLETED.
- * THE Q.A. MANUAL IS UNDER REVISION TO REFLECT CURRENT VERIFICATION OF MATERIAL APPLICATION PRACTICES.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

COMMONWEALTH EDISON PROJECT MANAGEMENT ACTIONS

- ° SEARCHED FOR AND PROVIDED TO THE MECHANICAL CONTRACTOR NULCEAR EXPERIENCED PERSONNEL.
- ° PROVIDED EXTENSIVE DATA MANAGEMENT HARDWARE AND SOFTWARE.
- ° CONDUCTED ONGOING MINI-EVALUATIONS WITH IN-HOUSE EXPERTISE IN RESPONSE TO INPO CONSTRUCTION PROJECT EVALUATIONS. THESE MINI-EVALUATIONS WILL CONTINUE UTILIZING INPO CRITERIA.
- ° ORGANIZE AND CHAIR ONGOING TASK FORCES WHICH LOOK AT SPECIFIC WORK AND INSPECTION ACTIVITIES. THESE TASK FORCES ARE MADE UP OF COMMONWEALTH EDISON COMPANY, MECHANICAL CONTRACTOR, AND ARCHITECT ENGINEER PRODUCTION, ENGINEERING AND QUALITY CONTROL PERSONNEL.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

MANAGEMENT FEEDBACK SESSIONS

- ° IN RESPONSE TO RECENT NRC CONCERNS, COMMONWEALTH EDISON COMPANY STARTED SPECIAL FEEDBACK SESSIONS WITH COMMONWEALTH EDISON COMPANY PROJECT FIELD ENGINEERING MANAGER, SITE QUALITY ASSURANCE SUPERINTENDENT AND PROJECT CONSTRUCTION SUPERINTENDENT AND MECHANICAL CONTRACTOR PRODUCTION, ENGINEERING QUALITY CONTROL AND QUALITY ASSURANCE MANagements AND SUPERVISION.

- ° PURPOSE
 - * PROVIDE COMMONWEALTH EDISON MANAGEMENT A DIRECT AWARENESS OF SUPERVISION AND WORKING LEVEL PERSPECTIVE.
 - * PROVIDE CONTRACTOR PERSONNEL AN OPPORTUNITY FOR SIMULTANEOUS FEEDBACK TO COMMONWEALTH EDISON ENGINEERING, CONSTRUCTION AND QUALITY ASSURANCE.
 - * PROVIDE A FORUM FOR SOLICITING CONTRACTOR SUGGESTIONS.
 - * PROVIDE A FORUM FOR COMMUNICATING COMMONWEALTH EDISON SITE MANagements PERSPECTIVE ON CRITICAL ISSUES.
 - * PROVIDE AN OPPORTUNITY FOR TEAM BUILDING.

- ° STRUCTURE OF SESSIONS
 - * IDENTIFY TOPIC OF DISCUSSION.
 - * FOCUS ON POSITIVES AND NEGATIVES OF TOPIC.
 - * IDENTIFY OPPORTUNITIES WHICH WOULD CONTRIBUTE TO OVERALL SUCCESS OF TOPIC.
 - * PRIORITIZE OPPORTUNITIES.
 - * DEVELOP VIABLE ALTERNATIVES FOR IMPLEMENTING OPPORTUNITIES.
 - * ASSIGN ACTIONS.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

MANAGEMENT FEEDBACK SESSIONS

° PARTICIPANTS

- * D. L. SHAMBLIN (CONSTRUCTION SUPT.), T. E. QUAKA (Q.A. SUPT.), W. E. VAHLE (FIELD ENG. MGR.)
- * SUPERVISION STAFF COMMONWEALTH EDISON DEPARTMENTS
- * T. O'CONNOR (PROJ. MGR.), J. CARLSON (Q.C. MGR.), S. FORBES (Q.A. MGR.), J. STEWERT (PROJ. ENG.), W. NICHOLSON (GENERAL SUPT.)
- * SUPERVISION AND WORKING PERSONNEL MECHANICAL CONTRACTOR DEPARTMENTS

° TOPIC OF MECHANICAL CONTRACTOR SESSION

"PIPING QUALITY CONTROL DOCUMENTATION AND INSPECTION ACTIVITIES"

"WHAT THINGS IN THE MECHANICAL CONTRACTOR AREA CAN BE DONE TO HELP Q.C. INSPECTORS DO THEIR JOBS BETTER?"

° SUGGESTED OPPORTUNITIES

- * FINALIZE AND IMPLEMENT N-5 REVIEW PROGRAM.
- * IDENTIFY IMPORTANT PROCEDURE CHANGES AND EXPEDITE THEIR APPROVAL.
- * MINIMIZE PROCEDURE REVISIONS.
- * REVIEW FLOW OF WORK FOR ALL ACTIVITIES.
- * IN SOME CASES, PROVIDE BETTER ENGINEERING DIRECTION.
- * IMPLEMENT MORE CRAFT TRAINING.
- * CONTINUE THESE TYPES OF FEEDBACK SESSIONS.

BRAIDWOOD STATION - UNITS 1 & 2

MECHANICAL CONTRACTOR

SUMMARY

- ° MECHANICAL CONTRACTOR HAS BEEN PRO-ACTIVE
- ° COMMONWEALTH EDISON HAS BEEN PRO-ACTIVE
- ° MECHANICAL CONTRACTOR ORGANIZATIONAL STRUCTURE AND PERSONNEL ARE EXPERIENCED AND TOTALLY CAPABLE OF PERFORMING QUALITY WORK
- ° WHEN PROBLEMS IDENTIFIED, "MANAGEMENT" ATTENTION IS DIRECTED TO PROBLEM AND IMPLEMENTATION OF CORRECTIVE ACTION
- ° FEEDBACK SESSIONS/QUALITY CIRCLE SESSIONS HAVE STARTED TO IDENTIFY FURTHER OPPORTUNITIES FOR SELF IMPROVEMENT
- ° ACTIONS HAVE BEEN/ARE BEING TAKEN TO ACHIEVE A BETTER SALP RATING (GOAL = 1)

IV. QUALITY ASSURANCE

- TOM QUAKA

(1361D)

SALP PERIOD 1/83 THROUGH 6/84

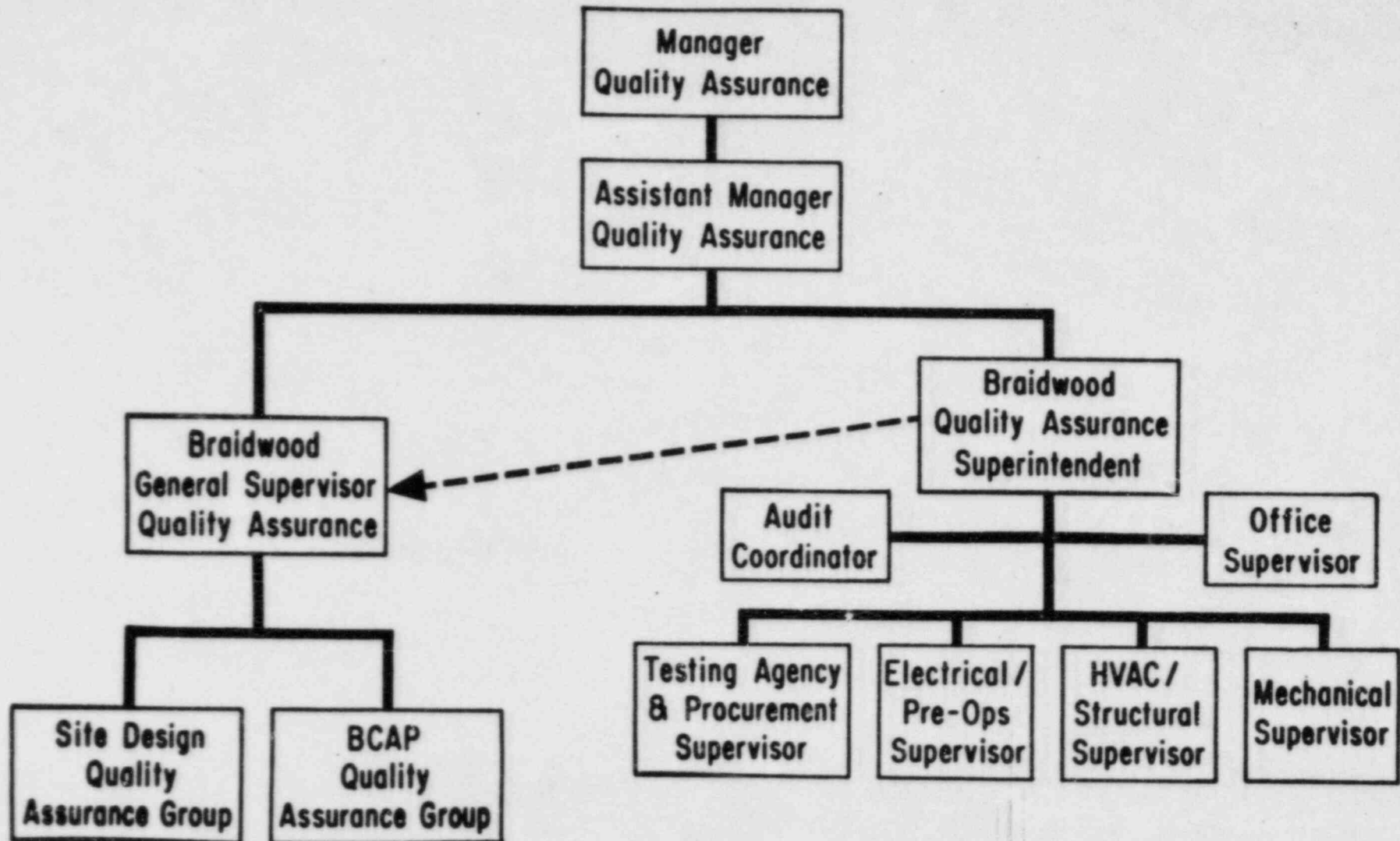
- Q.A. RATED "3" WITH IMPROVING TREND
- ACTIONS BY Q.A. HAVE CONTINUED IN AN EFFORT TO MAKE OUR ORGANIZATION MORE EFFECTIVE

MAJOR AREAS OF CHANGE

- ORGANIZATION
- STAFF SIZE
- STAFF EXPERIENCE
- SITE AUDIT PROGRAM
- INTERFACE WITH OPERATING Q.A.

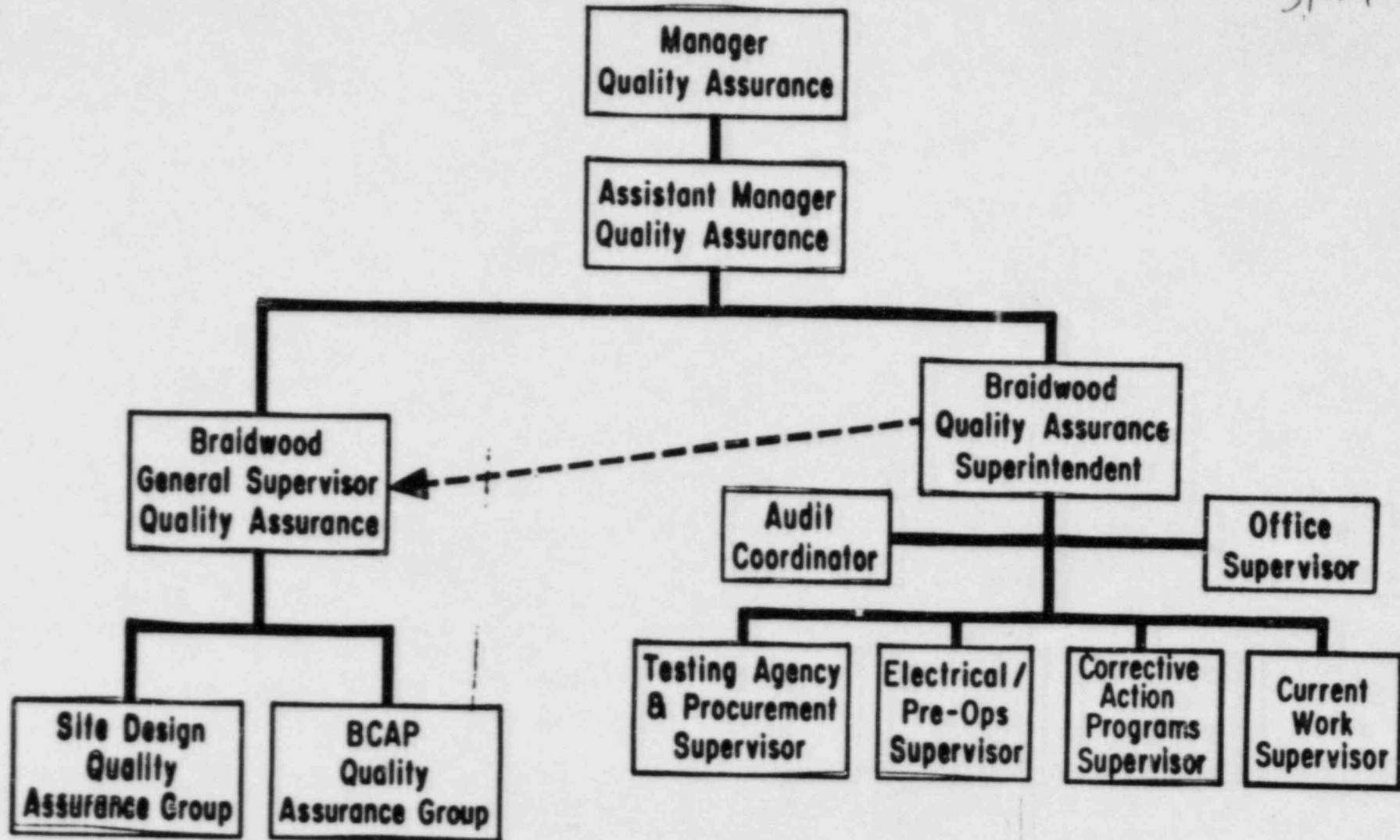
**BRAIDWOOD QUALITY ASSURANCE
REPORTING RELATIONSHIPS**

ORG
PRIOR TO
3/15/85



BRAIDWOOD QUALITY ASSURANCE REPORTING RELATIONSHIPS

New
ORG
3/15/85



BRAIDWOOD QUALITY ASSURANCE
MANNING COMPARISON

	<u>JANUARY 1984</u>	<u>MARCH 1985</u>
ASSISTANT MANAGER	0	1
SITE QUALITY ASSURANCE SUPERINTENDENT	1	1
SITE QUALITY ASSURANCE GENERAL SUPERVISOR	0	1
AUDIT COORDINATOR	0	1
QUALITY ASSURANCE SUPERVISORS	2	4
QUALITY ASSURANCE ENGINEERS/ INSPECTORS	19	42
QUALITY ASSURANCE SUPPORT (CLERICAL & CONTRACTOR)	10	40
TOTAL	32	90*

*INCLUDES 18 BCAP DEDICATED PEOPLE

BRAIDWOOD QUALITY ASSURANCE
EXPERIENCE COMPARISON (AVERAGE YRS. PER PERSON)

	<u>JANUARY 1984</u>	<u>MARCH 1985</u>	<u>PERCENT INCREASE</u>
TOTAL EXPERIENCE	8.3	13.4	61
NUCLEAR EXPERIENCE	4.2	7.4	76
QUALITY ASSURANCE/QUALITY CONTROL EXPERIENCE	2.7	5.1	89

AUDIT PROGRAM IMPROVEMENTS

- ASSIGNED PERMANENT AUDIT COORDINATOR
- PRE-AUDIT PREPARATION
- MORE INVOLVEMENT OF AUDIT COORDINATOR/LEAD AUDITORS IN AUDIT
- BETTER AUDIT TEAM DEBRIEFINGS
- PROMPT RESOLUTION OF UNACCEPTABLE AUDIT RESPONSES AND
CORRECTIVE ACTIONS
- SPECIFIC CORRECTIVE ACTION PROGRAMS INCLUDED IN 1985 AUDIT
SCHEDULE

IMPROVED INTERFACE WITH OPERATING Q.A.
IN THE FOLLOWING AREAS

- PRE-OP TEST PACKAGE REVIEW ISSUES _____
- Q.A. COVERAGE OF CONSTRUCTION WORK ON
SYSTEMS TURNED OVER FOR TEST
- COVERAGE OF START-UP GROUP

EDISON MANAGEMENT IS

- ° ORGANIZED
- ° STAFFED
- ° FUNCTIONING

TO FULLY AND ADEQUATELY

- ° COMPLETE CAP'S
- ° COMPLETE PRODUCTION
- ° EVALUATE ONGOING WORK
- ° ADDRESS ANY NEW CONCERNS

AND

MEET MARCH, 1986 FUEL LOAD DATE