

NUREG-0737 SUPPLEMENT 1

DETAILED CONTROL ROOM DESIGN REVIEW

PROGRAM PLAN SUPPLEMENT 2

(QUAD CITIES)

Approved:


DCRDR Coordinator

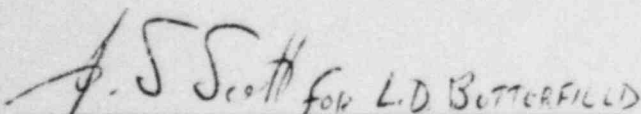
10/5/84

Date


Program Administrator

10/5/84

Date


Technical Services - Nuclear
Manager

5 Oct 84

Date

1.0 SUPPLEMENT TO REVIEW PLANT

1 INTRODUCTION

To comply with the commitment to the NRC on June 14, 1983, Commonwealth Edison Company is submitting the names and qualifications of the individuals who comprise the Quad Cities Station DCRDR team. As previously discussed with Mr. Voss Moore and Mr. Val Pezoldt, responsibility for the management and administration of the CECO Detailed Control Room Design Reviews has been transferred from the Production Training Department to the Technical Services Nuclear Department, effective September 3, 1984. This change has also precipitated some changes to the CECO DCRDR "core team". The Program Administrator position, previously filled by Richard J. Squires is now being filled by Gary Abrell, the position of DCRDR Coordinator previously filled by Phillip Lau is now being filled by Robert E. Howard, and Andrew T. Bayer has resigned from the Commonwealth Edison Company. These individuals as well as all other team members meet or surpass the minimum qualifications for the positions they fill as specified in the Generic DCRDR Program Plan for Commonwealth Edison Company submitted to the NRC in April of 1983.

Except for the above mentioned departmental change, the lines of management authority and responsibility of the DCRDR within CECO are unchanged, since the managers of these departments report to the same CECO Vice President. Nevertheless, these changes necessitate that a modification be made to our Generic Program Plan as submitted in April 1983, in Section 2.0 Management and Staffing. Since responsibility has shifted from the Production Training Department to Technical Services-Nuclear, all reference to the Production Training Department have been deleted with Technical Services-Nuclear inserted in lieu thereof. Copies of the page from the Generic Program Plan affected by this change are included.

2.0 MANAGEMENT AND STAFFING

The management and administration of the CECo Detailed Control Room Design Reviews is the responsibility of the Technical Services Nuclear Department. The DCRDR Program Administrator reports to the Technical Services Nuclear Department Manager who reports directly to an Assistant Vice President and hence to a CECo Executive Vice President.

The DCRDR activities will be implemented by experienced Operating, Engineering and Human Factors Engineering personnel. These individuals will perform the DCRDR with input from other CECo studies, analyses and concerns involving human factors engineering considerations.

2.1 DCRDR Review Team

The DCRDR review team will consist of a select group of professionals with the wide range of skills necessary for the performance of the design review and will include:

- o An I&C engineer
- o An engineer/architect with control room design experience
- o A senior reactor operator or operations technical advisor with operating experience
- o A human factors specialist

2.1 NO CHANGE

2.2 The Program Administrator position previously filled by Richard J. Squires, is presently being filled by Gary Abrell. Mr. Squires qualifications are as follows:

Education: M.S., Nuclear Engineering, University of Illinois, 1962.
B.S., Metallurgical Engineering, Illinois Institute of Technology, 1953.

Experience: For the past three years Mr. Squires has served as the CECO human factors program administrator and for the past four years, has participated in CECO control room design reviews. He has 29 years of engineering experience, of which 22 has been in the nuclear power area. Mr. Squires has held positions in engineering, construction, operations, quality assurance and training at CECO over the past 13 years. From 1975 to the present he has an SRO license at the Zion Station. Since 1977 he has a Professional Engineers License in the State of Illinois.

Gary Abrell's qualifications are as follows:

Education: B.S. U.S. Naval Academy Annapolis Maryland 1961

Experience: Supervisor Station Support Services for past 11 months. Prior to that Director of Quality Assurance for Operations for 6-1/2 years. He has 23 years of engineering experience which includes 20 in the nuclear field. He has held positions in Nuclear Licensing and Nuclear Station operations at Commonwealth Edison and 3-1/2 years in the Navy Nuclear Power Program. He has held an SRO license for Dresden Station since 1970 and has been a Registered Professional Engineer in Illinois since 1978.

In the Human Factors area, Mr. Abrell adopted the "Green Board" for Dresden Station in 1973 and was responsible for its implementation. This concept is in use at LaSalle, Byron, and Braidwood stations.

2.3 The position of DCRDR Coordinator previously filled by Phillip A. Lau, is presently being filled by Mr. Robert E. Howard, CECO. Mr. Lau's qualifications are as follows:

Education: Enrolled in Northern Illinois University B.S. in Nuclear Technology Program.

Experience: For the past two years Mr. Lau served as the CECO human factors group supervisor developing the program plan for the detailed control room design review. He has also spent the prior two years developing and conducting a job position task analysis for plant operating positions. He has 23 years of supervising and management experience, of which 20 years has been in the nuclear power area. Mr. Lau has been a reactor operator in the navy nuclear program. He has held positions in fuel handling, operating and training at CECO over the past 13 years. From 1971 to the present he has an SRO license at the Quad Cities Station.

Mr. Howard's qualifications are as follows:

Education: B.S. Electrical Engineering, University of Wisconsin
1955.

Experience: For the past 4 years Mr. Howard has assisted in the Human Factors Reviews of CECo's Zion, LaSalle, Byron, Braidwood, Dresden, and Quad Cities nuclear stations. For the past 3 years he was Coordinator of the Byron/Braidwood Preliminary Design Assessment (PDA) and for the past 2 years assisted Mr. Squires and Mr. Lau in the development and implementation of the DCRDR Generic Program Plan for CECo nuclear plants. For the past 7 years Mr. Howard was assigned as Staff Engineer in the Control & Instrument group of the Station Electrical Engineering Department and as of September 3, 1984 is a Staff Engineer in Tech Services Nuclear Department. For 8 years prior to that he was Operating Engineer at the Zion Station (SRO license from 1973 to 1979). Twenty-three of his 40 years experience with power plants have been in the nuclear power area, including assignments in operation, maintenance, construction and engineering.

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The position of Senior Subject Matter Expert is being filled by:

Tom Tamlyn of CEC Co.

Mr. Tamlyn's qualifications are as follows:

Education: B.S. Electrical Engineering, Iowa State University
1964.

Experience: For the past 5 years Mr. Tamlyn has served as the Assistant Superintendent of Operations at Quad Cities. For the 6-1/2 years prior to that he served as Operating Engineer at Quad Cities and for the 4-1/2 years prior to that he served as Instrument Engineer at Quad Cities. Prior to this 16 years of nuclear experience Mr. Tamlyn worked 3-1/2 years in the Communications and Instrumentation group of CEC Co's Operational Analysis Department. (SRO license for the past 11-1/2 years).

2.4 The position of Document and Documentation Controller has been removed from the review team. The reason for this is that CECO will be utilizing a computerized data base management system (DBMS) which will provide the document control and security necessary to perform the DCRDR.

2.5 The individuals filling the Human Factors Engineering positions are made up of individuals from outside contractors.

2.5.1. The position of Lead Human Factors Specialist is being filled by Robert L. Kershner from ARD Corporation. Mr. Kershner's qualifications are as follows:

Education: M.A., Human Factors Psychology, the Catholic University of America, Washington, D.C., 1977.
B.A., Applied Psychology, cum laude, University of Baltimore, Baltimore, Md., 1975.

Experience: For the past three years Mr. Kershner, Director of Human Factors Technology for ARD Corporation has worked in the nuclear utility industry providing support in a number of human factors areas, to include program plan development, SPDS design and evaluation, control room design reviews and EOP validation. Prior to that time, he spent six years designing, conducting and evaluating human factors research in vibrotactile codes, traffic management, driver information systems, low-fidelity simulation aids, information presentation to time critical materials, visual search patterns, and military systems design, analysis and improvement. Most recently Mr. Kershner participated in underwater acoustical testing of nuclear submarines serving as assistant trial director.

2.5.2

The Human Factors Specialist positions are being filled by ARD Corporation personnel, the names, affiliations, and educational and experiential qualifications for these individuals are as follows:

Individual: Mr. Stephen H. Cooley

Affiliation: Advanced Resource Development (ARD) Corporation

Education: M.A., Industrial/Organizational Psychology, University of Illinois at Chicago, Illinois, 1980.
B.A, Psychology with minors in Business-Administration and Statistics, George Washington University, Washington, D.C., 1976.

Experience: For the past 3 years Mr. Cooley, a Senior Human Factors Specialist for ARD, has worked in the nuclear power industry. He has provided support in a number of human factors areas that include: program plan development, control room design reviews, procedure writing and evaluation, training, and human error as a result of inadequate man/machine interfaces. Prior to that he has 3 years of experience in the design, conduct and evaluation of both applied and theoretical research in leadership emergence, personnel selection, personnel staffing patterns, stress management, group dynamics, market research, management assessment, and the psychological factors associated with addiction.

2.5.2

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| | |
|--------------|--|
| Individual: | Mr. Stephen H. Cooley |
| Affiliation: | Advanced Resource Development (ARD) Corporation |
| Education: | M.A., Industrial/Organizational Psychology, University of Illinois at Chicago, Illinois, 1980. B.A, Psychology with minors in Business-Administration and Statistics, George Washington University, Washington, D.C., 1976. |
| Experience: | For the past 3 years Mr. Cooley, a Senior Human Factors Specialist for ARD, has worked in the nuclear power industry. He has provided support in a number of human factors areas that include: program plan development, control room design reviews, procedure writing and evaluation, training, and human error as a result of inadequate man/machine interfaces. Prior to that he has 3 years of experience in the design, conduct and evaluation of both applied and theoretical research in leadership emergency, personnel selection, personnel staffing patterns, stress management, group dynamics, market research, management assessment, and the psychological factors associated with addiction. |

Individual: Mr. Joseph B. Winter

Affiliation: Advanced Resource Development (ARD) Corporation

Education: M.S., Psychology, Virginia Commonwealth University,
Richmond, Virginia, 1979.
E.S., Psyschology, Virginia Commonwealth University,
Richmond, Virginia, 1974.

Experience: Mr. Winter has over two years experience in the power industry conducting task analyses on nuclear jobs for training purposes. In addition to utility employment, he has three additional years of human factors experience utilizing a variety of analytic techniques in the areas of test validation, selection, classification, compensation, performance appraisal and multi-purpose job analysis. He is an accomplished SAS programmer and has used task analysis approaches to create computerized classification systems, tying them to human resource development projects which factor geographic differences in pay. He has experience developing job evaluation systems and has worked extensively as a job analyst.

Individual: Mr. Michael A. Boggi

Affiliation: Advanced Resource Development (ARD) Corporation

Education: M.S., Industrial Engineering, North Carolina State University, Raleigh N.C., expected completion: December 1984.
B.A., Psychology, LaSalle College, Philadelphia, PA, 1981.

Experience: In 1982 Mr. Boggi supervised a group of researchers conducting a noise control project for the regional headquarters of the Amoco Oil Company of Raleigh, N.C. In addition, Mr. Boggi worked on a team that evaluated aspects of safety, biomechanics, and the man/machine interface at specific work locations at the ITT plant in Raleigh, N.C. Besides his applied experience Mr. Boggi has conducted observational research in freight management and traffic control. Presently he is applying his training and experience to complex man/machine interface issues in the nuclear industry.

Individual: Mr. Christopher C. Plott

Affiliation: Advanced Resources Development (ARD) Corporation

Education: M.S., Industrial Engineering, Texas Tech University
Lubbock, Texas, 1983
B.S., Kinesiological Sciences, University of Maryland,
College Park, MD., 1981

Experience: For the past 2-1/2 years Mr. Plott has been involved in various applied research projects conducted at Texas Tech. These included work in the areas of work physiology, biomechanics, anthropometry, task analysis and work load measurement while under contract to the Bureau of Mines, the State of Texas, and the McDonnell Douglas Corp. His responsibilities included the design, conducting and analysis of various aspects of these projects. Mr. Plott has also done work in the area of human/computer interface and software development. He is currently applying his background to complex man/machine interface issues in the nuclear industry as well as helping to develop the computerized data base management system being used for a Detailed Control Room Design Review.

Individual: Kimberly R. Siler

Affiliation: Advanced Resource Development (ARD) Corporation

Education: B.S., Human Factors Psychology, Wright State
University, Ohio, 1982.

Experience: For the past two years Miss Siler was a research
psychologist responsible for the design,
implementation and analysis of applied research in the
areas of Behavioral Workload Assessment and
Biomagnetism in the Visual Evoked Response Laboratory
of the Air Force Aerospace Medical Research
Laboratories/Human Engineering at Wright Patterson Air
Force Base, Dayton, Ohio. In addition to her research
activities, Miss Siler was continuing her education in
the Graduate Program in Human Factors at the
Psychology Department at Wright State University.
Since joining the ARD Corporation, she has been
involved in the conduct of nuclear power plant control
room design reviews.

Individual: Mr. Andrew T. Bayer - Resigned 8-30-84

Affiliation: Commonwealth Edison Company

Education: B.S., Human Factors Engineering, Wright State University, Dayton, Ohio, 1981.

Experience: For the past two years Mr. Bayer has supported projects under the auspices of CECO's human factors engineering program. Projects he has worked on include operator error analysis, SPDS design and evaluation, program plan development, control panel design, and control room design reviews.

2.6 Other Review Team Members

2.6.1 The position of System Design Engineer is being filled by Michael S. Tucker of CEC. Mr. Tucker's qualifications are as follows:

Education: B.S., Electrical Engineering, Illinois Institute of Technology, 1977

Experience: For the past 3 years Mr. Tucker has been in the Station Nuclear Engineering Department providing support for modifications to Dresden and Quad Cities Stations including the control room. Prior to that time, he was in the Station Electrical Engineering Department providing support in the design of Bulk Power Switching Stations.

The Instrument and Control Engineer position is being filled by James J. Krass (Assisted by Robert Howard) of CECo. Mr. Krass' qualifications are as follows:

Education: B.S., Electrical Engineering, Technology from Purdue University, 1968

Experience: Presently Mr. Krass is assigned to the Control and Instrument section in the Station Electrical Engineering Dept. of CECo. From February '79 to April of this year he was assigned to the Electrical Instrumentation and Control Branch of the Clinch River Breeder Reactor Project at Oak Ridge Tennessee. And, for the ten years prior to that Mr. Krass was in CECo's Operational Analysis Department working on Instrument and Control Systems in both fossil and nuclear plants.