CE-1-A
Topical Report
January 1976
Rev. 49 - 2/09/88

C O M M O N W E A L T H E D I S O N C O M P A N Y

QUALITY ASSURANCE PROGRAM

FOR

NUCLFAR GENERATING STATIONS

COMMONWEALTH EDISON COMPANY

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Q004
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LISTING COVERING REVISION OF

TOPICAL REPORT CE-1

Below is a listing of Revision 49 changes to the Commonwealth Edison Company Quality Assurance Program Topical Report CE-1-A dated 2/09/88:

Rev. Contents Pages 1-3; Appendix A, Page A-4; Page Nos. 1-33, 1-35, 1-36, 1-41, 2-1 and 3-3.

Approved: W. H. Stewart 2-9-88
Manager of Quality Assurance

2/09/88

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EXPLANATION OF CHANGES FOR TOPICAL REPORT - REV. 48
COMMONWEALTH EDISON COMPANY PROGRAM TOPICAL REPORT CE-1-A

PAGE NO.	EXPLANATION
Appendix A, p. A-4	Revised to add reference to Q.P. 12-54.
1-33, 1-35	Revised to transfer the responsibility that the operating experiences from within and outside the Company are assessed and lessons learned are factored into Edison's plant operations from the Manager of Nuclear Safety to the Production Services Manager at the request of Nuclear Safety.
1-36	Revised to provide that only Substation Construction Site Specific Procedures will be used.
1-41	Revised to remove two organization positions at the request of the Production Services Manager.
2-1	Revised to change ANSI/ASME NQA-1 from 1983 to 1986 Edition to meet the 1987 ASME Addendum requirement.
3-3	Revised to add the new requirement of the 1987 ASME Addendum to Section III, which is reflected in the added statement.

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Quality Procedures

3-51 Design Control for Operations - Plant Modifications

3-52 Design Control of Operations - Plant Maintenance

3-53 Design Control for Operations - Reactor Analysis

3-54 Design Control for Operations - Digital Computer and Software

4-51 Procurement Document Control for Operations - Processing Purchase Documents

5-51 Instructions, Procedures and Drawings for Operations Procedures Manual

6-51 Document Control for Operations - Transfer of Records

6-52 Document Control for Operations - Distribution and Control of Engineering Documents and Drawing Change Control

7-51 Control of Purchased Materials, Equipment and Services for Operation - Supplier Evaluation

7-52 Control of Purchased Materials, Equipment and Services for Operation - Source Inspection

7-53 Surveillance and Audit of Nuclear Fuel Contractor

8-51 Identification and Control of Materials, Parts and Components for Operations - Identification, Inventory Disbursal and Use

9-51 Control of Special Processes for Operations - Special Processes for Maintenance and Modifications

10-51 Inspection for Operations - Maintenance

10-52 Inspection for Operations - Station Operations

10-53 Inspection for Operations - Technical Support, Surveillance and Inspection

10-54 Inspection for Operations - Receiving Inspection

11-51 Test Control for Operations - Planned Tests

12-51 Control of Measuring and Test Equipment for Operations Portable Test and Measurement Equipment

12-52 Control of Measuring and Test Equipment for Operations Station Instrumentation

12-53 Standardization and Control of Standard Solutions-Nuclear Generating Stations

12-54 Calibration Control of Commonwealth Edison Analytical Chemistry & Radiochemistry Laboratory Instruments and Standards Nuclear Stations *49

1.6.1.2 PRODUCTION SERVICES MANAGER

The Production Services Manager is shown in Figure 1-3. He is responsible for functional direction of, and assistance in, maintenance and engineering services activities for the nuclear stations.

As to maintenance support, he is responsible for providing functional direction to the Production Superintendent and Assistant Superintendent Maintenance regarding maintenance activities, forced outages, scheduled outages and refueling operations plus an effective maintenance program for ALARA radiation exposures. Other services involve fire protection, computer applications and NPRDS. For Production Services responsibilities, see Sections 1.1 and 1.4. He shall also assure that the operatng experience from within and outside the Company is assessed and lessons learned are factored into Edison's plant operations. * *49 *

1.6.1.3 LICENSING MANAGER

The Licensing Manager, basically, has responsibility for the licensing activities involving the Nuclear Regulatory Commission as well as activities with the Illinois Department of Nuclear Safety (see Figure 1-6). He administers and controls the monitoring and investigations of compliance with regulatory requirements and the reporting to various levels of management. Other activities generally include coordination of off-normal performance event investigations, Regulatory Performance Improvement Program implementation, trending regulatory performance parameters, interfacing with the Nuclear Regulatory Commission, etc.

1.7 NUCLEAR ADMINISTRATIVE SUPPORT RESPONSIBILITIES

1.7.1 ASSISTANT VICE PRESIDENT (TRAINING, FUEL, AND ADMINISTRATIVE SERVICES)

This Assistant Vice President reports to the Senior Vice President (Nuclear Operations) and has the responsibility for managing training, nuclear fuel and administrative support services to the operating nuclear stations. He administers and controls these services through managers who report to him (see Figure 1-6). These are the Production Training Manager, Nuclear Fuel Services Manager and Administration Manager.

1.7.1.1 PRODUCTION TRAINING MANAGER

The Production Training Manager is shown in Figure 1-6. He directs the activities at the Company's Production Training Center and is responsible for a broad range of training services including license operator training, simulator training, maintenance training and other management and employee training programs in support of nuclear and other operations and functional activities in the Company.

1.7.1.1 PRODUCTION TRAINING MANAGER (Cont'd) *45

Also, the Production Training Department documents training needs, including Quality Assurance Program training needs; prepares Training Standards to document training requirements for production area personnel; ensures availability of training programs to satisfy training requirements; monitors training scheduling activities; conducts training programs; maintains appropriate training records; and prepares and implements program evaluation instruments. *45

1.7.1.2 NUCLEAR FUEL SERVICES MANAGER *45

The Nuclear Fuel Services Manager is shown in Figure 1-6. The Nuclear Fuel Services Manager is responsible for providing corporate technical direction and support on fuel design and refueling activities such as the development of fuel loading patterns, refueling schedules, new fuel procurements and fuel performance analyses, safety analyses and trending. *45

1.8 Director Corporate Security - Nuclear Security *45

This Director for nuclear security reports to the Executive Vice President and is shown in Figure 1-6. The Director is responsible for insuring that security programs at the nuclear power stations effectively meet all commitments to and the regulations of the Nuclear Regulatory Commission. *45

1.9 System Power Supply Department *45

The System Power Supply Manager reports to the Senior Vice President (Engineering) and is responsible for managing the bulk power system with the objectives of safe operation, reliable service and efficient utilization of Company-owned production facilities. *45

1.9.1 The Manager System Power Supply has the following responsibilities: *45

a. Scheduling power generation.

b. Purchase and sale of power from and to other utilities.

c. Coordinating the operation of the Commonwealth system with the MidAmerica InterPool Network and other interconnected utilities.

d. Final scheduling of outages for generating stations for corrective and preventative maintenance.

1.10 Production Stores Department

The Production Stores Administrator has the following nuclear maintenance Production Stores responsibilities:

a. Control of spare parts inventory;

b. Coordinating procurement of spare parts and materials and assuring that technical and quality assurance requirements are specified in procurement documents; and

c. Liaison with company stations and departments, manufacturers and other utilities on spare parts matters.

The Production Stores staff, in particular, review station purchase requisitions for safety and ASME Code related spare parts, material and equipment to assure that requirements for Quality Assurance are specified as required and that Stores Code Numbers are assigned to spare parts to be stored at the station.

1.11 Manager of Nuclear Safety

The Manager of Nuclear Safety reports to the Chairman and CEO and receives day-by-day functional direction from the Senior Vice President (Nuclear Operations). This Manager supervises the Off-Site Review Group and On-Site Nuclear Safety Groups.

The primary responsibilities of the Manager of Nuclear Safety are to:

a. Interpret, integrate, generalize, and analyze information from within and outside the Company to discern patterns in designs, components, and procedures which affect nuclear safety.
b. Promptly report any unsafe plant conditions or practices to the Chairman and CEO of the Company.
c. Assure findings and recommendations of the Off-Site Review Staff and the On-Site Nuclear Safety Groups are satisfactorily resolved.
d. Initiate recommendations to improve safety at nuclear plants. *49
e. Review the various phases of nuclear safety (design, construction, operation, and maintenance) to provide for integration of all safety related considerations. *49

1.12 Purchasing Responsibilities

1.12.1 Manager of Fuel

The Manager of Fuel is responsible for Commonwealth's procurement of nuclear fuel to specifications furnished by the Nuclear Fuel Services Department. He reports to the Vice President (Fuel & Budgets) on matters involving such fuel.

2.0 Division Operations Responsibilities

2.0.1 Substation Construction Department

The Substation Construction Department performs electrical modifications at nuclear generating stations as directed by the Station Superintendent or designee or the cognizant nuclear stations Engineering Manager or Production Services Manager or designee, and in accordance with the provision of the Quality Assurance Manual. Substation Construction Site Specific Procedures are used to control specific processes and procedures unique to electrical construction and installation. *49

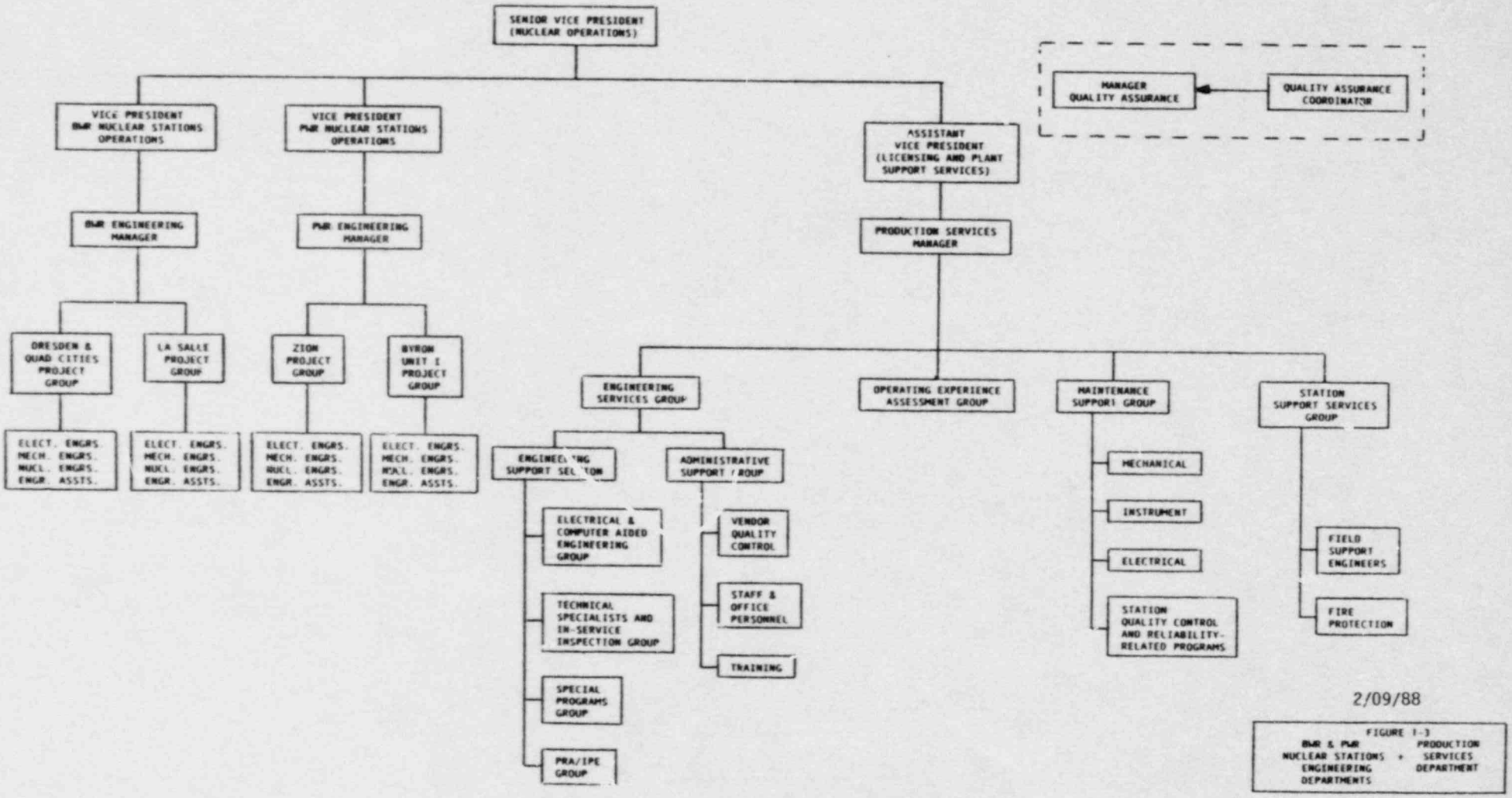

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FIGURE 1-3
BWR & PWR NUCLEAR STATIONS ENGINEERING DEPARTMENTS + PRODUCTION SERVICES DEPARTMENT

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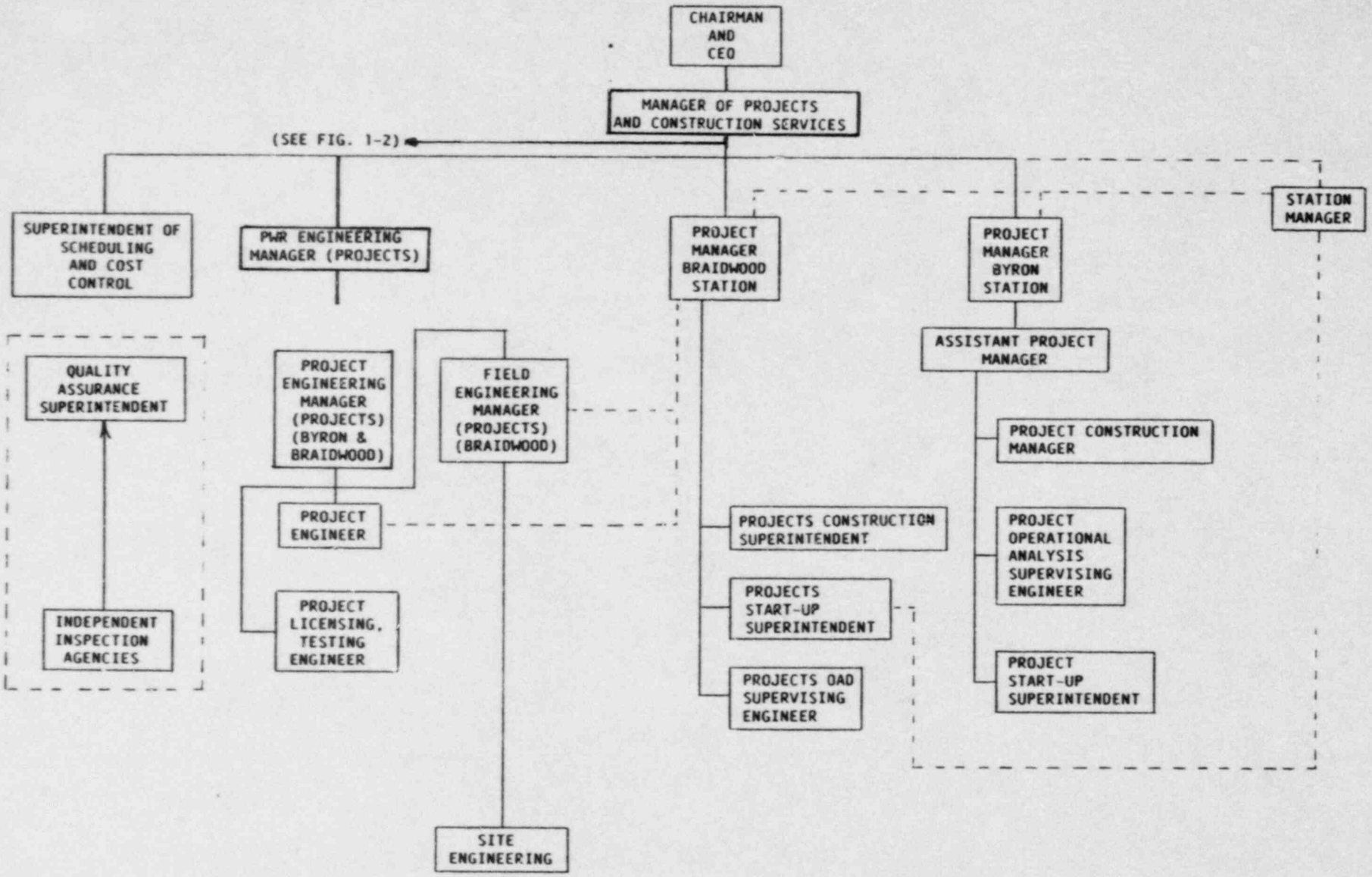

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FIG. 1-4
PROJECTS DEPARTMENT

2. QUALITY ASSURANCE PROGRAM

2.1 General

The Commonwealth Edison Company has extensive experience with the development, scheduling, design, construction and operation of electric generating facilities. It has pioneered in commercial nuclear power. Commonwealth Edison Company and its consultants and vendors have established designs and specifications for compliance with applicable regulations, ASME Code and National Standards to assure installations of utmost safety and reliability.

Commonwealth Edison Company has attained qualified equip- ment vendors and contractors through experience, evaluation at vendor plants and site surveillance during plant erection. These efforts provide assurance that compliance with applicable design specifications and codes is maintained and a high level of reliability is achieved.

2.2 Policy

It is the policy of Commonwealth Edison Company to assure a high degree of functional integrity of the equipment, structures and safety-related systems of its nuclear generating facilities, the performance of which are essential to the prevention of nuclear accidents that could cause undue risk to the health and safety of the public, or to the mitigation of the consequences of such accidents in the unlikely event they should occur. These systems, equipment, and structures will be identified, designed, fabricated, erected, tested and operated to the criteria and requirements of ASME Boiler and Pressure Vessel Code Sections III and XI, as referenced in the SAR applicable to a specific unit at the time of engineering, construction and major modifications, Appendix B to 10CFR50, Subpart H to 10CFR71, and the mandatory requirements of ANSI/ASME NQA-1 1983 (Regulatory Guide 1.28 Rev. 3 Dated 8/85) with the provision that CECo suppliers/vendors maintain a quality assurance program which satisfies ANSI/ASME, NQA-1-1986 or the ANSI/ASME N45.2 series of standards, ANSI N45.2 Standards not covered by ANSI/ASME NQA-1, and N18.7 Standards. *49

The schedule for completion of the changes to applicable procedures and other affected documents by each station to reflect the commitment to NQA-1, is aligned to the next renewal of the ASME Certifications at the respective Nuclear Power Stations: Quad Cities - May, 1987; LaSalle - November, 1987; Zion - January, 1988; Dresden - March, 1988; Byron - July, 1988; and Braidwood - July, 1988. With the achievement of these scheduled changes by the respective stations, the below listed commitments to Regulatory Guides 1.28, 1.58, 1.64, 1.74, 1.88, 1.123, 1.144 and 1.146, or to specific identified N45.2 standards consolidated into NQA-1, will no longer apply. Until attainment, the current commitments shall continue to apply to each respective station as listed below.

Also, Commonwealth Edison commits to comply with 10CFR Part 21 - "Reporting of Defects and Noncompliance" and with the Regulatory position of the following Regulatory Guides and the requirements of the following ANSI Standards as listed for each station.

I. Dresden, Quad Cities and Zion Nuclear Power Stations

1.28 (Safety Guide 28 - 6/72): 1.30 (Safety Guide 30 8/72): 1.33 (Safety Guide 33 - 11/72): 1.37 - 3/73: 1.38 - 3/73: 1.39 - 3/73: 1.54 - 6/73: 1.58 - Rev. 1; 1.64 - 10/73: 1.74 - 2/74: 1.8 (Safety Guide 8 - 3/71); 1.146 - Rev. 0 8/80: ANSI N45.2.8-74 (Draft 3, Rev. 3, N45.2.9-74 (Draft 15, Rev. 0, 4/74); ANSI N45.2.12-74 (Draft 3, Rev. 4 2/74); ANSI N45.2.13-74 (Draft 2, Rev. 4, 4/74)

II. LaSalle County Nuclear Power Station

1.28 - Rev. 0, 6/72; 1.30 - Rev. 0, 8/72: 1.33 - Rev. 2; 1.37 - Rev. 0, 3/73: 1.38 - Rev. 2; 1.39 - Rev. 2; 1.54 - 6/73; 1.58 - Rev. 1; 1.64 - Rev. 2; 1.74 - Rev. 0, 2/74: 1.8 - Rev. 1-R; 1.88 - Rev. 2, 1.94 - Rev. 1; 1.116 - Rev. 0-R, 6/76; 1.123 - Rev. 1; 1.146 - Rev. 0, 8/80; 1.144 - Rev. 1

III. Byron and Braidwood Nuclear Power Stations

1.28 - Rev.1; 1.30 - Rev. 0, 8/72; 1.33 - Rev. 2: 1.37 Rev. 0, 3/73; 1.38 - Rev. 2; 1.39 - Rev. 2; 1.54 - 6/73; 1.58 - Rev. 1: 1.64 - Rev. 2; 1.74 - Rev. 0, 2/74; 1.8 Rev. 1-R; 1.88 - Rev. 2; 1.94 - Rev. 1; 1.116 - 0-R, 6/76; 1.123 - Rev. 1; 1.146 Rev. 0, 8/80; 1.144 - Rev. 1

Exceptions or alternatives to this Topical Report for specific plants identified in the Safety Analysis Report or Technical Specification will take precedence over commitments in this Topical Report.

It is also the policy of Commonwealth Edison Company to assure a high degree of functional integrity for its generating facilities so as to achieve high availability of these facilities for the production of electrical power and to maintain overall quality levels which will achieve the foregoing in a safe, effective and economic manner.

The Quality Requirements and Quality Procedures of the Company Quality Assurance Program Manual (see Appendix A for Program Manual Index) as described herein, document the written policies and procedures of the Program and are augmented by other written Department and Station procedures and instructions. In the Quality Assurance Department controlled Quality Assurance Department instructive, directive and procedural type documents are used to further explain in specific detail certain department activities as deemed needed. Such documents may cover items such as training, training program, review of procurement documents, personnel qualification and certification, maintenance and updating of ASME Code information on the computerized Quality Approved Bidders List, etc. *42
In addition, Site Quality Assurance Departments may have controlled Site instructions to provide detailed explanations and methodologies for implementing the Quality Requirements and Quality Procedures, and to provide instructions for other site quality activities as necessary.

documented and appropriate corrective action shall be taken. The PWR Engineering Manager (Projects) prior to plant start-up, and the cognizant nuclear stations Engineering Manager or Production Services Manager, as applicable, after plant start-up for plant modifications, or by the Nuclear Fuel Services Department for fuel or in-core related matters for plant operations, or their respective agent or designee shall certify that a review of the Design Report/Load Capacity Data Sheets has been conducted to assure that all the Design Specification and applicable Code requirements have been considered. Copies of the certification shall be attached to the copies of the Design Report, design drawings, stress calculations and Design and Construction Specifications and Reports which are made available, as applicable, to the Authorized Nuclear Inspector for review and certification and the enforcement authorities having jurisdiction over the nuclear power plant installation as provided by ASME Section III of the Code for Classes 1, 2, 3, CS, MC and CC. *49

Design information transmitted across interfaces shall be documented, controlled, and include the status of the information or document. *49 *

3.2 Design Changes

Changes to drawings used for construction from the corresponding drawing used for stress analysis shall be certified, by the person or organization responsible for the stress analysis calculations, to have been satisfactorily reconciled with those calculations.

Design changes are controlled through document revisions resulting from design change requests and/or design change notices and are reviewed and evaluated in the same way as the basic design documents. Site and Station design change requests will be reviewed by the Site Quality Assurance Superintendent or designee, Station Quality Assurance Superintendent, or designee, Technical Staff Supervisor, Projects Engineering (PWR) personnel or cognizant nuclear stations Engineering or Production Services personnel after plant start-up for plant modifications and/or Architect Engineer, as applicable, and will be approved by Projects Engineering (PWR) or the cognizant nuclear stations Engineering or Production Services Departments after plant start-up for plant modifications after which the approved change will be incorporated in design documents, approved, released and distributed.

The extent of the evaluation will be determined by the complexity of the change and its safety-related function with respect to the original design. Coordination of review and evaluation of design changes will be by Projects Engineering (PWR) or the cognizant nuclear stations Engineering or Production Services Departments after plant startup for plant modifications. The control of documents will be maintained within the system described in Quality Requirement 6.0, "Document Control."

Plant modifications will be evaluated in accordance with the requirements of 10CFR50.59 and to the requirements of the ASME Boiler and Pressure Vessel Code Section III and will be submitted to the Manager of Nuclear Safety/Superintendent of Off-Site Review and the Production Superintendent. Also, for Code work the modification will be reviewed with the Authorized Nuclear Inspector who will then stipulate the inspections he intends to make prior to implementation of the modification work. The Production Superintendent authorizes the modification. The Technical Staff Supervisor reviews and approves

the proposed modification and is responsible for verifying that operating procedure changes are accomplished as to station modifications. The Station Training Supervisor is responsible that required training concerning plant modifications is accomplished for responsible plant personnel where the performance of their duties may be affected. Quality Assurance assures such training is completed. The Licensing Manager reviews and the Superintendent of Off-Site Review reviews and approves proposed modifications to plant systems and components involving a revision to the Technical Specifications or a previously unreviewed safety question. Evaluation and approval of the substitution of equipment is performed by the Technical Staff Supervisor and either the Production Superintendent, Assistant Superintendent Operating or Assistant Superintendent Maintenance. The Projects Engineering (PWR), cognizant nuclear stations Engineering or Production Services Departments, as applicable, or equipment vendor provide engineering analysis as required by the design specification. *48 * *

Projects Engineering (PWR), cognizant nuclear stations Engineering or Production Services Departments assigns an organization to verify installation of modifications in accordance with design and quality assurance requirements. When modifications cannot be completed in accordance with drawings and specifications, a review for disposition will be requested of the cognizant Engineering Department. The verifying or checking of design features and modifications is done by qualified individuals or organization other than those who prepare the original design or design modification but who may be from the same organization. *48

The assigned installation department furnishes Projects Engineering (PWR) and, after plant start-up for modifications, the cognizant Engineering Department as-built information to review as to correctness and to issue as-built drawings. *48 *

Test data required by Projects Engineering (PWR) involving initial construction and by the cognizant Engineering Department involving modifications to verify the satisfactory installation of components is obtained by organizations designated by them. *48

After completion of construction, station operating personnel and Quality Control personnel verify the satisfactory final testing of systems required by Projects Engineering (PWR), cognizant nuclear stations Engineering or Production Services Departments. Also, where applicable, before the component or appurtenance is placed in service, copies of the appropriate ASME Data Reports and Certified Design and Construction Reports and Design and Construction Specifications are filed at the location of the installation and made available to the Authorized Nuclear Inspector and the State of Illinois enforcement authorities having jurisdiction. Completed Data Report Form N-3, however, shall be filed by CECo with such enforcement authority having jurisdiction. *48