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SCHWENCER,A. Operating Reactors Branch 1

SUBJECT: Forwards revision to 771128 ltr re fire protection administrative controls.Includes changes in orgnization, fire brigade training control of combustible & ignition sources & fire fighting procedures.

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CP&L
Carolina Power & Light Company

February 1, 1980

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Office of Nuclear Reactor Regulation
Attention: Mr. Albert Schwencer, Chief
Operating Reactors Branch No. 1
United States Nuclear Regulatory Commission
Washington, D.C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
REVISION TO THE ADMINISTRATIVE CONTROLS FOR FIRE PROTECTION

Dear Mr. Schwencer:

Enclosed is a revision to the "Administrative Controls for Fire Protection" letter issued by Carolina Power & Light Company (CP&L) to the Nuclear Regulatory Commission on November 28, 1977. This revision reflects the latest organizational responsibilities for fire protection and the latest procedures and methods for properly administering the plant fire protection program. The organizational responsibility changes reflect a restructuring of both corporate and plant organizations which took effect on November 3, 1979. Until such time as all appropriate positions in the fire protection organization have been filled, the responsibility for the fire protection program for H. B. Robinson will be handled in accordance with the original "Administrative Controls" document.

Changes to the original document are indicated by the vertical lines in the right hand margin of the affected pages.

If you have any questions concerning this matter, please contact our staff.

Yours very truly,

E. E. Utley
Executive Vice President
Power Supply & Customer Services

SBC/CSB/jcb

Enclosure

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FIRE PROTECTION ORGANIZATION

1.0 The organizational responsibilities and lines of communication pertaining to fire protection are defined by organizational charts appended to this enclosure. In addition, the responsibilities of the various individuals concerned are discussed below.

a. The Senior Executive Vice President and Chief Operating Officer is responsible for the formulation, implementation and assessment of the effectiveness of the nuclear plant fire protection program.

b. The other offsite management positions with direct responsibility for various aspects of the fire protection program are discussed below:

1. The Vice President, Nuclear Operations Department, is responsible for the nuclear power plant's formulating and implementing an effective and acceptable fire protection program.

The Corporate Nuclear Safety and Quality Assurance Audit Manager is independently responsible for performing a periodic assessment of the effectiveness of the plant fire protection program. This will include periodically reviewing the documented results of the fire drills conducted by the fire brigade and plant personnel. The Corporate Nuclear Safety and Quality Assurance Audit Manager is responsible for reviewing the assessment made by Corporate Nuclear Safety and Quality Assurance Audit Section and has authority to independently review aspects of the plant fire protection program whenever it is deemed necessary. The results of these assessments are reported to the Senior Executive Vice President and Chief Operating Officer.

2. There is no offsite management position directly responsible for using specified NFPA publications. The Vice President of Nuclear Operations is responsible for the plant having a program as described in item (1) above. Utilizing the specified publications referenced as well as other appropriate documents is the responsibility of the Fire Protection Specialist.

c. The onsite management position responsible for the overall administration of the plant operations, and the fire protection and prevention program is the Plant General Manager.

The Emergency Coordinator is responsible for implementation of emergency plans which include fire fighting and which provide a single point of control and contact for all contingencies. The Shift Foreman performs as the Emergency Coordinator in an emergency until relieved by other designated senior members of plant management.

d. Other responsibilities which relate to the fire protection program are assigned to the positions described below:

1. The Fire Protection Specialist implements periodic inspections to: minimize the amount of combustibles in safety related areas; determine the effectiveness of housekeeping practices; assure the availability and acceptable condition of all fire protection systems/equipment, emergency breathing apparatus, emergency lighting, communication equipment, fire stops, penetration seals and fire retardant coatings; and assures prompt and effective corrective actions are taken to correct conditions adverse to fire protection and preclude their recurrence.

2. The Training Supervisor is responsible for the fire fighting training for operating plant personnel and the plant's fire brigade. Design and selection of equipment related to fire protection is the responsibility of the Director of Nuclear Safety and QA with the assistance of the Engineering Sub-Unit. Periodic inspection and testing of fire protection systems and equipment in accordance with established procedures is the responsibility of the Director of Nuclear Safety and QA with the assistance of the Unit 2 Operating and Unit 2 Maintenance Supervisors. Evaluation of test results and determining the acceptability of the systems under test is the responsibility of the Fire Protection Specialist and the Director of Nuclear Safety and QA.

3. The Fire Protection Specialist assists in the critique of all drills to determine how well the training objectives have been met.

4. The duty Shift Foreman is cognizant of all in-plant maintenance and modification activities. Guidelines relating to fire prevention during these activities appear in Volume 19 of the Plant Operating Manual, the Plant Fire Protection Manual.

5. The Training Supervisor implements a program for indoctrination of all plant contractor personnel in appropriate administrative procedures which implement the fire protection program, and the emergency procedures relative to fire protection.

6. The Plant General Manager has issued Plant Notice No. 11 which provides guidelines for flammable liquids including control of spills. Additionally, training related to fire protection regarding flammable liquids is included in the fire fighting training program addressed above.

e. The Quality Assurance Supervisor is the onsite position responsible for fire protection quality assurance on components which affect safety related plant systems. Quality assurance on all other fire protection systems is the responsibility of the Director of Nuclear Safety and QA.

f. The organizational details of the Plant Fire Brigade are discussed below:

1. The Plant Fire Brigade positions are clearly defined in the Plant Protection Manual.

2. The responsibilities of the fire brigade positions are stated in the Plant Fire Protection Manual under "Organization and Emergency Actions". These responsibilities correspond with actions required by fire fighting procedures.

3. The minimum number of trained fire brigade members available onsite for each shift is five. Should the fire be of sufficient magnitude that these people could not control and extinguish it in a timely manner with the equipment provided, the Emergency Coordinator has the authority to contact the local fire departments for assistance.

4. The recommendations for organization, training, and equipment of "Private Fire Brigades" as specified in NFPA, No. 27-1975, including the applicable NFPA publications listed in the Appendix to NFPA No. 27, were utilized as a guideline in developing the current fire brigade program. In addition, other appropriate guidelines, such as the standards established by the plant's insurance carrier, were utilized.

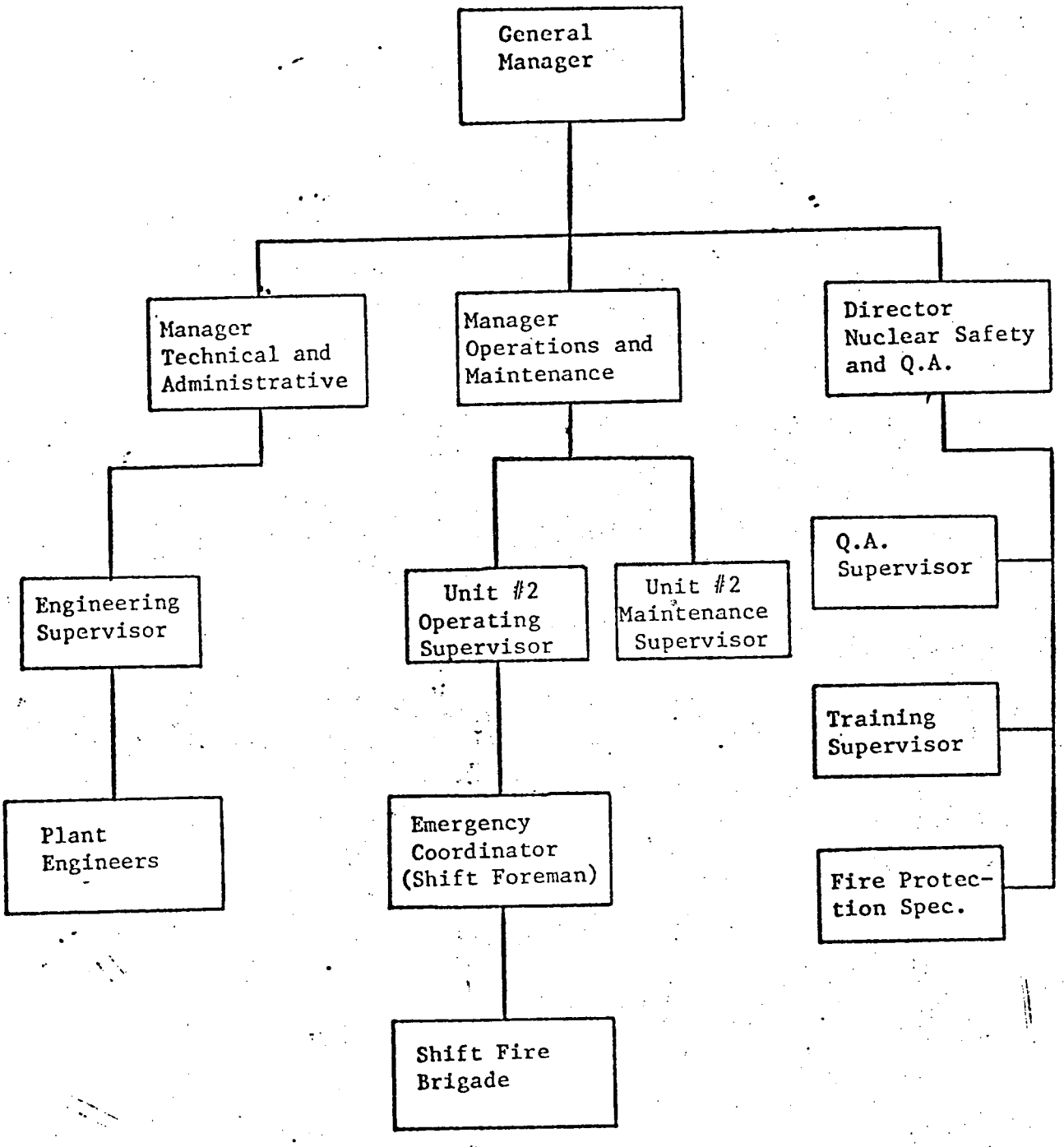
2.0 Qualifications of fire protection program personnel are as discussed below:

a. All fire brigade members undergo a yearly physical as part of the plant respiratory protection program. This physical establishes their suitability for respirator use in accordance with NUREG-0041.

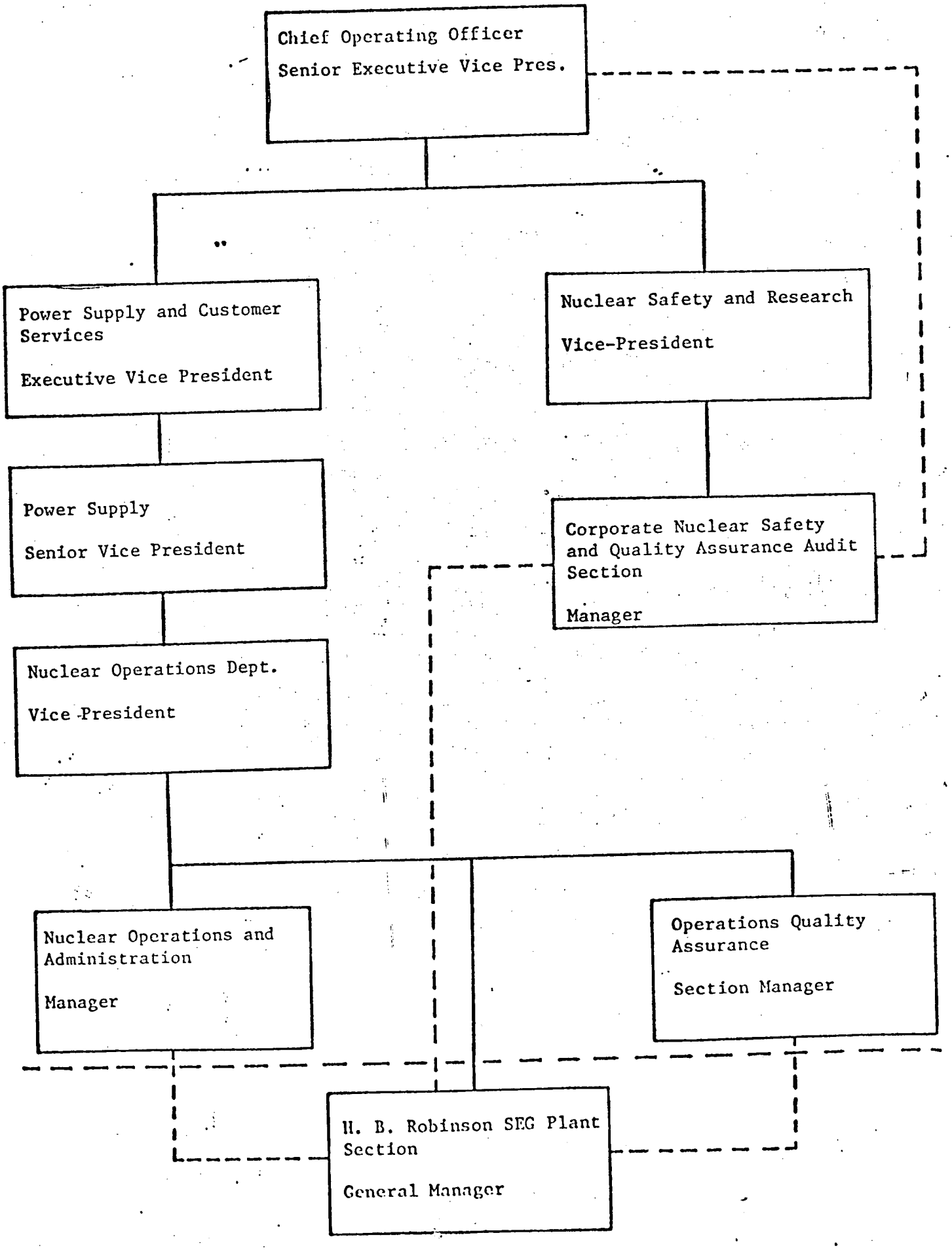
b. The personnel responsible for the maintenance and testing of the Fire Protection Systems are qualified by training and experience for the work. These people include members of plant mechanical maintenance, the plant instrumentation and control, or a qualified vendor representative.

c. Personnel who conduct initial training classes for the Plant Fire Brigade are experienced instructors who satisfy the qualification requirements of the South Carolina Fire Academy or equivalent.

PLANT FIRE PROTECTION ORGANIZATION



PROTECTION ORGANIZATION



FIRE BRIGADE TRAINING

The training program for the Plant Fire Brigade at H. B. Robinson assures that the capability to fight potential fires is established and maintained. The program consists of initial classroom instructions, with periodic re-training, practice in fire fighting and fire drills.

1.0 CLASSROOM INSTRUCTION

a. The classroom instruction includes, but is not limited to, the following:

1. Identification of fire hazards and types of fires that could occur in the plant. Examples of hazards and their location in the plant are discussed.

2. The course covers the types of fire fighting equipment utilized on site and explains the use of each type. The general location of the equipment is also discussed. Familiarization of the trainees with plant layout including access and egress routes to each area is not discussed. The personnel involved in this training are from groups whose normal duties include making routine rounds of the plant. Thus, they are familiar with plant layout once they have spent a short time on the job.

3. The course discusses or demonstrates the use of all available fire fighting equipment and, where feasible, each trainee has the opportunity to utilize the equipment. The curriculum includes training in fighting structural fires and flammable liquid fires. The principles utilized in planning a fire attack are discussed also. The instruction includes a discussion of utilizing water in combatting electrical fires. The proper extinguishing methods and agents to be utilized in combatting all four classes of fires are covered and specific examples are cited where appropriate to illustrate techniques.

4. Volume 19 of the Plant Operating Manual discusses the action to be taken when a fire is discovered. This volume defines the reporting requirements for fires, the actions to be taken by the individuals or groups on site at the time, and provides information on contacting appropriate outside fire fighting organizations.

5. The training course does not cover the use of specific communication or lighting equipment. The proper use of the installed communication equipment is not covered since either this is common knowledge (e.g., telephone use), or is covered during the new employee's initial orientation (e.g., public address system use). The installed plant lighting system is normally on and in the event it is lost, the emergency lights activate automatically. The portable lights provided require no special

1.0 CLASSROOM INSTRUCTION (Continued)

training for their use. The installed ventilation system is operated by qualified operators and does not need coverage in this training program. Portable ventilation equipment is available and training in the proper use of this equipment is provided.

As part of fire brigade training, members are instructed in the proper use and care of the dedicated fire brigade self-contained breathing apparatuses. Each trainee actually checks the unit provided, puts it on, wears it and restores it. Other evolutions, such as changing out bottles, are also covered. All qualified fire brigade members are tested for use of self-contained breathing apparatuses in accordance with the plant respiratory protection program.

6. The training course discusses the need for organization and coordination in fire fighting operations. More effectual leadership is developed through presentations on the tactics utilized in fire fighting. This is done by discussions with the trainees as the concepts and considerations of making a fire attack are covered. All fire brigade members receive this training.

7. One part of the course consists of a discussion regarding smoke and toxic products of combustion. The use of self-contained breathing apparatuses is emphasized.

8. One part of the presentation is concerned with the principles and techniques involved in structural fire fighting. This includes types of fires, heat and smoke movements, types of attack, visibility, need for breathing apparatus, and tactics. Utilizing the principles learned in this part of the course, the brigade members can apply them to an actual fire inside a structure.

9. The course does not cover all of the fire procedures or their changes. It does cover the provisions of the procedure on fire brigade organization and training and the general fire plan. The provisions of those fire procedures not related to fire fighting are not discussed, nor are the various prefire plans. Procedure changes are reviewed under other administrative requirements.

10. The fire brigade training course is maintained up-to-date with regard to modifications to the fire fighting equipment provided and to the installed fire suppression systems. Review of changes in prefire plans are covered under other administrative requirements.

1.0 CLASSROOM INSTRUCTION (Continued)

b. The initial instruction is provided by qualified individuals who are knowledgeable, experienced, and trained in the subject matter presented. The portions of the course concerning plant procedures, organization, available fire fighting equipment, installed fire suppression systems, and installed detection systems, is coordinated by the Training Subunit. The presentations on types of fires, extinguishment methods, structural fire fighting, flammable liquid fire fighting, ventilation, etc. are made by personnel who satisfy the qualification requirements of the South Carolina Fire Academy. These instructors are familiar with the latest techniques and equipment utilized in fire fighting.

c. The intent of the training program is to instruct all members of the Fire Brigade annually. The quarterly retraining generally reiterates the initial classroom instruction. It is believed, that this is the most effective means of maintaining the highest degree of qualification in fire fighting while experiencing changing personnel within the brigade.

d. Regular planned meetings every three months are provided, and annual fire protection programs are presented at the monthly Plant Safety Council meetings. These programs generally cover one or more aspects of the classroom instruction. Additionally routine monthly safety meetings, within the operating shifts, involve discussions which include all aspects of plant safety including fire protection.

2.0 DRILLS

Fire brigade drills are performed in the plant.

a. Each drill is assessed for effectiveness by the Fire Protection Specialist. Among the items considered are:

1. Time elapsed from start of drill to sounding of alarm, as appropriate.

2. Time required for the minimum expected fire brigade members to respond.

3. Time required for full brigade response.

4. What equipment was broken out for use at the fire scene.

b. The drills also include observation of the brigade's performance and a discussion with brigade members. The observation and discussion serve to provide an indication of each brigade member's knowledge of his role in a fire, conformance with plant procedures, and use of equipment.

c. The drills presently include simulated use of appropriate equipment, and the areas and types of fires or conditions are varied from drill to drill.

2.0 DRILLS (Continued)

Present drills, where applicable, consider a simulated development of a fire based on response time. Most drills do not take credit for the activation of automatic suppression systems.

d. Assessment of the Emergency Coordinator's direction of the fire fighting effort is performed as described in Item b above.

e. Fire drills involving the entire plant force are held twice annually. In addition, separate shift fire drills are held twice annually to assess the performance of the fire brigade on back shifts.

f. The drills conducted at H. B. Robinson are preplanned to accomplish certain objectives. A critique of each drill is generated by a member of the Fire Protection staff and copies are distributed to appropriate management personnel. Drills are normally observed by the member of the Fire Protection staff with the assistance of other selected personnel as required. One drill each year is observed by the plant insurance carrier's fire inspector.

3.0 RECORDS

Records of all formal training provided to each fire brigade member is maintained and is available for review.

CONTROL OF COMBUSTIBLE

Administrative controls have been established to minimize the amount of combustibles that a safety related area may be exposed to. These controls are discussed below.

a. The plant Fire Protection Manual provides guidelines for the storage and use of combustibles and flammable hazards in areas containing safety related equipment and cabling.

b. The above manual contains guidance regarding transient fire loads during maintenance and modifications including references to NFPA guides.

c. Standard work practices at the plant result in removal of waste, debris, scrap, rags, oil spills, or combustibles resulting from work activity following that activity, or at the end of each work shift.

d. Fire Protection Procedures provide for periodic inspections by members of the Fire Protection Staff to assess the effectiveness of the administrative controls relating to fire protection. These inspections include the review of housekeeping procedures throughout the plant which would identify an accumulation of combustibles.

e. There are no procedures that require all wood used in safety related areas to be treated with a flame retardant. Since the use of wood in these areas would be a temporary situation, its control will be similar to any other combustible material.

CONTROL OF IGNITION SOURCES

1.0 ADMINISTRATIVE CONTROLS

Administrative controls have been instituted to protect safety related equipment from fire damage or loss resulting from work involving ignition sources, such as welding, cutting, and other open flame work. There are additional administrative controls which prohibit the use of open flames or combustion smoke for leak testing. Smoking is prohibited in numerous plant areas.

2.0 CONTROL OF WELDING, CUTTING, GRINDING, AND OPEN FLAME WORK

a. All cutting, welding, or other open-flame operations are controlled in accordance with the provisions of the Hot Work Permit Procedure. This permit is authorized by a Mechanical Foreman or a Shift Foreman or a person designated by the Plant General Manager.

b. Prior to issuing a Hot Work Permit, the approving authority or his designate performs an inspection of the work area and equipment to be used and insures that the following precautions have been accomplished:

1. Floors within 35 feet of the work location have been swept clean of combustibles and wet down or otherwise protected from sparks/flame if combustible. Where practicable, combustibles within that area have been removed.

2. Where it is impracticable to remove combustibles from within a 35 foot radius of the work site, these materials have been protected with flame-proof covers, guards or metal shields. Fire fighting equipment is available within the area of work.

3. A fire watch is required for all work performed under a Hot Work Permit at H. B. Robinson. Each fire watch is provided with an appropriate extinguisher, depending on the existing conditions at the work site. It is the responsibility of the approving authority of the permit or his designate to insure that the fire watch has sufficient knowledge to prevent and combat fires. The fire watch remains on the work site while the work is performed and sufficient time thereafter to check for smoldering fires. Thirty minutes after the work is completed, an inspection is performed of the work area and all adjacent areas to which sparks and heat might have spread, to insure that these areas are fire safe. Either the fire watch or the welder responsible for completion of the permit performs this inspection.

2.0 CONTROL OF WELDING, CUTTING, GRINDING, AND OPEN FLAME WORK (Continued)

4. All equipment used in the maintenance requiring the Hot Work Permit is verified in good repair prior to authorizing the permit.

3.0 LEAK TESTING

Volume 19 of the Plant Operating Manual requires that only chemical reaction, non-combustible, smoke emitting devices (such as MSA brand ventilation smoke tubes) be used for leak testing.

4.0 SMOKING AND IGNITION SOURCE RESTRICTIONS

Most safety related areas, with the exception of the Control Room, will be designated and posted as "No Smoking" areas. Present radiological controls already prohibit smoking in the majority of these areas.

FIRE FIGHTING PROCEDURES

Present fire fighting procedures, established to cover such items as notification, emergency procedures, and coordination of activities with offsite fire departments, are discussed below:

a. The Plant Fire Protection Manual instructs the individual discovering the fire to:

1. Report the location and nature of the fire to the Unit No. 1 Control Operator.

2. Obtain the nearest appropriate type extinguisher and attempt to extinguish the fire.

3. Remain at the scene until the emergency coordinator arrives and gives further instructions.

b. The specific actions required by the unit control operators are as follows:

1. The Unit No. 1 Operator, insuring that he has all pertinent information, will sound the fire alarm and announce the location and nature of the fire three times over the plant P.A. system.

2. The Unit No. 2 Operator will review Appendix A to the Fire Protection Manual to determine potential hazards and consequences within the reported area.

3. Both unit operators will manually start their respective unit's motor driven fire water pump.

4. Both operators will stand by for further instructions from the Emergency Coordinator.

c. Following actuation of the plant fire alarm, the location, nature and any other essential information regarding the fire is relayed to the Fire Brigade members via the plant P.A. system. All members are instructed by the Plant Fire Protection Manual to assemble at the scene of the fire, and conduct fire fighting operations under the direction of the Emergency Coordinator. Preplanned strategies for fighting fires in a safety related area appear in Appendix A to the Fire Protection Manual. The Emergency Coordinator may, if necessary, contact the Unit 2 Control Operator for information regarding the impact of the fire in the particular area and these strategies.

d. The strategies which appear in Appendix A to the Fire Protection Manual include the following:

1. Identification of combustibles and other hazards in each safety related area.

2. Equipment available in the area and precise location.

3. Recommended point of entry into a fire area.

4. General information pertaining to operation of systems or components which might reduce the damage potential during a local fire.

5. Designation of vital heat sensitive system components such as cabling, hydrogen supply lines, pressurized gas bottles, etc., which might require additional measures while fighting a local fire.

6. Organization of fire fighting brigades is left up to the Emergency Coordinator. Since no two fires in the plant will be identical, the required organization would be developed at the scene and tailored to the situation. This approach allows for the needed flexibility in responding to the numerous conditions anticipated within the plant area.

7. Identification of radiological and toxic hazards in each fire zone.

8. Information related to ventilating a particular area for fire containment or smoke clearing operations.

9. Reference to appropriate Plant Notices which provides specific instructions for general plant personnel during a fire.

e. The validity of the pre-planned strategies is tested by unannounced drills. At such drills, aspects of the strategies are reviewed with the fire brigade and subsequent discussions, as applicable, are conducted. These drills are unannounced in order to achieve the best possible indication of brigade response to a real fire.

f. Plant Notices define actions to be taken by the Plant General Manager and his staff following notification of a fire.

g. The Fire Protection Manual instructs the Emergency Coordinator to contact the Pine Ridge or Hartsville Fire Departments if additional assistance is required. In all cases, the direction of fire fighting activities will be the responsibility of the Emergency Coordinator. Offsite assistance will be provided in the form of equipment, manpower, expertise and recommendations. No procedures require the inclusion of offsite fire fighting organizations in the fire brigade drills. Both departments, providing offsite assistance, are volunteer organizations and are therefore difficult to include in plant training. However, a number of Pine Ridge volunteer firemen are presently employed at the plant and have participated in these drills. In a fire situation, off-

site fire fighters would be escorted by knowledgeable plant personnel and would be controlled by the Emergency Coordinator. This would minimize the likelihood of radiological problems involving untrained personnel.

There is no need to document the offsite fire departments' resources or estimated response time. Since there are only two organizations involved, their relative size and approximate response times are common knowledge.

H. B. ROBINSON UNIT NO. 2

FIRE PROTECTION QUALITY ASSURANCE PROGRAM

The design, procurement, installation, testing, and administrative control activities for those portions of the fire protection and detection systems that are intended to protect the safety-related areas will be controlled in accordance with the existing plant quality assurance (QA) program. The extent of application of this program for the fire protection and detection system is described below.

1.0 Design Control and Procurement Document Control

The Fire Protection Specialist shall review modifications and procurement documents which affect plant fire protection systems or equipment to assure inclusion of appropriate fire protection requirements.

2.0 Instructions, Procedure, and Drawings

The Plant Operating Manual contains instructions covering fire drills, training, design, installation inspections, test maintenance, and modifications of fire protection systems. The activities are and will continue to be accomplished and documented in accordance with these instructions by competent plant personnel and reviewed and approved by cognizant members of the Plant Management staff.

3.0 Controls of Purchased Material, Equipment, and Services

a. Material, equipment, and services shall be purchased from suppliers on the Carolina Power and Light Company Vendor Address List, or those suppliers recommended for the list.

b. Fire protection equipment shall be receipt inspected in accordance with standard Carolina Power and Light Company practice.

4.0 Inspection

a. Hold Points shall be added to maintenance and modification procedures for fire protection systems, emergency lighting, and communications equipment where appropriate.

b. Plant procedures shall be developed for the inspection of new and existing penetration seals to ensure that new seals are properly made and that existing seals have not deteriorated.

4.0 Inspection (Continued)

c. Permanent cable routing changes and installation of new cables can only be accomplished by modification and the associated controls.

d. The existing Plant Quality Assurance Program assures that inspection personnel are independent from the individuals performing the activity being inspected.

e. Basic procedural requirements are met by new and existing plant procedures/instructions.

5.0 Test and Test Control

a. Plant Quality Assurance will ensure that the necessary acceptance tests are specified in plant modifications, repairs, and replacements by reviewing the modifications and work authorizations prior to proceeding with the work.

b. Periodic testing will be conducted and documented on fire protection equipment, emergency lighting, and emergency communication equipment. The resulting documentation will be reviewed, evaluated and approved by cognizant members of the Plant Management staff.

6.0 Inspection, Test, and Operating Status

Carolina Power & Light Company has an established clearance procedure and fire protection equipment inspection and test procedure that adequately identifies the operational status of equipment.

7.0 Nonconforming Items

Items of fire protection equipment that are found to be nonconforming shall be identified and corrected in accordance with the plant Quality Assurance Program.

8.0 Corrective Action

Corrective action for failures, malfunctions, deficiencies, deviations, or defective components is obtained by the generation of the appropriate work request. In the event of significant or repetitive conditions adverse to plant safety, including fire protection, the Plant Nuclear Safety Committee is responsible for review, corrective action, and documentation of the nonconformance.

9.0 Records

Records required to verify compliance with criteria of the fire protection program shall be identifiable and retrievable, and shall be assigned retention requirements.

10.0 Audits

a. Periodic audits will be performed by the Corporate Quality Assurance Audit Section to verify compliance with the administrative controls and implementation of quality assurance criteria.

b. Every three years, an audit will be performed by a contract fire protection consultant to provide an overall assessment of conformance of fire protection requirements.