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13.0 Conduct of Operations

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13.1 Organizational Structure

13.1.1 Corporate Organization

The corporate structure of Duke Energy is shown in Figure 13-1 and Figure 13-8.

13.1.1.1 Corporate Functions, Responsibilities and Authorities

Duke Energy has years of experience in the design, construction and operation of electric generating stations. As of 1994, Duke's total system capacity was approximately 18,000 MWe. Duke operated eight fossil stations with a 38% share of this total capacity, three nuclear steam-electric stations with a 60% share, and 27 hydroelectric stations, four pumped storage units, and combustion turbine and diesel peaking units accounting for the remaining 2% share.

Company involvement in nuclear power began in the early 1950's with various personnel receiving nuclear training. Selected personnel have been involved full time in nuclear projects since the mid-1950's. Duke participated in the Carolinas-Virginia Nuclear Power Associates (CVNPA), which resulted in a 17,000 kWe nuclear steam-electric unit at Parr, South Carolina. This unit, the Carolinas-Virginia Tube Reactor (CVTR), produced electricity over the period 1963 to 1967 as part of a five-year operating research program. Duke's three unit Oconee Nuclear Station began operation in 1973, the two unit McGuire Nuclear Station began operation in 1981, and two unit Catawba Nuclear Station began operation in 1984. As a result of these and other assignments, many personnel in the Duke organization have had prior nuclear experience as well as extensive experience in the power field.

Various departments within the Company have responsibility for design, construction, quality assurance and operation of each nuclear station. Duke contracts with a nuclear steam supply system (NSSS) vendor for the design and manufacture of the complete NSSS. The NSSS vendor also provides technical consultation in areas such as construction, testing, startup and initial fuel loading.

Duke's corporate functions, responsibilities and authorities for quality assurance are addressed in Topical Report DUKE-1A.

The Duke Energy President and Chief Executive Officer has overall responsibility for corporate functions involving planning, design, construction, operation, and decommissioning of the Company's generation, transmission, and distribution facilities.

Line responsibilities relative to Nuclear Generation are delegated through the President and Chief Executive Officer, to the Executive Vice President and President, Regulated Generation, to the Chief Nuclear Officer.

13.1.1.2 Organization for Design and Construction

Effective November 1, 1991, Duke reorganized to create the Power Generation Group, which includes the Nuclear Generation Department. Separate organizations for design and construction ceased to exist.

13.1.2 Operating Organization

13.1.2.1 Nuclear Generation Department Organization

Duke Energy's Nuclear Generation department, headed by the Chief Nuclear Officer (CNO), has corporate responsibility for overall nuclear safety, as established by Technical Specifications. Nuclear Generation is organized into three divisions. The activities of each division are directed by an executive who reports to the CNO. The divisions are Nuclear Operations, Nuclear Corporate, and Nuclear Oversight. The Nuclear Operations division is headed by an executive who is responsible for the safe operation of the Duke Energy nuclear stations. The Oconee Site Vice President reports to this executive. The Nuclear Corporate (Nuclear General Office) division is headed by an executive who is responsible for providing corporate governance and support functions to the nuclear sites. The Nuclear Oversight (NOS) division is headed by an executive who has the authority and organization freedom to affect issues relating to quality. Nuclear Oversight, using both site assigned and off-site resources, provides independent oversight of nuclear safety related activities through the performance of audits, performance assessments, and quality control inspections. Nuclear Oversight is also responsible for the Employee Concerns program and organizing the Nuclear Safety Review Board.

The Duke Energy Nuclear Generation Department Organization is shown on Figure13-3.

13.1.2.2 Nuclear Site

13.1.2.2.1 Site Organization

The nuclear site organization centralizes the resources for safe and efficient nuclear plant operations under a vice president at the nuclear site.

The Vice President of Oconee Nuclear Site has the responsibility for overall plant nuclear safety as established by Technical Specifications. The Vice President or his designee has the authority to approve all Site Directives and revisions. The site staff is fully capable and equipped to handle all situations involving safety of the station and public. The Nuclear Station staff is shown on Figure 13-4.

As established by the Duke Quality Assurance Program Topical Report, Duke-1A, anyone involved in quality activities in the Duke organization has the authority and responsibility to stop work if they discover deficiencies in quality.

13.1.2.2.2 Personnel Functions, Responsibilities and Authorities

The functions and responsibilities of key supervisory staff are described in the succeeding paragraphs.

(a) Plant Manager

The Plant Manager reports to the Vice President, Oconee Site and has direct responsibility for operating the station in a safe, reliable and efficient manner. The Plant Manager is responsible for protection of the unit staff and the general public from radiation exposure and/or any other consequences of an accident at the station and bears the responsibility for compliance with the facility operating license. The Plant Manager or his designee shall approve, prior to implementation, each proposed test, experiment, or modification to systems or equipment that affect nuclear safety. The Plant Manager or his designee has the authority to approve and issue procedures. The Plant Manager is responsible for approval of all proposed changes to the

Facility Operating License, Technical Specifications, Technical Specification Bases, and Selected Licensee Commitments.

(b) Operations Manager

The Operations Manager has the responsibility for directing the actual day-to-day operation of the station. In the event of the absence of the Plant Manager, the Operations Manager, if so designated, assumes the responsibilities and authority of the Plant Manager.

(c) Assistant Operations Manager - Shift

The Assistant Operations Manager - Shift is responsible for the overall activities of all the on-shift licensed and non-licensed operating personnel.

(d) Operations Shift Manager

An Operations Shift Manager is the senior licensed individual responsible for the overall operation of the station on his/her assigned shift. The Operations Shift Manager oversees the activities of the operators on shift and is cognizant of all maintenance activity being performed while on duty. The Operations Shift Manager on duty has both the authority and the obligation to shut down a unit if, in his/her opinion conditions warrant this action.

(e) Control Room Supervisor

The Control Room Supervisor (CRS) is responsible for the control room command function and assists the Operations Shift Manager in operation of the station on his/her assigned shift. The CRS on duty has both the authority and the obligation to shut down a unit if, in his/her opinion, conditions warrant this action.

(f) Reactor Operator

A Reactor Operator is responsible for the actual operation of a Unit on his/her assigned shift. The Reactor Operator has both the authority and obligation to shut down a unit if, in his/her opinion, conditions warrant this action.

(g) Non Licensed Operator

A Non Licensed Operator (NLO) is responsible for the operation of equipment outside of the Control Room.

(h) Radiation Protection Manager

The Radiation Protection Manager has the responsibility for conducting the radiation protection program. Duties include the training of personnel in use of equipment, control of radiation exposure of personnel, continuous determination of the radiological status of the station, surveillance of radioactive waste disposal operations, conducting the radiological environmental monitoring program and maintaining all required records. The Radiation Protection Manager has direct access to the Plant Manager in matters concerning any phase of radiological protection. The Radiation Protection Manager also has direct support as required from the Nuclear General Office Radiation Protection Manager and Staff.

(i) Chemistry Manager

The Chemistry Manager is responsible for overall chemistry and radiochemistry requirements, with special emphasis on primary and secondary system water chemistry.

(j) Maintenance Manager

The Maintenance Manager is responsible for directing maintenance activities in connection with electrical, instrument and control, and mechanical equipment. The Maintenance Manager also has responsibility for Preventative Maintenance and repair of all electrical, instrument and control, and mechanical equipment.

(k) Work Control Manager

The Work Control Manager manages the station's efforts to support Oconee Nuclear Station's operational and outage activities through the coordination, development, shift and outage management of a timely and effective integrated station schedule.

(l) Shift Technical Advisor

The Shift Technical Advisor (STA) is responsible for plant accident assessment functions during transients and operations assessment functions during normal operations. The STA provides advisory technical support to the Control Room Supervisor in the areas of thermal-hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit. The STA role may be performed by a qualified SRO assigned to the operating shift.

(m) Organization Effectiveness Director

The Organization Effectiveness Director is responsible for the activities of Regulatory Affairs, Performance Improvement, and Emergency Preparedness. The INPO Coordinator function and the Human Performance Manager are also part of the Organization Effectiveness area of responsibility.

(n) Regulatory Affairs Manager

The Regulatory Affairs Manager has responsibility for coordinating station interfaces with regulatory agencies and for providing review of appropriate station technical matters.

(o) Training Manager

The Site Training Manager is responsible for implementation and oversight of the training programs for site personnel. The Site Training division provides the analysis, design, development, implementation and evaluation of training and qualifications programs in support of personnel performing work in the nuclear station. Furthermore, the Site Training Division ensures station training programs meet or exceed all facility licensing, UFSAR, Nuclear Policy or regulatory requirements.

(p) Site Services Group Manager

The Site Services Group Manager is responsible for the maintenance of all commercial facilities at the Oconee Site. This includes coordination of any vendor contractors required to support maintenance of the commercial facilities.

(q) Engineering Manager

The Engineering Manager is a senior leader for the site and is the site single point of contact for site engineering issues as well as having many other ancillary site duties. Some site engineering activities include: System Engineering, Digital Process Systems, and Project Management. The Site Engineering Manager reports directly to the Vice President Oconee Nuclear Station and indirectly to the Senior Vice President, Nuclear Engineering.

13.1.2.3 Shift Crew Composition

The operating shift crew consists of an Operations Shift Manager, a Shift Technical Advisor, a Control Room Supervisor in each Control Room, and appropriate licensed and non-licensed

operators. In addition, Radiation Protection, Chemistry, Maintenance and I&E technicians are on site at all times when there is fuel in a reactor.

13.1.2.4 Nuclear Corporate (Nuclear General Office) Organization

The Nuclear Corporate organization provides corporate governance and support functions to the Duke Nuclear sites in the following areas: Nuclear Engineering; Nuclear Operations; Nuclear Major Projects; Nuclear Support Services; Nuclear Protective Services; Nuclear Corporate Organizational Effectiveness; Nuclear Training; Nuclear Regulatory Affairs; and Emergency Preparedness. The executive of this organization reports to the Chief Nuclear Officer (CNO), Nuclear Generation.

The organization chart is shown on Figure 13-3. The function and responsibilities are described in the succeeding paragraphs.

1. Nuclear Engineering

   The executive for Nuclear Engineering reports to the executive for Nuclear Corporate. Nuclear Engineering provides broad engineering leadership and technical support to the nuclear sites with emphasis on generic issues and consistent practices, providing expertise in safety assessment with technical support in the areas of risk assessment, radiological engineering, and safety analsyis; fuel management with leadership and technical support in the areas of fuel supply, spent fuel management, reactor core mechanical and thermal hydraulic analysis; the fleet electrical and procurement engineering with technical support in the areas of procurement engineering, nuclear process systems, and electrical systems and analysis; and programs and components support in the areas of steam generator inspections and maintenance, engineering programs, component engineering, material failure analysis and materials science, equipment reliability, and ASME Code inspections and testing.

   Nuclear Engineering provides record storagte and document management services, technology planning, project control and technical support for information technology applications and systems such as equipment databases, applications, infrastructure, and plant process information systems.

2. Operations Support

   The executive for Operations Support reports to the executive for Nuclear Corporate. Operations Support is comprised of Nuclear Operations, Nuclear Major Projects, Nuclear Support Services, and Nuclear Protective Services

   Nuclear Operations is responsible for governance of the nuclear site operating organizations, providing assistance to promote improvements to overall fleet performance.

   Nuclear Major Projects is responsible for the project management of projects critical to the success of the Nuclear Generation Department. This responsibility includes detailed scope development, accurate estimation, design and engineering, planning and scheduling, effective project controls, timely and accurate financial reporting, contract management, management of supplemental personnel, and predictable execution of assigned projects.

   Nuclear Support Services provides fleet support to the nuclear sites for laboratory, calibration, and select maintenance and refueling activities.

   Nuclear Protective Services provides access authorization and security to the nuclear sites, and is responsible for governance of the site security functions, providing assistance to help improve overall fleet performance.

3. Corporate Governance

   The executive for Corporate Governance reports to the executive for Nuclear Corporate. Corporate Governance is comprised of Nuclear Corporate Organizational Effectiveness, Nuclear Training, and Emergency Preparedness.

   Nuclear Corporate Organizational Effectiveness is responsible for governance of the nuclear site performance improvement organizations, providing assistance to promote improvements to overall fleet performance through the corrective action and self-assessment programs. This group also supports implementation of the corrective action and self-assessment programs by the Nuclear Corporate Organization.

   Nuclear Training is responsible for governance of the nuclear site training organizations, providing assistance to promote improvements to overall fleet performance. This group also supports implementation of the training programs by the Nuclear Corporate Organization.

   Emergency Preparedness is responsible for governance of the nuclear site emergency response organizations, providing assistance to promote improvements to overall fleet performance.

4. Nuclear Regulatory Affairs

   Nuclear Regulatory provides fleet support to and governance of the site regulatory affairs and licensing activities to help improve overall fleet performance.

5. Nuclear Oversight

   The executive for Nuclear Oversight (NOS) reports to the CNO. NOS provides oversight of the general office and nuclear sites with QA program audits, performance assessment, procurement quality supplier verification, and quality control. In addition, NOS provides an advisory function to senior management through the NSRB. NOS also provides oversight of Nuclear Development and Nuclear Decommissioning through QA program audits. The NOS executive has the authority and organizational freedom to: identify quality problems, initiate, recommend or provide solutions to quality problems through designated channels, verify implementation of solutions to quality problems, and ensure cost and schedule do not influence decision making involving quality. This includes full access to Nuclear Development and Nuclear Decommissioning and all levels of management up to and including the Chief Executive Officer.

   The NOS executive is delegated primary ownership of the department QA program description and is responsible for day-to-day administration of the program and resolution of QA issues. If significant quality problems are identified, NOS personnel have the authority to stop work as discussed in Section 17.3.1.4 of the Topical Report pending satisfactory resolution of the identified problem.

   Also reporting to the executive for Nuclear Oversight is Employee Concerns, which investigates concerns identified through the Employee Concerns Programs to determine their validity and initiate corrective actions as appropriate. Employee Concerns also promotes the Safety Conscious Work Environment (SCWE) Program and is sensitive to SCWE concerns during investigations performed.

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13.1.3 Qualifications of Site Personnel

The qualifications of personnel in the site organization are in accordance with Section 4 of ANSI 3.1-1978, "Selection and Training of Nuclear Power Plant Personnel," with the exception of those specifically listed in Section 13.1.3.1.

Replacement personnel for positions in the nuclear stations are fully trained and qualified to fill their appointed positions. Qualifications of key site personnel are available for inspection on site.

13.1.3.1 Minimum Qualification Requirements

The minimum qualification requirements for unit staff personnel are outlined in the succeeding paragraphs. Each member of the unit staff meet or exceed the guidelines outlined by the National Academy for Nuclear Training.

(a) Radiation Protection

(1) Radiation Protection Program Coordinator

The Radiation Protection Program Coordinator shall have the technical competence to establish radiation protection programs and address radiation protection issues similar to those at nuclear power plants.

This individual shall have a bachelor's degree or equivalent in a science or engineering subject, including some formal training in radiation protection. This individual shall have at least five years of experience in applied radiation protection. At least three years of this experience shall be in applied radiation protection work at a nuclear facility dealing with radiological issues similar to those encountered in nuclear power plants, preferably in an actual nuclear power plant.

This individual may be located either on-site-or off-site. If this individual is located off-site, he/she shall have overall responsibility for the preparation of the site radiation protection program and issuance of program revisions. In addition, he/she shall provide technical direction and conduct appropriate audits to ensure that the site program is properly implemented. (Reference 1)

(2) Radiation Protection Manager

The on-site Radiation Protection Manager is designated to supervise the on-site radiation protection professional/technical personnel. This individual shall have eight years in responsible positions related to power generation, of which three years of professional experience in applied radiation protection work, shall be nuclear power plant experience. A maximum of four years of the remaining five years of experience may be fulfilled by satisfactory completion of academic or related technical training. (Reference 1)

(b) Other Supervisors Required to Hold an NRC License

Members of the station supervisory staff who are responsible for directing the actions of operators, technicians or repairmen (e.g., intermediate and first line supervisors), and who are required to hold an NRC license, shall have a high school diploma, or equivalent, and a minimum of four (4) years of responsible nuclear or fossil station experience, of which a minimum of one (1) year shall be nuclear station experience. A maximum of two (2) years of the remaining three (3) years of experience may be fulfilled by academic or related technical training on a one-for-one time basis.

(c) Other Supervisors Not Required to Hold an NRC License

Members of the station supervisory staff who are responsible for directing the actions of operators, technicians or repairmen (e.g., intermediate and first line supervisors), and who are not required to hold an NRC license, shall have a high school diploma, or equivalent, and a minimum of four (4) years of experience in the craft or discipline supervised.

(d) Auxilliary Operators

Operators, whether or not they are to be licensed by the Nuclear Regulatory Commission, should have a high school diploma, or equivalent, and should possess a high degree of manual dexterity and mature judgment. Selection interviews and examinations, bearing a significant relationship to job performance, should be used for operators to aid in determining an individual's ability to progress to high levels of responsibility and for eventual Nuclear Regulatory Commission licensing.

(e) Technicians

Technicians in responsible positions (i.e., individuals who direct the activities of others, but who are not supervisors) shall have a minimum of two years of experience in their specialty. These personnel should have a minimum of one year of related technical training in addition to their experience.

(f) Operations Shift Manager

An Operations Shift Manager shall have a minimum of a high school diploma, or equivalent and four years of responsible nuclear or fossil station experience, of which a minimum of one year shall be nuclear station experience. A maximum of two years of the remaining three years of experience may be fulfilled by academic or related technical training on a one-for-one time basis. An Operations Shift Manager shall hold a Senior Reactor Operator License.

(g) Control Room Supervisor

A Control Room Supervisor shall have a minimum of a high school diploma, or equivalent and four years of responsible nuclear or fossil station experience of which a minimum of one year shall be nuclear station experience. A maximum of two years of the remaining three years of experience may be fulfilled by academic or related technical training on a one-for-one time basis. A Control Room Supervisor shall hold a Senior Reactor Operator License.

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13.2 Training

13.2.1 Program Description

The principal objective of the Duke Energy Employee Training and Qualification System (ETQS) is to assure job proficiency of all station personnel involved in safety related work. An effective training and qualification system is designed to accommodate future growth and meet commitments to and comply with applicable established regulations and accreditation standards.

Qualification is indicated by successful completion of prescribed training and demonstration of the ability to perform assigned work or tasks competently. Where required, maintaining a current and valid license issued by the regulating agency establishes the requirements.

The Vice President, Oconee Nuclear Station, is responsible for the quality of work performed by individuals at the nuclear site. Line Management is responsible for the timely and effective development of assigned personnel. The Oconee Site Training Manager has overall responsibility for the administration of the Employee Training and Qualification System.

Training is analyzed, designed, developed, implemented, and evaluated according to a systematic approach to training. Employees are provided with formal training to establish the knowledge foundation and on-the-job training to develop work performance skills. Continuing training is provided, as required, to maintain proficiency in these knowledge and skill components and to provide further employee development.

The Employee Training and Qualification System is designed to prepare initial and replacement station personnel for safe, reliable and efficient operation of the nuclear facility. The program is intended to meet or exceed INPO accreditation standards and Nuclear Regulatory Commission requirements.

Appropriate training for personnel of various training and experience backgrounds is provided. The level at which an employee initially enters the training and qualifications system for the particular area is determined by an evaluation of the employee's past experience and level of ability.

13.2.1.1 Regulatory Requirements

The applicable portions of the NRC regulations, regulatory guides, and reports listed below will be used in providing guidance in plant staffing and training.

1. 10CFR50 “Domestic Licensing of Production and Utilization Facilities”
2. 10CFR55 “Operators' Licenses” including Appendix A
3. 10CFR19 “Notices, Instructions and Reports to Workers; Inspections”
4. Regulatory Guide 1.8 “Personnel Selection and Training”
5. NRC “Operator Licensing Guide,” NUREG-0094, July 1976
6. “Utility Staffing and Training for Nuclear Power,” WASH-1130, USAEC Revised 1973
7. NUREG-0654
8. Regulatory Guide 8.2 “Guide for Administrative Practices in Radiation Monitoring”
9. Regulatory Guide 8.8 “Information Relevant to Maintaining Occupational Radiation Exposures as Low as Reasonably Achievable (Nuclear Power Reactor)”

10. Regulatory Guide 8.13, “Instructions Concerning Prenatal Radiation Exposure”

11. NUREG-0737

12. 10 CFR 20, “Standards for Protection Against Radiation”

13.2.2 Program Content Description

Station assigned personnel may be trained and qualified through participation in prescribed parts of the Employee Training and Qualification System (ETQS), General Employee Training (GET), and Employee/Professional Development Training.

13.2.2.1 General Employee Training

General Employee Training (GET) encompasses those general administrative, safety, radiological and emergency procedures (administrative in nature) established by station management and applicable regulations.

All personnel granted unescorted access to the Restriced/Protected Area of a nuclear power plant receive training in the following areas commensurate with their level of knowledge and job duties:

a. Station Organization
b. Station Administration
c. Nuclear Power Plant Overview
d. Industrial Safety and Environmental Management
e. Fire Protection
f. The Quality Program
g. Plant Security
h. Emergency Response/Preparedness
i. Radiological Orientation
j. Access Authorization and Fitness for Duty
k. Radiation Protection
l. Respiratory Protection and fit testing

Continuing training is conducted on an annual basis.

13.2.2.1.1 Fire Brigade Training

The primary purpose of the Fire Brigade Training Program is to develop a group of site employees skilled in fire prevention, fire fighting techniques, and emergency response. They are trained and equipped to function as a team for the fighting of fires. The site fire brigade organization is intended to be self-sufficient with respect to fire fighting activities.

The Fire Brigade Training program provides for initial training of all new fire brigade members, quarterly classroom training and drills, annual practical training, and leadership training for fire brigade leaders.

13.2.2.2 Technical Training

Technical training is designed, developed and implemented to assist site employees in gaining an understanding of applicable fundamentals, procedures, and practices; and in developing manipulative skills necessary to perform assigned work in a competent manner. Technical training may consist of three segments:

Initial Training

On-the-job Training and Qualification

Continuing Training

13.2.2.2.1 Initial Training

Initial job training is designed to provide knowledge of the fundamentals, basic principles and procedures involved in work in which an employee is assigned. This training may consist of, but not limited to, live lectures, taped and filmed lectures, computer-assisted instruction, guided self-study, demonstrations, laboratories and workshops, on-the-job-training, and where applicable, simulator training.

Certain new employees or employees transferred from other department locations may be partially qualified by reason of previous applicable training and/or expertise. The extent of further training for these employees is determined by systematic approach with input from applicable regulations, performance in review sessions, comprehensive examinations, or other techniques designed to identify the employee's present level of ability.

Initial job training and qualification programs are developed for operations, maintenance, chemistry and radiation protection non-exempt classifications. Training for each program is presented in such a manner that specific behavioral objectives are accomplished. Trainee progress may be evaluated using written examinations, oral, or practical tests. Depending on the regulatory requirements, an individual's needs, or plant operating conditions, allowances are made to suit the specific situation. A brief description of initial training program content follows:

1. Operations Initial Training

   a. Initial Operator training is provided in accordance with applicable ETQS standards to provide the foundation in basic theory and plant familiarization for trainees to become competent operators. This program consists of both classroom and on-the-job training.

   b. Operations Test Group personnel receive basic instruction in administration, mathematics, physical science, safety, power plant fundamentals, general work practices, and station familiarization. These individuals also receive additional fundamental theory training in thermal science, electrical, and instrumentation areas. Application of theory as it relates to performance testing and measuring methods is also presented.

2. Maintenance, Radiation Protection and Chemistry

   a. Fundamental Training

      Provides basic instruction in administration, mathematics, physical science, safety, power plant fundamentals, general work practices, and station familiarization.

   b. Discipline-specific Training

      Provides instruction in the fundamentals and specific skills needed in his/her specialty area.

Maintenance personnel receive basic mechanical and/or electrical theory, tools and their use, basic component theory, and competent repair and troubleshooting skills.

Radiation Protection personnel receive a comprehensive and theoretical understanding of the theory of radiation, radiation detection and instrumentation, and application of Radiation Protection Technology with emphasis on hypothetical problem solving and practical applications.

Chemistry personnel receive basic Chemistry theory and its application in the nuclear power plant. Basic techniques and procedures are presented and practiced.

3. Engineering Support Initial Training

   a. On-the-Job Orientation (OJO)

      This training module provides an orientation to the various sections and departments at the nuclear site. A structured plan is provided to the trainee with objectives to be accomplished.

   b. Engineering Fundamentals Training

      The Fundamentals portion of initial training has been designed to meet the intent and recommendations provided by INPO ACAD 98-004. Three modules (Basic Principles and Components, Reactor Theory, and Thermodynamics) provide instruction in electrical science, properties of materials, reactor theory, heat transfer and fluid flow, chemistry, valve and pump theory, and process control systems principles.

   c. Site Specific Systems Training

      Systems training provides an overview of plant systems, normal and emergency operation, components, and flow paths necessary to operate the nuclear site safely and efficiently. The course includes specific modules covering Core Damage Mitigation that meets the intent of INPO Guidelines.

   d. Position-Specific Training

      Position-Specific Training is defined and managed by the Engineering line organization to ensure that individuals are qualified for the specific responsibilities assigned to them.

13.2.2.2.2 On-the-Job Training and Qualification

On-the-job training is a systematic method of providing the required job related skills and knowledge for a position. The Qualification process consists of three steps: 1) Training conducted in the work environment/simulated work environment by qualified OJT trainers; 2) an independent evaluation; and 3) a signature by the trainee's supervisor or a member of management awarding qualification. Applicable tasks and related procedures make up the OJT/qualifications program for each technical area which is designed to supplement and compliment training received through formal classroom, laboratory, and/or simulator training. The objective of the program is to assure the trainee's ability to perform job tasks as described in the task descriptions and the Training and Qualification Guides.

13.2.2.2.3 Continuing Training

Continuing Training is any training not provided as Initial Qualification and Basic Training or training which maintains and improves job-related knowledge and skills such as the following:

   a. Plant Systems and Component Changes

b. OJT/Qualification Program Retraining/Requalification

c. Procedure and Directive Changes

d. Operating Experience Program Documents Review to include Industry and In-House Operating Experiences

e. Continuing Training required by Regulation (Emergency Plan Training, etc.)

f. General Employee, Special, Administrative, Vendor, and/or Advanced Training topics supporting tasks.

g. Training identified to resolve deficiencies (task-based) or to reinforce seldom used knowledge and skills

h. Refresher training on initial training topics

i. Structured pre-job instruction, mock-up training, walk-throughs, etc.

Deleted paragraph(s) per 2002 updated.

Continuing Training may consist of formal and informal components. Each Section or Division's Continuing Training Program is developed using a systematic approach that includes job performance information from a job and task analysis, and safe operation, as the basis for determining the content of continuing training.

Once the objectives for Continuing Training have been established, the methods for conducting the training may vary. The method selected should provide clear evidence of objective accomplishment and consistency in delivery.

13.2.2.2.3.1 Operator Requalification Training

Licensed Operator Requalification training is designed based upon a systematic approach to training to maintain and demonstrate continued competence of all licensed operators. The training is described in applicable ETQS standards.

13.2.2.3 Employee Development and Management/Supervisory Training

Employee Development or Management/Supervisory Training may consist of various classes for different management personnel levels. An individual's training and development will depend on his/her position description and nomination by management.

13.2.3 Operator License Training

Duke Energy's reactor operator and senior reactor operator training programs are based upon "a systematic approach to training" as defined by 10CFR55.4. These training programs were initially accredited by the Institute of Nuclear Power Operations and the National Nuclear Accrediting Board on August 17, 1983. Certification of these training programs' accreditation has been made to the NRC. Accreditation renewal of these programs had occurred on a four-year basis since the date of initial accreditation.

13.2.3.1 Operations Oversight training

Operations Shift Manager (OSM) and Shift Technical Advisor Training (STA) are senior operator licensed positions on each shift with oversight responsibilities. Separate training programs above and beyond licensed training are conducted for each of these positions in accordance with Duke Energy training procedures

13.2.3.1.1 OSM Training and Qualification Program

The OSM training and qualification program consists of a combination of mentoring guides, on-the job training, and simulator evaluation and is based on INPO guidance from ACAD 97-004, Guidelines for Shift Manager Selection, Training and Qualification, and Professional Development.

13.2.3.1.2 STA Training and Qualification Program

The STA training and qualification program provides the individual with the knowledge and skills necessary to furnish engineering and/or technical guidance to the Operations Shift Manager for diagnosing and mitigating emergency or abnormal plant conditions. Initial and continuing STA training is based on a "systematic approach to training" and guidance from INPO 90-003, Guidelines for the Training and Qualification of Shift Technical Advisors; and consists of classroom and simulator training in STA roles and responsibilities, reactivity management, and severe accident mitigation at a minimum.

13.2.3.2 Deleted per 2002 update

13.2.3.3 Deleted per 2002 update

13.2.4 Training Program Evaluation

Training and qualifications activities are monitored by the designated station personnel, with assistance from Nuclear Training and Operations Services personnel. Trainees and vendors may provide input concerning training program effectiveness. Methods utilized to obtain this information may be surveys, questionnaires, performance appraisals, staff evaluation, training program effectiveness evaluation instruments, etc. Classes are routinely evaluated at a frequency sufficient to determine program effectiveness. Evaluation information may be collected through:

1. verification of program objectives as related to job duties for which intended;
2. testing to determine student accomplishment of these objectives;
3. student evaluation of the instruction;
4. instructor evaluations of the students;
5. supervisor's evaluation of trainee performance on the job, following the training;
6. supervisor's evaluation of the instructor; or
7. periodic working (review) group evaluation.
8. periodic self-evaluation of the accredited programs

The performance and competency of Licensed Reactor Operators and Senior Reactor Operators is evaluated as described in the Duke Energy Employee Training and Qualification System Standard No. 4116.1 “Licensed Operator Requalification Training Program”.

13.2.5 Training and Qualifications Documentation

Training and qualification records are maintained in accordance with Nuclear System Directive 702, “Document Management”, and in accordance with ETQS standard 2204, “Training Records”.

The site Engineering Manager is accountable for the implementation of requirements of document management as it applies to site document management activities (NSD 702).

The site Training Manager is accountable for the retention and maintenance of training and qualification records as stated in ETQS standard 2204.

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13.3 Emergency Planning

The Emergency Program for the Duke Energy's Oconee Nuclear Site consists of the Oconee Nuclear Site Emergency Plan and related implementing procedures. Also included are related radiological emergency plans and procedures of state and local governments. The purpose of these plans is to provide protection of plant personnel and the general public and to prevent or mitigate property damage that could result from an emergency at the Oconee Nuclear Site. The combined emergency preparedness programs have the following objectives:

1. Effective coordination of emergency activities among all organizations having a response role.
2. Early warning and clear instructions to the population-at-risk in the event of a serious radiological emergency.
3. Continued assessment of actual or potential consequences both on-site and off-site.
4. Effective and timely implementation of emergency measures.
5. Continued maintenance of an adequate state of emergency preparedness.

The Emergency Plan has been prepared in accordance with Section 50.47 and Appendix E of 10CFR Part 50. The plan shall be implemented whenever an emergency situation is indicated. Radiological emergencies can vary in severity from the occurrence of an abnormal event, such as a minor fire with no radiological health consequences, to nuclear accidents having substantial onsite and/or offsite consequences. In addition to emergencies involving a release of radioactive materials, events such as security threats or breaches, fires, electrical system disturbances, and natural phenomena that have the potential for involving radioactive materials are included in the plans. The plan contains adequate flexibility for dealing with any type of emergency that might occur.

The activities and responsibilities of outside agencies providing an emergency response role are detailed in the State of South Carolina emergency plans and the emergency plans for Oconee and Pickens Counties.

The emergency response resources available to respond to an emergency consist of the following: 1. ONS Site Personnel, 2. Duke Energy corporate headquarters personnel, 3. Other Duke Energy nuclear station personnel, and, in the longer term, federal emergency response organizations (e.g. NRC, DOE, FEMA). The first line of defense in responding to an emergency lies with the normal operating shift on duty when the emergency begins. Therefore, members of the Oconee staff are assigned emergency response roles that are to be assumed whenever an emergency is declared. The overall management of the emergency is initially performed by the Operations Shift Manager until he/she is relieved by the Plant Manager/Designee. In the event of an emergency, he/she serves as the Emergency Coordinator. Onsite personnel have preassigned roles to support the Emergency Coordinator and to implement his/her directives.

Special provisions have been made to assure that ample space and proper equipment are available to effectively respond to the full range of possible emergencies. The emergency facilities available include the Oconee Control Room, Operational Support Center, Technical Support Center, Joint Information Center, and the Emergency Operations Facility. These facilities are described in the site emergency plan.

Emergency plan implementing procedures define the specific actions to be followed in order to recognize, assess, and correct an emergency condition and to mitigate its consequences. Procedures to implement the Plan provide the following information:

1. Specific instructions to the plant operating staff for the implementation of the Plan.
2. Specific authorities and responsibilities of plant operating personnel.
3. A source of pertinent information, forms, and data to ensure prompt actions are taken and that proper notifications and communications are carried out.
4. A record of the completed actions.
5. The mechanism by which emergency preparedness will be maintained at all times.

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13.4 Review and Audit

Review and Audit is addressed in the description of the Quality Assurance Program referenced in Chapter 17.

13.4.1 Onsite Review

The Onsite Review Committee is addressed with the Independent Review function in the description of the Quality Assurance Program referenced in Chapter 17.

13.4.2 Independent Review

The Independent Review function is addressed in the description of the Quality Assurance Program referenced in Chapter 17.

13.4.3 Audit Program

The Audit Program is addressed in the description of the Quality Assurance Program referenced in Chapter 17.

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13.5 Station Procedures

13.5.1 Administration of Station Procedures

13.5.1.1 Conformance With Regulatory Guides

Regulatory Guide 1.33, “Quality Assurance Program Requirements,” and ANSI N18.7-1976, “Standard for Administrative Controls for Nuclear Power Plants” shall be used for the preparation of administrative and plant procedures.

13.5.1.2 Preparation of Procedures

The preparation, review and approval of procedures is performed in accordance with the Quality Assurance Program Description referenced in Chapter 17.

13.5.1.3 Administrative Procedures

Station administrative procedures are written as necessary to control station testing, maintenance, and operating activities. Listed below are several areas for which administrative procedures are written, including principle features:

13.5.1.3.1 The Reactor Operator's Authority and Responsibility

The reactor operator is given the authority to manipulate controls which directly or indirectly affect core reactivity, including a reactor trip if he deems necessary. He is also assigned the responsibility for knowing the limits and setpoints associated with safety-related equipment and systems as specified in the Technical Specifications and designated in the operating procedures.

13.5.1.3.2 The Senior Reactor Operator's Authority and Responsibility

The senior reactor operator, in addition to the authorities and responsibilities described for the reactor operator, is given the authority to direct the licensed activities of the reactor operator, and ultimately is held responsible for all licensed activities at the station within his control.

13.5.1.3.3 Activities Affecting Station Operation or Operating Indications

Prior to removing any instrumentation or controls from service, station personnel shall notify the Work Control Center SRO (WCC SRO). The WCC SRO ensures appropriate notifications of work that may affect unit operations or control room indications are made to the Control Room Supervisor.

The WCC SRO is the primary contact for both outage and innage work.

13.5.1.3.4 Manipulation of Facility Controls

No one is permitted to manipulate the facility controls who is not a licensed reactor operator or senior reactor operator, except for license trainees operating under the direction of a licensed operator. The licensed operators are required to comply with the requalification program as described in Section 13.2.

Operations Management Procedures are written that delineate the responsibilities of the reactor operators on the control board and the responsibilities of the senior reactor operator in the

Control Room. When Technical Specifications require one (1) man in the Control Room (at the controls) this is defined as: Must be in visible line of Nuclear Instrumentation. See cross hatched area on Figure 13-5 and Figure 13-6. One (1) R.O. will be "at the controls" as defined above and the second R.O. will be inside the CAD key doors that are used for entering and exiting the Control Room.

13.5.1.3.5 Responsibility for Licensed Activities

Responsibility for directing the licensed activities of licensed operators is assigned to individuals with senior reactor operator licenses by virtue of their position within the station organization.

13.5.1.3.6 Relief of Duties

This procedure provides a detailed checklist of applicable items for shift turnover.

13.5.1.3.7 Equipment Control

Equipment control is maintained and documented through the use of tags, labels, stamps, status logs, or other suitable means.

13.5.1.3.8 Master Surveillance Testing Schedule

This procedure establishes a master surveillance testing schedule to assure that required testing is performed and evaluated on a timely basis. Surveillance testing is scheduled such that the safety of the station is not dependent on the performance of a structure, system, or component which has not been tested within its specified testing interval. The master surveillance testing schedule identifies surveillance and testing requirements, applicable procedures, and required test frequency. Assignment of responsibility for these requirements is also indicated.

13.5.1.3.9 Log Books

The following log books are maintained and reviewed by appropriate personnel:

1. Switchboard Record - This document contains data on station and unit electrical power generation, bus voltages, etc.
2. Operations Logbook - This document contains documentation of significant events occurring each shift. Examples include reactivity changes, alarms received, abnormal conditions of operation due to auxiliary equipment and all releases of radioactive waste. It contains a summary of unit operation for each shift. Entries are made by Reactor Operators and/or Senior Reactor Operators.

13.5.1.3.10 Temporary Procedures

The use of temporary procedures is discussed in Section 13.5.2.1.3.

13.5.1.3.11 Fire Protection Procedures

Fire protection procedures are written to address such topics as: periodic testing and surveillance, maintenance activities, control of combustibles, fire impairments, hot work authorization, training of the fire brigade, reporting of fires, and control of fire stops. The fire protection engineer in Engineering has responsibility for fire protection procedures in general. All fire protection related procedures and programs contain either an initial review or a

subsequent review when the content changes affects a fire technical requirement; however procedural ownership is dependent upon the implementing group such as: Maintenance, Operations, Commodities & Facilities, and Station or General Office Engineering.

13.5.2 Operating and Maintenance Procedures

13.5.2.1 Operating Procedures

13.5.2.1.1 System Procedures

Operating activities which affect the proper functioning of the station's safety-related systems and components are performed in accordance with approved, written procedures. These procedures are intended to provide a pre-planned method of conducting operations of systems, in order to eliminate errors due to on-the-spot analyses and judgements.

Operating procedures are sufficiently detailed that qualified individuals can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and operating procedures, therefore, contain a degree of flexibility appropriate to the activities for which each is applicable.

Typical activities addressed by operating procedures are:

Auxiliary Building Ventilation System Operation

Emergency Feedwater System Operation

Boron Recycle System Operation

Chemical and Volume Control System Operation

Component Cooling Water System Operation

Condensate and Feedwater Systems Operation

Condenser Circulating Water System Operation

Reactor Building Ventilation System Operation

Reactor Building Spray System Operation

Control Room Ventilation System Operation

Degasification of the Reactor Coolant System

Demineralizer Resin Removal and Replacement

Electrical Systems Operation

Failed Fuel Detection and Handling

Filling and Draining of the Refueling Canal

Filling, Venting and Draining of the Reactor Coolant System

Fire Protection Systems Operation

Instrument Air System Operation

Low Pressure Service Water System Operation

Nitrogen System Operation

Nuclear Fuel Control and Accountability

Reactor Coolant Pump Operation

Receipt, Inspection and Storage of New Fuel

Recirculated Cooling Water System Operation

DHR Cooling System Operation

Injection System Operation

Spent Fuel Pool Cooling and Purification System Operation

Spent Fuel Handling and Shipping

Standby Shutdown Facility Systems Operation

Steam Generator Secondary Side Operation

Turbine-Generator Operation

Unit Operation at Power

Unit Shutdown

Unit Startup

13.5.2.1.2 Emergency Procedures

Emergency procedures are written which specify steps to be taken during foreseeable emergency situations. These procedures are based on a sequence of observations and actions, with emphasis placed on operator responses to indications in the Control Room. When immediate operator actions are required to prevent or mitigate the consequences of an emergency situation, procedures require that those actions be implemented at the earliest possible time, even if full knowledge of the emergency situation is not yet available.

The actions outlined in emergency procedures are based on a conservative course of action to be followed by the operating crew. Written procedures, however, cannot address all contingencies, and emergency procedures, therefore, contain a degree of flexibility consistent with the fact that an emergency situation may not follow an anticipated sequence.

Typical situations addressed by emergency procedures are:

Abnormal Release of Radioactivity

Acts of Nature (Earthquake, Flood, Tornado, etc.)

Inoperable Control Element Assemblies

Loss of Component Cooling

Loss of Containment Integrity

Loss of Control Room

Loss of Electrical Power

Loss of Feedwater

Loss of Instrument Air

Loss of Reactor Coolant

Loss of Reactor Coolant Flow

Loss of Residual Heat Removal

Reactor Trip

Spent Fuel Damage

Steam Generator Tube Failure

Steam Supply System Rupture

Turbine-Generator Trip

Loss of Low Pressure Injection System

Loose parts in Reactor Coolant System

High Activity in Reactor Coolant System

Duke Energy has also in place a program for preparing and implementing emergency operating procedures. This program was developed in response to NUREG-0737 Item I.C.1, "Guidance for the Evaluation and Development of Procedures for Transients and Accidents." Duke Energy's program for developing emergency operating procedures for Oconee Units l, 2, and 3 has been reviewed and approved by NRC. (Letter from John F. Stolz (NRC) to Hal B. Tucker (Duke) date June 7, 1985. Subject: Safety Evaluation Report on "Procedures Generation Package").

13.5.2.1.3 Temporary Operating Procedures

Temporary operating procedures are approved written procedures issued for operating activities which are of a nonrecurring nature. Examples of such uses are: (a) to direct operating activities during special testing or maintenance; (b) to provide guidance in unusual situations not within the scope of normal procedures; and (c) to assure orderly and uniform operations for short periods of time when the station, a unit, a structure, a system, or, a component is performing in a manner not addressed by existing procedures, or has been modified or extended in such a manner that portions of existing procedures do not apply.

The format of these procedures includes a purpose, limits and precautions, initial conditions, and step-by-step instructions for each mode of operation and necessary enclosures.

Temporary operating procedures are sufficiently detailed that qualified individuals can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and therefore contain a degree of flexibility appropriate to the activities for which each is applicable.

13.5.2.1.4 Annunciator Response Procedures

Annunciator response procedures are written which specify operator actions necessary to respond to an off-normal condition as indicated by an alarm. The format for annunciator response procedures includes alarm setpoints, automatic actions, manual actions, alarm sources, and references.

In order to insure that annunciator response procedures are readily accessible for reference, a positive method is employed to allow their retrieval. Each annunciator panel is designated by a unique and obvious nameplate. All of the annunciator windows within a panel are designated by identifying names. The annunicator response procedures are grouped by panels, then subdivided by annunciator names so that the response procedure for any annunciator may be quickly located.

13.5.2.2 Other Procedures

13.5.2.2.1 Maintenance Procedures

Maintenance of station safety-related structures, systems, and components is performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances (for example, skills normally possessed by qualified maintenance personnel may not require detailed step-by-step delineation in a written procedure) which conform to applicable codes, standards, specifications, criteria, etc. Where appropriate sections of related vendor manuals, instructions, or approved drawings with acceptable tolerances do not provide adequate guidance to assure the required quality of work, an approved, written maintenance procedure is provided.

Maintenance procedures are sufficiently detailed that qualified workers can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and therefore, contain a degree of flexibility appropriate to the activities for which each is applicable.

The Maintenance Superintendent has responsibility for preparation and implementation of maintenance procedures.

The administrative control of maintenance is maintained as follows:

1. In order to assure safe, reliable, and efficient operation, a comprehensive maintenance program for the station's safety-related structures, systems, and components is established.
2. The Maintenance Superintendent is responsible for directing the performance of station maintenance activities affecting instrumentation and electrical and mechanical equipment.
3. Personnel performing maintenance activities are qualified in accordance with applicable codes and standards, as appropriate.
4. Maintenance is performed in accordance with written procedures which conform to applicable codes, standards, specifications, criteria, etc.
5. Maintenance is scheduled so as not to jeopardize station operation or the safety of a reactor or reactors.
6. Maintenance histories are maintained on station safety-related structures, systems, and components.
7. The effectiveness of maintenance, including maintenance procedures, is covered by the Maintenance Rule Program which has been implemented in accordance with 10 CFR 50.65, “Requirement for monitoring the effectiveness of maintenance at nuclear power plants.”

The administrative control of modifications is discussed in “Quality Assurance Program”, Topical Report, DUKE-1A.

13.5.2.2.2 Instrument Procedures

Maintenance, testing, and calibration of station safety-related instruments is performed in accordance with written, approved procedures.

Instrument procedures are sufficiently detailed that qualified workers can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and therefore contain a degree of flexibility appropriate to the activities for which each is applicable.

The Maintenance Superintendent has responsibility for preparation and implementation of instrument procedures.

13.5.2.2.3 Periodic Test Procedures

Testing conducted on a periodic basis to determine various station parameters and to verify the continuing capability of safety-related structures, systems, and components to meet performance requirements is conducted in accordance with approved written procedures. Periodic test procedures are utilized to perform such testing, and are sufficiently detailed that qualified personnel can perform the required functions without direct supervision.

Periodic test procedures are performed by the station's Engineering, Operations, and Maintenance groups.

13.5.2.2.4 Chemistry Procedures

Chemical and radiochemical activities associated with station safety-related structures, systems, and components are performed in accordance with approved, written procedures and the station chemistry manual.

Each procedure is sufficiently detailed that qualified workers can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and therefore contain a degree of flexibility appropriate to the activities for which each is applicable.

The Chemistry Manager has responsibility for preparation and implementation of chemistry procedures.

13.5.2.2.5 Radioactive Waste Management Procedures

Radioactive waste management activities associated with the station's liquid, gaseous, and solid waste systems are performed in accordance with approved, written procedures.

Each procedure is sufficiently detailed that qualified workers can perform the required functions without direct supervision. Written procedures, however, cannot address all contingencies, and therefore contain a degree of flexibility appropriate to the activities for which each is applicable.

The station's Operations group, Chemistry, and Radiation Protection sections have responsibility for preparation and implementation of the radioactive waste management procedures.

13.5.2.2.6 Radiation Protection Procedures

Information concerning these procedures is presented in Chapter 12.

13.5.2.2.7 Plant Security Procedures

Station Security Procedures shall be developed to implement the scope of Safeguard Activities required by the safeguard plans addressed in Section 13.6 of the FSAR.

13.5.2.2.8 Emergency Preparedness Procedures

Information concerning these procedures is presented in the Oconee Nuclear Site Emergency Plan which is discussed in topic 13.3.

13.5.2.2.9 Material Control Procedures

Information concerning these procedures is presented in the Duke Energy Topical Report, Quality Assurance Program, DUKE-IA.

13.5.2.2.10 Modification Procedures

Information concerning these procedures is presented in the Duke Energy Topical Report, Quality Assurance Program, DUKE-IA.

13.5.2.2.11 Fire Protection Procedures

Information concerning these procedures is presented in Section 13.5.1.3.11.

13.5.2.2.12 Threaded Fastener Maintenance Procedure

The NRC issued IE Bulletin 82-02, “Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary of PWR Plants,” on June 2, 1982 to notify licensees about incidents of severe degradation of bolts and studs in reactor coolant pressure boundary closures and to require actions to minimize future degradation and to detect and correct existing deterioration. One of the actions was to develop and implement maintenance procedures for threaded fasteners (studs and bolts) in the reactor coolant pressure boundary. These procedures include, but are not limited to: (1) maintenance crew training of proper bolting/stud practices, tools application, specifications and requirements, (2) detensioning and retensioning practices (torque iteration), specified tolerances, and other controls for disassembly and reassembly of component closure/seal connections, (3) gasket installation and controls, and (4) pretensioning methods and other measures to eliminate reactor coolant leakage during operations. When the alternate HydraNut tensioning system is utilized, all studs are tensioned simultaneously. Quality assurance measures also include proper selection, procurement, and application of fastener lubricants and injection sealant compounds to minimize fastener susceptibility to stress corrosion cracking.

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13.6 Nuclear Security

The Commission-approved Physical Security Plan, Training and Qualification, Safeguards Contingency Plan, and Cyber Security Plan referred to collectively as “Security Plans” describes the comprehensive security program for Oconee Nuclear Station to implement the requirements as required in 10 CFR 73.55.

13.6.1 Physical Security

A combined Duke Energy Physical Security Plan, Security Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security and Contingency Plan is submitted for the protection of Oconee Nuclear Station against potential acts of radiological sabotage via a determined violent external assault, attack by stealth, or deceptive actions, an internal threat, a land vehicle bomb assault, and a waterborne vehicle bomb assault. This information is to be withheld from public disclosure pursuant to 10 CFR 73.21.

The general scope of activities encompassed by the Duke Energy Physical Security Plan, Security Training and Qualification Plan, Safeguards Contingency Plan and Independent Spent Fuel Storage Security and Contingency Plan include:

1. Performance Objectives;
2. Performance Evaluation Program;
3. Physical Security Organization;
4. Qualification for Employment in Security;
5. Security Personnel Training;
6. Liaison with Local Law Enforcement;
7. Physical Security Barriers, Posts and Structures;
8. Nuclear Site Access and Control Requirements;
9. Surveillance, Observation and Monitoring for detection of unauthorized instrusion;
10. Security Communications Systems;
11. Response to Security Threats;
12. Review, Evaluation, and Audit of the Physical Security Program;
13. Special Situations Affecting Security;
14. Maintenance, Testing and Calibration of Security Systems and Equipment;
15. Compensatory Measures for degraded Physical Barriers and Security Systems;
16. Security Records; and
17. Temporary Suspension of Security Measures.

The Duke Energy Physical Security Plan, Security Training and Qualification Plan, and Safeguards Contingency Plan conforms to the requirements of 10 CFR 50.34(c)(2), (d)(2) and (e), and 10 CFR 73.55. The Duke Energy Independent Spent Fuel Storage Installation Security and Contingency Plan conforms to the requirements of 10 CFR 72.212.

13.6.2 Cyber Security

A separate Duke Energy Cyber Security Plan is submitted for the protection of the Oconee Nuclear Station against potential acts of radiological sabotage via cyber attack to digital computer and communication systems and networks associated with:

1. Safety-related and important to safety functions;
2. Security functions;
3. Emergency preparedness functions, including offsite communications; and
4. Support systems and equipment which if compromised, would adversely impact safety, security, or emergency preparedness functions.

The safety-related and important-to-safety functions, security functions, and emergency preparedness functions including offsite communications are herein referred to as SSEP functions.

In the context of cyber security, systems or equipment that perform important to safety functions include structures, systems, and components (SSCs) in the balance of plant (BOP) that could directly or indirectly affect reactivity at a nuclear power plant and could result in an unplanned reactor shutdown or transienst.

The Duke Energy Cyber Security Plan conforms to the requirements of 10 CFR 50.34(c) (2), 10 CFR 73.54 and 10 CFR 73.55.

This information is to be withheld from public disclosure pursuant to 10 CFR 2.390 (d).

13.6.3 Reference

1. American National Standard ANSI/ANS-3.1-1978.
2. Letter, from R. Michael Glover, Duke Energy to NRC, “Duke Energy Physical Security Plan, Revision 16,” dated April 15, 2010
3. Letter, from R. Michael Glover, Duke Energy to NRC, “Response to Requested changes Regarding Duke Energy License Amendment Request for Cyber Security Plan,” dated August 9, 2011.

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