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12.1 GENERAL

Point Beach Nuclear Plant (PBNP) Units 1 and 2 are normally base loaded at or near 100% power. Generation and transmission of power from PBNP is coordinated with FPL Energy, We Energies and American Transmission Company (ATC). The electric output is sold to We Energies under a long-term power purchase contract and integrated into Northeast Wisconsin's 345 kV AC transmission system. Certain transmission and distribution assets on the site are owned by ATC, the transmission system operator, and are operated under an Interconnection Agreement between ATC and FPL Energy Point Beach which assures compliance with NRC requirements.

12.2 ORGANIZATION

Management

Ownership and operation of Point Beach was transferred from We Energies and the Nuclear Management Company (NMC) respectively to FPL Energy Point Beach on September 28, 2007. FPL Energy Point Beach name was changed to NextEra Energy Point Beach, LLC on May 13, 2010 (Reference 3). NextEra Energy Point Beach is designated as the licensee authorized to use and operate the Point Beach Nuclear Plant (PBNP) in accordance with the terms and conditions of the operating licenses (Reference 1 and Reference 2). NextEra Energy Point Beach is a Wisconsin limited liability company (LLC) and a direct, wholly owned subsidiary of NextEra Energy Resources, LLC, which is a direct wholly owned subsidiary of NextEra Energy Capital Holdings Inc. which is a direct, wholly owned subsidiary of NextEra Energy, Inc. NextEra Energy, Inc. is a public utility holding company incorporated in 1984 under the laws of the State of Florida. Through its various subsidiaries, NextEra Energy, Inc. owns and operates six other nuclear power plants at four sites, which include the following:

St. Lucie Nuclear Power Plant, Units 1 and 2

Turkey Point Nuclear Plant, Units 3 and 4

Seabrook Station

Duane Arnold Energy Center

The Point Beach on-site nuclear organization reports operationally through the Site Vice President. The corporate and site management structure is described in the Quality Assurance Topical Report (QATR) discussed in Section 1.4, "Quality Assurance Program." The organization section of the QATR is incorporated by reference.

Consultants

The following consultants were engaged by We Energies (Wisconsin Electric Power Company) in the following areas for specialized services during the design of the plant, and many have continued on a consulting capacity during plant operation:

1. NUS Corporation - Site and general.
2. Stone and Webster Engineering Corporation - Radwaste modification design, construction, startup and quality control.
3. Murray and Trettel, Inc. - Meteorology.
4. Dr. Ralph Grunewald - Associate Professor, University of Wisconsin - Milwaukee - Site and radiological monitoring and health physics.
5. Westinghouse Electric Corporation - Overall design, operations, and fuel.
6. Southwest Research Institute - Specialized quality control and reactor vessel inspection.
7. Battelle Memorial Institute, Columbus Laboratories - Analysis of specimens.
8. Limnetics, Inc. - Environmental research and investigation.
9. Bechtel Corporation - Plant design, economics and quality control.
10. Sargent and Lundy - Circulating and service water system overall design and construction.

11. Nuclear Technologies, Inc. - Study of possible methods of transportation and disposal of spent nuclear fuel and design of spent storage and transfer system.
12. Nuclear Surveillance and Auditing Corporation - Isotopic analysis.
13. Nuclear Audit and Testing Co. - Nuclear fuel quality assurance audit.
14. Nuclear Assurance Corporation - Nuclear fuel cycle general information.
15. Nuclear Exchange Corporation - Nuclear fuel transactions.

Periodically, new consultants are contracted to perform specific functions or projects.

Plant Organization

The two-unit plant organization evolved from the single plant organization of Unit 1. Onsite training of personnel, startup, and operation of Unit 1 commenced about January 1, 1969. Subsequently, Unit 2 was started up and commenced operations employing experienced personnel from Unit 1 plus additional augmentation personnel trained in the same programs used for Unit 1. Currently, all regularly assigned personnel (with the exception of security personnel - (Section 12.7) are employees of FPL Energy Point Beach and function on an integrated basis between both PBNP units. The two-unit PBNP organization is under the direction of the PBNP Site Vice President.

The Operations Shift Manager performs the Duty Shift Superintendent (DSS) function described in Technical Specification 5.1.2, and is responsible for the control room command function.

See Technical Specification 5.3.1 for facility staff qualification requirements.

New and spent fuel is handled under the direction of a fuel handling supervisor who holds an active Senior Reactor Operator’s (SRO) license. If not active, they must stand one 8-hour shift under instruction from a licensed active SRO to perform active SRO duties limited to fuel handling. During alteration of the reactor core (including fuel loading or transfer), a person holding a SRO license or a SRO license limited to fuel handling shall directly supervise the activity and, during this time, the licensee shall not assign other duties to this person.

See Technical Specification 5.3.3 for Health Physicist qualifications.

The Shift Technical Advisor shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and response and analysis of the plant for transients and accidents. The Shift Technical Advisor shall also receive training in plant design and layout including the capabilities of instrumentation and controls in the control room. See Technical Specification 5.2.2.e for additional requirements for shift technical support personnel.

Medical direction of Point Beach is handled by FPL’s Occupational Health Representative. Responsibilities include implementation of health surveillance programs, post-offer physical examinations, radiological medical aspects and injury management. This position functions closely with Industrial Health & Safety and Radiation Protection.

REFERENCES

1. NRC Letter, “Order Approving Transfer of Licenses and Conforming Amendments Relating to Point Beach Nuclear Plant, Units 1 and 2, (TAC Nos. MD4112 and MD4113),” dated July 31, 2007.

2. NRC Letter, “Point Beach Nuclear Plant -License Transfer-Issuance of Conforming Amendments Re: Transfer of Ownership and Operating Authority (TAC Nos. MD4112 and MD4113),” dated September 28, 2007.

3. NRC Safety Evaluation, “Point Beach Nuclear Plant, Units 1 and 2 - Issuance of Amendments Re: Name Change of Licensee and Correction of the Appendix C License Condition Typographical Error (TAC NOS. ME1119 and ME1120,” dated May 13, 2010.

12.3 TRAINING

Personnel for the Point Beach Nuclear Plant, Units 1 & 2 are selected on the basis of criteria which include pre-employment examinations as required and a review of previous experience and education.

Training programs, supportive courses, units of instruction, lesson plans and other controlled training procedures used at PBNP are designed in accordance with industry accepted principles and standards of training.

Approved training procedures give specific guidance on the analysis, design, development, implementation, and evaluation activities employed to ensure that the training provided to PBNP personnel is performance-based, professional, satisfies federal regulations, and supports maintaining INPO accreditation. In doing so, appropriate knowledge, skills and abilities will be developed that are necessary for safe and efficient support of plant operations.

A continuing training program for licensed operators and senior licensed operators is monitored under the direction of the Training Manager which meets or exceeds the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR 55. The present continuing training program is described in PBNP and NextEra Energy training program documents and procedures.

NextEra Energy requires that no employees will be regularly employed within the nuclear plant without instruction or training with respect to his or her personal conduct and the use of radiological protective devices. All employees of the plant are instructed, as required, in the following areas:

- Fire protection
- Emergency plan
- Dosimeters
- Industrial safety
- Radiological Health & Safety
- Use of Protective Clothing & Equipment
- Plant Controlled & Clean Areas

12.4 WRITTEN PROCEDURES

NextEra Energy Point Beach, LLC nuclear plant operational and support activities are conducted under FPL Quality Assurance Topical Report (QATR), FPL-1. Controlled Document processes are established and implemented to specify the format and content, and control the development, review, approval, issue, use and revision, of documents that specify quality requirements or prescribe activities affecting quality or safe operation to assure the correct documents are being employed. These provisions assure that specified documents are reviewed for adequacy, approved prior to use by authorized persons, and distributed according to current distribution lists and used at the location where the prescribed activity takes place.

Documents subject to control provisions include, but are not limited to, drawings (design, as-built), engineering documents (calculations, analyses, specifications, computer codes, Updated Final Safety Analysis Reports, Plant Technical Specifications), and procedures (administrative, operating, emergency operating, maintenance, calibration, surveillance, inspection, test). Other documents, such as those related to procurement, corrective actions, and assessments, are controlled as defined by the provisions and commitments cited in the applicable sections of the QATR, FPL-1.

12.4.1 Emergency Operating Procedures

These include procedures necessary to ensure that proper action with respect to equipment and systems is taken to handle malfunctions that may occur to either or both operating units.

These procedures deal primarily with actions to be taken for emergencies that might occur in the nuclear portion of the plant. Procedures are also included for those secondary plant emergencies that could affect the overall plant in such a way as to affect public health and safety and affect the nuclear portion of the plant.

These procedures are to be implemented at the earliest possible time after a malfunction has occurred. They are specifically formulated to provide positive operator action for verifying that the plant is in, or is placed in, a safe condition with the minimum hazard to the general public, plant personnel, and equipment. They do not in any way negate the fact that the plant design is based on assuming credible initiating accidents and that protective and engineering safeguards systems are provided to limit the consequences of these unlikely accidents. Suitable redundancy of active components is provided in the protective and engineered safeguards systems. In addition, suitable equipment and a centralized control room are provided for the operator to take action through the implementation of these emergency operating procedures to insure that the potential risks to public safety and Company financial risk are reduced to the lowest practical level. These procedures do not replace any of the required protective equipment or circuits used to control or limit incidents or equipment failure, but rather serve as a backup to verify that the plant is in, or placed in, a safe condition. These procedures are applicable to both units at Point Beach because of the identical nature of the two units. Action to be taken on each individual unit differs, based upon the initiating accident and credible compounding between units. As an example, in a loss of coolant accident on one unit, the unaffected unit should normally not be shut down or cooled down. In fact, the continued presence on-line of the second unit enhances the assurance of continuous electrical power to the affected unit. This does not mean that the other unit cannot be simultaneously shut down, should it be desirable to do so, even under the condition of loss of all outside AC power.

Even though the maximum hypothetical accident (major loss of coolant) is not considered credible, emergency operating procedures are included for this accident. The simultaneous or sequential occurrence of loss of coolant accidents in more than one unit is not considered credible, and plant safeguards systems and emergency procedures are not designed to cope with compounding of accidents.

Plant emergency operating procedures are an integrated set of: A) symptom oriented, event-related Emergency Operating Procedures (EOPs) and Emergency Contingency Actions (ECAs); B) symptom oriented, function-related Critical Safety Procedures (CSPs); and C) Critical Safety Function Status Trees (STs). All are based on the Westinghouse Emergency Response Guidelines - Low Pressure.

EOPs and ECAs provide directions for the optimal recovery of the plant. EOPs address the higher probability events while ECAs address low probability and unique event scenarios.

Critical Safety Function Status Trees are used to monitor indications for a challenge to one or more of the barriers to fission product release independent of event sequence. The status trees prioritize this challenge and direct the operator to the applicable Critical Safety Procedure. The CSP is then used to restore the plant to a safe state from which optimal recovery may continue using the EOPs and ECAs.

Plant emergency operating procedures are divided into three areas; purpose, symptoms or entry conditions, and operator actions. Table 12.4-1 lists all the emergency operating procedures as well as the related emergency contingency actions, critical safety procedures, and status trees.

Purpose

This area gives an outline of the basic situation, the objectives of the procedure, and a discussion of information useful to the operator in understanding plant response and actions taken to respond to the accident.

Symptoms or Entry Conditions

This area describes the various indications which cause, lead to, or represent the situation. In all cases, the operator will rely on this indication until it is proven incorrect. In many cases, the symptoms could represent several possible situations. The procedures are structured to deal with the worst possible situation until proven otherwise. Other instrumentation will be checked to corroborate the symptoms. The steps from other Emergency Operating Procedures that direct entry into each procedure are also listed.

Operator Actions

Operator action steps are presented in a two column format. The left-hand column, titled Action/ Expected Response, contains directions for the operator and the expected plant response. The right-hand column, Response Not Obtained, provides contingency actions which are to be taken in the event a stated condition or task in the left-hand column does not represent or achieve the expected response. Operator action steps designated as immediate actions are placed at the beginning of the procedures, and will be completed as rapidly as possible in a safe and judicious manner. Operator actions are expected to be performed in the indicated order, however, actions

are not required to be completed prior to continuing with the next step. If a step is required to be completed prior to continuing, this is stated in the procedure. Operators are trained to use written procedures and other supportive sources of information as necessary while performing operator actions to ensure complete and proper performance of all actions.

Table 12.4-1 EMERGENCY OPERATING PROCEDURES (EOPs)
EMERGENCY CONTINGENCY ACTIONS (ECAs)
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Number	Name
EOP-0	Reactor Trip or Safety Injection
EOP-0.0	Rediagnosis
EOP-0.1	Reactor Trip Response
EOP-0.2	Natural Circulation Cooldown
EOP-0.3	Natural Circulation Cooldown With Steam Void in Vessel (With RVLIS)
EOP-0.4	Natural Circulation Cooldown With Steam Void in Vessel (Without RVLIS)
EOP-1	Loss of Reactor or Secondary Coolant
EOP-1.1	SI Termination
EOP-1.2	Small Break LOCA Cooldown and Depressurization
EOP-1.3	Transfer to Containment Sump Recirculation-Low Head Injection
EOP-1.4	Transfer to Containment Sump Recirculation-High Head Injection
EOP-2	Faulted Steam Generator Isolation
EOP-3	Steam Generator Tube Rupture
EOP-3.1	Post-Steam Generator Tube Rupture Cooldown Using Backfill
EOP-3.2	Post-Steam Generator Tube Rupture Cooldown Using Blowdown
EOP-3.3	Post-Steam Generator Tube Rupture Cooldown Using Steam Dump
ECA-0.0	Loss of All AC Power
ECA-0.1	Loss of All AC Power Recovery Without SI Required
ECA-0.2	Loss of All AC Power Recovery With SI Required
ECA-1.1	Loss of Containment Sump Recirculation
ECA-1.2	LOCA Outside Containment
ECA-1.3	Containment Sump Blockage
ECA-2.1	Uncontrolled Depressurization of Both Steam Generators
ECA-3.1	SGTR With Loss of Reactor Coolant-Subcooled Recovery Desired
ECA-3.2	SGTR With Loss of Reactor Coolant-Saturated Recovery Desired
ECA-3.3	SGTR Without Pressurizer Pressure Control

Table 12.4-2 STATUS TREES (STS) CRITICAL SAFETY PROCEDURES (CSPS)
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Number	Name
ST-1	Subcriticality Critical Safety Function Status Tree
ST-2	Core Cooling Critical Safety Function Status Tree
ST-3	Heat Sink Critical Safety Function Status Tree
ST-4	Integrity Critical Safety Function Status Tree
ST-5	Containment Critical Safety Function Status Tree
ST-6	Inventory Critical Safety Function Status Tree
CSP-ST.0	Critical Safety Function Status Trees
CSP-S.1	Response to Nuclear Power Generation/ATWS
CSP-S.2	Response to Loss of Core Shutdown
CSP-C.1	Response to Inadequate Core Cooling
CSP-C.2	Response to Degraded Core Cooling
CSP-C.3	Response to Saturated Core Cooling
CSP-H.1	Response to Loss of Secondary Heat Sink
CSP-H.2	Response to Steam Generator Overpressure
CSP-H.3	Response to Steam Generator High Level
CSP-H.4	Response to Loss of Normal Steam Release Capabilities
CSP-H.5	Response to Steam Generator Low Level
CSP-P.1	Response to Imminent Pressurized Thermal Shock Condition
CSP-P.2	Response to Anticipated Pressurized Thermal Shock Condition
CSP-Z.1	Response to High Containment Pressure
CSP-Z.2	Response to Containment Flooding
CSP-Z.3	Response to High Containment Radiation Level
CSP-I.1	Response to High Pressurizer Level
CSP-I.2	Response to Low Pressurizer Level
CSP-I.3	Response to Voids in Reactor Vessel

12.5 RECORDS

During normal operation, daily logs are provided for the most part by an installed computer data logger on each plant unit. Other records and recorder charts required by 10 CFR 100 are provided by strip recorders and by appropriate records provided by the Chemistry and Radiation Protection Group. Reactor data is provided by the Reactor Engineering Group using the computer and the informational output of the in-core instrumentation system. The Operational Phase Records are maintained by the Operations Group and submitted to Records Management for retention.

During startup operations, discrepancy reports, installation surveillance and test reports, and functional test reports were produced and placed in plant files.

Record retention requirements and plant reporting requirements are all specified in the Quality Assurance Topical Report (QATR) as referenced in FSAR Section 1.4.

12.6 EMERGENCY PLAN

General

The Emergency Plan, contained in a separate volume and filed in accordance with 10 CFR Part 50, defines the actions and responsibilities of Point Beach Nuclear Plant personnel in the event of an emergency and delineates the support required from offsite groups during certain specific emergency situations. Emergency classifications graded by increasing severity are incorporated in the Emergency Plan. These classifications describe the degree of response by onsite and offsite personnel and agencies. The Emergency Plan is based on the following key objectives:

1. Identification and evaluation of various types of emergencies which could potentially occur at the plant and which could affect members of the public or plant personnel and equipment.

2. Organization and direction of plant personnel actions to limit the consequences of an incident.

3. Organization and control of onsite and offsite surveillance activities to assess the extent and significance of any release of radioactive material.

4. Delineation of protective actions and measures based on the protection of the public and/or plant personnel and equipment in the event of an accident, including measures for recovery of and reentry to the facility.

5. Notification of offsite authorities as required, and coordination of response activities with offsite support groups.

Medical Preparedness

General safety and first aid practices adopted for use in conventional plants are in effect at Point Beach Nuclear Plant. Since the possibility exists that treatment of an injured person may be complicated by radioactive contamination, steps have been taken to provide a fully equipped, isolated, and controlled access treatment room at Aurora Medical Center - Manitowoc County in Two Rivers, Wisconsin. This room is equipped with sink, decontamination materials, protective clothing, signs, radiation monitoring equipment, and other necessary equipment. The Aurora Medical Center - Manitowoc County staff is trained in radiological health and contamination control by the state of Wisconsin's Radiation Protection Section with assistance from cognizant Company personnel.

On-Site Medical Capability

The Point Beach organization includes persons experienced in first aid procedures who are called in the event of injury. The plant has an emergency shower for use with a severely contaminated, but less severely injured, person. A first aid room is available for medical evaluations.

Off-Site Medical Capability

Arrangements have been made for off-site emergency medical transportation for seriously injured personnel who may or may not be contaminated. Arrangements have also been made with area physicians for treatment of Point Beach Nuclear Plant personnel. Serious radiation injuries would be treated at Madison hospitals.

12.7 SECURITY

Point Beach Nuclear Plant Security personnel are responsible for protection of plant personnel and company assets. Access to the Protected Area (PA) of the plant is controlled by Security and only authorized personnel are allowed access to the PA. Personnel granted unescorted access to the PA can be identified by a photo ID badge. There are Vital Areas within the Protected Area of Point Beach that house equipment important to the safe operation of the plant. Vital Area access is controlled by card readers, which allow only authorized personnel entry into these areas. The PBNP Security Plan contains detailed information regarding the security measures for Point Beach Nuclear Plant. This information is limited to individuals with a need-to- know who have been appropriately screened by Security.

There are three principal means by which physical changes to the plant can be detected: first, the design of the plant; secondly, by suitable locking devices when required; and thirdly, by the use of checkoff lists prior to performing certain tests and procedures.

1. Design: The design of the plant includes a number of provisions to aid in the assurance of component condition. The main control board is laid out in a mimic bus fashion to allow quick analysis of any change in a monitored plant condition. Certain systems, such as safety injection, are monitored by a "ready status" system on the main control board. This status system includes four panels per unit which monitor the status of pumps and valves for the safety injection system and containment isolation.

2. Locking Devices: Certain valves are locked in position by a chain lock device to insure their position. The actual reason for locking may be one of several, including such things as Company financial risk, personnel safety, and system integrity.

3. Checkoff Lists: A portion of many procedures in the "Initial Condition" section includes the checkoff lists which are required to be completed or verified prior to the commencement of the procedure. Periodic reexamination of device position discloses whether or not problems of tampering are in existence. Checkoff lists include valve positions, breaker positions, and control power for the system under examination.