


United States Nuclear Regulatory Commission Official Hearing Exhibit		
In the Matter of: DUKE ENERGY FLORIDA, LLC (Levy Nuclear Plant, Units 1 and 2) Commission Mandatory Hearing		
	Docket #: 05200029 05200030	Identified: 07/28/2016
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	Rejected:	
	Other:	

COMBINED LICENSE

LEVY NUCLEAR PLANT UNIT 1

DUKE ENERGY FLORIDA, LLC.

Docket No. 52-029

License No. NPF-[XXX]

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for a combined license (COL) for Levy Nuclear Plant (LNP) Unit 1 filed by Duke Energy Florida, LLC (DEF), which incorporates by reference Appendix D to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, complies with the applicable standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. There is reasonable assurance that the facility will be constructed and will operate in conformity with the license, as amended, the provisions of the Act, and the Commission regulations set forth in 10 CFR Chapter I, except as exempted from compliance in Section 2.F below;
 - C. There is reasonable assurance (i) that the activities authorized by this COL can be conducted without endangering the health and safety of the public and (ii) that such activities will be conducted in compliance with the Commission regulations set forth in 10 CFR Chapter I, except as exempted from compliance in Section 2.F below;
 - D. DEF is technically qualified to engage in the activities authorized by this license in accordance with the Commission regulations set forth in 10 CFR Chapter I. DEF is financially qualified to engage in the activities authorized by this COL in accordance with the Commission regulations set forth in 10 CFR Chapter I;
 - E. DEF has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements;"
 - F. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - G. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering reasonable available alternatives, the issuance of this license subject to the conditions for protection of the environment set forth herein is in accordance with Subpart A of 10 CFR Part 51 and all applicable requirements have been satisfied; and
 - H. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the applicable regulations in 10 CFR Parts 30, 40, and 70.

2. On the basis of the foregoing findings regarding this facility, COL No. NPF-XXX is hereby issued to DEF (the licensee), to read as follows:
 - A. This license applies to the LNP Unit 1, a light-water nuclear reactor and associated equipment (the facility), owned by DEF. The facility would be located approximately 9.6 miles northeast of the Crystal River Energy Complex in Levy County, Florida, and is described in DEF's final safety analysis report (FSAR), as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) DEF, pursuant to Sections 103 and 185b. of the Act and 10 CFR Part 52, to construct, possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license;
 - (2) (a) DEF, pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and in amounts necessary for reactor operation, described in the FSAR, as supplemented and amended;

(b) DEF, pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after a Commission finding under 10 CFR 52.103(g) has been made, in accordance with the limitations for storage and in amounts necessary for reactor operation, described in the FSAR, as supplemented and amended;
 - (3) (a) DEF, pursuant to the Act and 10 CFR Parts 30 and 70, to receive, possess, and use, at any time before a Commission finding under 10 CFR 52.103(g), such byproduct and special nuclear material (but not uranium hexafluoride) as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts not exceeding those specified in 10 CFR 30.35(d) and 10 CFR 70.25(d) for establishing decommissioning financial assurance, and not exceeding those specified in 10 CFR 30.72 and 10 CFR 70.22(i)(1);

(b) DEF, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after a Commission finding under 10 CFR 52.103(g), any byproduct, source, and special nuclear material (but not uranium hexafluoride) as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts, as necessary;
 - (4) (a) DEF, pursuant to the Act and 10 CFR Parts 30 and 70, to receive, possess, and use, before a Commission finding under 10 CFR 52.103(g), in amounts not exceeding those specified in 10 CFR 30.72, any byproduct or special nuclear material (but not uranium hexafluoride) that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in

glass, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components, in amounts not exceeding those specified in 10 CFR 30.35(d) and 10 CFR 70.25(d) for establishing decommissioning financial assurance, and not exceeding those specified in 10 CFR 30.72 and 10 CFR 70.22(i)(1);

(b) DEF, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after a Commission finding under 10 CFR 52.103(g), in amounts as necessary, any byproduct, source, or special nuclear material (but not uranium hexafluoride) without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; and

(5) DEF, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. The license is subject to, and DEF shall comply with, all applicable provisions of the Act and the rules, regulations, and orders of the Commission, including the conditions set forth in 10 CFR Chapter I, now or hereafter in effect.

D. The license is subject to, and DEF shall comply with, the conditions specified and incorporated below:

(1) Changes during Construction

(a) DEF may request use of a preliminary amendment request (PAR) process, for license amendments, at any time before a Commission finding under 10 CFR 52.103(g). To use the PAR process, DEF shall submit a written request to the Office of New Reactors (NRO) in accordance with COL-ISG-025, "Changes during Construction under Part 52."

(b) Before NRO's issuance of a written PAR notification, DEF shall submit the license amendment request (LAR). Thereafter, NRO will issue a written PAR notification, setting forth whether DEF may proceed in accordance with the PAR, LAR, and COL-ISG-025. If DEF elects to proceed and the LAR is subsequently denied, DEF shall return the facility to its current licensing basis.

(2) Pre-operational Testing

(a) DEF shall perform the design-specific pre-operational tests identified below:

1. In-Containment Refueling Water Storage Tank (IRWST) Heatup Test (first plant test as identified in AP1000 Design Control Document (DCD), Rev. 19, Section 14.2.9.1.3 Item (h));

2. Pressurizer Surge Line Stratification Evaluation (first plant test as identified in AP1000 DCD, Rev. 19, Section 14.2.9.1.7 Item (d));
 3. Reactor Vessel Internals Vibration Testing (first plant test as identified in AP1000 DCD, Rev. 19, Section 14.2.9.1.9);
 4. Core Makeup Tank Heated Recirculation Tests (first three plants test as identified in AP1000 DCD, Rev. 19, Section 14.2.9.1.3 Items (k) and (w)); and
 5. Automatic Depressurization System Blowdown Test (first three plants test as identified in AP1000 DCD, Rev. 19, Section 14.2.9.1.3 Item (s)).
- (b) DEF shall review and evaluate the results of the tests identified in Section 2.D.(2)(a) of this license and confirm that these test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specified functions in accordance with AP1000 DCD Rev. 19, Section 14.2.9.
 - (c) DEF shall notify the Director of NRO, or the Director's designee, in writing, upon successful completion of the design-specific pre-operational tests identified in Section 2.D.(2)(a) of this license; and
 - (d) DEF shall notify the Director of NRO, or the Director's designee, in writing, upon the successful completion of all the ITAAC included in Appendix C to this license.
- (3) Nuclear Fuel Loading and Pre-critical Testing
- (a) Until the submission of the notification required by Section 2.D.(2)(c) of this license, DEF shall not load fuel into the reactor vessel;
 - (b) Upon submission of the notification required by Section 2.D.(2)(c) of this license and upon a Commission finding in accordance with 10 CFR 52.103(g) that all the acceptance criteria in the ITAAC in Appendix C to this license are met, DEF is authorized to perform pre-critical tests in accordance with the conditions specified herein;
 - (c) DEF shall perform the pre-critical tests identified in AP1000 DCD Rev. 19, Section 14.2.10.1;
 - (d) DEF shall review and evaluate the results of the tests identified in Section 2.D.(3)(c) of this license and confirm that these test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specified

functions in accordance with AP1000 DCD Rev. 19, Section 14.2.10; and

- (e) DEF shall notify the Director of NRO, or the Director's designee, in writing, upon successful completion of the pre-critical tests identified in Section 2.D.(3)(c) of this license.

(4) Initial Criticality and Low-Power Testing

- (a) Upon submission of the notification required by Section 2.D.(3)(e) of this license, DEF is authorized to operate the facility at reactor steady-state core power levels not to exceed 5-percent thermal power in accordance with the conditions specified herein;
- (b) DEF shall perform the initial criticality and low-power tests identified in AP1000 DCD Rev. 19, Sections 14.2.10.2 and 14.2.10.3, respectively, the Natural Circulation (first plant test) identified in AP1000 DCD Rev. 19, Section 14.2.10.3.6, and the Passive Residual Heat Removal Heat Exchanger (first plant test) identified in AP1000 DCD Rev. 19, Section 14.2.10.3.7;
- (c) DEF shall review and evaluate the results of the tests identified in Section 2.D.(4)(b) of this license and confirm that these test results are within the range of acceptable values predicted or otherwise confirm that the tested systems perform their specified functions in accordance with AP1000 DCD Rev. 19, Section 14.2.10.2 and 14.2.10.3; and
- (d) DEF shall notify the Director of NRO, or the Director's designee, in writing, upon successful completion of initial criticality and low-power tests identified in Section 2.D.(4)(b) of this license, including the design-specific tests identified therein.

(5) Power Ascension Testing

- (a) Upon submission of the notification required by Section 2.D.(4)(d) of this license, DEF is authorized to operate the facility at reactor steady-state core power levels not to exceed 100-percent thermal power in accordance with the conditions specified herein, but only for the purpose of performing power ascension testing;
- (b) DEF shall perform the power ascension tests identified in the AP1000 DCD Rev. 19, Section 14.2.10.4, the Rod Cluster Control Assembly Out of Bank Measurements (first plant test) identified in AP1000 DCD, Rev. 19, Section 14.2.10.4.6, and the Load Follow Demonstration (first plant test) identified in AP1000 DCD, Rev. 19, Section 14.2.10.4.22;
- (c) DEF shall review and evaluate the results of the tests identified in Section 2.D.(5)(b) of this license and confirm that these test results are within the range of acceptable values predicted or

otherwise confirm that the tested systems perform their specified functions in accordance with AP1000 DCD Rev.19, Section 14.2.10.4; and

- (d) DEF shall notify the Director of NRO, or the Director's designee, in writing, upon successful completion of power ascension tests identified in Section 2.D.(5)(b) of this license, including the design-specific tests identified therein.

(6) Maximum Power Level

Upon submission of the notification required by Section 2.D.(5)(d) of this license, DEF is authorized to operate the facility at steady state reactor core power levels not to exceed 3400 MW thermal (100-percent thermal power), as described in the FSAR, in accordance with the conditions specified herein.

(7) Reporting Requirements

- (a) Within 30 days of a change to the initial test program described in FSAR Section 14, Initial Test Program, made in accordance with 10 CFR 50.59 or in accordance with 10 CFR Part 52, Appendix D, Section VIII, "Processes for Changes and Departures," DEF shall report the change to the Director of NRO, or the Director's designee, in accordance with 10 CFR 50.59(d).
- (b) DEF shall report any violation of a requirement in Section 2.D.(3), Section 2.D.(4), Section 2.D.(5), and Section 2.D.(6) of this license within 24 hours. Initial notification shall be made to the NRC Operations Center in accordance with 10 CFR 50.72, with written follow up in accordance with 10 CFR 50.73.

(8) Incorporation

The Technical Specifications, Environmental Protection Plan, and ITAAC in Appendices A, B, and C, respectively, of this license are hereby incorporated into this license.

(9) Technical Specifications

The technical specifications in Appendix A to this license become effective upon a Commission finding that the acceptance criteria in this license (ITAAC) are met in accordance with 10 CFR 52.103(g).

(10) Operational Program Implementation

DEF shall implement the programs or portions of programs identified below, on or before the date DEF achieves the following milestones.

- (a) Environmental Qualification Program implemented before initial fuel load;

- (b) Reactor Vessel Material Surveillance Program implemented before initial criticality;
- (c) Preservice Testing Program implemented before initial fuel load;
- (d) Containment Leakage Rate Testing Program implemented before initial fuel load;
- (e) Fire Protection Program
 1. The fire protection measures in accordance with Regulatory Guide (RG) 1.189 for designated storage building areas (including adjacent fire areas that could affect the storage area) implemented before initial receipt of byproduct or special nuclear materials that are not fuel (excluding exempt quantities as described in 10 CFR 30.18);
 2. The fire protection measures in accordance with RG 1.189 for areas containing new fuel (including adjacent areas where a fire could affect the new fuel) implemented before receipt of fuel onsite;
 3. All fire protection program features implemented before initial fuel load;
- (f) Standard Radiological Effluent Controls implemented before initial fuel load;
- (g) Offsite Dose Calculation Manual implemented before initial fuel load;
- (h) Radiological Environmental Monitoring Program implemented before initial fuel load;
- (i) Process Control Program implemented before initial fuel load;
- (j) Radiation Protection Program (RPP) (including the ALARA principle) or applicable portions as identified in FSAR Section 12.5 thereof:
 1. RPP features (including the ALARA principle) applicable to receipt of by-product, source, or special nuclear materials (excluding exempt quantities as described in 10 CFR 30.18) implemented before initial receipt of such materials;
 2. RPP features (including the ALARA principle) applicable to new fuel implemented before receipt of initial fuel on site;

3. All other RPP features (including the ALARA principle) except for those applicable to control radioactive waste shipment implemented before initial fuel load;
 4. RPP features (including the ALARA principle) applicable to radioactive waste shipment implemented before first shipment of radioactive waste;
- (k) Reactor Operator Training Program implemented 18 months before the scheduled date of initial fuel load;
- (l) Motor-Operated Valve Testing Program implemented before initial fuel load;
- (m) Initial Test Program
1. Construction Test Program implemented before the first construction test;
 2. Preoperational Test Program implemented before the first preoperational test; and
 3. Startup Test Program implemented before initial fuel load;
- (n) Special Nuclear Material Control and Accounting Program implemented before initial receipt of special nuclear material; and
- (o) Special Nuclear Material Physical Protection Program implemented before initial receipt of special nuclear material on site.

(11) Operational Program Implementation Schedule

No later than 12 months after issuance of the COL, DEF shall submit to the Director of NRO, or the Director's designee, a schedule for implementation of the operational programs listed in FSAR Table 13.4-201, including the associated estimated date for initial loading of fuel. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until all the operational programs listed in FSAR Table 13.4-201 have been fully implemented. The schedule shall identify the completion of or implementation of the following:

- (a) The construction and inspection procedures for steel concrete composite (SC) construction activities for seismic Category I nuclear island modules (including shield building SC modules) described in AP1000 DCD Rev. 19, Section 3.8.4.8;
- (b) The spent fuel rack Metamic Coupon monitoring program (before initial fuel load);

- (c) Implementation of the flow accelerated corrosion (FAC) program including construction phase activities (before initial fuel load);
- (d) A turbine maintenance and inspection program, which must be consistent with the maintenance and inspection program plan activities and inspection intervals identified in FSAR Section 10.2.3.6 (before initial fuel load);
- (e) The availability of documented instrumentation uncertainties to calculate a power calorimetric uncertainty (before initial fuel load);
- (f) The availability of administrative controls to implement maintenance and contingency activities related to the power calorimetric uncertainty instrumentation (before initial fuel load);
- (g) The site-specific severe accident management guidelines (before startup testing);
- (h) The operational and programmatic elements of the mitigative strategies for responding to circumstances associated with loss of large areas of the plant due to explosions or fire developed in accordance with 10 CFR 50.54(hh)(2) (before initial fuel load); and
- (i) The pre-operational and startup procedures (including the site-specific startup administration manual) identified in FSAR Section 14.2.3 (before initiating the initial test program).

(12) Site- and Unit-specific Conditions

- (a) Before commencing installation of individual piping segments and connected components in their final locations, DEF shall complete the as-designed pipe rupture hazards analysis for compartments (rooms) containing those segments in accordance with the criteria outlined in the AP1000 DCD, Rev. 19, Sections 3.6.1.3.2 and 3.6.2.5, and shall inform the Director of NRO, or the Director's designee, in writing, upon the completion of this analysis and the availability of the as-designed pipe rupture hazards analysis reports.
- (b) Before commencing installation of individual piping segments identified in AP1000 DCD, Rev. 19, Section 3.9.8.7, and connected components in their final locations in the facility, DEF shall complete the analysis of the as-designed individual piping segments and shall inform the Director of NRO, or the Director's designee, in writing, upon the completion of these analyses and the availability of the design reports for the selected piping packages.
- (c) No later than 180 days before initial fuel load, DEF shall submit to the Director of NRO, or the Director's designee, in writing:

1. A fully developed set of plant-specific emergency action levels (EALs) in accordance with Nuclear Energy Institute (NEI) 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Revision 0, with no deviations. The EALs shall have been discussed and agreed upon with State and local officials.
 2. An assessment of emergency response staffing performed in accordance with NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," Revision 0.
- (d) Before initial fuel load, DEF shall:
1. Update the seismic interaction analysis in AP1000 DCD, Rev. 19, Section 3.7.5.3 to reflect as-built information, which must be based on as-procured data, as well as the as-constructed condition;
 2. Reconcile the seismic analyses described in Section 3.7.2 of the AP1000 DCD, Rev. 19, to account for detailed design changes, including, but not limited to, those due to as-procured or as-built changes in component mass, center of gravity, and support configuration based on as-procured equipment information;
 3. Calculate the instrumentation uncertainties of the actual plant operating instrumentation to confirm that either the design limit departure from nucleate boiling ratio (DNBR) values remain valid or that the safety analysis minimum DNBR bounds the new design limit DNBR values plus DNBR penalties;
 4. Update the pressure-temperature (P-T) limits using the pressure temperature limits report (PTLR) methodologies approved in AP1000 DCD, Rev. 19, using the plant-specific material properties or confirm that the reactor vessel material properties meet the specifications of and use the Westinghouse generic PTLR curves;
 5. Verify that plant-specific belt line material properties are consistent with the properties given in AP1000 DCD Rev. 19, Section 5.3.3.1 and Tables 5.3-1 and 5.3-3. The verification must include a pressurized thermal shock (PTS) evaluation based on as-procured reactor vessel material data and the projected neutron fluence for the plant design objective. Submit this PTS evaluation report to the Director of NRO, or the Director's designee, in writing, at least 18 months before initial fuel load;

6. Review differences between the as-built plant and the design used as the basis for the AP1000 seismic margin analysis. DEF shall perform a verification walkdown to identify differences between the as-built plant and the design. DEF shall evaluate any differences and must modify the seismic margin analysis as necessary to account for the plant-specific design and any design changes or departures from the certified design. DEF shall compare the as-built structures, systems, and components (SSC) high confidence, low probability of failures (HCLPFs) with those assumed in the AP1000 seismic margin evaluation, before initial fuel load. DEF shall evaluate deviations from the HCLPF values or assumptions in the seismic margin evaluation due to the as-built configuration and final analysis to determine if vulnerabilities have been introduced;
7. Review differences between the as-built plant and the design used as the basis for the AP1000 probabilistic risk assessment (PRA) and the AP1000 DCD, Rev. 19, Table 19.59-18. DEF shall evaluate the plant-specific PRA-based insight differences and shall modify the plant-specific PRA model as necessary to account for the plant-specific design and any design changes or departures from the design certified in Rev. 19 of the AP1000 DCD;
8. Review differences between the as-built plant and the design used as the basis for the AP1000 internal fire and internal flood analysis. DEF shall evaluate the plant-specific internal fire and internal flood analyses and shall modify the analyses as necessary to account for the plant-specific design and any design changes or departures from the design certified in Rev. 19 of the AP1000 DCD; and
9. Perform a thermal lag assessment of the as-built equipment listed in Tables 6b and 6c in Attachment A of APP-GW-GLR-069, "Equipment Survivability Assessment," to provide additional assurance that this equipment can perform its severe accident functions during environmental conditions resulting from hydrogen burns associated with severe accidents. DEF shall perform this assessment for equipment used for severe accident mitigation that has not been tested at severe accident conditions. DEF shall assess the ability of the as-built equipment to perform during accident hydrogen burns using the environment enveloping method or the test based thermal analysis method described in Electric Power Research Institute (EPRI) NP-4354, "Large Scale Hydrogen Burn Equipment Experiments."

10. Implement a surveillance program for explosively actuated valves (squib valves) that includes the following provisions in addition to the requirements specified in the edition of the *ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code)* as incorporated by reference in 10 CFR 50.55a.

- a. Preservice Testing

All explosively actuated valves shall be preservice tested by verifying the operational readiness of the actuation logic and associated electrical circuits for each explosively actuated valve with its pyrotechnic charge removed from the valve. This must include confirmation that sufficient electrical parameters (voltage, current, resistance) are available at the explosively actuated valve from each circuit that is relied upon to actuate the valve. In addition, a sample of at least 20% of the pyrotechnic charges in all explosively actuated valves shall be tested in the valve or a qualified test fixture to confirm the capability of each sampled pyrotechnic charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. The sampling must select at least one explosively actuated valve from each redundant safety train. Corrective action shall be taken to resolve any deficiencies identified in the operational readiness of the actuation logic or associated electrical circuits, or the capability of a pyrotechnic charge. If a charge fails to fire or its capability is not confirmed, all charges with the same batch number shall be removed, discarded, and replaced with charges from a different batch number that has demonstrated successful 20% sampling of the charges.

- b. Operational Surveillance

Explosively actuated valves shall be subject to the following surveillance activities after commencing plant operation:

- i. At least once every 2 years, each explosively actuated valve shall undergo visual external examination and remote internal examination (including evaluation and removal of fluids or contaminants that may interfere with operation of the valve) to

verify the operational readiness of the valve and its actuator. This examination shall also verify the appropriate position of the internal actuating mechanism and proper operation of remote position indicators. Corrective action shall be taken to resolve any deficiencies identified during the examination with post-maintenance testing conducted that satisfies the preservice testing requirements.

- ii. At least once every 10 years, each explosively actuated valve shall be disassembled for internal examination of the valve and actuator to verify the operational readiness of the valve assembly and the integrity of individual components and to remove any foreign material, fluid, or corrosion. The examination schedule shall provide for both of the two valve designs used for explosively actuated valves at the facility to be included among the explosively actuated valves to be disassembled and examined every 2 years. Corrective action shall be taken to resolve any deficiencies identified during the examination with post-maintenance testing conducted that satisfies the preservice testing requirements.
- iii. For explosively actuated valves selected for test sampling every 2 years in accordance with the ASME OM Code, the operational readiness of the actuation logic and associated electrical circuits shall be verified for each sampled explosively actuated valve following removal of its charge. This must include confirmation that sufficient electrical parameters (voltage, current, resistance) are available for each valve actuation circuit. Corrective action shall be taken to resolve any deficiencies identified in the actuation logic or associated electrical circuits.
- iv. For explosively actuated valves selected for test sampling every 2 years in accordance with the ASME OM Code, the sampling must select at least one explosively actuated valve from each redundant safety train. Each sampled pyrotechnic charge

shall be tested in the valve or a qualified test fixture to confirm the capability of the charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. Corrective action shall be taken to resolve any deficiencies identified in the capability of a pyrotechnic charge in accordance with the preservice testing requirements.

This license condition shall expire upon (1) incorporation of the above surveillance provisions for explosively actuated valves into the facility's inservice testing program, or (2) incorporation of inservice testing requirements for explosively actuated valves in new reactors (i.e., plants receiving a construction permit, or combined license for construction and operation, after January 1, 2000) to be specified in a future edition of the ASME OM Code as incorporated by reference in 10 CFR 50.55a, including any conditions imposed by the NRC, into the facility's inservice testing program.

11. Address the following requirements using the guidance contained in JLD ISG-2012-03, Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation, Revision 0:

The spent fuel pool instrumentation shall be maintained available and reliable through the development and implementation of a training program. The training program shall include provisions to ensure trained personnel can route the temporary power lines from the alternate power source to the appropriate connection points, and connect the alternate power source to the safety-related level instrument channels.

12. DEF shall develop, implement, and maintain procedural controls limiting radionuclide inventory in each of the Radwaste Building Monitor Tanks, and separately in each of up to three (3) Radwaste Building mobile radwaste processing systems to below A_2 quantities for radionuclides specified in Appendix A to 10 CFR Part 71 (Tables A-1 and A-3), as described in FSAR Subsection 13.5.2.2.5. The procedures shall also ensure that any additional equipment located in the Radwaste Building is limited to below A_2 quantities and that the total cumulative radioactive inventory contained in unpackaged wastes (including liquid waste, wet waste, solid waste, gaseous waste, activated or contaminated metals and components, and contaminated waste present at any time

in the Radwaste Building) is limited so that an unmitigated release, occurring over a two hour time period, would not result in a dose of greater than 500 millirem at the protected area boundary or an unmitigated exposure, occurring over a two hour time period, would not result in a dose of greater than 5 rem to site personnel located 10 feet from the total cumulative radioactive inventory.

- (e) DEF shall perform geologic mapping of excavations for safety related structures; examine and evaluate geologic features discovered in these excavations; and shall inform the Director of NRO, or the Director's designee, in writing, once excavations for these safety related structures are open for examination.
- (f) Emergency Planning Actions
 - 1. Communications:
 - a. No later than eighteen (18) months before the latest date set forth in the schedule submitted in accordance with 10 CFR 52.99(a) for completing the inspections, tests, and analyses in the ITAAC, the licensee shall have performed an assessment of on-site and off-site communications systems and equipment relied upon during an emergency event to ensure communications capabilities can be maintained during an extended loss of alternating current power. The communications capability assessment shall be performed in accordance with NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities," Revision 0.
 - b. No later than one hundred eighty (180) days before the date scheduled for initial fuel load set forth in the notification submitted in accordance with 10 CFR 52.103(a), the licensee shall have completed implementation of corrective actions identified in the communications capability assessment, including revisions to the Emergency Plan.
 - 2. Staffing:
 - a. No later than eighteen (18) months before the latest date set forth in the schedule submitted in accordance with 10 CFR 52.99(a) for completing the inspections, tests, and analyses in the ITAAC, the licensee shall have performed an assessment of the on-site and augmented staffing capability for response to a multi-unit event. The staffing

assessment shall be performed in accordance with NEI 12-01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities," Revision 0.

- b. No later than one hundred eighty (180) days before the date scheduled for initial fuel load, as set forth in the notification submitted in accordance with 10 CFR 52.103(a), the licensee shall revise the Emergency Plan to include the following:
 - i. Incorporation of corrective actions identified in the staffing assessments described by this license condition.
 - ii. Identification of how the augmented staff will be notified, given degraded communications capabilities.
- (g) DEF shall complete and make available to the NRC 180-days prior to construction the 90-day test report for the Strength Verification and Constructability Testing in accordance with the criteria outlined in FSAR Subsection 3.8.5.11.3.
- (h) Prior to the full participation exercise to be conducted in accordance with the requirements of Appendix E to 10 CFR Part 50, DEF shall have available for NRC inspection the Letters of Agreement (LOAs) established with the following entities:
 1. State of Florida Division of Emergency Management
 2. Citrus County, Florida Emergency Management Agency
 3. Levy County, Florida Emergency Management Agency
 4. Marion County, Florida Emergency Management Agency
 5. Citrus Memorial Hospital
 6. Seven Rivers Regional Medical Center
 7. Citrus County, Department of Public Safety Fire Rescue Division
 8. Nature Coast Emergency Medical Services Fire Department

These Letters of Agreement shall specify the emergency measures to be provided in support of the LNP emergency organization to include response to a hostile action event at the site; the mutually acceptable criteria and availability of adequate

resources for their implementation; and arrangements for the exchange of information.

- (i) DEF shall distribute the initial LNP public information publications, consistent with the LNP Emergency Plan, within 180 days prior to fuel load at LNP.
- (j) Mitigation Strategies for Beyond-Design-Basis External Events
 1. DEF shall complete development of an overall integrated plan of strategies to mitigate a beyond-design-basis external event at least 1 year before the completion of the last ITAAC on the schedule required by 10 CFR 52.99(a).
 2. The overall integrated plan required by this condition must include guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities. The overall integrated plan must include provisions to address all accident mitigation procedures and guidelines (including the guidance and strategies required by this section, emergency operating procedures, abnormal operating procedures, and extensive damage management guidelines).
 3. The guidance and strategies required by this condition must be capable of (i) mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the normal heat sink and (ii) providing for adequate capacity to perform the functions upon which the guidance and strategies rely for all units on the Levy site and in all modes at each unit on the site.
 4. Before initial fuel load, the licensee shall fully implement the guidance and strategies required by this condition, including:
 - a. Procedures;
 - b. Training
 - c. Acquisition, staging or installation of equipment and consumables relied upon in the strategies; and
 - d. Configuration controls and provisions for maintenance and testing (including testing procedures and frequencies for preventative maintenance) of the equipment upon which the strategies and guidance required by this condition rely

5. The training required by this condition must use a Systematic Approach to Training (SAT) to evaluate training for station personnel, and must be based upon plant equipment and procedures upon which the guidance and strategies required by this Condition rely.
6. The licensee shall maintain the guidance and strategies described in the application upon issuance of the license, and the integrated plan of strategies upon its completion as required by this condition. The licensee may change the strategies and guidelines required by this condition provided that the licensee evaluates each such change to ensure that the provisions of 2.D(12)(j)1 and 2.D(12)(j)2 in this condition continue to be satisfied and the licensee documents the evaluation in an auditable form.

(k) Insurance and Indemnity

1. Before the scheduled date for initial fuel load, DEF shall provide satisfactory documentary evidence to the Director of the Office of Nuclear Reactor Regulation or designee that it has obtained the appropriate amount of financial protection (insurance) required of licensee pursuant to 10 CFR Part 140 and 10 CFR 50.54(w).
2. Before the scheduled date of initial fuel load, and within ninety (90) days after the NRC publishes the notice of intended operation in the Federal Register, the licensee shall provide evidence to the NRC that they would have the ability to pay into the nuclear industry retrospective rating plan in the event of a nuclear incident and in the amount specified in 10 CFR Part 140.11(a)(4) for one calendar year using one of the following methods:
 - a. Surety bond,
 - b. Letter of credit,
 - c. Revolving credit/term loan arrangement,
 - d. Maintenance of escrow deposits of government securities, or
 - e. Annual certified financial statement showing either that a cash flow (i.e., cash available to a company after all operating expenses, taxes, interest charges, and dividends have been paid) can be generated and would be available for payment of retrospective premiums within three (3) months after submission of the statement, or a cash

reserve or a combination of cash flow and cash reserve.

- (l) At the first annual update of the Levy FSAR required by 10 CFR 50.71(e) DEF shall include the following changes based on inspection findings from NRC Inspection Report No. 99900404/2015-203:
1. Revise Appendix 19F.4.1, "Malevolent Aircraft," to include the Auxiliary Building as a key design feature that also protects from physical damage the core cooling credited to meet 10 CFR 50.150(b)(2).
 2. Revise DCD drawings to show the 5 psid and 3 hour fire rated doors that have been added to the inner portion (annulus side) of the shield building in accordance with final markups used to satisfy NRC Inspection Report No. 99900404/2015-203 and 10 CFR 50.150 (a)(1). The DCD figures listed below are to be revised:
 - a. Figure 1.2-7 – Nuclear Island General Arrangement Plan at Elevation 107'-2" & 111'-0"
 - b. Figure 1.2-10 – Nuclear Island General Arrangement Plan at El. 135'-3"
 - c. Figure 9A-1 (Sheet 5 of 16) – Nuclear Island Fire Areas Plan at Elevation 100'-0" & 107'-2"
 - d. Figure 9A-1 (Sheet 7 of 16) – Nuclear Island Fire Area Plan at Elevation 135'-3"
 - e. Figure 12.3-1 (Sheet 6 of 16) – Radiation Zones, Normal Operations/Shutdown Nuclear Island, Elevation 100'-0" & 107'-2"
 - f. Figure 12.3-1 (Sheet 8 of 16) – Radiation Zones, Normal Operations/Shutdown Nuclear Island, Elevation 135'-3"
 - g. Figure 12.3-2 (Sheet 6 of 15) – Radiation Zones, Post-Accident Nuclear Island, Elevation 100'-0" & 107'-2"
 - h. Figure 12.3-2 (Sheet 8 of 15) – Radiation Zones, Post-Accident Nuclear Island, Elevation 135'-3"
 - i. Figure 12.3-3 (Sheet 6 of 16) – Radiological Access Controls, Normal Operations/Shutdown Nuclear Island, Elevation 100'-0" & 107'-2"

- j. Figure 12.3-3 (Sheet 8 of 16) – Radiological Access Controls, Normal Operations/Shutdown Nuclear Island, Elevation 135'-3"
- E. DEF shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- F. Exemptions
 - (1) The following exemptions from the regulations were granted in the rulemaking for the design certification rule that is referenced in the application. In accordance with 10 CFR Part 52, Appendix A, Section V, Applicable Regulations, Subsection B, and pursuant to 10 CFR 52.63(a)(5), DEF is exempt from the following portions of the regulations:
 - (a) Paragraph (f)(2)(iv) of 10 CFR 50.34—Plant Safety Parameter Display Console
 - (b) Paragraph (c)(1) of 10 CFR 50.62—Auxiliary (or emergency) feedwater system; and
 - (c) Appendix A to 10 CFR Part 50, GDC 17—Second offsite power supply circuit.
 - (2) The following exemption from part of the referenced design certification rule meets the requirements of 10 CFR 52.7 and Section VIII.A.4, VIII.B.4, or VIII.C.4 of Appendix D to 10 CFR Part 52, is authorized by law, will not present an undue risk to the public health or safety, and is consistent with the common defense and security. Special circumstances are present in that the application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule (10 CFR 50.12(a)(2)(ii)) as described in the application and the FSER associated with this license.
 - (a) DEF is exempt from the requirement of 10 CFR Part 52, Appendix D, Section IV.A.2.a to include a plant-specific DCD containing the same type of information and using the same organization and numbering as the generic DCD for the AP1000 certified design. This exemption is specific to the organization and numbering scheme in the FSAR and is related to departure number STD DEP 1.1-1.
 - (3) For the reasons set forth below, the following specific exemptions which are outside the scope of the design certification rule referenced in the application are granted:
 - (a) DEF is exempt from the requirements of 10 CFR 70.22(b), 10 CFR 70.32(c), 10 CFR 74.31, 10 CFR 74.41, and 10 CFR 74.51 because DEF meets the requirements of

10 CFR 70.17 and 74.7 as discussed in Section 1.5.4 of the final safety evaluation report (FSER) associated with this license. The exemption meets the requirements of 10 CFR 52.7 because it is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security. Additionally, special circumstances are present in that the application of the regulations in this particular circumstance is not necessary to achieve the underlying purpose of the rule (10 CFR 50.12(a)(ii)) as described in the FSER associated with this license.

- (b) DEF is exempt from the requirements of 10 CFR 52.93(a)(1) as it relates to the exemption granted in Section 2.F.(2)(a) of this license because the exemption meets the requirements of 10 CFR 52.7 and because the exemption is authorized by law, will not present an undue risk to the public health or safety, and is consistent with the common defense and security. Additionally, special circumstances are present in that the application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule (10 CFR 50.12(a)(2)(ii)) as described in the FSER associated with this license.

- (4) For the reasons set forth below, the following exemptions associated with departures from Tier 1 and generic technical specifications of the AP1000 design certification are granted:

- The Tier 1 and generic technical specifications departures listed below meet the requirements of 10 CFR Part 52, Appendix A, Section VIII.A.4 or VIII.C.4 and the regulations referenced therein because as discussed in Chapter 21 of the FSER associated with this license:
- The Tier 1 departures will not significantly decrease the level of safety otherwise provided by the design;
- The Tier 1 and generic technical specifications departures are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security;
- Special circumstances are present as required by 10 CFR 50.12(a)(2); specifically, as discussed in Chapter 21 of the final safety evaluation report for this license, the staff finds that there are special circumstances under 10 CFR 50.12(a)(2)(ii) for the following Tier 1 and generic technical specifications exemptions because application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule;

- For Tier 1 departures identified in 2.F.(4)(a), 2.F.(4)(b), 2.F.(4)(c), and 2.F.(4)(d), special circumstances do not outweigh any potential decrease in safety due to reduced standardization.
 - a. LNP DEP 3.2-1 (exemption from Tier 1 and generic technical specifications)
 - b. LNP DEP 6.4-1 (exemption from Tier 1)
 - c. LNP DEP 6.4-2 (exemption from Tier 1 and generic technical specifications)
 - d. LNP DEP 6.2-1 (exemption from Tier 1)
 - e. LNP DEP 7.3-1 (exemption from generic technical specifications)
- G. DEF shall maintain the guidance and strategies developed in accordance with 10 CFR 50.54(hh)(2).
- H. This license is effective as of *[insert actual date of license issuance]* and shall expire at midnight on the date 40 years from the date that the Commission finds that the acceptance criteria in the combined license are met in accordance with 10 CFR 52.103(g).

FOR THE NUCLEAR REGULATORY
COMMISSION

Jennifer Uhle, Director
Office of New Reactors

Appendices:

Appendix A – Technical Specifications

Appendix B – Environmental Protection Plan

Appendix C – Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

APPENDIX A

LEVY NUCLEAR PLANT UNIT 1

TECHNICAL SPECIFICATIONS

The unit-specific technical specifications from the Levy Nuclear Plant (LNP) combined license application, Part 4, Section B, will be included in Appendix A of the LNP Unit 1 combined license. The applicant has committed to providing the NRC with unit-specific versions of the Unit 1/Unit 2 technical specifications that were submitted in the combined license application in a suitable timeframe to support issuance of each individual unit's combined license. These unit-specific technical specifications will exceed 250 pages. Therefore, for ease of handling, the technical specifications are not included in this draft combined license, but can be viewed on the NRC's website at:

<http://www.nrc.gov/reactors/new-reactors/col/levy/documents.html#application>

APPENDIX B
LEVY NUCLEAR PLANT UNIT 1
ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)

1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) objectives are to ensure compliance with Biological Opinions issued pursuant to the Endangered Species Act of 1973, as amended (ESA), and to ensure that the U.S. Nuclear Regulatory Commission (NRC) is kept informed of other environmental matters. The EPP is intended to be consistent with Federal, State, and local requirements for environmental protection.

2.0 Environmental Protection Issues

In the Final Environmental Impact Statement (FEIS) dated April 2012 the staff considered the environmental impacts associated with the construction and operation of Levy Nuclear Plant Units 1 and 2 (LNP). This EPP applies to Duke Energy Florida, LLC (DEF), actions affecting the environmental resources evaluated in the FEIS and DEF's actions that may affect any newly discovered environmental resources.

2.1 Aquatic Resources Issues

Federal agencies other than the NRC, such as the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers, have jurisdiction to regulate aquatic resources under the Federal Water Pollution Control Act (Clean Water Act or CWA) and the Rivers and Harbors Appropriation Act of 1899 (RHA). Certain water quality environmental considerations identified in the FEIS, including effluent limitations, monitoring requirements, and mitigation measures, are regulated under DEF's CWA permits, such as National Pollutant Discharge Elimination System and Section 404 permits, and RHA Section 10 permit. Nothing within this EPP shall be construed to place additional requirements on the regulation of aquatic resources except the imposition of the requirements in a Biological Opinion under the ESA (see Section 2.3). DEF is required to inform the NRC of events or situations concerning aquatic resources consistent with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.72(b)(2)(xi), and this EPP does not expand any reporting requirement required by that regulation.

2.2 Terrestrial Resources Issues

Several statutes govern the regulation of terrestrial resources. For example, the U.S. Fish and Wildlife Service (FWS) regulate matters involving migratory birds and their nests in accordance with the Migratory Bird Treaty Act (MBTA). Activities affecting migratory birds or their nests may require permits under the MBTA. The FWS also regulates matters involving the protection and taking of bald and golden eagles in accordance with the Bald and Golden Eagle Protection Act. DEF shall inform NRC of any events or situations concerning terrestrial resources consistent

with the provisions of 10 CFR 50.72(b)(2)(xi), and this EPP does not expand any reporting requirement required by that regulation.

2.3 Endangered Species Act of 1973

The NRC may be required to protect some aquatic resources and terrestrial resources in accordance with the ESA. In accordance with ESA Section 7, DEF shall comply with the following conditions to implement the terms and conditions set forth in the Incidental Take Statement of the Biological Opinion issued by the FWS on December 1, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML113530504):

1. No greater than two years prior to commencing land clearing or building activities for the plant and associated facilities, the licensee shall conduct surveys in areas to be disturbed to determine whether:
 - 1) there is any occurrence of Britton's beargrass or longspurred mint,
 - 2) the sand skink or suitable habitat for the sand skink is present, and
 - 3) the Florida scrub-jay or suitable habitat for the Florida scrub-jay is present.

The licensee shall avoid or relocate within the same area any Britton's beargrass or longspurred mint so that no "take" occurs. The licensee shall contact and coordinate with the FWS's Jacksonville Field Office if surveys reveal that sand skinks, Florida scrub-jays, or suitable habitat for either are present to ensure that no "take" occurs.

2. If the post-survey coordination described in Condition 1 is necessary, the licensee shall comply with any additional requirements identified during the post-survey coordination between the licensee and the FWS to prevent a "take" of the sand skink or the Florida scrub-jay.
3. Prior to conducting any clearing activities in the Levy-South Central Florida transmission line corridor during the nesting season of the Florida scrub-jay (March 1–June 30), the licensee shall survey the area to be cleared to determine whether there are any active Florida scrub-jay nests located within the vegetation. If an active Florida scrub-jay nest is located clearing activities to the maximum extent practicable must not take place within 150 feet of the nest site until the nestlings have fledged or until it has been determined that the nest has failed.
4. The licensee shall immediately report any unauthorized take of a Florida scrub-jay caused by its activities on the Levy Nuclear site or in the Levy-South Central Florida transmission line corridor to the FWS's Jacksonville Field Office by telephone at (904) 731-3336. If a dead Florida scrub-jay is found on the Levy Nuclear site or in the Levy-South Central Florida transmission line corridor, the specimen shall be thoroughly soaked in water and frozen for later analysis.
5. The licensee shall implement the Standard Protection Measures for the Eastern Indigo Snake identified in the biological opinion developed by the FWS prior to conducting activities for the development of the plant and associated facilities.

If any Federally listed species or critical habitat occurs in an area affected by construction or operation of the plant that was not previously identified as occurring in such areas, including species and critical habitat that were not previously Federally listed, DEF shall inform the NRC within four hours of discovery. The time of discovery is identified as the specific time when a decision is made to notify another agency or to issue a press release. Similarly, DEF shall inform the NRC within four hours of discovery of any take, as defined in the ESA, of a Federally listed species or destruction or adverse modification of critical habitat. The four-hour discovery notification shall be made to the NRC Operations Center via the Emergency Notification System. DEF shall provide any necessary information to the NRC if the NRC initiates or reinitiates consultation under the ESA.

Unusual Event - DEF shall inform the NRC of any onsite mortality, injury, or unusual occurrence of any species protected by the ESA within four hours of discovery, followed by a written report in accordance with Section 4.1. The time of discovery is identified as the specific time when a decision is made to notify another agency or to issue a press release. Such incidents shall be reported regardless of DEF's assessment of causal relation to plant construction or operation.

3.0 Consistency Requirements

DEF shall notify the NRC of proposed changes to permits or certifications concerning aquatic or terrestrial resources by providing the NRC with a copy of the proposed change(s) at the same time it is submitted to the permitting agency.

DEF shall provide the NRC with a copy of the application for renewal of permits or certifications at the same time the application is submitted to the permitting agency.

Changes to or renewals of such permits or certifications shall be reported to the NRC within 30 days following the later of the date the change or renewal is approved or the date the change becomes effective. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

4.0 Administrative Procedures

4.1 Plant Reporting Requirements: Non-routine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of any unusual event described in Section 2.3 of this EPP. The report shall:

- (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact and plant operating characteristics at the time of the event,
- (b) describe the probable cause of the event,
- (c) indicate the action taken to correct the reported event,
- (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and
- (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection, which also require reports to other Federal, state, or local agencies, shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided a copy of such report at the same time it is submitted to the other agency.

4.2 Review and Audit

DEF shall provide for review and audit of compliance with Section 2.3 of this EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organizational structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

4.3 Records Retention

Records required by this EPP shall be made and retained in a manner convenient for review and inspection. These records shall be made available to the NRC on request. The records, data, and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

4.4 Changes in Environmental Protection Plan

A request for a change in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

DEF shall request a license amendment to incorporate the requirements of any Terms and Conditions set forth in the Incidental Take Statement of applicable Biological Opinions issued subsequent to the effective date of this EPP.

APPENDIX C
LEVY NUCLEAR PLANT UNIT 1
INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

The ITAAC Master List is a table of unit-specific ITAAC which are from the AP1000 DCD and the Levy Nuclear Plant (LNP) combined license application. The consolidated set of unit-specific ITAAC will be included in Appendix C of the LNP Unit 1 combined license. These unit-specific ITAAC details will exceed 170 pages. Therefore, for ease of handling, the ITAAC details are not included in this draft combined license, but can be viewed on the NRC's website at the following URLs:

- COL Application Part 10, Rev. 9 (COL9) – <http://www.nrc.gov/reactors/new-reactors/col/levy/documents.html#application>.
- Westinghouse AP1000 DCD, Rev. 19, document files 5 through 21 (DCD19) – <http://pbadupws.nrc.gov/docs/ML1117/ML11171A500.html>

No.	ITAAC No.	Plant System ITAAC	Source
1	2.1.01.01	Fuel Handling and Refueling System	DCD19
2	2.1.01.02		DCD19
3	2.1.01.03		DCD19
4	2.1.01.04		DCD19
5	2.1.01.05		DCD19
6	2.1.01.06.i		DCD19
7	2.1.01.06.ii		DCD19
8	2.1.01.07.i		DCD19
9	2.1.01.07.ii		DCD19
10	2.1.01.07.iii		DCD19
11	2.1.01.07.iv		DCD19
12	2.1.02.01	Reactor Coolant System	DCD19
13	2.1.02.02a		DCD19
14	2.1.02.02b		DCD19
15	2.1.02.03a		DCD19
16	2.1.02.03b		DCD19
17	2.1.02.04a		DCD19
18	2.1.02.04b		DCD19
19	2.1.02.05a.i		DCD19
20	2.1.02.05a.ii		DCD19
21	2.1.02.05a.iii		DCD19
22	2.1.02.05b		DCD19
23	2.1.02.06		DCD19
24	2.1.02.07a.i		DCD19
25	2.1.02.07a.ii		DCD19
26	2.1.02.07b		DCD19
27	2.1.02.07c		DCD19
28	2.1.02.08a.i		DCD19
29	2.1.02.08a.ii		DCD19
30	2.1.02.08b		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
31	2.1.02.08c	Reactor Coolant System (cont'd)	DCD19
32	2.1.02.08d.i		DCD19
33	2.1.02.08d.ii		DCD19
34	2.1.02.08d.iii		DCD19
35	2.1.02.08d.iv		DCD19
36	2.1.02.08d.v		DCD19
37	2.1.02.08d.vi		DCD19
38	2.1.02.08d.vii		DCD19
39	2.1.02.08d.viii		DCD19
40	2.1.02.08e		DCD19
41	2.1.02.09a		DCD19
42	2.1.02.09b.i		DCD19
43	2.1.02.09b.ii		DCD19
44	2.1.02.09c		DCD19
45	2.1.02.10		DCD19
46	2.1.02.11a.i		DCD19
47	2.1.02.11a.ii		DCD19
48	2.1.02.11b.i		DCD19
49	2.1.02.11b.ii		DCD19
50	2.1.02.11b.iii		DCD19
51	2.1.02.11c.i		DCD19
52	2.1.02.11c.ii		DCD19
53	2.1.02.12a.i		DCD19
54	2.1.02.12a.ii		DCD19
55	2.1.02.12a.iii		DCD19
56	2.1.02.12a.iv		DCD19
57	2.1.02.12a.v		DCD19
58	2.1.02.12a.vi		DCD19
59	2.1.02.12a.vii		DCD19
60	2.1.02.12a.viii		DCD19
61	2.1.02.12a.ix		DCD19
62	2.1.02.12b		DCD19
63	2.1.02.13a		DCD19
64	2.1.02.13b		DCD19
65	2.1.02.13c		DCD19
66	2.1.02.14		DCD19
67	2.1.02.15		DCD19
68	2.1.03.01	Reactor System	DCD19
69	2.1.03.02a		DCD19
70	2.1.03.02b		DCD19
71	2.1.03.02c		DCD19
72	2.1.03.03		DCD19
73	2.1.03.04		DCD19
74	2.1.03.05		DCD19
75	2.1.03.06.i		DCD19
76	2.1.03.06.ii		DCD19
77	2.1.03.06.iii		DCD19
78	2.1.03.07.i		DCD19
79	2.1.03.07.ii		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
80	2.1.03.08	Reactor System (cont'd)	DCD19
81	2.1.03.09a.i		DCD19
82	2.1.03.09a.ii		DCD19
83	2.1.03.09b		DCD19
84	2.1.03.09c		DCD19
85	2.1.03.10		DCD19
86	2.1.03.11		DCD19
87	2.1.03.12		DCD19
88	2.1.03.13		DCD19
89	2.1.03.14		DCD19
90	2.2.01.01	Containment System	DCD19
91	2.2.01.02a		DCD19
92	2.2.01.02b		DCD19
93	2.2.01.03a		DCD19
94	2.2.01.03b		DCD19
95	2.2.01.04a.i		DCD19
96	2.2.01.04a.ii		DCD19
97	2.2.01.04b		DCD19
98	2.2.01.05.i		DCD19
99	2.2.01.05.ii		DCD19
100	2.2.01.05.iii		DCD19
101	2.2.01.06a.i		DCD19
102	2.2.01.06a.ii		DCD19
103	2.2.01.06b		DCD19
104	2.2.01.06c		DCD19
105	2.2.01.06d.i		DCD19
106	2.2.01.06d.ii		DCD19
107	2.2.01.07.i		DCD19
108	2.2.01.07.ii	DCD19	
109	2.2.01.08	DCD19	
110	2.2.01.09	DCD19	
111	2.2.01.10a	DCD19	
112	2.2.01.10b	DCD19	
113	2.2.01.10c	DCD19	
114	2.2.01.11a.i	DCD19	
115	2.2.01.11a.ii	DCD19	
116	2.2.01.11a.iii	DCD19	
117	2.2.01.11a.iv	DCD19	
118	2.2.01.11b	DCD19	
119	2.2.02.01	Passive Containment Cooling System	DCD19
120	2.2.02.02a		DCD19
121	2.2.02.02b		DCD19
122	2.2.02.03a		DCD19
123	2.2.02.03b		DCD19
124	2.2.02.04a		DCD19
125	2.2.02.04b		DCD19
126	2.2.02.05a.i		DCD19
127	2.2.02.05a.ii		DCD19
128	2.2.02.05a.iii		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
129	2.2.02.05b	Passive Containment Cooling System (cont'd)	DCD19
130	2.2.02.05c		DCD19
131	2.2.02.06a.i		DCD19
132	2.2.02.06a.ii		DCD19
133	2.2.02.06b		DCD19
134	2.2.02.06c		DCD19
135	2.2.02.07a.i		DCD19
136	2.2.02.07a.ii		DCD19
137	2.2.02.07a.iii		DCD19
138	2.2.02.07b.i		DCD19
139	2.2.02.07b.ii		DCD19
140	2.2.02.07b.iii		DCD19
141	2.2.02.07c		DCD19
142	2.2.02.07d		DCD19
143	2.2.02.07e.i		DCD19
144	2.2.02.07e.ii		DCD19
145	2.2.02.07f.i		DCD19
146	2.2.02.07f.ii	DCD19	
147	2.2.02.08a	DCD19	
148	2.2.02.08b	DCD19	
149	2.2.02.08c	DCD19	
150	2.2.02.09	DCD19	
151	2.2.02.10a	DCD19	
152	2.2.02.10b	DCD19	
153	2.2.02.10c	DCD19	
154	2.2.02.11a.i	DCD19	
155	2.2.02.11a.ii	DCD19	
156	2.2.02.11a.iii	DCD19	
157	2.2.02.11b	DCD19	
158	2.2.03.01	Passive Core Cooling System	DCD19
159	2.2.03.02a		DCD19
160	2.2.03.02b		DCD19
161	2.2.03.03a		DCD19
162	2.2.03.03b		DCD19
163	2.2.03.04a		DCD19
164	2.2.03.04b		DCD19
165	2.2.03.05a.i		DCD19
166	2.2.03.05a.ii		DCD19
167	2.2.03.05a.iii		DCD19
168	2.2.03.05b		DCD19
169	2.2.03.06		DCD19
170	2.2.03.07a.i		DCD19
171	2.2.03.07a.ii		DCD19
172	2.2.03.07b		DCD19
173	2.2.03.07c		DCD19
174	2.2.03.08a		DCD19
175	2.2.03.08b.01		DCD19
176	2.2.03.08b.02		DCD19
177	2.2.03.08c.i.01		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
178	2.2.03.08c.i.02	Passive Core Cooling System (cont'd)	DCD19
179	2.2.03.08c.i.03		DCD19
180	2.2.03.08c.i.04		DCD19
181	2.2.03.08c.ii		DCD19
182	2.2.03.08c.iii		DCD19
183	2.2.03.08c.iv.01		DCD19
184	2.2.03.08c.iv.02		DCD19
185	2.2.03.08c.iv.03		DCD19
186	2.2.03.08c.iv.04		DCD19
187	2.2.03.08c.v.01		DCD19
188	2.2.03.08c.v.02		DCD19
189	2.2.03.08c.vi.01		DCD19
190	2.2.03.08c.vi.02		DCD19
191	2.2.03.08c.vi.03		DCD19
192	2.2.03.08c.vii		DCD19
193	2.2.03.08c.viii		DCD19
194	2.2.03.08c.ix		DCD19
195	2.2.03.08c.x		DCD19
196	2.2.03.08c.xi	DCD19	
197	2.2.03.08c.xii	DCD19	
198	2.2.03.08c.xiii	DCD19	
199	2.2.03.08c.xiv	DCD19	
200	2.2.03.08d	DCD19	
201	2.2.03.09a.i	DCD19	
202	2.2.03.09a.ii	DCD19	
203	2.2.03.09a.iii	DCD19	
204	2.2.03.09b	DCD19	
205	2.2.03.09c	DCD19	
206	2.2.03.10	DCD19	
207	2.2.03.11a.i	DCD19	
208	2.2.03.11a.ii	DCD19	
209	2.2.03.11b.i	DCD19	
210	2.2.03.11b.ii	DCD19	
211	2.2.03.11b.iii	DCD19	
212	2.2.03.11c.i	DCD19	
213	2.2.03.11c.ii	DCD19	
214	2.2.03.12a.i	DCD19	
215	2.2.03.12a.ii	DCD19	
216	2.2.03.12a.iv	DCD19	
217	2.2.03.12b	DCD19	
218	2.2.03.13	DCD19	
219	2.2.04.01	Steam Generator System	DCD19
220	2.2.04.02a		DCD19
221	2.2.04.02b		DCD19
222	2.2.04.03a		DCD19
223	2.2.04.03b		DCD19
224	2.2.04.04a		DCD19
225	2.2.04.04b		DCD19
226	2.2.04.05a.i		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
227	2.2.04.05a.ii	Steam Generator System (cont'd)	DCD19
228	2.2.04.05a.iii		DCD19
229	2.2.04.05b		DCD19
230	2.2.04.06		DCD19
231	2.2.04.07a.i		DCD19
232	2.2.04.07a.ii		DCD19
233	2.2.04.07b		DCD19
234	2.2.04.07c		DCD19
235	2.2.04.08a.i		DCD19
236	2.2.04.08a.ii		DCD19
237	2.2.04.08b.i		DCD19
238	2.2.04.08b.ii		DCD19
239	2.2.04.08c		DCD19
240	2.2.04.09a.i		DCD19
241	2.2.04.09a.ii		DCD19
242	2.2.04.09b.i		DCD19
243	2.2.04.09b.ii		DCD19
244	2.2.04.10		DCD19
245	2.2.04.11a		DCD19
246	2.2.04.11b.i		DCD19
247	2.2.04.11b.ii		DCD19
248	2.2.04.12a.i		DCD19
249	2.2.04.12a.ii		DCD19
250	2.2.04.12a.iii		DCD19
251	2.2.04.12b		DCD19
252	2.2.05.01	Main Control Room Emergency Habitability System	DCD19
253	2.2.05.02a		DCD19
254	2.2.05.02b		DCD19
255	2.2.05.03a		DCD19
256	2.2.05.03b		DCD19
257	2.2.05.04a		DCD19
258	2.2.05.04b		DCD19
259	2.2.05.05a.i		DCD19
260	2.2.05.05a.ii		DCD19
261	2.2.05.05a.iii		DCD19
262	2.2.05.05b		DCD19
263	2.2.05.06a		DCD19
264	2.2.05.06b		DCD19
265	2.2.05.07a.i		DCD19
266	2.2.05.07a.ii		DCD19
267	2.2.05.07a.iii		DCD19
268	2.2.05.07b.i		DCD19
269	2.2.05.07b.ii		DCD19
270	2.2.05.07c		DCD19
271	2.2.05.07d		DCD19
272	2.2.05.07e		COL9
273	2.2.05.08		DCD19
274	2.2.05.09a		DCD19
275	2.2.05.09b		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
276	2.2.05.10	Main Control Room Emergency Habitability System (cont'd)	DCD19
277	2.2.05.11		DCD19
278	2.2.05.12		DCD19
279	2.3.01.01	Component Cooling Water System	DCD19
280	2.3.01.02		DCD19
281	2.3.01.03.i		DCD19
282	2.3.01.03.ii		DCD19
283	2.3.01.04		DCD19
284	2.3.01.05		DCD19
285	2.3.02.01	Chemical and Volume Control System	DCD19
286	2.3.02.02a		DCD19
287	2.3.02.02b		DCD19
288	2.3.02.03a		DCD19
289	2.3.02.03b		DCD19
290	2.3.02.04a		DCD19
291	2.3.02.04b		DCD19
292	2.3.02.05.i		DCD19
293	2.3.02.05.ii		DCD19
294	2.3.02.05.iii		DCD19
295	2.3.02.06a.i		DCD19
296	2.3.02.06a.ii		DCD19
297	2.3.02.06b		DCD19
298	2.3.02.06c		DCD19
299	2.3.02.07a		DCD19
300	2.3.02.07b		DCD19
301	2.3.02.07c		DCD19
302	2.3.02.08a.i		DCD19
303	2.3.02.08a.ii		DCD19
304	2.3.02.08a.iii		DCD19
305	2.3.02.08b		DCD19
306	2.3.02.09		DCD19
307	2.3.02.10a		DCD19
308	2.3.02.10b.i		DCD19
309	2.3.02.10b.ii	DCD19	
310	2.3.02.11a.i	DCD19	
311	2.3.02.11a.ii	DCD19	
312	2.3.02.11a.iii	DCD19	
313	2.3.02.11a.iv	DCD19	
314	2.3.02.11b	DCD19	
315	2.3.02.12a	DCD19	
316	2.3.02.12b	DCD19	
317	2.3.02.13	DCD19	
318	2.3.02.14	DCD19	
319	2.3.03.01	Standby Diesel Fuel Oil System	DCD19
320	2.3.03.02		DCD19
321	2.3.03.03a		DCD19
322	2.3.03.03b		DCD19
323	2.3.03.03c		DCD19
324	2.3.03.03d		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
325	2.3.03.04	Standby Diesel Fuel Oil System (cont'd)	DCD19
326	2.3.03.05		DCD19
327	2.3.04.01	Fire Protection System	DCD19
328	2.3.04.02.i		DCD19
329	2.3.04.02.ii		DCD19
330	2.3.04.03		DCD19
331	2.3.04.04.i		DCD19
332	2.3.04.04.ii		DCD19
333	2.3.04.05		DCD19
334	2.3.04.06		DCD19
335	2.3.04.07		DCD19
336	2.3.04.08		DCD19
337	2.3.04.09		DCD19
338	2.3.04.10		DCD19
339	2.3.04.11		DCD19
340	2.3.05.01	Mechanical Handling System	DCD19
341	2.3.05.02.i		DCD19
342	2.3.05.02.ii		DCD19
343	2.3.05.02.iii		DCD19
344	2.3.05.03a.i		DCD19
345	2.3.05.03a.ii		DCD19
346	2.3.05.03a.iii		DCD19
347	2.3.05.03b.i		DCD19
348	2.3.05.03b.ii		DCD19
349	2.3.05.03b.iii		DCD19
350	2.3.05.03c.i		DCD19
351	2.3.05.03c.ii		DCD19
352	2.3.05.03d.i		DCD19
353	2.3.05.03d.ii		DCD19
354	2.3.05.04		DCD19
355	2.3.06.01		Normal Residual Heat Removal System
356	2.3.06.02a	DCD19	
357	2.3.06.02b	DCD19	
358	2.3.06.03a	DCD19	
359	2.3.06.03b	DCD19	
360	2.3.06.04a	DCD19	
361	2.3.06.04b	DCD19	
362	2.3.06.05a.i	DCD19	
363	2.3.06.05a.ii	DCD19	
364	2.3.06.05a.iii	DCD19	
365	2.3.06.05b	DCD19	
366	2.3.06.06	DCD19	
367	2.3.06.07a.i	DCD19	
368	2.3.06.07a.ii	DCD19	
369	2.3.06.07b	DCD19	
370	2.3.06.07c	DCD19	
371	2.3.06.08a	DCD19	
372	2.3.06.08b	DCD19	
373	2.3.06.09a.i	DCD19	

No.	ITAAC No.	Plant System ITAAC	Source
374	2.3.06.09a.ii	Normal Residual Heat Removal System (cont'd)	DCD19
375	2.3.06.09b.i		DCD19
376	2.3.06.09b.ii		DCD19
377	2.3.06.09b.iii		DCD19
378	2.3.06.09b.iv		DCD19
379	2.3.06.09b.v		DCD19
380	2.3.06.09c		DCD19
381	2.3.06.09d		DCD19
382	2.3.06.10		DCD19
383	2.3.06.11a		DCD19
384	2.3.06.11b		DCD19
385	2.3.06.12a.i		DCD19
386	2.3.06.12a.ii		DCD19
387	2.3.06.12a.iii		DCD19
388	2.3.06.12a.iv		DCD19
389	2.3.06.12b		DCD19
390	2.3.06.13		DCD19
391	2.3.06.14		DCD19
392	2.3.07.01		Spent Fuel Pool Cooling System
393	2.3.07.02a	DCD19	
394	2.3.07.02b	DCD19	
395	2.3.07.03	DCD19	
396	2.3.07.04	DCD19	
397	2.3.07.05.i	DCD19	
398	2.3.07.05.ii	DCD19	
399	2.3.07.05.iii	DCD19	
400	2.3.07.06a	DCD19	
401	2.3.07.06b	DCD19	
402	2.3.07.07a	DCD19	
403	2.3.07.07b.i	DCD19	
404	2.3.07.07b.ii	DCD19	
405	2.3.07.07b.iii	DCD19	
406	2.3.07.07b.iv	DCD19	
407	2.3.07.07b.v	DCD19	
408	2.3.07.07b.vi	DCD19	
409	2.3.07.07c	DCD19	
410	2.3.07.08.i	DCD19	
411	2.3.07.08.ii	DCD19	
412	2.3.07.09	DCD19	
413	2.3.07.10	DCD19	
414	2.3.07.11	DCD19	
415	2.3.08.01	Service Water System	DCD19
416	2.3.08.02.i		DCD19
417	2.3.08.02.ii		DCD19
418	2.3.08.02.iii		DCD19
419	2.3.08.03		DCD19
420	2.3.08.04		DCD19
421	2.3.09.01	Containment Hydrogen Control System	DCD19
422	2.3.09.02a		DCD19

No.	ITAAC No.	Plant System ITAAC	Source	
423	2.3.09.02b	Containment Hydrogen Control System (cont'd)	DCD19	
424	2.3.09.03.i		DCD19	
425	2.3.09.03.ii		DCD19	
426	2.3.09.03.iii		COL9	
427	2.3.09.03.iv		DCD19	
428	2.3.09.04a		DCD19	
429	2.3.09.04b		DCD19	
430	2.3.09.05		DCD19	
431	2.3.10.01		Liquid Radwaste System	DCD19
432	2.3.10.02a			DCD19
433	2.3.10.02b	DCD19		
434	2.3.10.03a	DCD19		
435	2.3.10.03b	DCD19		
436	2.3.10.04a	DCD19		
437	2.3.10.04b	DCD19		
438	2.3.10.05a.i	DCD19		
439	2.3.10.05a.ii	DCD19		
440	2.3.10.05a.iii	DCD19		
441	2.3.10.05b	DCD19		
442	2.3.10.06a	DCD19		
443	2.3.10.06b	DCD19		
444	2.3.10.07a.i	DCD19		
445	2.3.10.07a.ii	DCD19		
446	2.3.10.07b	DCD19		
447	2.3.10.08	DCD19		
448	2.3.10.09	DCD19		
449	2.3.10.10	DCD19		
450	2.3.11.01	Gaseous Radwaste System	DCD19	
451	2.3.11.02.i		DCD19	
452	2.3.11.02.ii		DCD19	
453	2.3.11.02.iii		DCD19	
454	2.3.11.03a		DCD19	
455	2.3.11.03b		DCD19	
456	2.3.11.03c		DCD19	
457	2.3.12.01	Solid Radwaste System	DCD19	
458	2.3.12.02		DCD19	
459	2.3.13.01	Primary Sampling System	DCD19	
460	2.3.13.02		DCD19	
461	2.3.13.03		DCD19	
462	2.3.13.04		DCD19	
463	2.3.13.05.i		DCD19	
464	2.3.13.05.ii		DCD19	
465	2.3.13.05.iii		DCD19	
466	2.3.13.06a.i		DCD19	
467	2.3.13.06a.ii		DCD19	
468	2.3.13.06b		DCD19	
469	2.3.13.06c		DCD19	
470	2.3.13.07		DCD19	
471	2.3.13.08		DCD19	

No.	ITAAC No.	Plant System ITAAC	Source
472	2.3.13.09	Primary Sampling System (cont'd)	DCD19
473	2.3.13.10a		DCD19
474	2.3.13.10b		DCD19
475	2.3.13.11a		DCD19
476	2.3.13.11b		DCD19
477	2.3.13.12		DCD19
478	2.3.14.01	Demineralized Water Transfer and Storage System	DCD19
479	2.3.14.02		DCD19
480	2.3.14.03		DCD19
481	2.3.14.04		DCD19
482	2.3.15.01	Compressed and Instrument Air System	DCD19
483	2.3.15.02		DCD19
484	2.3.15.03		DCD19
485	2.3.19.01a	Communication System	DCD19
486	2.3.19.01b		DCD19
487	2.3.19.02a		DCD19
488	2.3.19.02b		DCD19
489	2.3.29.01	Radioactive Waste Drain System	DCD19
490	2.3.29.02		DCD19
491	2.3.29.03		DCD19
492	2.3.29.04		DCD19
493	2.4.01.01	Main and Startup Feedwater System	DCD19
494	2.4.01.02		DCD19
495	2.4.01.03		DCD19
496	2.4.01.04		DCD19
497	2.4.02.01	Main Turbine System	DCD19
498	2.4.02.02a		DCD19
499	2.4.02.02b		DCD19
500	2.4.02.02c		DCD19
501	2.4.02.03.i		DCD19
502	2.4.02.03.ii		DCD19
503	2.4.02.03.iii		DCD19
504	2.4.06.01	Condensate System	DCD19
505	2.4.06.02		DCD19
506	2.5.01.01	Diverse Actuation System	DCD19
507	2.5.01.02a		DCD19
508	2.5.01.02b		DCD19
509	2.5.01.02c.i		DCD19
510	2.5.01.02c.ii		DCD19
511	2.5.01.02d		DCD19
512	2.5.01.03a		DCD19
513	2.5.01.03b		DCD19
514	2.5.01.03c		DCD19
515	2.5.01.03d		DCD19
516	2.5.01.03e		DCD19
517	2.5.01.03f		DCD19
518	2.5.01.03g		DCD19
519	2.5.01.03h		DCD19
520	2.5.01.04		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
521	2.5.01.05	Diverse Actuation System (cont'd)	DCD19
522	2.5.02.01	Protection and Safety Monitoring System	DCD19
523	2.5.02.02.i		DCD19
524	2.5.02.02.ii		DCD19
525	2.5.02.02.iii		DCD19
526	2.5.02.03		DCD19
527	2.5.02.04		DCD19
528	2.5.02.05a		DCD19
529	2.5.02.05b		DCD19
530	2.5.02.06a.i		DCD19
531	2.5.02.06a.ii		DCD19
532	2.5.02.06b		DCD19
533	2.5.02.06c.i		DCD19
534	2.5.02.06c.ii		DCD19
535	2.5.02.07a		DCD19
536	2.5.02.07b		DCD19
537	2.5.02.07c		DCD19
538	2.5.02.07d		DCD19
539	2.5.02.07e		DCD19
540	2.5.02.08a.i		DCD19
541	2.5.02.08a.ii		DCD19
542	2.5.02.08a.iii		DCD19
543	2.5.02.08b.i		DCD19
544	2.5.02.08b.ii		DCD19
545	2.5.02.08c		DCD19
546	2.5.02.09a	DCD19	
547	2.5.02.09b	DCD19	
548	2.5.02.09c	DCD19	
549	2.5.02.09d	DCD19	
550	2.5.02.10	DCD19	
551	2.5.02.11	DCD19	
552	2.5.02.12	DCD19	
553	2.5.02.13	DCD19	
554	2.5.02.14	DCD19	
555	2.5.03.01	Plant Control System	DCD19
556	2.5.03.02		DCD19
557	2.5.04.01	Data Display and Processing System	DCD19 & COL9
558	2.5.04.02.i		DCD19
559	2.5.04.02.ii		DCD19
560	2.5.04.02.iii		DCD19
561	2.5.04.03		DCD19
562	C.2.5.04.04a		COL9
563	C.2.5.04.04b		COL9
564	C.2.5.04.04c		COL9
565	2.5.05.01	In-Core Instrumentation System	DCD19
566	2.5.05.02.i		DCD19
567	2.5.05.02.ii		DCD19
568	2.5.05.02.iii		DCD19
569	2.5.05.03a.i		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
570	2.5.05.03a.ii	In-Core Instrumentation System (cont'd)	DCD19
571	2.5.05.03b		DCD19
572	2.5.05.03c		DCD19
573	2.5.05.04		DCD19
574	2.5.06.01	Special Monitoring System	DCD19
575	2.5.06.02		DCD19
576	2.5.09.01	Seismic Monitoring System	DCD19
577	2.5.09.02		DCD19
578	2.5.09.03		DCD19
579	2.6.01.01	Main AC Power System	DCD19
580	2.6.01.02.i		DCD19
581	2.6.01.02.ii		DCD19
582	2.6.01.02.iii		DCD19
583	2.6.01.03a		DCD19
584	2.6.01.03b		DCD19
585	2.6.01.04a		DCD19
586	2.6.01.04b		DCD19
587	2.6.01.04c		DCD19
588	2.6.01.04d		DCD19
589	2.6.01.04e		DCD19
590	2.6.01.04f		DCD19
591	2.6.01.05		DCD19
592	2.6.01.06		DCD19
593	2.6.02.01	Non-Class 1E DC & Uninterruptible Power Supply System	DCD19
594	2.6.02.02a		DCD19
595	2.6.02.02b		DCD19
596	2.6.02.02c		DCD19
597	2.6.03.01	Class 1E DC & Uninterruptible Power Supply System	DCD19
598	2.6.03.02.i		DCD19
599	2.6.03.02.ii		DCD19
600	2.6.03.02.iii		DCD19
601	2.6.03.03		DCD19
602	2.6.03.04a		DCD19
603	2.6.03.04b		DCD19
604	2.6.03.04c		DCD19
605	2.6.03.04d		DCD19
606	2.6.03.04e		DCD19
607	2.6.03.04f		DCD19
608	2.6.03.04g		DCD19
609	2.6.03.04h		DCD19
610	2.6.03.04i		DCD19
611	2.6.03.05a		DCD19
612	2.6.03.05b		DCD19
613	2.6.03.05c		DCD19
614	2.6.03.05d.i		DCD19
615	2.6.03.05d.ii		DCD19
616	2.6.03.06		DCD19
617	2.6.03.07	DCD19	
618	2.6.03.08	DCD19	

No.	ITAAC No.	Plant System ITAAC	Source
619	2.6.03.09	Class 1E DC & Uninterruptible Power Supply System (cont'd)	DCD19
620	2.6.03.10		DCD19
621	2.6.03.11		DCD19
622	2.6.04.01	Onsite Standby Power System	DCD19
623	2.6.04.02a		DCD19
624	2.6.04.02b		DCD19
625	2.6.04.02c		DCD19
626	2.6.04.03		DCD19
627	2.6.04.04		DCD19
628	2.6.05.01	Lighting System	DCD19
629	2.6.05.02.i		DCD19
630	2.6.05.02.ii		DCD19
631	2.6.05.03.i		DCD19
632	2.6.05.03.ii		DCD19
633	2.6.05.04		DCD19
634	2.6.05.05.i		DCD19
635	2.6.05.05.ii		DCD19
636	2.6.05.06.i		DCD19
637	2.6.05.06.ii		DCD19
638	2.6.06.01.i	Grounding and Lightning Protection System	DCD19
639	2.6.06.01.ii		DCD19
640	2.6.06.01.iii		DCD19
641	2.6.06.01.iv		DCD19
642	2.6.09.01	Plant Security System	DCD19
643	2.6.09.03		DCD19
644	2.6.09.04		DCD19
645	2.6.09.05a		DCD19
646	2.6.09.05b		DCD19
647	2.6.09.05c		DCD19
648	2.6.09.06		DCD19
649	2.6.09.07a		DCD19
650	2.6.09.07b		DCD19
651	2.6.09.08		DCD19
652	2.6.09.09		DCD19
653	2.6.09.13a		DCD19
654	2.6.09.13b		DCD19
655	2.6.09.13c		DCD19
656	2.6.09.15a		DCD19
657	2.6.09.15b		DCD19
658	2.6.09.16	DCD19	
659	C.2.6.09.01	Physical Security	COL9
660	C.2.6.09.02		COL9
661	C.2.6.09.03a		COL9
662	C.2.6.09.03b		COL9
663	C.2.6.09.04a		COL9
664	C.2.6.09.04b		COL9
665	C.2.6.09.05a		COL9
666	C.2.6.09.05b		COL9
667	C.2.6.09.06		COL9

No.	ITAAC No.	Plant System ITAAC	Source
668	C.2.6.09.07	Physical Security (cont'd)	COL9
669	C.2.6.09.08a		COL9
670	C.2.6.09.08b		COL9
671	C.2.6.09.09		COL9
672	C.2.6.12.01	Offsite Power System	COL9
673	C.2.6.12.02		COL9
674	C.2.6.12.03		COL9
675	C.2.6.12.04		COL9
676	C.2.6.12.05		COL9
677	C.2.6.12.06		COL9
678	2.7.01.01	Nuclear Island Nonradioactive Ventilation System	DCD19
679	2.7.01.02a		DCD19
680	2.7.01.02b		DCD19
681	2.7.01.03a		DCD19
682	2.7.01.03b		DCD19
683	2.7.01.04a		DCD19
684	2.7.01.04b		DCD19
685	2.7.01.05.i		DCD19
686	2.7.01.05.ii		DCD19
687	2.7.01.05.iii		DCD19
688	2.7.01.06a		DCD19
689	2.7.01.06b		DCD19
690	2.7.01.07		DCD19
691	2.7.01.08a		DCD19
692	2.7.01.08b	DCD19	
693	2.7.01.08c	DCD19	
694	2.7.01.08d	DCD19	
695	2.7.01.09	DCD19	
696	2.7.01.10a	DCD19	
697	2.7.01.10b	DCD19	
698	2.7.01.11	DCD19	
699	2.7.01.12	DCD19	
700	2.7.01.13	DCD19	
701	2.7.01.14	DCD19	
702	2.7.02.01	Central Chilled Water System	DCD19
703	2.7.02.02		DCD19
704	2.7.02.03a		DCD19
705	2.7.02.03b		DCD19
706	2.7.02.04		DCD19
707	2.7.02.05		DCD19
708	2.7.03.01	Annex/Auxiliary Building Nonradioactive Ventilation System	DCD19
709	2.7.03.02a		DCD19
710	2.7.03.02b		DCD19
711	2.7.03.03		DCD19
712	2.7.03.04		DCD19
713	2.7.04.01	Diesel Generator Building Ventilation System	DCD19
714	2.7.04.02a		DCD19
715	2.7.04.02b		DCD19
716	2.7.04.02c		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
717	2.7.04.03	Diesel Generator Building Ventilation System (cont'd)	DCD19
718	2.7.04.04		DCD19
719	2.7.05.01	Radiologically Controlled Area Ventilation System	DCD19
720	2.7.05.02.i		DCD19
721	2.7.05.02.ii		DCD19
722	2.7.05.02.iii		DCD19
723	2.7.05.03		DCD19
724	2.7.06.01	Containment Air Filtration System	DCD19
725	2.7.06.02.i		DCD19
726	2.7.06.02.ii		DCD19
727	2.7.06.03.i		DCD19
728	2.7.06.03.ii		DCD19
729	2.7.06.03.iii		DCD19
730	2.7.06.04		DCD19
731	2.7.06.05		DCD19
732	2.7.07.01	Containment Recirculation Cooling System	DCD19
733	2.7.07.02		DCD19
734	3.1.00.01	Emergency Response Facilities	DCD19
735	3.1.00.02		DCD19
736	3.1.00.03		DCD19
737	3.1.00.04		DCD19
738	3.1.00.05		DCD19
739	3.1.00.06		DCD19
740	3.2.00.01a	Human Factors Engineering	DCD19
741	3.2.00.01b		DCD19
742	3.2.00.01c.i		DCD19
743	3.2.00.01c.ii		DCD19
744	3.2.00.01d		DCD19
745	3.2.00.01e		DCD19
746	3.2.00.02		DCD19
747	3.2.00.03.i		DCD19
748	3.2.00.03.ii		DCD19
749	3.2.00.03.iii		DCD19
750	3.2.00.03.iv		DCD19
751	3.2.00.03.v		DCD19
752	3.2.00.04		DCD19
753	3.2.00.05		DCD19
754	3.2.00.06.i		DCD19
755	3.2.00.06.ii		DCD19
756	3.2.00.06.iii		DCD19
757	3.2.00.07		DCD19
758	3.2.00.08		DCD19
7589	3.2.00.09	DCD19	
760	3.3.00.01	Buildings	DCD19
761	3.3.00.02a.i.a		DCD19
762	3.3.00.02a.i.b		DCD19
763	3.3.00.02a.i.c		DCD19
764	3.3.00.02a.i.d		DCD19
765	3.3.00.02a.ii.a		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
766	3.3.00.02a.ii.b	Buildings (cont'd)	DCD19
767	3.3.00.02a.ii.c		DCD19
768	3.3.00.02a.ii.d		DCD19
769	3.3.00.02a.ii.e		DCD19
770	3.3.00.02a.ii.f		DCD19
771	3.3.00.02b		DCD19
772	3.3.00.02c		DCD19
773	3.3.00.02d		DCD19
774	3.3.00.02e		DCD19
775	3.3.00.02f		DCD19
776	3.3.00.02g		DCD19
777	3.3.00.02h		DCD19
778	3.3.00.03a		DCD19
779	3.3.00.03b		DCD19
780	3.3.00.03c		DCD19
781	3.3.00.03d		DCD19
782	3.3.00.04a		DCD19
783	3.3.00.04b		DCD19
784	3.3.00.04c		DCD19
785	3.3.00.05a		DCD19
786	3.3.00.05b		DCD19
787	3.3.00.05c		DCD19
788	3.3.00.06a		DCD19
789	3.3.00.06b		DCD19
790	3.3.00.07aa		DCD19
791	3.3.00.07ab		DCD19
792	3.3.00.07ac		DCD19
793	3.3.00.07ba		DCD19
794	3.3.00.07bb		DCD19
795	3.3.00.07bc		DCD19
796	3.3.00.07c.i.a		DCD19
797	3.3.00.07c.i.b		DCD19
798	3.3.00.07c.ii.a		DCD19
799	3.3.00.07c.ii.b		DCD19
800	3.3.00.07d.i		DCD19
801	3.3.00.07d.ii.a		DCD19
802	3.3.00.07d.ii.b		DCD19
803	3.3.00.07d.ii.c		DCD19
804	3.3.00.07d.iii.a		DCD19
805	3.3.00.07d.iii.b		DCD19
806	3.3.00.07d.iii.c		DCD19
807	3.3.00.07d.iv.a		DCD19
808	3.3.00.07d.iv.b		DCD19
809	3.3.00.07d.iv.c		DCD19
810	3.3.00.07d.v.a		DCD19
811	3.3.00.07d.v.b		DCD19
812	3.3.00.07d.v.c		DCD19
813	3.3.00.07e		DCD19
814	3.3.00.08		DCD19

No.	ITAAC No.	Plant System ITAAC	Source
815	3.3.00.09	Buildings (cont'd)	DCD19
816	3.3.00.10.i		DCD19
817	3.3.00.10.ii		DCD19
818	3.3.00.10.iii		DCD19
819	3.3.00.12		DCD19
820	3.3.00.13		DCD19
821	3.3.00.14		DCD19
822	3.3.00.16		DCD19
823	3.3.00.17		DCD19
824	3.5.00.01.i	Radiation Monitoring	DCD19
825	3.5.00.01.ii		DCD19
826	3.5.00.01.iii		DCD19
827	3.5.00.02.i		DCD19
828	3.5.00.02.ii		DCD19
829	3.5.00.03		DCD19
830	3.5.00.04		DCD19
831	3.5.00.05		DCD19
832	3.5.00.06		DCD19
833	3.5.00.07		DCD19
834	3.5.00.08	DCD19	
835	3.6.00.01.i	Reactor Coolant Pressure Boundary Leak Detection System	DCD19
836	3.6.00.01.ii		DCD19
837	3.6.00.01.iii		DCD19
838	3.6.00.01.iv		DCD19
839	3.6.00.01.v		DCD19
840	3.6.00.01.vi		DCD19
841	3.6.00.01.vii		DCD19
842	3.7.00.01	Design Reliability Assurance Program	DCD19
843	C.3.8.01.01.01	Emergency Planning - Assignment of Responsibility	COL9
844	C.3.8.01.02.01	Emergency Planning - Onsite Emergency Organization	COL9
845	C.3.8.01.03.01	Emergency Planning - Emergency Classification System	COL9
846	C.3.8.01.04.01	Emergency Planning - Notification Methods and Procedure	COL9
847	C.3.8.01.04.02		COL9
848	C.3.8.01.04.03		COL9
849	C.3.8.01.05.01	Emergency Planning - Emergency Communications	COL9
850	C.3.8.01.05.02		COL9
851	C.3.8.01.06.01	Emergency Planning - Public Education and Information	COL9
852	C.3.8.01.07.01.01	Emergency Planning - Emergency Facilities and Equipment	COL9
853	C.3.8.01.07.01.02		COL9
854	C.3.8.01.07.01.03		COL9
855	C.3.8.01.07.01.04		COL9
856	C.3.8.01.07.01.05		COL9
857	C.3.8.01.07.01.06		COL9
858	C.3.8.01.07.01.07		COL9
859	C.3.8.01.07.02.01		COL9
860	C.3.8.01.07.02.02		COL9
861	C.3.8.01.07.03		COL9
862	C.3.8.01.07.04		COL9
863	C.3.8.01.07.05		COL9

No.	ITAAC No.	Plant System ITAAC	Source
864	C.3.8.01.07.06	Emergency Planning - Emergency Facilities and Equipment (cont'd)	COL9
865	C.3.8.01.08.01.01	Emergency Planning - Accident Assessment	COL9
866	C.3.8.01.08.01.02		COL9
867	C.3.8.01.08.01.03		COL9
868	C.3.8.01.08.01.04		COL9
869	C.3.8.01.08.01.05		COL9
870	C.3.8.01.08.01.06		COL9
871	C.3.8.01.08.01.07		COL9
872	C.3.8.01.08.01.08		COL9
873	C.3.8.01.08.01.09		COL9
874	C.3.8.01.09.01	Emergency Planning - Protective Response	COL9
875	C.3.8.01.09.02		COL9
876	C.3.8.01.09.02		COL9
877	C.3.8.01.10.01	Emergency Planning - Radiological Exposure Control	COL9
878	C.3.8.01.10.02		COL9
879	C.3.8.01.10.03		COL9
880	C.3.8.01.10.04		COL9
881	C.3.8.01.11.01	Emergency Planning - Medical and Public Health Support	COL9
882	C.3.8.01.11.02		COL9
883	C.3.8.01.11.03		COL9
884	C.3.8.01.12.01.01	Emergency Planning - Exercises and Drills	COL9
885	C.3.8.01.12.01.02		COL9
886	C.3.8.01.12.01.03		COL9
887	C.3.8.01.13.01	Emergency Planning - Radiological Emergency Response Training	COL9
888	C.3.8.01.14.01	Emergency Planning - Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans	COL9
889	C.3.8.01.15.01	Emergency Planning - Implementing Procedures	COL9
890	C.3.8.02.01	Waterproof Membrane	COL9
891	C.3.8.03.01	Roller Compacted Concrete	COL9
892	C.3.8.03.02		COL9
893	C.3.8.03.03		COL9
894	C.3.8.04.01	Drilled Shaft Foundations	COL9
895	C.3.8.05.01	Pipe Rupture Hazard Analysis	COL9
896	C.3.8.06.01	Piping Design	COL9