

	<b>In the Matter of:</b> NUCLEAR INNOVATION NORTH AMERICA LLC (South Texas Project Units 3 and 4)	
	Commission Mandatory Hearing <b>Docket #:</b> 05200012 & 05200013 <b>Exhibit #:</b> NRC-003-MA-CM01 <b>Identified:</b> 11/19/2015 <b>Admitted:</b> 11/19/2015 <b>Withdrawn:</b> <b>Rejected:</b> <b>Stricken:</b> <b>Other:</b>	

## COMBINED LICENSE

## SOUTH TEXAS PROJECT UNIT 4

## NUCLEAR INNOVATION NORTH AMERICA LLC

## STP NUCLEAR OPERATING COMPANY

## NINA TEXAS 4 LLC

CITY OF SAN ANTONIO, TEXAS, ACTING BY AND THROUGH THE CITY PUBLIC SERVICE BOARD

Docket No. 52-013

License No. NPF-[XXX]

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for a combined license (COL) for South Texas Project Unit 4 (STP 4) filed by Nuclear Innovation North America LLC (NINA), on behalf of itself and STP Nuclear Operating Company (STPNOC), NINA Texas 4 LLC (NINA 4), and the City of San Antonio, Texas, acting by and through the City Public Service Board (CPS Energy), (collectively, "the licensees"), which incorporates by reference Appendix A to 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, 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. NINA and STPNOC<sup>1</sup> are technically qualified to engage in the activities authorized by this license in accordance with the Commission regulations set forth in 10 CFR Chapter I. The licensees are 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. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements;"

<sup>1</sup> NINA is authorized by NINA 4 and CPS Energy to exercise responsibility and control over the physical construction and maintenance of the facility. STPNOC is authorized by NINA 4 and CPS Energy to exercise responsibility and control over the physical operation and maintenance of the facility.

- 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 NINA, STPNOC, NINA 4, and CPS Energy to read as follows:
- A. This COL applies to STP 4, a light-water nuclear reactor and associated equipment (the facility), owned by NINA 4 and CPS Energy. The facility would be located on the existing South Texas Project Electric Generating Station site adjacent to existing Units 1 and 2 in Matagorda County, Texas; approximately 12 miles south-southwest of Bay City, Texas; approximately 89 miles southwest of Houston, Texas; and approximately 200 miles southeast of Austin, Texas, as is described in the licensee's final safety analysis report (FSAR), as supplemented and amended.
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
    - (1) (a) NINA, pursuant to Sections 103 and 185b. of the Act and 10 CFR Part 52, to construct, possess, and use the facility at the designated location in accordance with the procedures and limitations set forth in this license;
    - (b) STPNOC, pursuant to Sections 103 and 185b. of the Act and 10 CFR Part 52, after a Commission finding under 10 CFR 52.103(g), to possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license;
    - (c) NINA 4, pursuant to Sections 103 and 185b. of the Act and 10 CFR Part 52, to possess the facility at the designated location in accordance with the procedures and limitations set forth in this license;
    - (d) CPS Energy, pursuant to Sections 103 and 185b. of the Act and 10 CFR Part 52, to possess the facility at the designated location in accordance with the procedures and limitations set forth in this license;
  - (2) (a) STPNOC, pursuant to the Act and 10 CFR Part 70, to receive and possess at any time after a Commission finding under 10 CFR 52.103(g) has been made, 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) STPNOC, 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) NINA, 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) STPNOC, 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) NINA, 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), 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) STPNOC, 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) STPNOC, 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 the licensees 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 the licensees shall comply with, the conditions specified and incorporated below:

(1) Changes during Construction

- (a) NINA 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, NINA shall submit a written request to the Office of New Reactors (NRO) in accordance with COL-ISG-025, "Changes During Construction Under 10 CFR Part 52."
- (b) Before NRO's issuance of a written PAR notification, NINA shall submit the license amendment request (LAR). Thereafter, NRO will issue a written PAR notification, setting forth whether NINA may proceed in accordance with the PAR, LAR, and COL-ISG-025. If NINA elects to proceed and the LAR is subsequently denied, NINA shall return the facility to its current licensing basis.

(2) Preoperational and Startup Test Specifications

NINA shall provide Preoperational and Startup Test Specifications and Test Procedures, containing the testing objectives and acceptance criteria, to the NRC at least six months prior to the start of the Initial Test Program.

(3) Startup Administrative Manual (SAM), Construction/Component Tests, and Preoperational Test Procedures

- (a) The SAM shall govern the ITP and NINA shall issue the updated SAM no later than the beginning of the construction/component test phase and no later than 60 days prior to the beginning of the preoperational test phase.
- (b) NINA shall complete construction/component test procedures and construction/component tests before preoperational tests begin.
- (c) NINA shall make available the NINA-approved preoperational test procedures for the NRC to inspect no later than 60 days prior to intended use but no later than 60 days prior to scheduled initial fuel load.

(4) Startup Test Procedures

NINA shall make available the NINA-approved startup test procedure for the NRC to inspect no later than 60 days prior to scheduled initial fuel load.

(5) Nuclear Fuel Loading and Pre-Critical Testing

- (a) Upon a Commission finding in accordance with 10 CFR 52.103(g) that all the acceptance criteria in the inspections, tests, analyses, and acceptance criteria (ITAAC) in Appendix C to this license are met, STPNOC is authorized to perform pre-critical tests in accordance with the conditions specified herein;
- (b) STPNOC shall perform the pre-critical tests identified in FSAR Subsections 14.2.10.1, 14.2.10.2, 14.2.10.3, and 14.2.12.2;
- (c) STPNOC shall review and evaluate the results of the tests identified in Condition 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 FSAR Subsections 14.2.10.1, 14.2.10.2, 14.2.10.3, and 14.2.12.2; and

- (d) STPNOC shall notify the Director of NRO or the Director's designee, in writing, upon successful completion of the pre-critical tests identified in Condition 2.D.(5)(b) of this license.

(6) Initial Criticality and Low-Power Testing

- (a) Upon submission of the notification required by Condition 2.D.(5)(d) of this license, STPNOC 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) STPNOC shall perform the initial criticality and low-power tests at the Open Vessel (OV) and Nuclear Heat-Up (HU) testing plateaus identified in FSAR Table 14.2-1 and FSAR Subsections 14.2.10.4 and 14.2.12.2;
- (c) STPNOC shall review and evaluate the results of the tests identified in Condition 2.D.(6)(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 FSAR Subsections 14.2.10.4 and 14.2.12.2; and
- (d) STPNOC 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 Condition 2.D.(6)(b) of this license.

(7) Power Ascension Testing

- (a) Upon submission of the notification required by Condition 2.D.(6)(d) of this license, STPNOC 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) STPNOC shall perform the power ascension tests at the Low Power (LP), Mid Power (MP) and High Power (HP) testing plateaus identified in FSAR Table 14.2-1 and FSAR Subsection 14.2.12.2;
- (c) STPNOC shall review and evaluate the results of the tests identified in Condition 2.D.(7)(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 FSAR Subsection 14.2.12.2; and
- (d) STPNOC shall notify the Director of NRO, or the Director's designee, in writing, upon successful completion of power ascension tests identified in Condition 2.D.(7)(b) of this license.

(8) Maximum Power Level

Upon submission of the notification required by Condition 2.D.(7)(d) of this license, STPNOC is authorized to operate the facility at steady state reactor core power levels not to exceed 3926 MW thermal (100-percent thermal power), as described in the FSAR, in accordance with the conditions specified herein.

(9) 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 A, Section VIII, "Processes for Changes and Departures," NINA (before the 10 CFR 52.103(g) finding) and STPNOC (after the 10 CFR 52.103(g) finding) shall report the change to the Director of NRO or the Director's designee, in accordance with 10 CFR 50.59(d).

(b) STPNOC shall report any violation of a requirement in Conditions 2.D.(5), 2.D.(6), 2.D.(7) and 2.D.(8) 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.

(10) 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.

(11) 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).

(12) Operational Program Implementation

(a) NINA shall implement the following programs or portions of programs before initial fuel load:

1. Environmental Qualification Program
2. Reactor Vessel Material Surveillance Program
3. Preservice Testing Program
4. Process and Effluent Monitoring and Sampling Program to include
  - (i) Standard Radiological Effluent Controls
  - (ii) Offsite Dose Calculation Manual
  - (iii) Radiological Environmental Monitoring Program, and

- (iv) Process Control Program.
- 5. Motor Operated Valve Testing Program.
- (b) NINA (before the 10 CFR 52.103(g) finding) or STPNOC (after the 10 CFR 52.103(g) finding) shall implement the Radiation Protection Program (RPP) (including the ALARA principle) or the applicable portions thereof as follows:
  - 1. RPP features applicable to byproduct, source, or special nuclear materials shall be implemented before the initial receipt of such materials.
  - 2. RPP features (including the ALARA principle) applicable to new fuel shall be implemented before initial receipt of fuel on site.
  - 3. All other RPP features (including the ALARA principle), except for those applicable to control radioactive waste shipment, shall be implemented before initial fuel load.
  - 4. RPP features (including the ALARA principle) applicable to radioactive waste shipment shall be implemented before the first shipment of radioactive waste.
- (c) No later than 18 months before scheduled fuel load NINA shall implement the Reactor Operator Training Program.
- (d) Transportation Physical Security Program
  - 1. Three months before fuel is transported onsite (protected area), NINA shall implement the transportation physical security program.
  - 2. In the first update of the FSAR after issuance of this license, NINA shall update FSAR Section 13.6.4, "Transportation Physical Security Plan," to include requirements to inspect the integrity of the fuel's containers and the tamper seals upon receipt of shipments of nuclear power reactor fuel and to notify the shipper of receipt of the material in accordance with 10 CFR 74.15.
- (e) Initial Test Program Milestones
  - 1. NINA shall implement the Construction Test Program before the first construction test,
  - 2. NINA shall implement the Preoperational Test Program before the first preoperational test, and
  - 3. NINA shall implement the Startup Test Program before initial fuel load.

(f) Fire Protection Program

1. NINA shall implement the fire protection measures for designated storage building areas (including adjacent fire areas that could affect the storage area) before initial receipt of byproduct or special nuclear materials that are not fuel (excluding exempt quantities as described in 10 CFR 30.18);
2. STPNOC shall implement the fire protection measures for new fuel storage areas (including adjacent fire areas that could affect the new fuel storage area) before receipt of fuel on site;
3. Before receipt of fuel on site, a formal letter of agreement shall be in place with the local fire department specifying the arrangements in support of the Fire Protection Program;
4. All fire protection features shall be implemented before initial fuel load.

(g) The Suppression Pool Cleanliness Program shall be implemented before initiation of the Startup Test Program.

(h) The Special Nuclear Material Control and Accounting Program shall be implemented before initial receipt of special nuclear material.

(13) Operational Program Implementation Schedule

(a) No later than 12 months after issuance of the COL, NINA shall submit to the Director of NRO, or the Director's designee, a schedule for completing the milestones set forth in FSAR Table 13.4S-1, including the associated estimated date for initial loading of fuel, and for implementing the transportation physical security program and the strategies developed in accordance with 10 CFR 50.54(hh)(2). The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until all the milestones have been completed.

(14) Site- and Unit-specific Conditions

(a) NINA shall perform detailed geologic mapping of excavations for safety-related structures; examine and evaluate geologic features discovered in the excavations; and notify the Director of NRO, or the Director's designee, in writing, once excavations for safety-related structures are open for examination by the NRC staff.

(b) STPNOC shall, as part of its turbine maintenance program, perform the following:

1. Volumetrically inspect all low-pressure turbine rotors at the second refueling outage and every other (alternate) refueling outage thereafter, and
2. test, at least once a week during normal operation, the main steam control and stop valves, intermediate intercept and stop valves, and steam extraction non-return valves.



- (c) NINA shall prepare a Steam Dryer Monitoring Plan (SDMP) for the STP 4 steam dryer and provide it to the NRC project manager for STP 4 no later than 30 days before startup of STP 4. The SDMP shall reflect industry experience with the performance of steam dryer power ascension testing. The SDMP shall include the following, which shall be augmented as appropriate to address industry experience:
1. NINA shall provide details of the installation and calibration of the steam dryer instrumentation (such as number and types of sensors, locations, orientation, attachment methods, installer training, and calibration methods). The instrumentation shall be mounted and calibrated in accordance with the manufacturers' instructions to accurately measure the dynamic response.
  2. Between 60 and 65 percent of full thermal power, STPNOC shall record pressures, strains, and accelerations from the dryer-mounted instrumentation.
    - (i) STPNOC shall benchmark the methodology for the steam dryer load definition and determine appropriate bias errors and uncertainties from measurements on the dryer.
    - (ii) The steam dryer maximum stress and minimum stress ratio must be computed from the predictive analysis using up to a  $\pm 10$  percent frequency sweep of load application and appropriate additional bias errors and uncertainties as described in Section 6.2 of WCAP-17385-P, Revision 6 (FSAR Reference 3.9-25).
    - (iii) Level 1 and Level 2 limit curves must be generated for at least eight pressure transducer locations on the steam dryer (four on the outer bank hoods and four on the skirt) as described in Section 6.2 of WCAP-17385-P, Revision 6.
    - (iv) Limit curves must include bias error and uncertainties as described in Sections 6.5.1 and 6.5.2 of WCAP-17385-P, Revision 6.
  3. At the 70 ( $\pm 3$ ) percent, 80 ( $\pm 3$ ) percent, and 90 ( $\pm 3$ ) percent thermal power levels, STPNOC shall measure, record, and evaluate steam dryer data. STPNOC shall develop revised limit curves at each of these power levels. STPNOC shall generate data trending and a projection of pressure levels for the next monitoring power level and for full thermal power.
  4. During power ascension, should a Level 2 limit curve be exceeded, or if data trending indicates that a Level 1 limit curve may be challenged before the next power level to be monitored, the power must be held at that power level, and STPNOC shall perform a real-time stress analysis to develop new limit curves and to demonstrate that the stress acceptance limits will be satisfied at the next thermal power level before increasing power to the next level. Should a Level 1 limit curve be exceeded, the power must be reduced to a previous power level where the Level 1 limit curve was not exceeded and STPNOC shall perform a real-time stress analysis to develop new limit curves and to demonstrate that the stress acceptance limits will be satisfied at the

next thermal power level in accordance with Section 6.3 of WCAP-17385-P, Revision 6, before increasing power to the next level.

5. STPNOC shall perform end-to-end comparisons between the predicted and measured strains on the steam dryer at the 80 ( $\pm 3$ ) percent, 90 ( $\pm 3$ ) percent, and full thermal power levels to confirm the conservatism of the predicted dryer stress field. If any of the measured sensor data at that power level exceeds the adjusted predictions, STPNOC shall either (a) modify the bias errors and uncertainty values and limit curves and ensure measured sensor responses do not exceed the adjusted predictions, or (b) quantitatively evaluate the effect on fatigue life.
6. At the power levels where steam dryer monitoring is required in Conditions 2.D.(14)(c)2. and 2.D.(14)(c)3. of this license, STPNOC shall provide the steam dryer data analysis and results to the NRC project manager for STP 4 by facsimile or electronic transmission; and shall not exceed the power level at which it performed the steam dryer monitoring for at least 72 hours after the NRC project manager for STP 4 has confirmed receipt of the transmission.
7. After full power thermal has been achieved, STPNOC shall provide data collected from the steam dryer monitoring at full thermal power to the NRC project manager for STP 4 by facsimile or electronic transmission within 72 hours of completing the collection of that data. STPNOC shall submit a full thermal power stress analysis report and evaluation to the NRC document control desk in accordance with 10 CFR 52.4 within 90 days of first reaching the full thermal power level. The report must include the minimum stress ratio and the final dryer load definition using steam dryer instrumentation and associated bias errors and uncertainties, and must demonstrate that the steam dryer will maintain its structural integrity over its design life considering variations in plant parameters, including, but not limited to, reactor pressure and core flow rate. If the structural integrity of the steam dryer for the full plant life is not demonstrated by the stress analysis, STPNOC shall describe its compensatory actions, such as future dryer replacement, in the stress analysis report.
8. During the first two scheduled refueling outages after reaching full thermal power, STPNOC shall conduct a visual inspection of all accessible areas and susceptible locations of the steam dryer in accordance with industry guidance on steam dryer inspection in the latest NRC staff-approved version of BWRVIP-139-A, "BWR Vessel and Internals Project, Steam Dryer Inspection and Flaw Evaluation Guidelines," with any conditions or limitations specified in the NRC staff approval. STPNOC shall submit the results of these baseline inspections to the NRC within 60 days of startup after each such outage.
9. At the end of the second refueling outage after reaching full thermal power, STPNOC shall update the SDMP to include a long-term inspection plan based on plant-specific and industry operating experience and shall submit the updated plan to the NRC project manager for STP 4 within 180 days following startup from the second refueling outage.

10. Condition 2.D.(14)(c) of this license shall expire upon the submittal of the inspection plan described in Condition 2.D.(14)(c)9. of this license.

- (d) NINA shall conduct a downstream fuel effects test and provide the results to the Director of NRO, or the Director's designee, no later than 18 months before scheduled initial fuel load. The test plan, analysis basis, and debris assumptions must be in accordance with FSAR Chapter 6, Appendix 6C, Subsection 6C.3.1.8. NINA must provide the test procedures to the Director of NRO, or the Director's designee, no later than 24 months before scheduled initial fuel load. The following equation establishes the acceptance criteria for this test, and fuel will not be loaded until this acceptance criteria is met:

$$(\Delta P_f / \Delta P_i)^2 \leq 1200 \times (w_f / w_i)^2$$

Where subscript "i" denotes initial (i.e., unfouled) conditions, and "f" indicates fouled conditions, w is the flow rate into the assembly, and  $\Delta p$  is the pressure drop from the bundle inlet to downstream of the third grid.

- (e) The licensee may not modify or delete the information in final safety analysis report Tables 12.2-3b or 12.2-3c, including associated footnotes, or use the information in these tables as the basis for any detailed facility design, including shielding design and evaluation of equipment qualification, as the basis for operational procedures, or as the basis for any changes to the FSAR.
- (f) Emergency Planning
1. No later than 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), NINA shall submit to the Director of NRO, or to the Director's designee, in writing, a fully developed set of site-specific emergency action levels (EALs) for STP 4 in accordance with the Nuclear Energy Institute (NEI) 99-01, Revision 5 endorsed EAL scheme with the exceptions noted below:
    - (i) NINA shall exclude NEI 99-01 (Revision 5) Initiating Conditions (ICs) SU3, SA4, and SS6.
    - (ii) NINA shall put replacement ICs for SA4 and SS6 into the final Emergency Action Level Bases Document for STP 4. These replacement ICs are included as Enclosures 2 (SA4) and 3 (SS6) to the letter dated September 28, 2009 (ML092730445).
    - (iii) NINA shall add ICs for Cold Shutdown CU9 and CA5 into the final Emergency Action Level Bases Document for STP 4. These ICs are included as Enclosures 4 (CU9) and 5 (CA5) to the letter dated September 28, 2009 (ML092730445).

These fully developed EALs shall include the requirement to make an emergency declaration within 15 minutes of the existence of the condition in order to satisfy 10 CFR Part 50, Appendix E, Section IV.C.2.

2. NINA shall validate the existing on-shift staffing submitted in COL application Part 5 "Emergency Plan" Section C using the method in the NRC endorsed version of NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," Revision 0, when a physical plant and plant procedures are available. NINA shall submit the results of the analysis to the Director of NRO, or the Director's designee, for confirmation at least 180 days before scheduled initial fuel load.

(g) Beyond Design Basis External Events

1. NINA shall complete development of an overall integrated plan of strategies to mitigate beyond-design-basis external events at least one year 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.
2. The overall integrated plan required by Condition 2.D.(14)(g) of this license 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 Condition 2.D.(14)(g) of this license must be capable of (i) mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate heat sink (UHS) and (ii) providing for adequate capacity to perform the functions upon which the guidance and strategies rely for all units on the STP site and in all modes at each unit on the site.
4. Before initial fuel load, NINA shall fully implement the guidance and strategies required by Condition 2.D.(14)(g) of this license, including:
  - (i) Procedures and guidance;
  - (ii) Training;
  - (iii) Acquisition, staging, or installation of equipment and consumables relied upon in the strategies; and
  - (iv) Configuration controls and provisions for maintenance and testing (including testing procedures and frequencies for preventive maintenance) of the equipment upon which the strategies and guidance required by Condition 2.D.(14)(g) of this license rely, as described in FSAR Chapter 1, Appendix 1E, Section 1E.2.4.
5. The training required by Condition 2.D.(14)(g)4.(ii) of this license must use a Systems Approach to Training (SAT), and must be based upon plant equipment and procedures upon which the guidance and strategies required by Condition 2.D.(14)(g) of this license rely.

6. Before initial fuel load, NINA shall analyze:
  - (i) The habitability of the RCIC room, RSS room and the main control room in regard to heat-up during a loss of all ac power and loss of normal access to the UHS to confirm that the RCIC, RSS and main control room temperature will not prevent the completion of the intermittent operator actions upon which the guidance and strategies required by Condition 2.D.(14)(g) of this license rely, in accordance with the acceptance criteria in Table D-2 of NUREG/CR-6146 "Local Control Stations: Human Engineering Issues and Insights"; and
  - (ii) The RCIC and RSS room temperatures in regard to heat-up during a loss of all ac power and loss of normal access to the UHS to confirm that the RCIC and RSS room temperature will not exceed the maximum temperature at which the equipment located in these rooms can perform the functions on which the guidance and strategies required by Condition 2.D.(14)(g) of this license rely, in accordance with the environmental conditions for which the equipment is qualified as described in FSAR Chapter 3, Appendix 3I.
7. Before initial fuel load, NINA shall update the design calculation for Class 1E battery discharge to reflect 'as-built' plant design information to verify that the Class 1E batteries function as relied upon to support Phase 1 of the mitigation guidance and strategies required by Condition 2.D.(14)(g) of this license, as described in FSAR Chapter 1, Appendix 1E.
8. Before initial fuel load, NINA shall complete a successful integrated system validation of the extended loss of all ac power and loss of normal access to the UHS timeline in accordance with guidance in Revision 3 of NUREG-0711, "Human Factor Engineering Program Review Model," Section 11.4.3, "Integrated System Validation," to verify that operator actions can be completed consistent with the start of the battery duty cycle, as described in the FLEX Integrated Plan, Revision 2.
9. NINA (before the 10 CFR 52.103(g) finding) and STPNOC (after the 10 CFR 52.103(g) finding) shall maintain the guidance and strategies described in the application upon issuance of the license, and the integrated accident management capability upon its completion as required by Condition 2.D.(14)(g) of this license. NINA (before the 10 CFR 52.103(g) finding) and STPNOC (after the 10 CFR 52.103(g) finding) may change the strategies and guidelines required by Condition 2.D.(14)(g) of this license provided that the licensee evaluates each such change to ensure that the provisions of Conditions 2.D.(14)(g)1. and 2.D.(14)(g)2. of this license continue to be satisfied and the licensee documents the evaluation in an auditable form.

(h) Physical Security

No later than 8 months before fuel is allowed onsite (protected area), NINA shall develop a written protective strategy that describes in detail the physical protection measures, security systems, and deployment of the armed response

team relative to site-specific conditions, including but not limited to, the final facility layout, and the location of target set equipment and elements in accordance with 10 CFR Part 73, Appendix C.II.B.3.c.(v).

(i) Cyber Security

No later than 8 months before fuel is allowed onsite (within the protected area), NINA shall develop a written protective strategy that describes in detail the cyber protection measures, systems, and deployment of the cyber security program relative to site-specific conditions to include, but not be limited to, the final facility design and the location of target set equipment and elements in accordance with 10 CFR 73.54.

(j) Emergency Planning Actions

1. Communications

- (i) At least 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, NINA 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 all ac power. The communications capability assessment shall be performed in accordance with NEI-12-01, Revision 0, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities."
- (ii) At least 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), NINA shall complete implementation of corrective actions identified in the communications capability assessment described above, including any related emergency plan and implementing procedure changes and associated training.

2. Staffing

- (i) At least 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, NINA shall have performed assessments of the on-site and augmented staffing capability for responding to a multi-unit event. The staffing assessments will be performed in accordance with NEI 12-01, Revision 0, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities."
- (ii) At least 180 days before the date scheduled for initial fuel load set forth in the notification submitted in accordance with 10 CFR 52.103(a), NINA shall revise the Emergency Plan to include the following:

- a. Incorporation of corrective actions identified in the staffing assessment required by Condition 2.D.(14)(j)2.(i) of this license.
- b. Identification of how the augmented staff will be notified given degraded communications capabilities.

(k) Financial Qualification

1. NINA shall notify the NRC at least 60 days prior to its anticipated date of construction that this license condition has been fulfilled and that the following are available for inspection:
  - (i) An updated cost estimate.
  - (ii) Documentation justifying any material variances from the original cost estimate provided in the application; and
  - (iii) Documentation demonstrating that the licensee has secured financing to fund the updated cost estimate for the project. This documentation will include operative closing documents, and may include documented proof of parent and affiliate assurances, or capital from other sources (as required to close the financing) that reflect financing for the project.
2. NINA shall notify the NRC at least 60 days prior to the scheduled initial loading of fuel that this license condition has been fulfilled and that the following are available for inspection:
  - (i) An updated cost estimate for each of the first 5 years of operation.
  - (ii) Documentation justifying any material variance from the original cost estimate provided in the application, and
  - (iii) Documentation of sources of funds to cover each of the first 5 years of operations. Such funds may come from, but are not limited to, power purchase agreements, parent assurances, and/or revenues from the anticipated sale of power.

(l) Foreign Ownership, Control, or Domination

1. Within 60 days of the issuance of the license, the proposed "Fourth Amended and Restated Operating Agreement of Nuclear Innovation North America LLC" shall be executed by NINA and enter in to force.
2. Any proposed change to the Negation Action Plan in Appendix 1D of the FSAR that would result in a decrease in the effectiveness of the Negation Action Plan may not be implemented without prior approval of the NRC.
3. The Fourth Amended and Restated Operating Agreement of Nuclear Innovation North America LLC may not be modified in any material respect concerning decision-making authority of the Security Committee as defined therein without prior approval of the NRC.

4. NINA shall take no action allowing Toshiba America Nuclear Energy Corporation (TANE) to have, and in any event NINA shall not recognize TANE as having, more than 10 percent of the voting equity interests of NINA in any membership class.
5. Following issuance of the COLs, NINA shall assure that any loans procured exclusively from foreign sources may only be used for purposes of project development and maintaining the licenses. NINA shall assure that at least 50% of the funding for any licensed construction activity is funded from U.S. sources whether through loans or through equity.
6. NINA's Chief Executive Officer (CEO) and Chief Nuclear Officer, the Chairman of NINA's Board of Directors, the members of NINA's Security Committee and Nuclear Advisory Committee, and the CEO of STPNOC must all be U.S. citizens.
7. More than 50% of the voting interests in NINA shall be represented by Members of NINA's Board of Directors who shall be appointed by non-foreign owners and shall be U.S. citizens.
8. The certificates that the Negation Action Plan requires the NINA CEO and the members of the NINA Security Committee to execute, including certificates to be executed upon the appointment of a new CEO or member of the Security Committee, shall be submitted to the NRC within 30 days of the execution of the certificate.

(m) Insurance and Indemnity

1. Prior to 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 licensees shall provide evidence to the Director of NRO, or the Director's designee, that they would have the ability to pay into the industry self-insurance program 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:
  - (i) Surety bond,
  - (ii) Letter of credit,
  - (iii) Revolving credit/term loan arrangement,
  - (iv) Maintenance of escrow deposits of government securities, or
  - (v) 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.



2. Upon the date of initial fuel load, the licensees shall provide satisfactory documentary evidence to the Director of the Office of Nuclear Reactor Regulation or the Director's designee that they have obtained the appropriate amount of insurance required of licensees pursuant to 10 CFR 50.54(w).
- E. The licensees 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

- (a) 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), the licensees are exempt from the following portions of the regulations: (a) Paragraph (f)(2)(iv) of 10 CFR 50.34 – Separate Plant Safety Parameter Display Console; (b) Paragraph (f)(2)(viii) of 10 CFR 50.34 – Post-Accident Sampling for Boron, Chloride, and Dissolved Gasses; (c) Paragraph (f)(3)(iv) of 10 CFR 50.34 – Dedicated Containment Penetration.

- (b) For the reasons set forth below, the following specific exemption which is outside the scope of the design certification rule referenced in the application is granted:

The licensees are 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 the licensees meet the requirements of 10 CFR 70.17 and 74.7 as discussed in Section 1.11S.3 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.

- (c) For the reasons set forth below, the following specific exemption which is outside the scope of the design certification rule referenced in the application is granted:

As discussed in Sections 1.5S.2 and 1.11S.5 of the FSER associated with this license, the licensees are exempt from the requirements of 10 CFR 50.33(f), Appendix C to 10 CFR Part 50, and 10 CFR 52.77 (to the extent that 10 CFR 52.77 requires compliance with 10 CFR 50.33(f)) because the licensees meet the 10 CFR Part 70 standard of "appears to be financially qualified" in accordance with the "Financial Qualifications for Reactor Licensing Rulemaking; Draft Regulatory Basis Document," dated June 2015. The exemption meets the requirements of 10 CFR 52.7 because it is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Additionally, special circumstances are present because there is a material circumstance not considered when the regulations were

adopted for which it would be in the public interest to grant an exemption (10 CFR 50.12(a)(vi)) as discussed in the FSER associated with this license.

- (d) For the reasons set forth below, the following exemptions associated with departures from Tier 1 of the U.S. Advanced Boiling Water Reactor (ABWR) design certification are granted:

The Tier 1 departures listed below meet the requirements of 10 CFR Part 52, Appendix A, Section VIII.A.4 and the regulations referenced therein because as discussed in Section 1.11S 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 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 Section 1.11S 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 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:

STD DEP T1 1.1-1	Definition of As-Built
STP DEP T1 2.5-1	Elimination of New Fuel Storage Racks from the New Fuel Vault
STD DEP T1 2.10-1	Addition of Condensate Booster Pumps
STD DEP T1 2.12-1	Electrical Breaker/Fuse Coordination and Low Voltage Testing
STD DEP T1 2.14-1	Hydrogen Recombiner Requirements Elimination
STD DEP T1 2.15-1	Re-classification of Radwaste Building Substructure from Seismic Category 1 to Non-Seismic
STD DEP T1 2.15-2	Reactor Building Safety related Diesel Generator (RBSRDG) Heating Ventilation and Air Conditioning (HVAC)
STP DEP T1 5.0-1	Site Parameters

- The special circumstances shown under 10 CFR 50.12(a)(2) outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

The Tier 1 departures listed below meet the requirements of 10 CFR Part 52, Appendix A Section VIII.A.4 and the regulations referenced therein because as discussed in Section 1.11S of the final safety evaluation report associated with this license:

- The Tier 1 departures will not significantly decrease the level of safety otherwise provided by the design;
- The Tier 1 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 Section 1.11S of the final safety evaluation report for this license, the staff finds that there are special circumstances under 10 CFR 50.12(a)(2)(iv) for the following Tier 1 exemptions because the exemption would result in a benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption:

STD DEP T1 2.1-2	Reactor Pressure Vessel System Reactor Internal Pump (RIP) Motor Casing Cladding
STD DEP T1 2.2-1	Control Systems Changes to Inputs, Tests, and Hardware
STD DEP T1 2.3-1	Deletion of Main Steam Isolation Valves (MSIVs) Closure and Scram on High Radiation
STD DEP T1 2.4-1	Residual Heat Removal System and Spent Fuel Pool Cooling
STD DEP T1 2.4-2	Feedwater Line Break Mitigation
STD DEP T1 2.4-3	Reactor Core Isolation Cooling (RCIC) Turbine/Pump
STD DEP T1 2.4-4	Residual Heat Removal (RHR), High Pressure Core Flooder (HPCF) and RCIC Turbine/Pump Net Positive Suction Head (NPSH)
STD DEP T1 2.12-2	Instrumentation and Control (I&C) Power Divisions
STD DEP T1 3.4-1	Safety-Related I&C Architecture

- The special circumstances shown under 10 CFR 50.12(a)(2) outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

(c) For the reasons set forth below, the following exemptions associated with departures from the generic technical specifications in the ABWR design certification are granted:

The generic technical specification departures listed below meet the requirements of 10 CFR Part 52, Appendix A, Section VIII.C.4, and the regulations referenced therein because as discussed in Section 1.11S of the FSER associated with this license:

- The generic technical specification 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; and
- Special circumstances are present as required by 10 CFR 50.12(a)(2); specifically, as discussed in Section 1.11S 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 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:

STD DEP 7.3-12	Leak Detection and Isolation System Sump Monitoring
STD DEP 7.7-18	Rod Control and Information System Operator Information
STD DEP 8.3-1	Plant Medium Voltage Electrical System Design
STP DEP 8.3-3	Electrical Site Specific Power and Other Changes
STD DEP 16.2-1	Safety Limit Violation
STD DEP 16.3-78	Limiting Condition for Operation (LCO) 3.3.6.1, Post Accident Monitoring Instrumentation
STD DEP 16.5-1	Unit Responsibility
STD DEP 16.5-2	Unit Staff
STD DEP 16.5-3	Technical Specification Bases Control Program
STD DEP 16.5-4	Reporting Requirements
STD DEP 16.5-5	Unit Staff – Working Hours
STD DEP 16.5-6	Inservice Testing Program
STD DEP 16.2-2	Safety Limits
STD DEP 16.3-1	Section 3.0, LCO Applicability
STD DEP 16.3-2	LCO 3.0 and Surveillance Requirements (SRs)

STD DEP 16.3-4	LCO 3.1.1, Shutdown Margin (SDM)
STD DEP 16.3-5	LCO 3.4.1, RIPs –Operating
STD DEP 16.3-6	LCO 3.4.1, RIPs –Operating
STD DEP 16.3-7	LCO 3.4.2, Safety/Relief Valves (S/RVs)
STD DEP 16.3-8	LCO 3.4.9, Reactor Coolant System (RCS) Pressure/Temperature (P/T) Limits
STD DEP 16.3-9	LCO 3.4.7, Alternate Decay Heat Removal
STD DEP 16.3-10	LCO 3.5.1, Emergency Core Cooling System (ECCS) – Operating
STD DEP 16.3-11	RCS Operational LEAKAGE
STD DEP 16.3-13	LCO 3.9.8, RHR – “Low Water Level” Applicability
STD DEP 16.3-14	LCO 3.9.2, Refuel Position Rod – Out Interlock
STD DEP 16.3-15	LCO 3.9.5, Control Rod OPERABILITY – Refueling
STD DEP 16.3-16	LCO 3.7.1, Reactor Building Cooling Water (RCW) System, Reactor Service Water (RSW) System, and Ultimate Heat Sink (UHS) – Operating,  LCO 3.7.2, RCW/RSW System and UHS – Shutdown and  LCO 3.7.3, RCW/RSW System and UHS – Refueling
STD DEP 16.3-17	LCO 3.10.12, Multiple Control Rod Drive Subassembly Removal – Refueling
STD DEP 16.3-18	LCO 3.10.8 SDM Test – Refueling
STD DEP 16.3-19	LCO 3.10.4, Control Rod Withdrawal – Cold Shutdown
STD DEP 16.3-20	LCO 3.10.4, Control Rod Withdrawal – Cold Shutdown
STD DEP 16.3-21	LCO 3.10.5, Control Rod Drive (CRD) Removal – Refueling
STD DEP 16.3-23	LCO 3.10.5, CRD Removal – Refueling

STD DEP 16.3-24	LCO 3.10.3, Control Rod Withdrawal – Hot Shutdown Bases
STD DEP 16.3-25	LCO 3.9.1, Refueling Equipment Interlocks
STD DEP 16.3-26	LCO 3.10.2, Reactor Mode Switch Interlock Testing
STD DEP 16.3-27	LCO 3.10.2, Reactor Mode Switch Interlock Testing
STD DEP 16.3-28	LCO 3.10.1, In-Service Leak and Hydrostatic Testing Operation
STD DEP 16.3-29	LCO 3.6.4.1, Secondary Containment
STD DEP 16.3-30	LCO 3.6.4.1, Secondary Containment
STD DEP 16.3-31	LCO 3.6.4.3, Standby Gas Treatment (SGT) System
STD DEP 16.3-32	LCO 3.6.2.1, Suppression Pool Average Temperature
STD DEP 16.3-33	LCO 3.6.2.1, Suppression Pool Average Temperature
STD DEP 16.3-34	LCO 3.6.1.6, Wetwell-to-Drywell Vacuum Breakers
STD DEP 16.3-35	LCO 3.9.6, Reactor Pressure Vessel (RPV) Water Level
STD DEP 16.3-36	LCO 3.6.2.3, RHR Suppression Pool Cooling
STD DEP 16.3-37	LCO 3.6.2.3, RHR Suppression Pool Cooling
STD DEP 16.3-40	LCO 3.8.2, Alternating Current (AC) Sources – Shutdown
STD DEP 16.3-41	LCO 3.8.2, AC Sources – Shutdown
STD DEP 16.3-42	LCO 3.8.4, Direct Current (DC) Sources – Operating
STD DEP 16.3-43	LCO 3.6.1.1, Primary Containment
STD DEP 16.3-45	LCO 3.6.1.1, Primary Containment
STD DEP 16.3-46	LCO 3.7.2, RCW, RSW, and UHS Applicability
STD DEP 16.3-47	LCO 3.7.4, Control Room Habitability Area (CRHA) – Emergency Filtration (EF) System

STD DEP 16.3-48	LCO 3.7.4, CRHA – Emergency Filtration (EF) System
STD DEP 16.3-49	LCO 3.8.1, AC – Sources-Operating
STD DEP 16.3-50	LCO 3.3.1.4, Engineered Safeguards Features (ESF) Actuation Instrumentation
STD DEP 16.3-51	LCO 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air
STD DEP 16.3-52	LCO 3.8.8, Inverters – Shutdown
STD DEP 16.3-55	LCO 3.3.4.1, Anticipated Transient Without Scram (ATWS) and End-of-Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation
STD DEP 16.3-57	LCO 3.3.1.2, Reactor Protection System (RPS) and MSIV Actuation
STD DEP 16.3-58	LCO 3.8.6, Battery Cell Parameters
STD DEP 16.3-59	LCO 3.3.6.2, Remote Shutdown System
STD DEP 16.3-60	LCO 3.3.6.2, Remote Shutdown System
STD DEP 16.3-61	LCO 3.3.7.1, CRHA EF System Instrumentation
STD DEP 16.3-62	LCO 3.3.8.1, Electric Power Monitoring
STD DEP 16.3-63	LCO 3.3.8.2, Reactor Coolant Temperature Monitoring – Shutdown
STD DEP 16.3-64	LCO 3.3.5.1, Control Rod Block Instrumentation
STD DEP 16.3-65	LCO 3.3.5.1, Control Rod Block Instrumentation
STD DEP 16.3-66	LCO 3.3.5.1, Control Rod Block Instrumentation
STD DEP 16.3-67	LCO 3.3.5.1, Control Rod Block Instrumentation
STD DEP 16.3-69	LCO 3.6.1.2, Primary Containment Air Locks
STD DEP 16.3-70	LCO 3.6.1.2, Primary Containment Air Locks
STD DEP 16.3-73	LCO 3.6.1.3, Primary Containment Isolation Valves (PCIVs)
STD DEP 16.3-74	LCO 3.6.1.3, PCIVs
STD DEP 16.3-75	LCO 3.7.6, Main Condenser Offgas

STD DEP 16.3-76	LCO 3.7.5, CRHA – Air Conditioning System
STD DEP 16.3-77	LCO 3.3.6.1, Post Accident Monitoring (PAM) Instrumentation
STD DEP 16.3-78	LCO 3.3.6.1, PAM Instrumentation
STD DEP 16.3-80	LCO 3.8.1, AC Sources – Operating
STD DEP 16.3-81	LCO 3.3.1.2, RPS and MSIV Actuation
STD DEP 16.3-82	LCO 3.3.1.2, RPS and MSIV Actuation
STD DEP 16.3-83	LCO 3.3.1.3, Standby Liquid Control (SLC) and Feedwater Runback (FWRB) Actuation
STD DEP 16.3-84	LCO 3.3.1.1, Safety System Logic Controller (SSLC) Sensor Instrumentation
STD DEP 16.3-85	LCO 3.3.1.1, SSLC Sensor Instrumentation
STD DEP 16.3-86	LCO 3.3.1.4, ESF Actuation Instrumentation
STD DEP 16.3-87	LCO 3.3.1.4, ESF Actuation Instrumentation
STD DEP 16.3-91	LCO 3.3.1.1, SSLC Sensor Instrumentation
STD DEP 16.3-92	LCO 3.3.1.1, SSLC Sensor Instrumentation
STD DEP 16.3-93	LCO 3.3.1.1, SSLC Sensor Instrumentation
STD DEP 16.3-94	LCO 3.3.1.4, ESF Actuation Instrumentation
STD DEP 16.3-95	LCO 3.2.3 Linear Heat Generation Rate (LHGR) (Non-GE Fuel)
STD DEP 16.3-96	LCO 3.4.1, RIPs Operating
STD DEP 16.3-97	Technical Specification Editorial Changes
STD DEP 16.3-98	SR 3.3.1.1.4, DIVISION FUNCTIONAL TEST for Source Range Neutron Monitors (SRNMs)
STD DEP 16.3-99	Bases Allowable Value Misstatements
STD DEP 16.3-100	Setpoint Control Program Implementation
STD DEP 16.3-101	Bases LCO 3.3.5.1, REQUIRED ACTIONS A.1 and C.1



STD DEP 16.3-102	Bases SR 3.3.5.1.6
STD DEP 16.3-103	SR 3.8.1.15, Note 1
STD DEP 16.3-104	SR 3.3.4.2.2 - CHANNEL FUNCTIONAL TEST – Feedwater Pump and Main Turbine Trip Instrumentation
STD DEP 16.3-105	LCO 3.3.1.1, ACTIONS Q.1, Q.2.1 and Q.2.2; LCO 3.3.1.2, ACTIONS L.1, L.2.1 and L.2.2, and LCO 3.6.1.3, ACTIONS A.1 and A.2 - Operation with an Isolated Main Steamline

The generic technical specification departures listed below meet the requirements of 10 CFR Part 52, Appendix A, Section VIII.C.4, and the regulations referenced therein because as discussed in Section 1.11S of the FSER associated with this license:

- The generic technical specification 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; and
- Special circumstances are present as required by 10 CFR 50.12(a)(2); specifically, as discussed in Section 1.11S of the final safety evaluation report for this license, the staff finds that there are special circumstances under 10 CFR 50.12(a)(2)(iv) for the following Tier 1 exemptions because the exemption would result in a benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption:

STD DEP 6.2-2	Containment Analysis
STD DEP 7.3-17	Automatic Depressurization System (ADS) Electrical Interface
STD DEP 7.5-1	Post-Accident Monitoring (Drywell Pressure)
STD DEP 7.7-10	Control Rod Drive Control System Interfaces
STD DEP 10.4-5	Condensate and Feedwater System

- G. NINA (before the 10 CFR 52.103(g) finding) and STPNOC (after the 10 CFR 52.103(g) finding) 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 L. 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

### SOUTH TEXAS PROJECT UNIT 4

#### TECHNICAL SPECIFICATIONS

The unit-specific technical specifications from the STP 3 and 4 COL application, Part 4, will be included in Appendix A of the STP 4 combined license. These technical specifications will exceed 300 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/south-texas-project/documents.html#application>

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APPENDIX B

TO FACILITY COMBINED LICENSE NO. [XXX-XX]

SOUTH TEXAS PROJECT UNIT 4

NUCLEAR INNOVATION NORTH AMERICA LLC

STP NUCLEAR OPERATING COMPANY

NINA TEXAS 4 LLC

CITY OF SAN ANTONIO, TEXAS, ACTING BY AND THROUGH THE CITY PUBLIC  
SERVICE BOARD

DOCKET NO. 52-013

ENVIRONMENTAL PROTECTION PLAN

(NONRADIOLOGICAL)

*[INSERT ACTUAL DATE OF LICENSE ISSUANCE]*

TABLE OF CONTENTS

- 1.0 Objective of the Environmental Protection Plan
- 2.0 Environmental Protection Issues
  - 2.1 Aquatic Resources Issues
  - 2.2 Terrestrial Resources Issues
  - 2.3 Endangered Species Act of 1973
- 3.0 Consistency Requirements
- 4.0 Administrative Procedures
  - 4.1 Plant Reporting Requirements: Non-routine Reports
  - 4.2 Review and Audit
  - 4.3 Records Retention
  - 4.4 Changes in Environmental Protection Plan

## 1.0 Objective of the Environmental Protection Plan

The Environmental Protection Plan (EPP) objective is to ensure compliance with Biological Opinions issued pursuant to the Endangered Species Act of 1973, as amended (ESA), and to ensure that the Commission 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 February 2011, the staff considered the environmental impacts associated with the construction and operation of South Texas Project Units 3 and 4. This EPP applies to the licensees' actions affecting the protected environmental resources evaluated in the FEIS and the licensees' actions that may affect any newly discovered protected environmental resources.

### 2.1 Aquatic Resources Issues

Federal agencies other than the U.S. Nuclear Regulatory Commission (NRC), such as the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE), 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). Water quality environmental concerns identified in the FEIS, including effluent limitations, monitoring requirements, and mitigation measures, are regulated under the licensees' CWA permits, such as National Pollutant Discharge Elimination System (NPDES) 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). The licensees are required to inform the NRC of events or situations concerning aquatic resources pursuant to Title 10 *Code of Federal Regulations* (10 CFR) 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) regulates matters involving migratory birds and their nests in accordance with the Migratory Bird Treaty Act. Activities affecting migratory birds or their nests may require permits under the Migratory Bird Treaty Act. The FWS also regulates matters involving the protection and taking of bald and golden eagles in accordance with the Bald and Golden Eagle Protection Acts. The licensees shall inform NRC of any events or situations concerning terrestrial resources pursuant to 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. If a Biological Opinion is issued to the NRC in accordance with ESA Section 7 prior to the issuance of the combined license, the licensees shall comply with the Terms and Conditions set forth in the Incidental Take Statement of the Biological Opinion. 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, the licensees shall inform the NRC within four hours of discovery. Similarly, the licensees 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. These notifications shall be made to the NRC Operations Center via the Emergency Notification System. The licensees shall provide any necessary information to the NRC if the NRC initiates or reinitiates consultation under the ESA.

Unusual Event - The licensees 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 the licensees' assessment of causal relation to plant construction or operation.

## 3.0 Consistency Requirements

The licensees 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 at the same time it is submitted to the permitting agency. The licensees 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 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 the 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

The licensees shall provide for review and audit of compliance with Section 2.3 of the 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.

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

APPENDIX C

SOUTH TEXAS PROJECT UNIT 4

INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC)

The ITAAC Master List is a table of unit-specific ITAAC, which are from the U.S. Advanced Boiling Water Reactor (ABWR) DCD and the STP COL application.\* The consolidated set of unit-specific ITAAC will be included in Appendix C of the STP 4 combined license. These unit-specific ITAAC details will exceed 700 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 9, Rev. 12 – <http://www.nrc.gov/reactors/new-reactors/col/south-texas-project/documents.html#application>
- ABWR DCD, Rev. 4 – <http://www.nrc.gov/reactors/new-reactors/design-cert/abwr.html#dcd>
- STPNOC Aircraft Impact Assessment (AIA) Amendment DCD, Rev. 3 – <http://www.nrc.gov/reactors/new-reactors/design-cert/amended-abwr/documents/app-2010.html>

Section No.	Tier 1	Source
1.	Introduction	DCD4
1.1	Definitions and General Provisions	DCD4
1.2	Figure Legend	DCD4
1.3	Table Legend	DCD4
1.4	Design Acceptance Criteria	DCD4

No.	ITAAC No.	Plant System ITAAC	Source
1	2.1.01d.01	Reactor Pressure Vessel System	DCD4
2	2.1.01d.02		DCD4
3	2.1.01d.03		DCD4
4	2.1.01d.04		DCD4
5	2.1.01d.05		DCD4
6	2.1.01d.06		DCD4
7	2.1.01d.07		DCD4
8	2.1.02.01	Nuclear Boiler System	DCD4
9	2.1.02.02		DCD4
10	2.1.02.03		DCD4
11	2.1.02.04		DCD4
12	2.1.02.05		DCD4
13	2.1.02.06		DCD4
14	2.1.02.07		DCD4
15	2.1.02.08		DCD4
16	2.1.02.09a		DCD4

\* Some strikeout text appears in the tables below. Strikeout text represents plant-specific modifications to or deletions of ITAAC in the certified design.



17	2.1.02.09b		DCD4
18	2.1.02.10		DCD4
19	2.1.02.11		DCD4
20	2.1.02.12		DCD4
21	2.1.02.13		DCD4
22	2.1.02.14		DCD4
23	2.1.02.15		DCD4
24	2.1.02.16		DCD4
25	2.1.02.17		DCD4
26	2.1.02.18		DCD4
27	2.1.02.19		DCD4
28	2.1.02.20		DCD4
29	2.1.02.21		DCD4
30	2.1.02.22		DCD4
31	2.1.03.01	Reactor Recirculation System	DCD4
32	2.1.03.02		DCD4
33	2.1.03.03		DCD4
34	2.1.03.04		DCD4
35	2.1.03.05		DCD4
36	2.1.03.06		DCD4
37	2.2.01.01	Rod Control and Information System	DCD4
38	2.2.01.02		DCD4
39	2.2.01.03		DCD4
40	2.2.01.04		DCD4
41	2.2.01.05		DCD4
42	2.2.01.06		DCD4
43	2.2.01.07		DCD4
44	2.2.01.08a		DCD4
45	2.2.01.08b		DCD4
46	2.2.01.08c		DCD4
47	2.2.01.09		DCD4
48	2.2.01.10		DCD4
49	C.2.2.01.11		DCD4/COL12
50	2.2.02.01	Control Rod Drive System	DCD4
51	2.2.02.02		DCD4
52	2.2.02.03		DCD4
53	2.2.02.04		DCD4
54	2.2.02.05		DCD4
55	2.2.02.06		DCD4
56	2.2.02.07		DCD4
57	2.2.02.08		DCD4
58	2.2.02.09		DCD4
59	2.2.02.10		DCD4
60	2.2.02.11		DCD4
61	2.2.02.12		DCD4
62	2.2.03.01	Feedwater Control System	DCD4
63	2.2.03.02		DCD4
64	2.2.03.03		DCD4
65	2.2.03.04		DCD4
66	2.2.03.05		DCD4

67	2.2.03.06		DCD4
68	2.2.03.07		DCD4
69	2.2.03.08		DCD4
70	2.2.04.01	Standby Liquid Control System	DCD4
71	2.2.04.02		DCD4
72	2.2.04.03a		DCD4
73	2.2.04.03b		DCD4
74	2.2.04.03c		DCD4
75	2.2.04.03d		DCD4
76	2.2.04.03e		DCD4
77	2.2.04.03f		DCD4
78	2.2.04.03g.01		DCD4
79	2.2.04.03g2		DCD4
80	2.2.04.03g3		DCD4
81	2.2.04.03h		DCD4
82	2.2.04.03i		DCD4
83	2.2.04.04		DCD4
84	2.2.04.05		DCD4
85	2.2.04.06		DCD4
86	2.2.04.07		DCD4
87	2.2.05.01	Neutron Monitoring System	DCD4
88	2.2.05.02		DCD4
89	2.2.05.03		DCD4
90	2.2.05.04		DCD4
91	2.2.05.05		DCD4
92	2.2.05.06		DCD4
93	2.2.05.07		DCD4
94	2.2.05.08		DCD4
95	2.2.05.09		DCD4
96	2.2.05.10		DCD4
97	2.2.05.11		DCD4
98	2.2.06.01	Remote Shutdown System	DCD4
99	2.2.06.02		DCD4
100	2.2.06.03		DCD4
101	2.2.06.04a		DCD4
102	2.2.06.04b		DCD4
103	2.2.06.04c		DCD4
104	2.2.06.04d		DCD4
105	2.2.06.04e		DCD4
106	2.2.06.04f		DCD4
107	2.2.06.04g		DCD4
108	2.2.06.04h		DCD4
109	2.2.06.05		DCD4
110	2.2.07.01	Reactor Protection System	DCD4
111	2.2.07.02		DCD4
112	2.2.07.03		DCD4
113	2.2.07.04		DCD4
114	2.2.07.05		DCD4
115	2.2.07.06		DCD4
116	2.2.07.07		DCD4

117	2.2.08.01	Recirculation Flow Control System	DCD4
118	2.2.08.02		DCD4
119	2.2.08.03a		DCD4
120	2.2.08.03b		DCD4
121	2.2.08.03c		DCD4
122	2.2.08.03d		DCD4
123	2.2.08.03e		DCD4
124	2.2.08.04a		DCD4
125	2.2.08.04b		DCD4
126	2.2.08.04c		DCD4
127	2.2.08.05a		DCD4
128	2.2.08.05b		DCD4
129	2.2.08.06		DCD4
130	2.2.08.07		DCD4
131	2.2.08.08	DCD4	
132	2.2.09.01	Automatic Power Regulator System	DCD4
133	2.2.09.02		DCD4
134	2.2.10.01	Steam Bypass and Pressure Control System	DCD4
135	2.2.10.02		DCD4
136	2.2.10.03		DCD4
137	C.2.2.11.01	Process Computer System	DCD4/COL12
138	C.2.2.11.02		DCD4/COL12
139	C.2.2.11.03		DCD4/COL12
140	2.3.01.01	Process Radiation Monitoring System	DCD4
141	2.3.01.02		DCD4
142	2.3.01.03		DCD4
143	2.3.01.04		DCD4
144	2.3.01.05		DCD4
145	2.3.01.06		DCD4
146	2.3.01.07		DCD4
147	2.3.01.08		DCD4
148	2.3.01.09		DCD4
149	2.3.01.10		DCD4
150	2.3.01.11		DCD4
151	2.3.01.12		DCD4
152	2.3.01.13		DCD4
153	2.3.02.01	Area Radiation Monitoring System	DCD4
154	2.2.03.02		DCD4
155	2.2.03.03		DCD4
156	2.3.03.01	Containment Atmospheric Monitoring System	DCD4
157	C.2.3.03.02		DCD4/COL12
158	2.3.03.03		DCD4
159	C.2.3.03.03a		DCD4/COL12
160	C.2.3.03.03b		DCD4/COL12
161	2.1.03.04		DCD4
162	2.4.01.01	Residual Heat Removal System	DCD4
163	2.4.01.02		DCD4
164	2.4.01.03a		DCD4
165	2.4.01.03b		DCD4
166	2.4.01.03c		DCD4

167	2.4.01.03d		DCD4
168	2.4.01.03e		DCD4
169	2.4.01.03f		DCD4
170	2.4.01.03g		DCD4
171	2.4.01.04a		DCD4
172	2.4.01.04b		DCD4
173	2.4.01.04c		DCD4/COL12
174	2.4.01.05a		DCD4
175	2.4.01.05b		DCD4
176	2.4.01.06a		DCD4
177	2.4.01.06b		DCD4
178	2.4.01.06c		DCD4
179	2.4.01.06d		DCD4
180	2.4.01.06e		DCD4
181	C.2.4.01.07		DCD4/COL12
182	2.4.01.08a		DCD4
183	2.4.01.08b		DCD4
184	2.4.01.09		DCD4
185	2.4.01.10		DCD4
186	2.4.01.11		DCD4
187	2.4.01.12		DCD4
188	2.4.01.13a		DCD4
189	2.4.01.13b		DCD4
190	2.4.01.14		DCD4
191	2.4.02.01	High Pressure Core Flooder System	DCD4
192	2.4.02.02		DCD4
193	2.4.02.03a		DCD4
194	2.4.02.03b		DCD4
195	2.4.02.03c		DCD4
196	2.4.02.03d		DCD4
197	2.4.02.03e		DCD4
198	2.4.02.03f		DCD4
199	C.2.4.02.03g		DCD4/COL12
200	2.4.02.03h		DCD4
201	2.4.02.03i		DCD4
202	2.4.02.03j		DCD4
203	2.4.02.03k		DCD4
204	2.4.02.03l		DCD4
205	2.4.02.03m		DCD4
206	2.4.02.03n		DCD4
207	2.4.02.03o		DCD4
208	2.4.02.03p		DCD4
209	2.4.02.04		DCD4
210	2.4.02.05		DCD4
211	2.4.02.06		DCD4
212	2.4.02.07		DCD4
213	2.4.02.08		DCD4
214	2.4.02.09		DCD4
215	2.4.02.10		DCD4
216	2.4.03.01	Leak Detection and Isolation System	DCD4

217	2.4.03.02		DCD4
218	2.4.03.03		DCD4
219	2.4.03.04		DCD4
220	2.4.03.05		DCD4
221	2.4.03.06		DCD4
222	2.4.03.07		DCD4
223	2.4.03.08		DCD4
224	2.4.04.01	Reactor Core Isolation Cooling System	DCD4
225	2.4.04.02		DCD4
226	2.4.04.03a		DCD4
227	2.4.04.03b		DCD4
228	C.2.4.04.03c		DCD4/COL12
229	2.4.04.03d		DCD4
230	C.2.4.04.03e		DCD4/COL12
231	C.2.4.04.03f		DCD4COL12
232	2.4.04.03g		DCD4
233	2.4.04.03h		DCD4
234	C.2.4.04.03i		DCD4/COL12
235	C.2.4.04.03j		DCD4/COL12
236	2.4.04.03k		DCD4
237	2.4.04.03l		DCD4
238	2.4.04.04		DCD4
239	2.4.04.05		DCD4
240	2.4.04.06		DCD4
241	2.4.04.07	DCD4	
242	2.4.04.08	DCD4	
243	2.4.04.09a	DCD4	
244	2.4.04.09b	DCD4	
245	2.4.04.10	DCD4	
246	C.2.5.05.01	Refueling Equipment	COL12
247	C.2.5.05.02a		COL12
248	C.2.5.05.02b		COL12
249	C.2.5.05.02c		COL12
250	C.2.5.06.01	Fuel Storage Facility	DCD4/COL12
251	C.2.5.06.02		DCD4/COL12
252	C.2.5.06.03		DCD4/COL12
253	C.2.5.06.04		DCD4/COL12
254	2.6.01.01	Reactor Water Cleanup System	DCD4
255	2.6.01.02		DCD4
256	2.6.01.03		DCD4
257	2.6.01.04		DCD4
258	2.6.01.05a		DCD4
259	2.6.01.05b		DCD4
260	2.6.01.06		DCD4
261	2.6.02.01	Fuel Pool Cooling and Cleanup System	DCD4
262	2.6.02.02		DCD4
263	2.6.02.03		DCD4
264	2.6.02.04		DCD4
265	2.6.02.05		DCD4
266	2.6.02.06		DCD4

267	2.6.03.01	Suppression Pool Cleanup System	DCD4
268	2.6.03.02		DCD4
269	2.6.03.03		DCD4
270	2.6.03.04		DCD4
271	2.6.03.05a		DCD4
272	2.6.03.05b		DCD4
273	2.7.01b.01	Main Control Room Panels	DCD4
274	2.7.01b.02		DCD4
275	2.7.03.01	Local Control Panels	DCD4
276	2.7.03.02		DCD4
277	C.2.7.05.01	Essential Multiplexing System–Data Communication	DCD4/COL12
278	C.2.7.05.02		DCD4/COL12
279	C.2.7.05.03		DCD4/COL12
280	C.2.7.05.04		DCD4/COL12
281	C.2.7.05.05		DCD4/COL12
282	C.2.7.05.06		DCD4/COL12
283	C.2.7.05.07		DCD4/COL12
284	2.8.04.01	Loose Parts Monitoring System	DCD4
285	2.8.04.02		DCD4
286	2.8.04.03		DCD4
287	2.8.04.04		DCD4
288	2.9.01.01	Radwaste System	DCD4
289	2.9.01.02		DCD4
290	2.9.01.03		DCD4
291	2.9.01.04		DCD4
292	2.9.01.05		DCD4
293	2.1.09.06		DCD4
294	2.1.09.07		DCD4
295	2.10.01.01		Main Steam System
296	2.10.01.02	DCD4	
297	2.10.01.03	DCD4	
298	2.10.01.04	DCD4	
299	2.10.01.05	DCD4	
300	2.10.02a.01	Condensate and Feedwater System	DCD4
301	2.10.02a.02		DCD4
302	2.10.02a.03		DCD4
303	2.10.2b.01	Main Condenser Evacuation system	DCD4
304	2.10.2b.02		DCD4
305	2.10.2b.03		DCD4
306	2.10.2b.04		DCD4
307	2.10.04.01	Condensate Purification System	DCD4
308	2.10.04.02		DCD4
309	2.10.07.01	Main Turbine System	DCD4
310	2.10.07.02		DCD4
311	2.10.07.03		DCD4
312	2.10.07.04		DCD4
313	2.10.07.05		DCD4
314	2.10.07.06		DCD4
315	2.10.07.07		DCD4
316	2.10.07.08		DCD4

317	2.10.09.01	Turbine Gland Seal System	DCD4
318	2.10.09.02		DCD4
319	2.10.13.01	Turbine Bypass System	DCD4
320	2.10.13.02		DCD4
321	2.10.13.03		DCD4
322	2.10.21.01	Main Condenser System	DCD4
323	2.10.21.02		DCD4
324	2.10.21.03		DCD4
325	2.10.22.01	Off-Gas System	DCD4
326	2.10.22.02		DCD4
327	2.10.22.03		DCD4
328	2.10.22.04		DCD4
329	2.10.22.05		DCD4
330	2.10.22.06		DCD4
331	2.10.23.01	Circulating Water System	DCD4
332	2.10.23.02		DCD4
333	2.10.23.03		DCD4
334	2.11.01.01	Makeup Water (Purified) System	DCD4
335	2.11.01.02		DCD4
336	2.11.02.01	Makeup Water (Condensate) (MUWC) System	DCD4
337	2.11.02.02		DCD4
338	2.11.02.03		DCD4
339	2.11.02.04		DCD4
340	2.11.02.05		DCD4
341	2.11.3d.01	Reactor Building Cooling Water (RCW) System	DCD4
342	2.11.3d.02		DCD4
343	2.11.3d.03		DCD4
344	2.11.3d.04		DCD4
345	2.11.3d.05		DCD4
346	2.11.3d.06		DCD4
347	2.11.3d.07		DCD4
348	2.11.3d.08		DCD4
349	2.11.3d.09		DCD4
350	2.11.3d.10		DCD4
351	2.11.3d.11		DCD4
352	2.11.3d.12		DCD4
353	2.11.3d.13		DCD4
354	2.11.04.01	Turbine Building Cooking Water System	DCD4
355	2.11.05.01	HVAC Normal Cooling Water (HNCW) System	DCD4
356	2.11.05.02		DCD4
357	2.11.05.03		DCD4
358	2.11.05.04		DCD4
359	2.11.05.05		DCD4
360	2.11.05.06		DCD4
361	2.11.06.01	HVAC Emergency Cooling Water System	DCD4
362	2.11.06.02		DCD4
363	2.11.06.03		DCD4
364	2.11.06.04		DCD4
365	2.11.06.05		DCD4
366	2.11.06.06		DCD4

367	2.11.06.07		DCD4
368	2.11.06.08		DCD4
369	2.11.06.09		DCD4
370	2.11.09.01	Reactor Service Water System	DCD4
371	2.11.09.02		DCD4
372	2.11.09.03		DCD4
373	2.11.09.04		DCD4
374	2.11.09.05		DCD4
375	2.11.09.06		DCD4
376	2.11.09.07		DCD4
377	2.11.09.08		DCD4
378	2.11.09.09		DCD4
379	2.11.10.01	Turbine Service Water System	DCD4
380	2.11.11.01	Station Service Air System	DCD4
381	2.11.11.02		DCD4
382	2.11.11.03		DCD4
383	2.11.12.01	Instrument Air System	DCD4
384	2.11.12.02		DCD4
385	2.11.12.03		DCD4
386	2.11.12.04		DCD4
387	2.11.12.05a		DCD4
388	2.11.12.05b		DCD4
389	2.11.13.01	High Pressure Nitrogen Gas Supply System	DCD4
390	2.11.13.02		DCD4
391	2.11.13.03		DCD4
392	2.11.13.04		DCD4
393	2.11.13.05		DCD4
394	2.11.13.06		DCD4
395	2.11.13.07		DCD4
396	2.11.13.08		DCD4
397	2.11.13.09a		DCD4
398	2.11.13.09b		DCD4
399	2.11.20.01	Sampling System	DCD4
400	2.11.20.02		DCD4
401	2.11.23.01	Potable and Sanitary Water System	DCD4
402	2.11.23.02		DCD4
403	2.11.24.01	Alternate Feedwater Injection System	AIA3
404	2.11.24.02		AIA3
405	2.11.24.03		AIA3
406	2.11.24.04		AIA3
407	2.11.24.05		AIA3
408	2.11.24.06		AIA3
409	2.11.24.07		AIA3
410	2.11.24.08		AIA3
411	2.11.24.09		AIA3
412	2.11.24.10		AIA3
413	2.11.24.11		AIA3
414	2.11.24.12		AIA3
415	2.12.01.01	Electric Power Distribution System	DCD4
416	2.12.01.02		DCD4



417	2.12.01.03		DCD4
418	2.12.01.04		DCD4
419	2.12.01.05		DCD4
420	2.12.01.06		DCD4
421	2.12.01.07		DCD4
422	2.12.01.08		DCD4
423	2.12.01.09a		DCD4
424	2.12.01.09b		DCD4
425	2.12.01.10		DCD4
426	C.2.12.01.11		DCD4/COL12
427	2.12.01.12		DCD4
428	2.12.01.13		DCD4
429	2.12.01.14		DCD4
430	2.12.01.15		DCD4
431	2.12.01.16		DCD4
432	2.12.01.17		DCD4
433	2.12.01.18		DCD4
434	2.12.01.19		DCD4
435	2.12.01.20		DCD4
436	2.12.01.21		DCD4
437	C.2.12.01.22		DCD4/COL12
438	2.12.01.23		DCD4
439	2.12.01.24		DCD4
440	2.12.01.25		DCD4
441	2.12.10.01	Electrical Wiring Penetration	DCD4
442	2.12.10.02		DCD4
443	2.12.10.03		DCD4
444	2.12.10.04		DCD4
445	2.12.11.01	Combustion Turbine Generator	DCD4
446	2.12.11.02		DCD4
447	2.12.11.03		DCD4
448	2.12.11.04		DCD4
449	2.12.12.01	Direct Current Power Supply	DCD4
450	2.12.12.02		DCD4
451	2.12.12.03		DCD4
452	2.12.12.04		DCD4
453	2.12.12.05		DCD4
454	2.12.12.06		DCD4
455	2.12.12.07a		DCD4
456	2.12.12.07b		DCD4
457	C.2.12.12.08		DCD4/COL12
458	2.12.12.09		DCD4
459	2.12.12.10		DCD4
460	C.2.12.12.11		DCD4/COL12
461	2.12.12.12		DCD4
462	2.12.12.13		DCD4
463	2.12.12.14		DCD4
464	2.12.12.15		DCD4
465	2.12.12.16		DCD4
466	2.12.13.01	Emergency Diesel Generator System	DCD4

467	2.12.13.02		DCD4
468	2.12.13.03		DCD4
469	2.12.13.04		DCD4
470	2.12.13.05		DCD4
471	2.12.13.06		DCD4
472	2.12.13.07		DCD4
473	2.12.13.08		DCD4
474	2.12.13.09		DCD4
475	2.12.13.10		DCD4
476	2.12.13.11		DCD4
477	2.12.13.12		DCD4
478	2.12.14.01	Vital AC Power Supply	DCD4
479	2.12.14.02		DCD4
480	2.12.14.03		DCD4
481	2.12.14.04		DCD4
482	2.12.14.05		DCD4
483	2.12.14.06		DCD4
484	2.12.14.07		DCD4
485	2.12.14.08		DCD4
486	2.12.14.09		DCD4
487	C.2.12.14.10		DCD4/COL12
488	2.12.14.11		DCD4
489	2.12.14.12		DCD4
490	2.13.14.13		DCD4
491	2.12.14.14	DCD4	
492	2.12.14.15	DCD4	
493	2.12.15.01	Instrument and Control Power Supply	DCD4
494	2.12.15.02		DCD4
495	2.12.15.03		DCD4
496	2.12.15.04		DCD4
497	2.12.15.05		DCD4
498	2.12.15.06		DCD4
499	2.12.15.07		DCD4
500	2.12.15.08		DCD4
501	C.2.12.15.09		DCD4/COL12
502	2.12.15.10		DCD4
503	2.12.15.11		DCD4
504	2.12.15.12		DCD4
505	2.12.15.13		DCD4
506	2.12.16.01	Communication System	DCD4
507	2.12.16.02		DCD4
508	2.12.16.03		DCD4
509	2.12.17.01	Lighting and Servicing Power Supply	DCD4
510	2.12.17.02		DCD4
511	2.12.17.03		DCD4
512	2.12.17.04		DCD4
513	2.12.17.05		DCD4
514	2.12.17.06		DCD4
515	2.12.17.07		DCD4
516	2.12.17.08		DCD4

517	2.12.17.09		DCD4
518	2.12.17.10		DCD4
519	2.12.17.11		DCD4
520	2.12.17.12		DCD4
521	2.12.17.13		DCD4
522	2.14.01.01	Primary Containment System	DCD4
523	2.14.01.02		DCD4
524	2.14.01.03		DCD4
525	2.14.01.04		DCD4
526	2.14.01.05		DCD4
527	2.14.01.06		DCD4
528	2.14.01.07		DCD4
529	2.14.01.08		DCD4
530	2.14.01.09		DCD4
531	2.14.01.10		DCD4
532	2.14.01.11		DCD4
533	2.14.01.12		DCD4
534	2.14.01.13		DCD4
535	2.14.01.14		DCD4
536	2.14.04.01	Standby Gas Treatment System	DCD4
537	2.14.04.02		DCD4
538	2.14.04.03		DCD4
539	2.14.04.04a		DCD4
540	2.14.04.04b		DCD4
541	2.14.04.05		DCD4
542	2.14.04.06		DCD4
543	2.14.04.07		DCD4
544	2.14.04.08		DCD4
545	2.14.04.09		DCD4
546	2.14.06.01	Atmospheric Control System	DCD4
547	2.14.06.02		DCD4
548	2.14.06.03		DCD4
549	2.14.06.04		DCD4
550	2.14.06.05		DCD4
551	2.14.06.06		DCD4
552	2.14.06.07		DCD4
553	2.14.06.08		DCD4
554	2.14.06.09		DCD4
555	2.14.07.01	Drywell Cooling System	DCD4
	2.14.08.01	Flammability Control System-Not Used	DCD4/COL12
	2.14.08.02		DCD4/COL12
	2.14.08.03		DCD4/COL12
	2.14.08.04		DCD4/COL12
	2.14.08.05		DCD4/COL12
	2.14.08.06		DCD4/COL12
	2.14.08.07		DCD4/COL12
	2.14.08.08		DCD4/COL12
	2.14.08.09		DCD4/COL12
556	2.14.09.01	Suppression Pool Temperature Monitoring System	DCD4
557	2.14.09.02		DCD4

558	2.14.09.03		DCD4
559	2.14.09.04		DCD4
560	2.14.09.05		DCD4
561	2.15.03.01	Cranes and Hoists	DCD4
562	2.15.03.02		DCD4
563	2.15.03.03		DCD4
564	2.15.05a.01	Control Room Habitability Area HVAC System	DCD4
565	2.15.05a.02		DCD4
566	2.15.05a.03		DCD4
567	2.15.05a.04		DCD4
568	2.15.05a.05a		DCD4
569	2.15.05a.05b		DCD4
570	2.15.05a.05c		DCD4
571	2.15.05a.05d		DCD4
572	2.15.05a.06		DCD4
573	2.15.05a.07		DCD4
574	2.15.05a.08		DCD4
575	2.15.05a.09		DCD4
576	2.15.05a.10		DCD4
577	2.15.05b.01	Control Building Safety-Related Equipment Area HVAC System	DCD4
578	2.15.05b.02		DCD4
579	2.15.05b.03		DCD4
580	2.15.05b.04		DCD4
581	2.15.05b.05		DCD4
582	2.15.05b.06		DCD4
583	2.15.05b.07		DCD4
584	2.15.05c.01	Reactor Building Safety-Related Equipment HVAC System	DCD4
585	2.15.05c.02		DCD4
586	2.15.05c.03		DCD4
	<del>2.15.05c.04</del>		DCD4/COL12
587	2.15.05c.05		DCD4
588	2.15.05c.06		DCD4
589	2.15.05c.07		DCD4
590	2.15.05d.01	Reactor Building Safety-Related Electrical Equipment HVAC System	DCD4
591	2.15.05d.02		DCD4
592	2.15.05d.03		DCD4
593	2.15.05d.04		DCD4
594	2.15.05d.05		DCD4
595	2.15.05d.06		DCD4
596	2.15.05e.01	Reactor Building Safety-Related Diesel Generator HVAC System	DCD4
597	2.15.05e.02		DCD4
598	2.15.05e.03		DCD4
599	2.15.05e.04		DCD4
600	2.15.05e.05		DCD4
601	2.15.05f.01	Reactor Building Secondary Containment HVAC System	DCD4
602	2.15.05f.02		DCD4
603	2.15.05f.03		DCD4

604	2.15.05f.04		DCD4
605	2.15.05f.05		DCD4
606	2.15.05f.06		DCD4
607	2.15.05f.07		DCD4
608	2.15.05f.08		DCD4
609	2.15.05g.01	Reactor Building Containment Supply/Exhaust System	DCD4
610	2.15.05h.01	Reactor Building Main Steam Tunnel HVAC System	DCD4
611	2.15.05i.01	Reactor Building Non-Safety-Related HVAC System	DCD4
612	2.15.05j.01	Reactor Internal Pump ASD Control Panel HVAC System	DCD4
613	2.15.05k.01	Turbine Island HVAC System	DCD4
614	2.15.05l.01	Radwaste Building HVAC System	DCD4
615	2.15.05m.01	Service Building HVAC System	DCD4
616	2.15.05m.02		DCD4
617	2.15.05m.03		DCD4
618	2.15.05m.04		DCD4
619	2.15.06.01	Fire Protection System	DCD4
620	2.15.06.02		DCD4
621	2.15.06.03		DCD4
622	2.15.06.04		DCD4
623	2.15.06.05		DCD4
624	2.15.06.06		DCD4
625	2.15.06.07		DCD4
626	2.15.06.08		DCD4
627	2.15.06.09		DCD4
628	2.15.10.01	Reactor Building	DCD4
629	2.15.10.02		DCD4
630	2.15.10.03		DCD4
631	2.15.10.04		DCD4
632	2.15.10.05		DCD4
633	2.15.10.06		DCD4
634	2.15.10.07		DCD4
635	2.15.10.08a		DCD4
636	2.15.10.08b		DCD4
637	2.15.10.08c		DCD4
638	2.15.10.09		DCD4
639	2.15.10.10		DCD4
640	2.15.10.11	DCD4	
641	2.15.11.01	Turbine Building	DCD4
642	2.15.11.02		DCD4
643	2.15.12.01	Control Building	DCD4
644	2.15.12.02		DCD4
645	2.15.12.03		DCD4
646	2.15.12.04		DCD4
647	2.15.12.05		DCD4
648	2.15.12.06		DCD4
649	2.15.12.07		DCD4
650	2.15.12.08		DCD4
651	2.15.12.09		DCD4
652	2.15.12.10a		DCD4
653	2.15.12.10b		DCD4

654	2.15.12.11		DCD4
655	2.15.12.12		DCD4
656	2.15.12.13		DCD4
657	2.15.12.14		DCD4
658	2.15.13.01	Radwaste Building	DCD4
659	2.15.13.02		DCD4
660	2.15.13.03		DCD4
661	2.15.13.04		DCD4
662	2.15.14.01	Service Building	DCD4
663	2.16.02.01	Oil Storage and Transfer System	DCD4
664	2.16.02.02		DCD4
665	2.16.02.03		DCD4
666	2.16.02.04		DCD4
667	2.16.02.05		DCD4
668	2.16.02.06		DCD4
669	2.16.02.07		DCD4
670	2.16.02.08		DCD4
671	2.16.02.09		DCD4
672	2.16.02.10		DCD4
673	2.17.01.01	Emergency Response Facilities	DCD4
674	2.17.01.02		DCD4
675	2.17.01.03		DCD4
676	2.17.01.04		DCD4
677	2.17.01.05		DCD4
678	3.1.00.1a	Human Factors Engineering	DCD4
679	3.1.00.1b		DCD4
680	3.1.00.2a		DCD4
681	3.1.00.2b		DCD4
682	3.1.00.3a		DCD4
683	3.1.00.3b		DCD4
684	3.1.00.4a		DCD4
685	3.1.00.4b		DCD4
686	3.1.00.5a		DCD4
687	3.1.00.5b		DCD4
688	3.1.00.6a		DCD4
689	3.1.00.6b		DCD4
690	3.1.00.7		DCD4
691	3.2a.00.01	Plant Shielding Design	DCD4
692	3.2a.00.02		DCD4
693	3.2a.00.03		DCD4
694	3.2a.00.04		DCD4
695	3.2b.00.01	Ventilation and Airborne Monitoring	DCD4
696	3.2b.00.02		DCD4
697	3.3.00.01	Piping Design	DCD4
698	3.3.00.02		DCD4
699	3.3.00.03		DCD4
700	3.4.00.01	Instrumentation and Control	DCD4
701	3.4.00.02		DCD4
702	C.3.4.00.03		DCD4/COL12
703	C.3.4.00.04		DCD4/COL12

704	3.4.00.05		DCD4
705	3.4.00.06		DCD4
706	3.4.00.07		DCD4
707	3.4.00.08		DCD4
708	3.4.00.09		DCD4
709	3.4.00.10		DCD4
710	3.4.00.11		DCD4
711	C.3.4.00.12		DCD4/COL12
712	C.3.4.00.13		DCD4/COL12
713	3.4.00.14		DCD4
714	3.4.00.15		DCD4
715	3.4.00.16		DCD4
716	3.6.00.01	Design Reliability Assurance Program	DCD4
717	C.3.0.01.01	Ultimate Heat Sink	COL12
718	C.3.0.01.02		COL12
719	C.3.0.01.03a		COL12
720	C.3.0.01.03b		COL12
721	C.3.0.01.03c		COL12
722	C.3.0.01.04a		COL12
723	C.3.0.01.04b		COL12
724	C.3.0.01.05	COL12	
725	C.3.0.02.01	Offsite Power System	COL12
726	C.3.0.02.02		COL12
727	C.3.0.02.03		COL12
728	C.3.0.02.04		COL12
729	C.3.0.02.05		COL12
730	C.3.0.02.06		COL12
731	C.3.0.02.07		COL12
732	C.3.0.02.08		COL12
733	C.3.0.02.09		COL12
734	C.3.0.03.01	Makeup Water Preparation System	COL12
735	C.3.0.05.01	Reactor Service Water System (RSW)	COL12
736	C.3.0.05.02		COL12
737	C.3.0.05.03a		COL12
738	C.3.0-5.00.03b		COL12
739	C.3.0.05.03c		COL12
740	C.3.0.05.03d		COL12
741	C.3.0.05.03e		COL12
742	C.3.0.05.04		COL12
743	C.3.0.05.05a		COL12
744	C.3.0.05.05b		COL12
745	C.3.0.05.06		COL12
746	C.3.0.05.07		COL12
747	C.3.0.05.08		COL12
748	C.3.0.05.09a		COL12
749	C.3.0.05.09b		COL12
750	C.3.0.09.01	Circulation Water System	COL12
751	C.3.0.11.01	Backfill Under Seismic Category I Structures	COL12
752	C.3.0.11.02		COL12
753	C.3.0.11.03		COL12

754	C.3.0.12.01	Breathing Air System	COL12
755	C.3.0.12.02		COL12
756	C.3.0.13.01	Waterproofing Membrane	COL12
757	C.3.0.14.01	Design Reports for ASME Class 1, 2, and 3 Components	COL12
758	C.3.0.15.01	Settlement	COL12
759	C.3.0.16.01	Pipe Break Analysis Report for the As-designed Plant	COL12
760	C.3.0.17.01a.i	Diesel Generator Fuel Oil Storage Vaults	COL12
761	C.3.0.17.01a.ii		COL12
762	C.3.0.17.01a.iii		COL12
763	C.3.0.17.01b		COL12
764	C.3.0.18.01	Main Steam Lines Dynamic Analysis	COL12
765	C.3.0.19.01	Seismic II/I Interaction	COL12
766	C.3.0.20.01	Main Turbine (MT) System	COL12
767	C.3.0.20.02		COL12
768	C.3.0.21.01	Turbine Building – Seismic II/I Interaction	COL12
769	C.3.0.22.01	Service Building – Seismic II/I Interaction	COL12
770	C.3.0.23.01	Radwaste Building – Seismic II/I Interaction	COL12
771	C.3.0.24.01	Control Building Annex – Seismic II/I Interaction	COL12
772	C.3.0.25.01	Reactor Building – Design for Hurricane	COL12
773	C.3.0.26.01	Reactor Building Stack – Category II/I Design for Hurricane	COL12
774	C.3.0.27.01	Spent Fuel Pool Level Instrumentation	COL12
775	C.3.0.28.01	Spent Fuel Pool Level Instrumentation	COL12
776	C.3.0.29.01	Detection of Open Phase Events on the Main Power and Reserve Auxiliary Transformers	COL12
777	C.3.0.29.02		COL12
778	C.3.0.30.01	Consideration of the Effect of Suppression Pool Water Level on Containment Hydrodynamic Loads	COL12
779	C.4.0.01.01.01	Emergency Planning	COL12
780	C.4.0.01.02.01		COL12
781	C.4.0.01.03.01		COL12
782	C.4.0.01.04.01		COL12
783	C.4.0.01.04.02		COL12
784	C.4.0.01.05.01		COL12
785	C.4.0.01.05.02		COL12
786	C.4.0.01.06.01		COL12
787	C.4.0.01.06.02		COL12
788	C.4.0.01.07.01		COL12
789	C.4.0.01.07.02		COL12
790	C.4.0.01.07.03		COL12
791	C.4.0.01.07.04		COL12
792	C.4.0.01.07.05		COL12
793	C.4.0.01.07.07		COL12
794	C.4.0.01.08.01		COL12
795	C.4.0.01.09.01		COL12
796	C.4.0.01.10.01		COL12
797	C.4.0.01.10.02		COL12
798	C.5.1.00.01a	Vital Area and Vital Area Barrier Requirements	COL12
799	C.5.1.00.01b		COL12
800	C.5.2.00.02a	Protected Area Barrier Requirements	COL12



801	C.5.2.00.02b		COL12
802	C.5.2.00.02c		COL12
803	C.5.3.00.03a	Isolation Zone Requirements	COL12
804	C.5.3.00.03b		COL12
805	C.5.3.00.03c		COL12
806	C.5.4.00.04a	Protected Area Perimeter Intrusion Detection and Assessment System Requirements	COL12
807	C.5.4.00.04b		COL12
808	C.5.4.00.04c		COL12
809	C.5.5.00.05	Illumination Requirements	COL12
810	C.5.6.00.06	Bullet-Resisting Barriers Requirements	COL12
811	C.5.7.00.07	Vehicle Control Measures Requirements	COL12
812	C.5.8.00.08a	Personnel, Vehicle, and Material Access Control Portals and Search Equipment Requirements	COL12
813	C.5.8.00.08b		COL12
814	C.5.9.00.09	Picture Badge Identification System Requirements	COL12
815	C.5.10.00.10	Vital Areas Access Control Requirements	COL12
816	C.5.11.00.11a	Alarm Station Requirements	COL12
817	C.5.11.00.11b		COL12
818	C.5.11.00.11c		COL12
819	C.5.11.00.11d		COL12
820	C.5.12.00.12	Secondary Power Supplies for Alarm Annunciation and Communication Equipment Requirements	COL12
821	C.5.13.00.13a	Intrusion Detection Systems Console Display Requirements	COL12
822	C.5.13.00.13b		COL12
823	C.5.14.00.14	Intrusion Detection Systems Recording Requirements	COL12
824	C.5.15.00.15	Vital Area Emergency Exits Requirements	COL12
825	C.5.16.00.16a	Communication Requirements	COL12
826	C.5.16.00.16b		COL12
827	C.5.16.00.16c		COL12