

DRAFT

Initial Test Program License

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

(2) Pre-operational Testing and Reporting

- (a) The licensee shall perform the design-specific pre-operational testing identified below:
1. In-Containment Refueling Water Storage Tank (IRWST) Heatup Test (first plant test as described 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 sensor operation as described in AP1000 DCD, Rev. 19, Section 14.2.9.1.7 Item (d));
 3. Reactor Vessel Internals Vibration Testing (first plant test as described in AP1000 DCD, Rev. 19, Section 14.2.9.1.9 – Prototype Test);
 4. Core Makeup Tank Heated Recirculation Tests (first three plants test as described 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 described in AP1000 DCD, Rev. 19, Section 14.2.9.1.3 Item (s)).
- (b) The licensee shall review and evaluate the results of the tests identified in Section 2.D.(2)(a) 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 the AP1000 DCD Rev. 19, Section 14.2.9.
- (c) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, in writing, upon successful completion of the design-specific pre-operational tests identified in Section 2.D.(2)(a).
- (d) The licensee shall notify the Director of the Office of New Reactors, 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 notification of the successful completion of the pre-operational testing required by Section 2.D.(2)(c) of this license, the licensee 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 52.103g) that all the acceptance criteria in the ITAAC in Appendix C to this license are met, the licensee is authorized to perform pre-critical testing in accordance with the conditions specified herein.
- (c) The licensee shall perform the pre-critical tests described in AP1000 DCD Rev. 19, Section 14.2.10.1.
- (d) The licensee shall review and evaluate the results of the tests identified in Section 2.D.(3)(c) 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 the AP1000 DCD Rev. 19, Section 14.2.10.
- (e) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, in writing, upon successful completion of pre-critical testing.

(4) Initial Criticality and Low-Power Testing

- (a) Upon submission of the notification required by Section 2.D.(3)(e) of this license, the licensee 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) The licensee shall perform the initial criticality and low-power tests described in the AP1000 DCD Rev. 19, Sections 14.2.10.2 and 14.2.10.3, respectively, and the Natural Circulation (first plant test) described in AP1000 DCD Rev. 19, Section 14.2.10.3.6, and the Passive Residual Heat Removal Heat Exchanger (first plant test) described in AP1000 DCD Rev. 19, Section 14.2.10.3.7.
- (c) The licensee shall review and evaluate the results of the tests identified in Section 2.D.(4)(b) 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 the FSAR.
- (d) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, in writing, upon successful completion of initial criticality and low-power tests, including the design-specific tests identified in Section 2.D.(4)(b).

(5) Power Ascension Testing

- (a) Upon submission of the notification required by Section 2.D.(4)(d) of this license, the licensee 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) The licensee shall perform the power ascension tests described in the AP1000 DCD Rev. 19, Section 14.2.10.4, the Rod Cluster Control Assembly Out of Bank Measurements (first plant test) described in the AP1000 DCD, Rev. 19, Section 14.2.10.4.6, and the Load Follow Demonstration (first plant test) described in the AP1000 DCD, Rev. 19, Section 14.2.10.4.22.
- (c) The licensee shall review and evaluate the results of the tests identified in Section 2.D.(5)(b) 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 the AP1000 DCD Rev.19, Section 14.2.10.4.
- (d) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, in writing, upon successful completion of power ascension testing, including the design-specific tests identified in Section 2.D.(5)(b).

(6) Maximum Power Level

Upon submission of the notification required by Section 2.D.(5)(d) of this license, the licensee 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.