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PROGRESS ON CONTROL ROOM HABITABILITY TESTING

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CONTROL ROOM HABITABILITY

REGULATORY REQUIREMENTS AND THEIR APPLICATION

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10 CFR 50, Appendix A, Criterion 19 (GDC-19) requires:

Control Room capable of allowing operator to perform actions to maintain reactor safe under normal conditions

Maintain the reactor in a safe condition under accident conditions including a LOCA

Maintain operator dose ≤5 rem whole body or its equivalent

Remote shutdown provisions

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Control Room Habitability Issues

Compliance

In order for a control room to be in compliance with GDC-19, there should be no design, operating or integrity flaws and/or discrepancies associated with a plant licensing basis (with respect to control room)

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Issues

Compliance

Control room envelope inleakage should not be greater than what was assumed in licensing analyses

Control room envelope and ESF ventilation system should not be constructed and/or operated inconsistent with the licensing basis

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In 1992 Licensees decided to demonstrate integrity of control room envelope with an ASTM-E741 test (tracer gas test)

Results of test did not support assumptions in accident analyses

Subsequent tracer gas test identified concerns with the adequacy of technical specification surveillance

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Demonstrating integrity of control room envelope by testing

ASTM-E741-95 (Tracer Gas Test)

NRC staff, ACRS and NEI 99-03 finds the ASTM –E741 test acceptable to demonstrate control room envelope integrity

NRC issued generic communication (Generic Letter 2003-01) addressing control room habitability issues, including technical specifications

As a result of GL-2003-01, four Regulatory Guides (RG) were issued including RG 1.197

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Regulatory Guide 1.197 included a schedule for testing

To date all plants that committed to testing, completed first round of testing

Technical Specification Task Force Traveler 448 (TSTF-448) incorporated testing into the standard technical specifications via NUREGs1430, 1431, 1432, 1433 and 1434.

Adoption of TSTF-448 by licensees is not required but is currently in progress

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Issues Associated With Testing

TSTF-448 was written for pressurized control room envelopes (CRE) and provided some relief for inoperable CREs

Licensees with non-pressurized CREs want to adopt TSTF-448

Can TSTF-448 be applied to non-pressurized CREs?

The adoption of TSTF-448 requires establishing a control room envelope habitability program

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Issues

If TSTF-448 is adopted by non-pressurized CREs what are they to do about the differential pressure test indentified in item “d” of control room envelope habitability program?

NRC staff decided that if TSTF-448 is adopted this item must be addressed

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Issues

The intent of item “d” is to provide some indication of the ongoing status of the CRE between test intervals

Licensees adopting TSTF-448 with non-pressurized CREs are expected to be able to provide some indication of the ongoing status of the CRE between test intervals

Licensees were asked to develop plant specific alternatives to address this concern

Plant specific alternatives are being developed

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SECOND ROUND OF TESTING

With the adoption of TSTF-448 licensees are given a license condition that establishes the date of the first tracer gas test.

The second test will be six years from the date of the first test in accordance with the schedule published in Regulatory Guide 1.197