

ATTACHMENT 1

PROPOSED ZION APPENDIX A TECHNICAL SPECIFICATION CHANGES

TO SECTION 4.3.4.D

MATERIALS IRRADIATION SURVEILLANCE

SPECIMEN INSPECTION

Pages Modified: 105
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LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT																												
3.3.4	<p data-bbox="1175 223 2026 289">4.3.4 D. Materials Irradiation Surveillance Specimen Inspection. (per unit)</p> <p data-bbox="1397 322 2026 536">Specimen capsules to be used in the reactor vessel material surveillance program shall be withdrawn during the refueling period either immediately preceeding or following the Effective Full Power Years (EFPY) of unit life as follows:</p> <p data-bbox="1397 569 1832 602"><u>CAPSULE WITHDRAWAL SCHEDULE</u></p> <table data-bbox="1397 636 2026 925"> <tr> <th colspan="2"><u>UNIT 1</u></th></tr> <tr> <th><u>CAPSULE DESIGNATION</u></th><th><u>CAPSULE REMOVAL TIME (EFPY)</u></th></tr> <tr> <td>T</td><td>REMOVED (1.16)</td></tr> <tr> <td>U</td><td>REMOVED (3.52)</td></tr> <tr> <td>X</td><td>REMOVED (5.17)</td></tr> <tr> <td>Y</td><td>8.5</td></tr> <tr> <td>W,S,V,Z</td><td>STAND BY</td></tr> </table> <table data-bbox="1397 949 2026 1239"> <tr> <th colspan="2"><u>UNIT 2</u></th></tr> <tr> <th><u>CAPSULE DESIGNATION</u></th><th><u>CAPSULE REMOVAL TIME (EFPY)</u></th></tr> <tr> <td>U</td><td>REMOVED (1.27)</td></tr> <tr> <td>T</td><td>REMOVED (3.56)</td></tr> <tr> <td>Y</td><td>8.5</td></tr> <tr> <td>X</td><td>STAND BY</td></tr> <tr> <td>W,S,V,Z</td><td>STAND BY</td></tr> </table>	<u>UNIT 1</u>		<u>CAPSULE DESIGNATION</u>	<u>CAPSULE REMOVAL TIME (EFPY)</u>	T	REMOVED (1.16)	U	REMOVED (3.52)	X	REMOVED (5.17)	Y	8.5	W,S,V,Z	STAND BY	<u>UNIT 2</u>		<u>CAPSULE DESIGNATION</u>	<u>CAPSULE REMOVAL TIME (EFPY)</u>	U	REMOVED (1.27)	T	REMOVED (3.56)	Y	8.5	X	STAND BY	W,S,V,Z	STAND BY
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Basis

- 4.3.4 The surveillance inspection program has been developed to comply with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10 CFR 50, Section 50.55a(g)(6)(i). The design of the plant, state of non-destructive testing technology, and access to areas to be inspected require such relief.

The Reactor Vessel Material Surveillance Program is designed to evaluate the effects of radiation on the fracture toughness of reactor vessel steel based on the transition temperature approach and the fracture mechanics approach.

10 CFR 50, Appendix H, paragraph II B.1 requires that the reactor vessel material surveillance program shall meet the requirements of ASTM E185-82 such that the surveillance capsules represent end-of-life fluences at the reactor vessel 1/4 and wall thicknesses. Previous capsules were removed under Amendment Nos. 62 and 59.

ATTACHMENT 2

JUSTIFICATION FOR PROPOSED CHANGE

Low leakage loading patterns were implemented at Zion in Unit 1 Cycle 7 and Unit 2 Cycle 6. Unit 1 Cycle 9 began operation in June of 1985 and Unit 2 Cycle 8 will end in September of 1985. This change has resulted in a reduction of the EOL fluence projections for the reactor vessel inner wall and 1/4 T locations.

The revised EOL (32 EFPY) projections for $E > 1$ MEV fluence are approximately 1.0×10^{19} n/cm² and 1.8×10^{19} n/cm² for the 1/4 T and inner wall locations, respectively. WCAP 10902 contains the detailed technical basis for these projections. 10 CFR 50, Appendix H recommends, by reference to ASTM E-185, removing the third and fourth surveillance capsules at fluences corresponding to the projected EOL values for the vessel 1/4 T and inner wall locations respectively.

Table 1 (attached) provides the capsule withdrawal history and proposed future schedule. Note that capsule U from Unit 1 and capsule T from Unit 2 correspond to the approximate EOL fluence at the vessel 1/4 T location. Capsule X of Unit 1 was removed in February of 1982 to comply with the current Technical Specifications, but is at a fluence of no particular interest to the proposed schedule. Capsule X of Unit 2 was not removed as required by Zion's current Technical Specifications (LER 50-304/85-09).

The Y capsules are scheduled to be removed at 8.5 EFPY to provide data at approximate EOL fluence at the vessel inner wall location. These capsules contain weld metal Wedge Open Loading (WOL) specimens. Capsule X of Unit 2 is retained as a standby in the event that higher EOL fluence is indicated in the future due to changes in the core loading which may increase flux at the vessel wall, or to decisions to extend the life of the vessels to beyond 32 EFPY.

TABLE 1

<u>ZION 1</u>		
Capsule Designation	Withdrawal Schedule (EFPY)	Fluence n/cm^2 $E > 1MeV$
T	Removed 1.16 ^A	2.9×10^{18}
U	Removed 3.52 ^A	8.9×10^{18B}
X	Removed 5.17 ^A	1.4×10^{19}
γ^D	8.5	1.8×10^{19C}
W, S, V, Z	Standby	

<u>ZION 2</u>		
Capsule Designation	Withdrawal Schedule (EFPY)	Fluence n/cm^2 $E > 1MeV$
U	Removed 1.27 ^A	3.6×10^{18}
T	Removed 3.56 ^A	9.8×10^{18B}
γ^D	8.5	1.8×10^{19C}
X	Standby	
W, S, V, Z	Standby	

A Removed in accordance with Amendment Nos. 62 and 59

B Corresponds to the approximate EOL fluence at the reactor vessel 1/4 T location.

C Corresponds to the approximate EOL fluence at the reactor vessel inner wall location.

D Contains weld metal WOL specimen

ATTACHMENT 3

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

PROPOSED CHANGES TO ZION TECHNICAL

SPECIFICATIONS APPENDIX A - SECTION 4.3.4.D

MATERIALS IRRADIATION SURVEILLANCE SPECIMEN INSPECTION

DESCRIPTION OF AMENDMENT REQUEST

An amendment to the Zion Facility Operating License is proposed to revise the specimen capsule withdrawal schedule to reflect both the implementation of Low Leakage Loading Patterns and the current requirements of 10 CFR 50, Appendix H.

BACKGROUND

10 CFR 50.92 states that a proposed amendment will involve a no significant hazards consideration if the proposed amendment does not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

In addition, the Commission has provided guidance in the practical application of these criteria by publishing eight examples in 48 FR 14870.

The discussion below addresses each of these three criteria and demonstrates that the proposed amendment involves a no significant hazards consideration.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Does the proposed amendment

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety?

DISCUSSION - ITEM 1

This change only affects the withdrawal schedule for the specimen capsules installed inside of Zion's reactor vessels. This schedule is not a factor in any of the previously analyzed accidents. Thus, the change does not alter the probability or consequences of any accident previously evaluated.

DISCUSSION - ITEM 2

As discussed above, this change only addresses the timing of capsule withdrawal. The withdrawal of specimen capsules was considered in Zion's design and has previously taken place on numerous occasions. Thus, this change does not create the possibility for a new or different kind of accident.

DISCUSSION - ITEM 3

While Zion's margin of safety is insensitive to changes in capsule withdrawal schedules, this change will allow for a more meaningful reactor vessel surveillance program. Thus, the future properties of Zion's vessels can be more accurately predicted, providing a slight increase in the margin of safety.

Note that this change will bring Zion Station into compliance with the 1983 revision to 10 CFR 50, Appendix H. Thus, example vii is applicable in this situation. Example vii reads as follows:

- (vii) A change to make a license conform to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations.

Therefore, since the application for amendment satisfies the criteria specified in 10 CFR 50.92 and is similar to examples for which no significant hazards consideration exists, Commonwealth Edison Company has made a determination that the application involves no significant hazards consideration.