From:Marvin MendoncaTo:George MillerDate:Thu, Nov 2, 2000 8:27 AMSubject:Help

Sorry for confusion. Attached is update of TS page. Again please verify that the attached is correct and the only change you need. It was retyped so also check each word if you please. Thanks.

Reactivity with water, potentially explosive materials or liquid fissionable materials are doubly encapsulated.

Basis

It is shown in the SAR p. 8.53, that a release of 0.024 curies of iodine activity will result in a maximum dose to the thyroid of a person in an unrestricted area of less than 1/20 of the permissible dose. The limit on iodine inventory is set at 10 times this value. Th limit for Strontium 90 is that which corresponds to the jodine vield of 0.3 curies for a given number of fission events and would be no hazard. Specifications 3.8b and 3.8c reduce the likelihood of damage to reactor components resulting from experiment failure.

4.0 SURVEILLANCE REQUIREMENTS

4.1<u>Fuel</u>

Applicability

This specification applies to the surveillance requirement for the fuel elements.

Objective

The objective is to assure that the dimensions of the fuel elements remain within acceptable limits.

Specifications

a. The standard fuel elements shall be measured for length and bend at intervals separated by not more

than 500 pulses of magnitude greater than \$1.00 of reactivity, but the intervals shall not exceed 60 Т

months. Fuel followers control rods shall be measured for bend at the same time interval. However,

full surveillance be carried out before further operations are conducted if any significant changes are

observed in pool water conductivity, pool water radioactivity, control rod drop times, control rod Е

reactivity worths, or core reactivity worths such that it could be concluded that fuel element or control

rod integrity may be compromised.

b.A fuel element indicating an elongation greater than 1/10 of an inch over its original length or a lateral bending greater than 1/16 of an inch over its original ending shall be considered to be damaged and shall not be used in the core for further operation.

A fuel follower control rod shall be considered to be damaged and shall not be used for further operation if it indicates a lateral bending greater than 1/16 of an inch over the fuel containing portion of the rod.

c.Fuel elements in the B- and C-ring shall be measure for possible distortion in the event that there is indication that fuel temperatures greater than the limiting safety system setting on temperature may have been exceeded.

Bases

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The most sever stresses induced in the fuel elements result from pulse operation of the reactor, during which differential expansion between the fuel and the cladding occurs and the pressure of the gases within the elements increases sharply. The above limits on the allowable distortion of a fuel element have been shown to correspond to strains that are considerably lower than the strain expected to cause rupture of a fuel element and have been successfully applied at other TRIGA installations. The surveillance interval is selected based on the past history of more frequent, uneventful, inspections for over 20 years at this facility and experience at other TRIGA

facilities with similar power levels, fuel type, and operational modes. It is also designed to reduce the possibilities of mechanical failures as a result of handling elements, and to minimize potential radiation exposures to personnel.

UCI Technical Specifications