INL USQ PROCESS
REASONABILITY DETERMINATION/POTENTIAL INADEQUACY IN THE SAFETY ANALYSIS (PISA) FORM
(DO NOT USE FOR PROPOSED CHANGES)

Facility or Activity: ATRC

USQ Process No.: RTC-USQ-2007-614

Subject: Manual Scram Time Response Verification

Describe the New Information/Discovery:

A systems assessment by DOE noted that SAR-192 [chapter 9] discussed a verification of the time response of the manual scram system and stated that this parameter should have been carried forth and incorporated into the surveillance specification of LCO 3.192.2.1 "RSS Instrumentation".

Identify the applicable safety basis document(s) (e. g., DSA, SAR, BIO, TSRs, etc.):

SAR-192, "Safety Analysis Report for the Advanced Test Reactor Critical Facility"
TSR-192, "Technical Safety Requirements for the Advanced Test Reactor Critical Facility"

I. REASONABILITY DETERMINATION (Reasonability determinations made as part of the ATR Design Basis Reconstitution effort may be documented per SP-10.2.4.9)

Is it reasonable that the potential for an inadequate safety analysis exists based on the new information or discovery described above? ☐ Yes ☒ No

If "Yes," proceed to Sections II, III, and IV.
If "No," provide an explanation and basis for the reasonability determination.
The manual scram subsystem as a safety significant SSC provides the capability to the operator to trip the reactor. Per the facility safety basis, the functional requirement of the subsystem is to provide a scram any time the operators determine a manual scram is needed hence the instrument must be operable for reactor operation. Operability is demonstrated by the successful completion of MP-11.15 "Manual Scram Subsystem Functional Test". This procedure requires verification that safety rods drop when the system is activated. Successful completion of this procedure demonstrates that the functional requirement is met and the instrument is meeting its intended safety function. This also satisfies compliance with the surveillance requirement and the LCO for operability. There are no specific instrument parameters delineated in the LCO [3.192.2.1] since the only functional requirement of the subsystem is to provide a scram. Thus time response of this instrument is not a functional requirement and does not need to be incorporated into the surveillance specification of LCO 3.192.2.1 "RSS Instrumentation".
The manual scram along with the other RSS subsystems are relied upon in the safety analysis to ensure mitigation of reactivity transients. The manual scram subsystem is not credited in the safety analysis for providing primary reactor shutdown control. This subsystem allows operator intervention when automatic safety systems do not produce expected reactor conditions. Time response of the system is part of its overall reliability and verification of the response time of the manual scram is discussed in the SAR and as such has been designated as a SAR commitment. This SAR commitment is verified in MP-11.16 "Manual Scram Subsystem Response Time Measurements".
Time response is not a performance parameter derived from accident analyses, so it is not included in the LCO. For the functional requirement of this system, the safety analysis assumes only that a scram will occur thus the lack of specifying a time response as a TSR control is not a potential for an inadequate safety analysis.

C. Satterwhite USQ Evaluator Print/Type Name	C Satterwhite USQ Evaluator Signature	August 28, 2007 Date
E. Schuebert or B. Clements Nuclear Facility Manager Print/Type Name	[signature] Nuclear Facility Manager Signature	8/28/07 Date

If the answer to the question above is "No," file the completed form. Do not complete Section II, III, or IV.

If the answer to the question above is "Yes," complete Section II, III, and IV.

II. PISA DECLARATION

What is the basis for concern that the safety basis may not be bounding or may be otherwise inadequate? Provide an explanation.