Department of the Interior
US Geological Survey
PO Box 25046 MS 974
Denver, CO 80225-0046

March 28, 2011

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Reference: U.S. Geological Survey TRIGA Reactor (GSTR), Docket 50-274, License R-113
Request for Additional Information (RAI) dated September 29, 2010

Subject: Response to Questions 23.1, 23.2, and 23.3 of the Referenced RAI

Mr. Wertz:

Our responses to Questions 23.1, 23.2, and 23.3 are provided on the following pages.

Sincerely,

Tim DeBey
U.S. Geological Survey
Reactor Supervisor

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 3/28/11 Tim DeBey

Copy to:
Betty Adrian, Reactor Administrator
Denver Federal Center MS 975

A020
NRR

USGS Response to October, 2010 RAI Questions 23.1, 23.2, and 23.3.

Question 23

23. ANSI/ANS-15.1-2007, Section 4, "Surveillance Requirements," identifies Surveillance Requirements (SRs) for LCOs. The following GSTR SR items were identified. Please explain:

23.1 SR 14.4.1 Reactor Core Parameters, Specification 2, does not include any criteria for determining what represents a "significant change" in core configuration.

23.2 There does not appear to be a SR for ensuring the proper installation of the mechanical stop for the transient control rod per LCO 14.3.1.2.

23.3 There does not appear to be a SR for assuring that aluminum-clad fuel is loaded only in the F and G rings of the core per LCO 14.3.1.3.

23.4 There does not appear to be a SR for assuring that steady state power limit of 0.1 MW is not exceeded per LCO 14.3.1.3.

23.1 The phrase "as determined by the Reactor Administrator, Reactor Supervisor or Senior Reactor-in-Charge" to the end of GSTR TS 14.4.1 "Reactor Core Parameters" Specifications 2, 3 and 4. These will now read:

2. The total reactivity worth of each control rod shall be measured following any significant change in core or control rod configuration as determined by the Reactor Administrator, Reactor Supervisor or Senior Reactor-in-Charge.

3. The shutdown reactivity shall be determined prior to each day's operation, prior to each operation extending more than one day, or following any significant change in core or control rod configuration as determined by the Reactor Administrator, Reactor Supervisor or Senior Reactor-in-Charge.

4. The core excess reactivity shall be determined prior to each day's operation or following any significant change in core or control rod configuration as determined by the Reactor Administrator, Reactor Supervisor or Senior Reactor-in-Charge.

23.2 An additional Specification will be added to GSTR TS 14.4.2 "Reactor Control and Safety Systems" to read as follows:

6. The proper installation of the mechanical stop for the transient control rod shall be verified by visual inspection monthly.

The current GSTR TS 14.4.1 "Reactor Core Parameters" Specification 6 ("These checks are not required if the reactor core has been defueled.") will be renumbered as Specification 7.

23.3 An additional Specification will be added to GSTR TS 14.4.1 "Reactor Core Parameters" to read as follows:

8. The loading of aluminum-clad fuel only in the F and G rings of the core shall be verified by visual inspection prior to each day's operation.

The current GSTR TS 14.4.1 "Reactor Core Parameters" Specification 7 ("These checks are not required if the reactor core has been defueled.") will be renumbered as Specification 8.

23.4 This question will be answered with question 21 at a later date.