



# United States Department of the Interior

GEOLOGICAL SURVEY  
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DENVER, COLORADO 80225

IN REPLY REFER TO:

July 13, 1994

Ref: Docket 50-274

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U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Sirs:

Enclosed is our response to your request for additional information regarding our Revision 6 of the Emergency Plan for the U.S. Geological Survey TRIGA Reactor (GSTR) Facility. The plan was revised as permitted by 10 CFR 50.54(q). We have revised the emergency action levels (EALs) to use Effluent Concentrations as the basis. This has provided simplified and much clearer EALs for the Unusual Event and Alert classifications. The related changes are on pages 9 and 10 of the plan. The revised plan and evaluation are attached.

Please contact the Reactor Supervisor (Tim DeBey) at (303) 236-4726 if you have any questions regarding the revision or need further details.

Sincerely,

*Carl Hedge*  
Dr. Carl Hedge  
Reactor Administrator

*Jane L. Conniff,*  
Notary Public

Subscribed and affirmed before me this 13th day of July, 1994.

*My commission expires 10-15-96*

Copy to:  
Nuclear Regulatory Commission, Region IV  
ATTN: Mr. L.J. Callan  
ATTN: Mr. Blair Nicholas

Tim DeBey, USGS, MS 974

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Evaluation for changing Emergency Action Levels from "MPC"-based to "DAC"-based quantities.

1. UNUSUAL EVENT-

Current action level:

Actual or projected radiological effluents at the site boundary exceeding 10 MPC when averaged over 24 hours or 15 mrem whole body accumulated in 24 hours.

Revised action level:

Actual or projected radiological effluent at the site boundary calculated to produce a dose of 15 mrem whole body accumulated in 24 hours.

Basis:

A whole body dose of approximately 15 mrem would be achieved from a 24 hour exposure at 50 times the effluent concentration limit for noble gases or 100 times the effluent concentration limit for nuclides other than noble gases.

2. ALERT-

Current action level:

Actual or projected radiological effluents at the site boundary exceeding 50 MPC for unrestricted areas when averaged over 24 hours, or 75 mrem whole body accumulated in 24 hours.

Radiation levels at the site boundary of 20 mrem/hr for 1-hour whole body or 100 mrem thyroid dose.

Revised action level:

Actual or projected radiological effluent at the site boundary calculated to produce a dose of 75 mrem whole body accumulated in 24 hours.

Radiation levels at the site boundary exceeding 20 mrem/hr (whole body) for one hour.

Basis:

A whole body dose of approximately 75 mrem would be achieved from a 24 hour exposure at 250 times the effluent concentration limit for noble gases or 500 times the effluent concentration limit for nuclides other than noble gases.