

50-267

# ORISE

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

March 13, 1995

Mr. David Fauver  
Division of Waste Management - NMSS  
U.S. Nuclear Regulatory Commission  
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11555 Rockville Pike  
Rockville, MD 20852

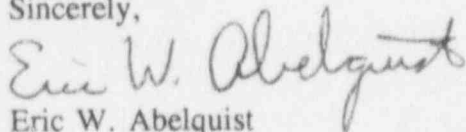
**SUBJECT: DOCUMENT REVIEW - FINAL SURVEY REPORT FOR RELEASE OF  
THE REPOWER AREA, FORT ST. VRAIN, PLATTEVILLE, COLORADO  
(DOCKET NO. 50-267)**

Dear Mr. Fauver:

The Environmental Survey and Site Assessment Program (ESSAP) of ORISE has reviewed the subject report and offers the attached comments for your consideration.

Please direct any questions you may have to me at (615) 576-3740 or W. L. (Jack) Beck at (615) 576-5073.

Sincerely,



Eric W. Abelquist  
Project Leader  
Environmental Survey and  
Site Assessment Program

EWA:daa

Attachment

cc: R. Uleck, NRC/NMSS/TWFN 7F27  
D. Tiktinsky, NRC/NMSS/TWFN 8A23  
PMDA, NRC/NMSS/TWFN 8A23  
W. Beck, ORISE/ESSAP  
T. Vitkus, ORISE/ESSAP  
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## COMMENTS

### FINAL SURVEY REPORT FOR RELEASE OF THE REPOWER AREA FORT ST. VRAIN PLATTEVILLE, COLORADO

#### General Comments

The final survey report provides an adequate description of the site operational history, decommissioning activities, and an overview of the final survey methodologies and results.

It is recommended that the report state the radionuclide-specific concentrations in soil of Cs-137, Co-60, Cs-134, Eu-152, and Eu-154 that correspond to the 10 mrem per year soil guideline.

The final survey report does not contain figures that sufficiently illustrate the details of the repower area. It is recommended that maps of the surveyed areas be provided in the report.

#### Specific Comments

1. Page 9 - Exposure rate measurements were performed using a NaI scintillation detector, calibrated to Cs-137. The energy dependence of this instrument type makes it susceptible to inaccuracies. For example, the instrument response may vary significantly with only subtle changes in gamma energy. This may be the case if this instrument is used to measure background exposure rates, which may have an effective gamma energy significantly different than Cs-137, and site exposure rates, which are taken to be represented by Cs-137. Were any comparisons with pressurized ionization chamber measurements made?
2. Page 11 - How was the quoted scanning sensitivity of 2,200 dpm/100 cm<sup>2</sup> obtained? Were large area floor monitors used for scanning during the final status survey?
3. Pages 13 and 14 - There is some confusion in the manner in which the instrument backgrounds were determined for specific construction materials. Background measurements performed without the plexiglass shield and in contact with the surface are representative of instrument noise, local area exposure rate ( $2\pi$  contribution), and the construction material contribution. Were background measurements, performed with the 300 mg/cm<sup>2</sup> shield in place, collected at a distance from the surface or near the surface? The exposure rate contribution to the detector response may be different depending on its orientation, e.g., it receives a  $4\pi$  contribution in free air, but only a  $2\pi$

contribution if in contact with the surface. Also, if both the shielded and unshielded detector orientations are in contact with the surface, the contribution from the construction material in the shielded detector will not be completely eliminated as the gamma response will still be present to a degree. ESSAP recommends that the background for construction materials be obtained from similar materials in unaffected areas, making the assumption that the changes in the instrument noise and local area exposure rate between locations are minor.

4. Page 31 - It appears from the large number of negative values, as compared to the number of positive values, that an inappropriate background value was used to determine surface activity in the valve pit.