



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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JAN 30 1981

WM-40

MEMORANDUM FOR: John B. Martin, Director  
Division of Waste Management, NMSS

FROM: Ross A. Scarano, Chief  
Uranium Recovery Licensing Branch  
Division of Waste Management

SUBJECT: STATUS REPORT - EDGEMONT CLEANUP (331162)

The NRC has contracted with the Battelle Pacific Northwest Laboratories (PNL) to conduct radiological surveys to determine the extent of usage of uranium mill tailings at off-site properties in the vicinity of Edgemont, South Dakota. PNL operates a mobile laboratory which facilitates the collection and analysis of grab radon progeny samples (i.e., the Working Level measurement). Also, extensive gamma radiation surveys, and soil sampling and analysis are being conducted at each property. The need to conduct remedial action (i.e., the cleanup of residual radioactive materials) will be determined based on standards established by the U.S. EPA in 40 CFR 192 - "Proposed Cleanup Standards for Inactive Uranium Processing Sites".

The attached table summarizes the results of the PNL radiological surveys as of December, 1980. In sum, 40 structures and 6 vacant lots fail to meet the EPA standards due to gamma radiation levels greater than 20  $\mu$ R/hr above background or radium-226 in soil content greater than 5 pCi/g. To date at least 140 structures will require long-term radon progeny sampling in order to determine the need for remedial action (i.e., if the annual average working level exceeds 0.015 WL).

Additionally, the U.S. Department of Housing and Urban Development (HUD) has required that grab Working Level sampling be conducted in any structure in Edgemont before federal financial assistance will be approved. The NRC, through its PNL contract, is also conducting these surveys. Results to date indicate that 28 structures fail the HUD criterion of having less than 0.02 Weighted Working Levels (WWL).

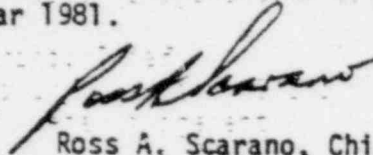
The PNL work is progressing well. Radiological surveys have been conducted in 334 structures, but surveys have yet to be completed in the remaining 139 structures where the homeowner/occupant has requested the PNL surveys. PNL is also preparing to complete engineering assessments at the 46 properties

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which exceed the EPA standards. In order to complete this remaining work, and to conduct the long-term radon progeny sampling, PNL will continue to keep a field team of scientists in Edgemont for the remainder of calendar year 1981.



Ross A. Scarano, Chief  
Uranium Recovery Licensing Branch

Attachment: as stated

ENVIRONMENTAL PROTECTION AGENCY  
 Monthly Report Summary for December, 1980

I. Structures surveyed by Grab Working Level Measurements

Total Number of Available Structures: 642

Number of Requests for Survey Received: 473

Summary Table of NRC/State Program<sup>2</sup>

<u>Date</u>	<u>Less Than 0.01 WL</u>	<u>0.01 to 0.033 WL</u>	<u>Greater Than<sup>3</sup> 0.033 WL</u>	<u>Number of<sup>4</sup> Retests</u>
Oct. 1, 1980	7 (2) <sup>5</sup>	20 (2)	0	8 RRWL, 4 RRTO
Nov. 1, 1980	33 (4)	56 (11)	1 (1)	19 RRWL, 31 RRTO
Dec. 1, 1980	21 (7)	40 (4)	24 (4)	9 RRWL, 19 RRTO
Jan. 1, 1981	8 (2)	21 (3)	3 (0)	6 RRWL, 4 RRTO
<b>Totals:</b>	<b>69 (15)</b>	<b>137 (20)</b>	<b>28 (5)</b>	<b>42 RRWL, 58 RRTO</b>

II. Vacant Land Gamma Radiation Surveys

Total Number of Available Lots: 317 Lots + 66 Vacant City Blocks<sup>1</sup>

Number of Requests for Lot Survey Received: 25 Requests for 121 Lots

Summary Table of NRC/State Program

<u>Date</u>	<u>Less Than 14.5 <math>\mu</math>R/hr Average</u>	<u>Greater Than 14.5 <math>\mu</math>R/hr Average</u>
October 1, 1980		
November 1, 1980	19	2
December 1, 1980	8	4
January 1, 1981	0	0
<b>Totals:</b>	<b>27</b>	<b>6</b>

<sup>1</sup> One City block contains approximately 16 lots.

<sup>2</sup> HUD criterion is that the grab Working Level (WL) times the factor 0.6 equals the Weighted Working Level (WWL) which must be less than 0.02 WWL ( $0.033 \text{ WL} \times 0.6 = 0.02 \text{ WWL}$ ). See the attached flow diagram for the significance of these screening levels. When the verified grab working level measurement is greater than 0.033 WL, the property receives a detailed, engineering assessment to define what remedial action must be taken; otherwise a long-term monitoring program may be conducted to determine if remedial action is required.

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- 3 These are based on the average of two measurements.
- 4 RRWL means a single measurement  $>0.033$  WL which must be verified. PRTD means turnover time was too short ( $<32$  minutes) which must be retested at least once. These are the numbers of pending reruns generated each period.
- 5 Numbers in parentheses indicate the number of measurements included in the number without parentheses which are slated for engineering assessment due to failure of one or more of the other criteria (i.e.  $^{226}\text{Ra}$  in soil  $>5$  pCi/g, gamma dose rate  $>20$   $\mu\text{R/hr}$  above background).
- 6 HUD criterion for Vacant Land is that the average gamma radiation dose rate level must be less than  $14.5$   $\mu\text{R/hr}$ .

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