



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

DCS

40-1341

JAN 25 1980

Dr. Glyn Caldwell, M.D.
 Chief, Cancer Branch
 Center for Disease Control
 Atlanta, GA 30333

Dear Dr. Caldwell:

I have been informed of the recent conversations between you and Greg Eadie of my staff. I appreciate your attention to, and concern for, the situation developing in the Edgemont, South Dakota area.

In order to provide background perspective, a copy of the U. S. EPA's draft report "Above Ground Gamma Ray Logging of Edgemont, South Dakota and Vicinity" is enclosed (Enclosure 1). In early December, 1979, the EPA provided several Radon Progeny Integrating Sampling Units (RPISU) to be used to measure the indoor exposure to radon progeny (the working level determination). The State placed a RPISU in a residence in Edgemont which had previously been identified as having one of the highest indoor gamma exposure rates of any structure surveyed in the area. Results of this sampling were as follow:

<u>Sampling Date</u>	<u>Working Level (WL)</u>	<u>Total Sampling Time (hours)</u>
12/12 to 12/18/79	0.662 WL	168
12/18 to 12/26/79	0.707 WL	168
12/26 to 1/2/80	0.787 WL	168
1/2 to 1/9/80	<u>0.525 WL</u>	168
Average	0.67 WL	

This preliminary data indicates there is an appreciable exposure of the occupants of this structure to higher than background levels of radon progeny. There is particular concern here for the youngster who evidently spends the majority of his time in the bedroom/playroom area nearby where these WL measurements were made. Also, there have been several newspaper reports expounding this "radiation case" and the probable cancer risk to these people. For these reasons, your awareness of the situation and any possible assistance which you and your staff may be able to provide would be greatly appreciated.

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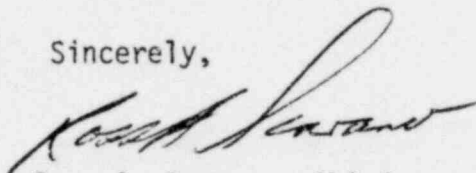
In response to these developments, the U. S. Nuclear Regulatory Commission (NRC) has been working closely with representatives of the State of South Dakota to provide technical assistance as required. The NRC has also requested the assistance of the U. S. Department of Energy (DOE) to initiate a remedial action program in Edgemont (Enclosure 2 - letter dated January 16, 1980, from W. J. Dircks to R. C. Clusen). Also, the NRC has requested the EPA to initiate a radon-in-water sampling program in the area in order to assess this possible exposure pathway (Enclosure 3 - letter dated January 18, 1980, from R. A. Scarano to D. W. Hendricks).

Presently, the State is continuing to place the available RPISU's in other structures expected to exhibit above-background working level values as well as to determine background levels in normal structures (Enclosure 4 - letter dated January 18, 1980, from G. G. Eadie to V. Kallemeyn). Hopefully, additional monitoring support will be forthcoming from the DOE. Therefore, as more data becomes available, it would be most beneficial to utilize your expertise to evaluate the health effects of relatively chronic but low-level exposure to gamma radiation and radon progeny levels to the residents of this area. Cancer risk estimates, perhaps based on a brief epidemiological study, would be extremely informative. As you have already indicated to Greg Eadie, there does not appear at this time to be any medical examination, in vivo study, or biological test which could be readily completed on the exposed individuals to assess their actual health risks; however, your continued pursuit of such personal evaluation techniques is most certainly encouraged.

As outlined above, your involvement in this situation will probably require appreciable man-power (i.e., time and effort) but it also seems clear that CDC is the appropriate organization to be so involved. Furthermore, it appears a similar situation may be developing in other communities nearby uranium milling facilities in several other states. Messrs. Gregory G. Eadie and Eugene A. Trager of my staff will be following this situation.

Again, thank you for your cooperation on this matter, and I look forward to your response.

Sincerely,



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

Enclosures:
As stated

cc: Mr. Warren R. Neufeld