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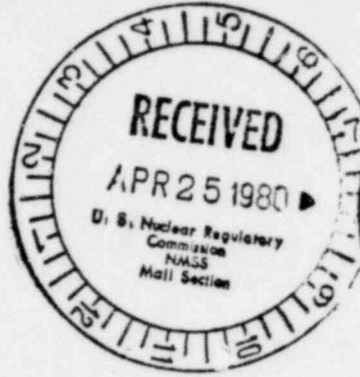
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40-1341  
Office of  
Executive Management

MEMORANDUM

April 11, 1980

TO: Hubert Miller  
Nuclear Regulatory Commission

FROM: Ric Richardson  
State Planning Bureau



Enclosed is the memorandum concerning radiation monitoring in South Dakota.

POOR ORIGINAL



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Add info

TO: Ric Richardson

FROM: Joel Smith *Joel Smith*

DATE: April 9, 1980

SUBJECT: Radiation Monitoring at Edgemont

The following is to provide details relating to conducting radiation monitoring in Edgemont, South Dakota by the South Dakota State Department of Health. These monitoring functions were prompted by the anomaly findings of 1971-72 and 1978 as well as the more recent requests for evaluation of individual home radon-daughter levels as a requisite to obtain HUD loan quarantees.

Although we design our own future monitoring and research program, protocol for the individual HUD home evaluations and the certification of compliance are a HUD-EPA responsibility. The State Department of Health will conduct the measurements utilizing the Federal protocol which is summarized as follows:

1. The property owner will request the evaluation on a Federal form (copy attached) that will be processed in conjunction with the City Planning Office.
2. The City Planning Office will provide the request form to the State Department of Health. The Department of Health will contact the property owner to schedule the evaluation.
3. The State Department of Health will collect and measure the radon-daughter air sample in the home in accord with the protocol. If the radon-daughter concentration of the closed house (HCR) exceeds 0.02 working levels (WL), the house will be ventilated for 15 minutes and the "house open" (HOR) radon-daughter sample will be collected. A weighted working level (WWL) will then be calculated by adding 7/12 of the HCR to 5/12 of the HOR. IF the WWL exceeds 0.015 it will be necessary to sample the house on another day and all measurements taken will be averaged to determine the WWL. The HUD Central Processing criteria states that "any weighted indoor Working Level (WWL) at or below 0.02 WL is acceptable" with the exception that on vacant land "A weighted indoor Working Level above 0.015 WL must be referred to the Environmental Protection Agency".
4. In addition to the radon-daughter determination, measurements of gamma radiation will be made in each house at the floor and waist level. These measurements will be made with the Pressurized Ion Chamber (PIC) and scintillometer instruments. Results of the gamma readings will be utilized as another indicator or possible radiation sources in or around the building.
5. Since there is a pending legal action regarding the HUD requirements and to assure that the individual property owner understands the future utilization of the radon-daughter evaluation, the property owner will be requested to sign a form at the time of the measurement which will authorize confidential release of the results to HUD and to the Mayor to design a remedial action program.

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FEE EXEMPT

6. It is important to note participation of the State Department of Health in this process is limited to conduction of the measurement. This limited participation is confirmed by the protocol and Block B of the attached Radiation Hazard Evaluation Request for Test Form which provides that only the test results and evaluation comments will be provided by the Department. The Department of Health does not certify the structure; certification is done by HUD.

In recognition of the request by Mayor Zeimet that the HUD evaluations be given priority over the anomaly study, it is planned to continue with the requested HUD home measurements. The collection of radon-daughter grab samples has also been initiated in those anomaly homes where permission has been given for such measurements. Radon Progeny Integrated Sampling Units (RPISU) are being placed in the anomaly homes which have grab sample results which exceeded 0.02 WL. As personnel and equipment limitations permit, it is proposed to complete the radon-daughter grab samples in anomaly homes where permission is granted and also conduct indicated further study of anomaly homes. It is also planned that further evaluations will be made to other homes having elevated radiation levels.

The remedial action program is presently being delayed by the final evaluation and interpretation of soil samples by TVA and EPA. Preliminary findings of these sample results have been received; however, there was an initial difference of opinion on the results. We understand most of these differences have now been resolved. It would appear; however, that the remedial action may require functions not authorized or appropriate for the State Department of Health; however, we will participate to the extent possible and necessary to protect the health of future residents of houses found to contain radiation hazards.

Aside from the soil sample findings; clearance will have to be obtained for disposal of removed materials. Methods and criteria for removal of radioactive materials will have to be established and the sources of funding will have to be determined. It is our present hope, with some support by our preliminary findings, that the initial concern that this may be a problem of radioactive contamination of large segments of the community is not correct. Consequently, the need for remedial funds may not be as great as in Colorado or Montana; however, it is understood that some consideration is being given to obtaining Federal Legislation to fund remedial measures.

Another area of effort which the Health Department has initiated for determination of possible health effects associated with radiation exposure in Edgemont is biological sampling. Consultation has been obtained from Dr. Glyn Caldwell of the Center for Disease Control and preliminary arrangements made for collecting and processing biological samples from the Brafford family to indicate the degree of radiation exposure. It is understood that the family's legal representative has currently decided that they should only partially participate in this sampling program. The Health Department is also conducting a biostatistical review of cancer death rates in conjunction with the Center for Disease Control to determine any possible increases in these rates which could be associated with radiation exposure in Edgemont.

In summary, the Health Department is concerned that any hazardous human radiation exposures in Edgemont are located, evaluated and controlled as soon as possible. To accomplish this task will require some redirection of our limited resources; however, it is our plan to continue these efforts as necessary. The major accomplishments to be completed include the measurement of radon-daughters for HUD-EPA clearance, the completion of anomaly evaluation and remedial measures, and the removal and disposal of uranium sand and slime tailings as well as other

Ric Richardson

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radiation sources associated with decommissioning of the uranium mill. We recognize these as mandated functions delegated by the legislature to the Department of Health by the Radiation Control Act. We feel fortunate that prior Health Department control efforts at this time appear, with a few possible exceptions, to have limited the distribution of the radioactive mill wastes to the mill property rather than the Edgemont community and look forward to the ultimate deposition of these wastes in a final safe resting place.

We appreciate your interest and assistance with these problems and look forward to coordinating the State's effort, responsibly and effectively.

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