

C. C. Palaiter, Inspection Specialist
Division of Inspection, Washington, D. C.

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Donald I. Walker, Director, Division of
Licensee Inspection, Idaho Operations Office

ORIGINAL SIGNED BY
DONALD I. WALKER

CITATION OF URANIUM REDUCTION COMPANY, MOAB, UTAH, SOURCE MATERIAL
LICENSE NO. R-161, UNDER 10 CFR 20.201(b) SURVEYS

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With respect to our conversation with Dick Cunningham this morning concerning the citation of URC under 10 CFR 20.201(b), Surveys, I should like to put my comments in writing in hopes of clarifying, for your benefit, my thinking and opinions.

To reiterate, you will recall that the licensee, URC, was cited for not completing their survey to determine dosages to personnel, while, as Cunningham mentioned, some of the other mills who have not employed film badges at all have not been cited under this section. You will note in 10 CFR 20, that there is no requirement for a licensee to use film badges in determining dosages to personnel unless an individual "receives or is likely to receive a dose in excess of 25% of the limits specified in Appendix A" of Part 20. Because of this, I do not feel that any mill who has made an adequate survey and who obtains results usually found in mill environments can be required to subscribe to film badge service unless he so desires. With one or two exceptions where unusually high readings for a mill (around ion exchange columns which apparently accumulate uranium daughter products), i.e., 20-25 mr/hr, I will agree with mill management that it is not likely that any employee is apt to receive in excess of 75 mrem in a working week, as has been borne out by some mills who have had film badge service. I feel that this is essentially true for any mill including the URC mill at Moab.

Had URC made only their radiation level survey and stated that from this they felt that no employee was receiving in excess of 75 mrem per week, I would have agreed that they were probably correct. However, URC, like some of the other mills, elected to employ film badges for representative categories of employees to verify their feeling that none were being exposed to more than 75 mrem per week. In so doing, the licensee found that the one employee in the tailings area who was badged and the one in the packaging area who was also badged were receiving in excess of the 75 mrem per week, i.e., 160 and 140 mrem per week respectively.

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Because of these reports, I do not feel that we can completely ignore the fact that the other employees in the same areas, if badged, might have film badge readings equally as high, regardless of the manner in which the film badges have been exposed. I agree with your thought that the readings may be caused by contamination of the badges and may not necessarily represent true whole-body exposures to the individuals. However, I do not feel that I, in the position of an inspector, can immediately assume, as Cunningham suggested, that the readings are caused by contamination and thereby ignore the film badge records.

Under the circumstances, I feel that the licensee must be cited, not for overexposing the employees, since the readings are not in excess of 300 mrem per week, but for not having a complete survey. I feel that he should make every effort to determine whether or not the readings represent whole-body exposures and if they do, additional film badges should be employed for other personnel in the mill, at least those in the two areas mentioned. If, through additional survey work, i.e., checking for contamination of badges, duplicate badging of personnel, etc., the licensee can reasonably show that the individuals are not receiving a dose in excess of 75 mrem per week, they can dispense with film badge service as far as the regulations are concerned.

As Cunningham mentioned in our conversation, the five mills to whom recent orders were sent have not been cited for the same portion of 10 CFR 20.201. In each of the three Union Carbide Nuclear mills, Urvan, Green River, and Maybell (Trace Elements), the licensee did make an attempt to evaluate occupancy factors of employees in the mills, in addition to determining radiation levels. Vitro also made a survey of radiation levels within the mill areas. In each of these four specific cases, the mill management had come to the conclusion, based on their survey, that no one was receiving or apt to receive in excess of 75 mrem per week, which would, to comply with the regulations, require film badging of employees. I concur with their conclusions. However, should any or all of these four mills decide, at some time in the future, to employ film badges for part of the employees in a particular area and were then to find that any of the reports indicated exposures in excess of 75 mrem per week, I would then feel compelled to cite them for not having made a complete survey to determine exposures to individuals.

I am convinced that the exact situation as outlined above will occur at some time in the future and I see nothing wrong with this approach under the current regulations. Should the regulations be written in such a way that each specific licensee, regardless of the amounts of

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material which he may possess or use, be required to employ film badges for his personnel, at least for a specified period of time, as a means of making a survey, our individual interpretations of 10 CFR 20.202 a)(1) would be eliminated.

Upon reviewing the VCA report, I will acknowledge that I have been in error for not citing them for making a determination of estimated dosages to personnel by conducting a complete survey for radiation levels. As was indicated in Paragraph 12 of that report, mill management has been and is much more concerned over potential exposure to employees from airborne contamination than from external radiation, and rightly so, judging from the results of their air sampling. Needless to say, I, after examining their airborne survey records, agreed wholeheartedly with them. I concede that they should have been cited, additionally, for lack of conducting an external radiation survey. This omission of data on their part was discussed and mill management did agree to make a survey to cover this portion of their program. However, let me again reiterate that, upon viewing their records during the next inspection of the mill, if the survey is complete and radiation levels are comparable to those found in other mills, I cannot cite them for not having employed film badges.

I regret having slipped on the citation to VCA on radiation surveys, but do not feel that any action taken thus far with any of the mills is at all conflicting with the citation to URC for not following through with additional film badging of personnel in view of their current film badge results.

It is hoped that this will somewhat clear the air on this subject and will inform you of our handling of such matters. We intend to continue with this since we feel it is a reasonable and sensible approach. Should you have any suggestions toward a better solution, we should be most appreciative of any comments from either INS or DLR.

I also feel that it is mandatory for the DLR personnel who are handling the mill problems, Cunningham, Lane, etc., to spend some time at some of the mills, preferably during inspections, to acquaint them first hand with the problems involved.

BCC: W. J. Lagarde, ID Liaison Officer, Wash.

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