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40-8084/NMS/85/11/19/0

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Docket File 8084
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URFO:NMS
Docket No. 40-8084
040080846105

MEMORANDUM FOR: Docket File No. 40-8084

FROM: Noah M. Shopenn, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

SUBJECT: REPORT OF AN OVEREXPOSURE TO PERSONNEL WORKING
UNDER A RADIATION WORK PERMIT AT RIO ALGOM'S LISBON
MILL

Rio Algom Mining Corporation's letter of August 23, 1985 reported the overexposure of a maintenance worker to airborne yellowcake during maintenance work on the yellowcake dryer gas cleaning system. This was followed up with a formal report dated October 15, 1985 and additional information submitted October 28, 1985. During the time of exposure, the individual was wearing a fit-tested half mask respirator and was equipped with a lapel sampler. Respirator protection factors were used in the calculation for exposure. This resulted in an exposure of 270% of the weekly MPE.

Bioassays were obtained prior and after the RWP work was performed. In addition, bioassays were collected daily from August 10 to August 19, 1985. Samples collected on August 10 and 11, 1985 were weekend samples that were analyzed on August 12, 1985. Since the August 12, 1985 sample was below 15 ug U-nat, there was no concern; however, when the August 13 sample was analyzed and showed 167 ug U-nat, the worker was removed from all plant work. The causes for the low then high reading can be attributed to the increase in the individual's fluid intake over the weekend, the solubility of the U-nat inhaled and the personnel reducing their fluid intake when at the mill due to the very poor palatability of the water. The licensee conducted an in vivo examination and the results showed a body burden of 7.8 nano curies (nCi) of uranium. While this did not exceed the 9 nCi first action level, it did show that the individual

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had an exposure. This information with the positive albumin results confirms the exposure. Therefore, in view of the evidence, the reviewer concludes that an exposure above limits specified in 10 CFR 20.103 (Appendix B, Table 1, Column 1) did occur. The determination was made after staff evaluation of bioassay, in vivo counting and evaluation of the investigation submitted by the licensee. The staff utilized these results in accordance to provisions in 20.103(d)(3) and 20.108 to establish that an overexposure did occur. Regulatory Guide 8.9 and 8.11 further discusses these requirements.

The licensee's corrective action to prevent a reoccurrence has been to establish closer supervision, direct observation of the work by the Health Physics Group, wear airline respirators and restrict all other activity and personnel when the job is performed under the RWP. In addition, a re-education program is being initiated for maintenance personnel.

/s/

Noah M. Shopenn, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

Approved by:

/s/

Harry J. Pettengill, Chief
Licensing Branch 2
Uranium Recovery Field Office, RIV

Case Closed: 04008084610S

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| DATE | : 85/11/20 | : | 11/20 | : | 11/20 | : | : | : | : | : |