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SOME POST EXPOSURE STUDIES ON URINARY URANIUM

An evaluation of enriched uranium excretions of employees who had been exposed to excessive air-borne concentration of the metal and its compounds for periods of time ranging from two to eight years necessitated the termination of subsequent exposure of 21 employees who had been excreting high concentrations of the product level material. Exposures were terminated by re-assigning the 21 cases of over-exposure to work completely devoid of the handling of uranium or its compounds.

Immediately following the re-assignment of the work complete physical examinations were conducted upon the group. No significant body damage was detected.

During the post-exposure period, urine specimens were submitted at a frequency of one per day for the first four weeks, thence after, one per week. Uranium concentrations found were plotted on semi-log paper from which tremendous fluctuations were noted and hence, dictated a statistical analysis - the least squares curve fitting technique. The employees returned to their original work when the excretion level, as determined by the best fitting curve, coincided with the average excretion of the other employees. At some 200 days post exposure, all of the 21 returned to their original work locations.

CLASSIFICATION CANCELLED
OR CHANGED TO
BY AUTHORITY OF DOE/DPC
REVIEWED BY 2/1/85 DATE

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An average decay constant computed from the excretion data decreased by a factor of 10 at 200 days after cessation of the exposure and continued to decrease - but more gradually, thus preventing the promulgation of a "half-life" until more data can be obtained.

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