

~~SECURITY INFORMATION~~

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MINUTES

Thirty-sixth Meeting of the General Advisory Committee
to the U. S. Atomic Energy Commission

August 17, 18, and 19, 1953
Washington, D. C.

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<u>John Simpson</u>	<u>U</u>	<u>5/25/80</u>

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The Sr-90 in the Chicago baby, presumably accumulated mainly in the last two or three months of gestation, corresponds to about 1/1000 of the tolerance figure. (Dr. Libby commented on the difficulty of obtaining human samples, and suggested that stillborn babies, which are often turned over to the physician for disposal, might be a practical source.)

Attempts to compare these data with expectation based on the Sunshine model brought out the importance of fluctuations in the fall-out pattern. Dr. Bugher said that we need to increase the number of stations in order to get a more reliable picture of the fall-out. Dr. Rabi said that the question of uniformity comes to be the principle practical point.

Summarizing some important questions brought up by the Sunshine Policy Questions raised by Sunshine report, Dr. Libby said that the Commission has to decide (1) whether it wants to engage in a world-wide sampling program; and, (2) whether to O.K. the coming test program.

This Session was adjourned at 5:40 p.m.

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This final Session of the Thirty-sixth Meeting was adjourned at 4:05 p.m.

Richard W. Dodson
Secretary

Attachments (2)

seeker; the hazard is the development of bone cancer. Because of the nature of its fission product precursors, it is believed that the Sr-90 will probably plate out on the particles present in the explosion cloud; and, hence, when the particles fall out the strontium will be readily available for solution in water and uptake by plants.

Various assumptions and features of the model adopted in Sunshine are the following.

The
Sunshine
Model

(1) That all of the Sr-90 formed is uniformly distributed over the surface of the globe.

(2) That there is no atmospheric storage mechanism which will permit the Sr-90 to decay significantly before it is deposited on the surface.

(3) That the deposited material is completely available for incorporation into the biosphere.

(4) That the bones of an individual growing in an environment having a given ratio of Sr-90 to natural strontium will contain Sr-90 and natural strontium in the same ratio (no isotopic fractionation).

(5) That the amount of agriculturally available natural strontium per acre is 60 pounds.

(6) That the normal U.S. adult contains 0.7 g of strontium in his bones.

(7) That one microcurie of Sr-90 per adult individual is the maximum amount which can be retained safely in the body.

Evaluation of Hazard On these bases, and from the fact that one kiloton of fission explosion forms one gram of Sr-90, it was concluded that the minimum nuclear

