



HEALTH PHYSICS

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State of California
Department of Health Services
744 P Street
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Attention: Radiologic Health Branch

Gentlemen:

We are writing to inform you of the planned demolition of the Ryan Laboratory on the Stanford Campus.

The Laboratory once housed the Stanford Pool Reactor which was shut down in 1973 and decommissioned by action of the U.S. Nuclear Regulatory Commission on 21 June 1983 terminating the Facility License. (Docket No. 50-141)

At the time of decommissioning a small area of concrete under floor of the tank over which the core was suspended contained activation products which were described in our letter to the NRC, dated 3 June 1980. A copy of which was sent to your office. (We have enclosed an additional copy with this correspondence.)

On May 9, 1988 additional core samples were removed under the direction of U.S. Ecology, Inc. and were analyzed by Controls for Environmental Pollution, Inc of Santa Fe, New Mexico. We have enclosed a copy of their report of findings.

The findings of sample 01, "#1-scan approx 1 cm @ top" indicated Na-22, Co-58, and Sb-122. These findings are spurious in that Na-22 is not an activation product for reactors and was not previously found; the last two are short lived materials and would not be present at this time. The Europium-152 and Cobalt-60 are as previously found. A comparison was made between the hottest sample of the 1979 test and recent sample 01. The latter was at 1 cm from the top, the former was a 90 gram composite from the surface to 1.36 inches (3.45 cm). These two samples were from the same area of the concrete floor under the tank.

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After decay correcting the samples were as follows:

1979 Sample 4-1 (pCi/gm)		CEP Sample 01 (pCi/gm)	
Eu-152	Co-60	Eu-152	Co-60
75.5	22.34	150	41.3

A second comparison was made between sample 4-3 and CEP sample 02, "#1 scan approximately 10 cm from the top". The Stanford sample was a 90 gram composite from 3.0 to 4.88 inches (7.62 to 12.4 cm).

1979 Sample 4-3 (pCi/gm)		CEP Sample 02 (pCi/gm)	
Eu-152	Co-60	Eu-152	Co-60
38.8	8.70	51	12.5

Considering the difference in the method of sampling the samples are in reasonably good agreement.

These levels of activation may be compared with the limits of activity permitted in water released to an uncontrolled areas* as follows:

Eu-152 (soluble/insoluble)	80 pCi/ml
Co-60 (soluble)	50 pCi/ml
(insoluble)	30 pCi/ml

* Reference Title 17, CAC, Section 30355, Appendix A, Table 2, Column 2.

The concrete was constructed with a layer of "grout" for about the top two inches. This layer is relatively "removable" from the remainder of the concrete which is 22 inches thick and very difficult to remove. The active area is about 1 meter by 1 meter.

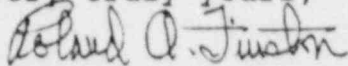
We plan remove the top two inch layer of grout and dispose of the material as radioactive waste. We then plan to have the remainder of the biological shield and the floor of the laboratory some 22,000 square feet and the adjacent concrete office building demolished and crushed by the demolition contractor. The crushed rock product is to be released for unrestricted use. The traces of radioactivity in this large mass, having started out below the limits, will be truly negligible.

We further plan, at the conclusion of the demolition, to have soil samples removed from various areas on the site and analyzed to verify that no residual activity remains. The site is to be used for a faculty/ staff housing project.

We are informing you of these plans as a courtesy should you care to offer advice and/or comments. The facility is no longer under any license, but we believe that it is prudent to inform you of these plans. Please call me, or John Holmes at (415) 725-1413, if you have any questions.

The demolition plans are to be implemented during July or August of this year.

Very truly yours,



Roland A. Finston
Director of Health Physics

cc: Jean Barnes, Provost's Office
Jennifer Gould, Facilities Project Management
✓ W. Crutchfield, Chief, Operating Reactors Branch #5
Division of Licensing, USNRC