



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 27 1976

Ms. Ana Crapsey
Environmental Action
Suite 731
1346 Connecticut Avenue, N. W.
Washington, D. C. 20036

Dear Ms. Crapsey:

This letter is in response to your inquiry of July 30, 1976, regarding abnormal releases from the Millstone plant reported in June 1975.

There has been considerable interest in the past concerning these events by the public, the State and Congress. Correspondence dealing with this subject can be found in the Public Document Room at 1717 H Street, Washington, D. C. and at the Waterford Public Library, Rope Ferry Road, Route 156, Waterford, Connecticut.

In the period, January 1, 1974, through March 11, 1976, noble gases and their associated decay products, mainly Cesium 138 (Cs-138) and Rubidium 88 (Rb-88), attributed to Millstone Nuclear Power Plant Unit No. 1, were detected by air sampling instruments located at Electric Boat Division of General Dynamics in Groton, Connecticut. Occasionally these releases have set off alarms at Electric Boat facility. However, the measured concentrations are based upon Cobalt 60 (Co-60) Standards and not Cs-138 or Rb-88. Using the Co-60 equivalent makes the alarm setting conservative by a factor of at least 100, compared to the NRC standards for Cs-138/Rb-88. In addition, the alarm settings were based upon criteria oriented towards monitoring and controlling operations occurring at the shipyard rather than toward allowable limits for the general public.

The indications of noble gas activity were sporadic and usually of short duration. During the 27 month period ending March 1976 alarm conditions occurred at Electric Boat 55 times, for a total accumulated time of substantially less than 1% of the time.

To place these alarm conditions in proper perspective, one must remember that the allowable levels for the general public for airborne activity are based upon constant exposure of 24 hours a day, 7 days a week and may be averaged over a calendar year. Assuming the worst situation; i.e., exposure at the upper end of the high response, the concentration would be $5 \times 10^{-8} \text{ uCi/ml}$.

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Since these levels would occur less than 1% of the time, a conservative calculation of the average annual concentration would be no more than 5×10^{-10} Ci/ml. This concentration would be equivalent to 2% of the Maximum Permissible Concentrations (MPC) for Cs-138 and Rh-88 and would deliver an annual dose of about 10 mrem to the whole body. This dose is approximately 10 percent of the average annual dose an individual would receive from background radiation anywhere in the United States.

Through discussions with ERDA-Naval Reactors personnel, it was determined that since October 1975, there have not been any evacuations as a result of an alarm at Electric Boat. This information coincides with the fact that Millstone 1 had completed refueling with an improved designed fuel and started up in October 1975.

We trust this information has been responsive to your request.

Sincerely,

Original signed by
B. Thompson

Dudley Thompson, Acting Director
Division of Field Operations
Office of Inspection and Enforcement

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