

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

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ACTION OFFICE: EDO

To: Virgilio, NMSS

AUTHOR: Kevin Jones

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DEDMRS
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RI

AFFILIATION: NY

ADDRESSEE: Michael Gerrard

SUBJECT: Concerns the Radiac Research Corporation (Radiac) facility

ACTION: Appropriate

DISTRIBUTION: RF

LETTER DATE: 12/24/2003

ACKNOWLEDGED No

SPECIAL HANDLING: Publicly available in ADAMS via SECY/EDO/DPC

NOTES: cc: Chairman Diaz

FILE LOCATION: ADAMS

DATE DUE:

DATE SIGNED:



**STATE OF NEW YORK
DEPARTMENT OF LABOR
Counsel's Office
Room 509, Building 12
Harriman State Office Building Campus
Albany, New York 12240**

December 24, 2003

Michael B. Gerrard
Arnold & Porter
399 Park Avenue
New York, New York 10022-4690

Re: Radiac Research Corporation (License No.
1944 -1879)

Dear Mr. Gerrard:

This is in response to your letter of July 30, 2003, which responds to the Commissioner's letter of July 16, 2003.

Your initial observation, that the Department does not dispute your claims regarding the likelihood of an accident at the Radiac Research Corporation (Radiac) facility, misconstrues the Commissioner's July 16, 2003 letter. The likelihood of a radio-nuclide release at this facility was not discussed because the health consequences of such a release, at least as they relate to radiation hazards, would be minor, irrespective of the likelihood of such an accident.

The Department does not concur in your view that a catastrophic event at this facility is likely to occur. In the forty plus years that this Department has been licensing such facilities, no such incident has ever occurred in this State, nor in any other state, so far as we know. In our view, the likelihood of an accident at this facility is low, and the potential for individuals to suffer significant off-site radiation doses is virtually nonexistent. The reference to NUREG-1140 methodology in the previous letter was only intended to illustrate this latter point. The trigger levels in Table 7 provide a standard for requiring an applicant to develop an off-site emergency response plan. They are not relevant to the question of whether or not a license will be issued. The criteria for granting a license are clearly spelled out in Industrial Code Rule 38 (12 NYCRR 38).

In your letter, you delve deeply into the potential effects of a release of a number of radio-nuclides, all of which are technically permissible under the license but which are in reality an insignificant portion (microcurie to millicurie quantities only) of the waste stream which passes through this facility, including: iodine -125 and iodine -131 (both of which have short half-lives and so will normally be held for decay by the generator), lead - 210, curium - 245, neptunium - 237, actinium - 227, uranium - 233, uranium - 235, and plutonium. The entire

inventory of radioactive material currently on hand at the facility amounts to less than 30 curies, the bulk of which (more than 95% by activity) is comprised of tritium and carbon-14. Thus, your concerns in this area appear to be misplaced.

You also raise the issue of alpha emitters getting lodged in the lungs of an exposure victim, especially a child, and suggest that we did not adequately take into account the danger of such exposure. In fact, this exposure pathway (inhalation) is assumed to account for the largest off-site doses under NUREG-1140 methodology, and is therefore already built-in to the Table 7 values. Furthermore, you mention the possibility of a structure fire at the adjoining toxic waste facility, which is not subject to regulation by the Department of Labor. Under such a scenario, a fire would have to start and reach such an intensity as to breach the barrier between the two facilities, then reach the radio-nuclides' storage containers, and then affect the containers so as to allow a partial release of their contents. While certainly a possibility, the probability of such an occurrence again appears to be relatively insignificant.

In order to intake an alpha emitter via the inhalation pathway, an individual would of necessity be simultaneously exposed to the smoke plume from the fire. The smoke itself constitutes an immediate hazard to life and health. As compared to the hazard of the smoke itself, any additional hazard attributable to radionuclides from Radiac's inventory, that later become embodied in the plume, would most likely be inconsequential.

The off-site doses calculated in the NUREG scenario assume that the receptor remains directly in the smoke plume for 30 minutes, making no effort to move out of the smoke. Due to the conservative nature of this underlying assumption, we are confident that any radiation doses received in an actual radionuclide release, either by children or adults, would be far lower than those projected by the table. I also must stress that such analysis is only relevant to the issue of whether an off-site emergency response plan is required, not whether to grant a license, or to renew an existing one.

In summary, Radiac has met all the requirements for the issuance of Department of Labor Radioactive Materials License. It has a good compliance history, and remains in compliance with the applicable provisions of the code and the conditions of its license. You have raised no facts that controvert this. Consequently, the Department lacks any basis upon which to take action against this facility's license.

Accordingly, your request to close this facility is denied, and this matter closed.

Very truly yours,



Kevin E. Jones
Senior Attorney

cc: Nils J. Diaz, Chairman, NRC