

September 29, 1982

**Battelle**

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REPOSITORY PNL Telex 15-2874  
 COLLECTION I-131 Atmosphere  
 BOX No. 3159  
 FOLDER HMP Letterbook

Dear Dr. Olby:

Thank you for your letter of September 13, inquiring about our early experience with the environmental problems of  $^{131}\text{I}$ . Please give my regards to Drs. Loutit, Chamberlain and Scott-Russell, and also to Bill Spiers of your University.

Contrary to the impression you have gained, there was never any time at which the response of either the Manhattan Project, or its successor, the AEC, was less than we asked for. This began during the war period with the first dissolution of reactor fuel pieces leading to expected release of  $^{131}\text{I}$  via the process stacks. Unexpected was the deposition of much of this on vegetation. Emissions were immediately halted until we could reevaluate the environmental conditions. I believe that my Janeway Lecture to the American Radium Society reported that we ultimately reduced the permitted emission by a factor of 6000. This was difficult, time-consuming, and expensive, and I believe is a sufficient answer to your concern about AEC support.

In the immediate postwar period, we began major biological programs on the  $^{131}\text{I}$  hazards most relevant to the Hanford situation. The best known is Dr. Leo Bustad's work on sheep. This was chosen because Hanford lies in the middle of a traditional sheep ranging country. Dairy cattle were not involved so that we made no direct contribution to the major grass-cow-milk-children pathway. It may be for reasons like that that you have developed the negative reaction. In great contrast with the dangerous Windscale plant, our emission points were surrounded by a controlled exclusion zone of some 12 miles radius. Neither children nor cattle were ever within this zone, and that very much affects the critical exposure problems.

Sincerely yours,

H. M. Parker  
 Consultant

cc: A. G. Fremling, Manager  
 Richland Operations Office, DOE