

R. Boyd, Chief, Research & Power Reactor Safety  
Branch, DRL

April 13, 1966

R. L. Waterfield, Acting Chief, Site-Environmental  
Branch, DRL

ADDITIONAL INFORMATION REQUIRED ON HUMBOLDT BAY STACK LIMIT  
DOCKET NO. 50-133

We have analyzed the information supplied in Proposed Change No. 20, and have the following comments and questions.

It is stated that sigma A, the horizontal wind fluctuation, is a better indicator of atmospheric stability at this site than the vertical temperature distribution. We believe that this is so, and therefore request that you supply the wind velocity and direction distributions for various narrow ranges of sigma A. Without this data, one cannot make full use of what has been learned about the site.

You state that 5 months of wind data has been taken on top of Humboldt Hill. We feel that this is a valuable indicator of the diffusion climatology, and that it should be analyzed and presented to us. A correlation between wind directions at the hill and at the reactor, particularly with the associated wind velocities and values of sigma A, might show that the requested limit is justified.

On page 6 there is an implication that some effective stack height was used. Please supply the equation used for this calculation.

Please supply some data to substantiate the validity of the assumed shielding factor of 0.76 for residences in the area.

Please supply additional information concerning the zoning and possible future use of the industrial land between the site boundary and highway No. 101, to substantiate the claim of 10% occupancy. Would it be possible for someone to build an industrial facility on this land in which a few responsible might spend as much as 10 or 12 hours per day?

Please provide a numerical example of how the calculated values of Chi/Q were obtained, and explain why they are not always proportional to the number of counts at a sampler.

According to our calculations, if one takes the data for a 30 degree sector centered near north, rather than the 90 degree sector used, the calculated stack limit will be approximately half as large as proposed. Please justify use of the 90 degree sector.

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