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24 December 1979

Dr. Hans B. Schechter
Office of International Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Schechter:

Thank you for your call of November 29 and your interest in a review of the volcanologic portions of site safety documents for the Philippine Nuclear Power Plant #1. I am enclosing the review you requested, and sincerely hope that it will be a constructive contribution to the safety discussions.

By providing this review directly to you I am making my remarks inherently less strident than those presented in a public forum. I hope that in return you and your staff will weigh my remarks no less carefully and perhaps more carefully than had they been presented differently. This is in no way a condemnation of the public hearing process, but rather a statement that in advance of any formal hearing, I believe safety will be better served by objective scientific discussions.

We can be neither alarmist nor sanguine about volcanic risk -- historical records of volcanic activity are too short and the recurrence intervals of some volcanic events too long to find easy answers. The science of volcanology is making progress toward understanding pre-historic activity of volcanoes, but this requires careful field work which, in these times of advanced analytical equipment and pressing deadlines, is all too easy to skip over. Without the additional information detailed in my review, we simply cannot conclude that the risks are approximately those stated by Ebasco. The fact is that we simply won't know until the additional field and laboratory work is done. I suspect that Ebasco has correctly estimated some volcanic risks and seriously underestimated others, but without the critically important detailed geologic study one cannot presume to estimate risks for an important matter like this.

I encourage you to seek independent evaluations of the Ebasco documents and of my review, and to share my review with both the N.R.C. commissioners and with the appropriate technical and policy personnel in the Philippines.

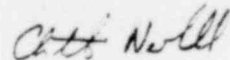
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Kindly keep me informed of your distribution of this review,
and of further discussion of the volcanic hazard issue.

Finally, let me encourage you again to undertake
development of volcanic hazard guidelines at once. While
such guidelines were once thought unnecessary, the present case
and the general prospects of energy crises in many volcanic
areas of the world point out a pressing need for the same.
Without such guidelines, volcanic hazard evaluations will
likely be hit or miss affairs filled with acrimonious debate
over ground rules rather than careful evaluations of specific
sites.

Sincerely yours,



Christopher Newhall
Graduate Student