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From NMB-J

JO-307

May 28, 1957

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Albuquerque

J. E. Reeves, Test Manager
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P. O. Box 5400
Albuquerque, New Mexico

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Dear Mr. Reeves:

One of the prime requirements for firing a large device at the EPG is that the radioactive material falls out in uninhabited areas close to the proving ground. In order to be sure that this condition will be satisfied, JTF 7 and the AEC have set-up a weather observation net and a weather central to allow proper prediction of the wind vectors at all altitudes and points of interest. In addition to this, the AEC through its laboratories, has established a Fallout Prediction Unit responsible for determining to the best of their ability where the fallout material will go under any wind condition.

There are two large uncertainties in the present prediction system. The first and most important of these is simply the fact that the analysis of observed weather information to produce a wind map is a long and tedious hand operation performed by as many as thirty people. It normally takes from four to five hours to accomplish this analysis after the observations are taken. Since weather observations over the whole Pacific weather system are taken every six hours, we quite often find ourselves in the situation of using weather information as much as twelve hours old to decide whether a shot should be fired.

In an attempt to improve this situation, Messrs. Stopinski and Israel of the LASL have developed a code to set weather information directly into an IBM 704 calculating machine which then, with the appropriate extra attachments, can produce a weather map in a few minutes. The presently developed system is not satisfactory; however, it is sufficiently promising that I believe by the time of Harlick an adequate code will be developed. The safety of the Pacific operations will be greatly increased if we can properly use the latest observed winds before firing a large shot.

DEPARTMENT OF ENERGY DIVISION OF APPLIED PHYSICS
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