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December 16, 1944

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PER DOC

To: Messrs. H. L. Anderson	Morrison
Bacher	Oppenheimer
Feld	Segre
Fermi	Serber
Feynman	Teller
Frisch	Weisskopf
Holloway	J. H. Williams
Manley	R. R. Wilson

FINAL DETERMINATION  
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 L. M. Redman  
 JAN 14, 1981

From: Samuel K. Allison

I have already received from J. H. Williams some suggestions for the experimental program on the 25 metal spheres. I would appreciate it if any ideas you may have for such experiments could be communicated to me either verbally or in writing during the next week. They will be collected and edited and submitted to a group of physicists, I hope within the next ten days. The fundamental objectives seem to me to be

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- (1) To be able to extrapolate with the maximum reliability to the critical mass at the earliest possible date.
- (2) To be able to extrapolate the multiplication time ( $k-1$ ) as a function of mass and tamper for hypercritical assemblies.

The fact that these are the highest priority objectives need not prohibit experiments to give other information. These should be rated considering the importance of the information to be gained, the time spent, and the amount and kind of apparatus allocated.

One unclear point needing ideas is how to proceed very near criticality. Should small increments of active mass be added at the center, or should small additions to the tamper be added at the outside, etc.?

*Samuel K. Allison*  
 Samuel K. Allison

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*[Signature]* JUN 18 1998

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