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August 14, 1944

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PER DOC REVIEW JAN. 1973
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R. F. Bacher

J. R. Oppenheimer

Organization of Gadget Division

In order to put in writing the contents of some of the discussions we have had on the subject, I am sending you a directive on the functions of the Gadget Division and of its relations to other parts of the laboratory. We both appreciate that this can be only a bare outline and that it is undesirable that all details be settled in advance.

The fundamental functions of the division should be as follows:

1. To develop methods and to apply them for the determination of the hydrodynamics of implosion with particular emphasis on symmetry, compression and the behavior of materials useful in a gadget.

2. To conduct semi-integral and integral studies of the materials to be used in implosion gadgets from the point of view of their multiplication properties.

3. To be immediately responsible for the design specifications of the tamper, active material, source, etc., to be used in implosion gadgets, and for the appropriate correlation of the results obtained by work under 1 and 2 above and of other researches in the laboratory for the development of gadget design, in so far as this does not involve determination of the explosives themselves.

4. To collaborate wherever possible in providing instrumentation for studying the problems of the Explosives Division.

It will be necessary for your division to collaborate in the closest possible way with that of Dr. Kistiakowsky since you will have common responsibility for the final program and will have to share sites, facilities, equipment and in some cases personnel. It is to be expected that in the administration of your directive some consideration will be given

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to matters of convenience and historical accident in determining the precise line at which your jurisdiction ends and his begins, but that in general you will both be guided by these directives.

It should be clearly understood that the responsibility for initiating engineering design of all parts of the gadget which fall within the directive outlined above is yours, but it is requested that in all cases in which design may affect a final gadget, and further in all cases in which a design may involve fabrication carried out away from the Site, you arrange to have designs and specifications checked with the engineering group, E-6, at the earliest date possible in their development. You are, of course, free to use the facilities of E-6 for any other problems you may wish to refer to it.

The relations of the Gadget Division to the Explosives Division will inevitably be somewhat closer than any interdivisional relations which have been required in the past within the laboratory, but your relations with Theoretical Physics, Experimental Physics, Chemistry and Metallurgy will be on the same plane as the interdivisional relations in the past. It is of great importance that in carrying out a program which is so intimately interrelated with that of the engineering groups, with military plans and with explosives research, you keep Captain Parsons promptly and fully informed of the developments of your division, of the results and of the plans for the future. It is requested that in addition to such informal conferences as may prove useful, you provide summary reports which in the near future should probably be prepared at least twice a month. You should of course feel free to present me with any problems in whose solution I could prove useful. I feel a sense of obligation to make your duties as little arduous as in the nature of things they can be.

It is clearly appreciated by me that in undertaking at this late date the grave responsibilities of the direction of

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the Gadget Division you are in no way assuring me that the program for which you will be responsible can be successful within the short time limits set by our directives and by the war. I appreciate that you agree with me that the work you are undertaking is work which this laboratory must properly undertake, and I appreciate your willingness, in spite of many personal and technical reasons to the contrary, to assume this position.

J. R. Oppenheimer

cc: Dr. Kistiakowsky
Captain Parsons
Dr. Shane

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