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MEMORANDUM

UNCLASSIFIED

29 September 1944

To: J. R. Oppenheimer  
From: G. E. Kistiakowsky  
Subject: Formation of Group X-4

VERIFIED UNCLASSIFIED  
PUBLICLY RELEASABLE  
LANL Classification Group

FINAL DETERMINATION  
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L. M. Redman  
JUN 14, 1981  
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OSTI

As a result of detailed discussions with Mr. Long, Mr. Stout, the Group Leaders of the X Division, Mr. Henderson, T/3 FitzPatrick, and Mr. Bacher, a certain scope of activities has been defined for the proposed Group X-4, to be headed by Mr. Long and Mr. Stout, and to be composed mainly of the members of the present Group CM-3.

1. In general, Group X-4 will be regarded as an Engineering Advisor and Service organization for the X Division and for some specific activities of the G Division. It will be responsible for the engineering of a variety of items, both of the expendable and non-expendable type, used in the research and development work of the X and G Divisions. Specifically excluded from their responsibilities are: Special equipment, mostly of electronic or optical character, the design and procurement of which is the responsibility of the G Division; engineering of components for the gadget and for its dummy models to be used in full scale tests, the responsibility for which remains the function of X-2; the engineering of all sorts of equipment for the field test site, the responsibility for which is also a function of X-2; the procurement of standard manufactured articles, the responsibility for which is Mr. Mitchell's function, except insofar as X-4 may be asked by the parties concerned to act as Advisor.

The following specific functions will be taken over by X-4 now, whereas others may be added to its responsibilities later if developments indicate this to be desirable.

2. Group X-4 will take over the design of and the supervision over the manufacture of explosives molds, <sup>except those required for the gadget</sup> it will be acting as a central coordinating and information agency in this respect not only for the X but for the G Division as well. No molds will be procured by any of these organizations unless they have been cleared through X-4.

Actually Group X-4 would work for a period of two to three weeks under the direction of Mr. Henderson in order to become acquainted with the problems of lens mold design and construction. Mr. Henderson would gradually step out of active operations, but would at all times remain a consultant to the group. The group would eventually take over coordination with the activities of Mr. Flader's company in Buffalo, as far as lens molds are concerned.

3. Group X-4 will act as a Chemical Engineering consultant for Group X-3 for the procurement of standard and the design of new equipment to be used at S-Site explosives plant. It is understood that Group X-4 will not take the initiative in advising the S-Site what the latter should do, but will instead be

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invited to study various problems. Naturally Group X-4 reserves the right, once it has been invited to study a problem, to advise X-3 as to the advantage of proposed changes and to define their scope and may refuse to become involved in a given problem if it considers it impractical or ill advised.

4. In order to coordinate the engineering activities of Group X-1, a section in this group now headed by T/3 FitzPatrick will be transferred to Group X-4. This section has now several functions which, in a general way, will be handled as follows by Group X-4:

(a) T/3 FitzPatrick's section has acted as a purchasing coordinator for Groups X-1 and X-3, preparing purchase requests to Mr. Mitchell's office, and submitting them for signature to Lt. Comdr. Bradbury, for X-1, and Capt. Ackerman for X-3. This function of the section will be continued unchanged and hence Long accepts only nominal responsibility (aside from purely administrative matters), that of insuring that personnel is available as heretofore to perform the function.

(b) T/3 FitzPatrick's section has operated an informal stock-room, mostly of expendable items, for explosives work of the X Division. This stock-room is now being set up as a formal unit in the new Theta Building. Here again the original plans, for the time being at least, will not be changed by a transfer of T/3 FitzPatrick's section to Group X-4, Mr. Long merely undertaking to provide for the stock-room the personnel which was assigned to this duty heretofore.

(c) T/3 FitzPatrick's section has been responsible for the maintenance of equipment at Field Sites of Group X-1. This function will be continued by Group X-4, for the time being using the same personnel which has been assigned to the work heretofore.

(d) T/3 FitzPatrick's section has been responsible for a considerable fraction of the engineering and design work for non-standard items (expendable and non-expendable) for the X-1 and X-3 Groups. These functions will be taken over by Group X-4 and some of T/3 FitzPatrick's section will be absorbed into the new and larger organization, operating for the entire X Division (and some of the G Division as well).

5. Group X-4 will take over from Group X-1 the so-called Student Machine Shop, now headed by DeLars, and will operate it for the benefit of the X Division. The General policy now agreed upon is to gradually reduce the professional staff of this shop, in the measure that the performance of the other shops improves, and eventually to bring it back to its original function as a strictly "Student" Shop for amateurs, with a minimum of professional supervision, adequate however to prevent damage to machinery and loss of portable tools.

6. Group X-4 will take over the design and procurement of various expendable items which go to make up charges used by X and G Divisions. This includes the procurement of spheres now handled by X-1. It is understood that in the future the procurement of all such items for the Groups of the G Division should be made through Group X-4, which will act as a coordinating and advisory agency.

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7. The present plans contemplate that Group X-4, through the formation of an autonomous section, will eventually take over complete design and preparation of explosive charges for firing by the G Division. In the measure that staff for such activities becomes available, it will ultimately become completely responsible for the finishing of explosive castings provided by Group X-3, engineering and procurement of other parts for larger assemblies, and delivery of all parts to the Sites of the G Division. It will not assume, however, a complete responsibility for the setting up of the charges on the Sites of the G Division; in this work, insofar as its manpower permits, it will cooperate with the several Groups of the G Division. For this explosives section, some staff now in Groups X-1 and X-3 will be transferred to Group X-4. Also the G Division undertakes to transfer to Group X-4 some of its "explosives experts", who were given to it by the H. E. Project at the time of its organization, or were trained by former E-5 and E-10 Groups, and who are now doing work which is to be taken over by the contemplated section. Procurement of additional personnel for this section will be the responsibility of the X Division.

8. It appears probable that the now existing requirements for engineering work in the X Division will not be fully satisfied by the present section X-2a and by the staff of Group X-4, as it is outlined above. Additional engineering talent for the X Division will be divided therefore between section X-2a and Group X-4. For some of the activities of the latter, it will be inadvisable to use the drafting facilities of Group O-4, and, consequently, a drafting unit, made up partly of existing, partly of new personnel, is contemplated.

9. The presently available office facilities appear to be inadequate to house Group X-4 in its new activities. Therefore, the needs of this Group should be held in mind during redistribution of space that will occur when G Guilding is completed.

10. It is understood that when reference is made above to the "procurement" activities of the contemplated group X-4, such activities will be within the frame-work defined by you for the X Division, when the latter was organized. It will therefore make use of the engineering procurement organization of the O Division, rather than setting up its own organization outside the Y project.

11. It is further understood that the activities of Mr. Long, as Leader of Group A-8 (Shops), is in no way affected by creation of Group X-4, the two remaining completely separate.

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