

JRDB 4/3

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JOINT RESEARCH AND DEVELOPMENT BOARD

BASIS FOR HANDLING PROGRAMS OF JOINT INTEREST

The attached papers, JRDB 36/1, JRDB 37/1.1, and JRDB 37/2 were approved by the Board at its fourth meeting on 4 December 1946 and are provided for use with the Rules of Organization and Procedure for the guidance of all concerned. The first paper is the general basis for handling programs of joint interest. The second paper is an interim policy for handling projects during the organizational phase of the Board or its agencies when immediate opinions are desired.

By direction of the Board:

L. V. Berkner

L. V. BERKNER
Executive Secretary

THE JOINT RESEARCH AND DEVELOPMENT BOARD

25 November 1946

MEMORANDUM ON POLICY

General Basis for Handling Programs of Joint Interest

Introduction. The problems involved in applying the charter of the JRDB in specific cases are now becoming of imminent importance to the Board and its associated agencies. Some of the committees are currently or soon to be faced with large projects in which both Services are interested, both in the form of research and development programs and major facilities. The exact methods to be employed in reaching conclusions about these will depend upon the differing natures of the fields involved, and will doubtless evolve as the committees undertake their detailed responsibilities. The resultant conclusions and decisions in each case will have certain common foundations, and each must be an integral part of the total contribution of the JRDB.

This memorandum is intended to indicate to the committees the nature of the contributions expected from them, and the way in which their activities should combine with those of other committees. It also indicates how the work of the JRDB may be expected to fit into the overall activities of the War and Navy Departments.

Stages of the Problem. There are five stages which may be described as follows:

1. Coordination Stage. Enthusiasts for similar projects in both Services here merge their plans, eliminate duplication and produce a unitary program. This may at the same time be coordinated with the program of some independent agency, such as NACA.
2. Stage of Evaluation. At this point groups of related projects are examined as a whole to determine their relation to the overall program in their field.
3. Balance of Total Emphasis. This stage is concerned with balance of emphasis among major fields of activity and with respect to the total military research and development program. It necessarily involves justification for carrying each program on as a whole and in the manner contemplated.
4. Status Within the Military Program as a Whole. This involves the relationship of research and development as a whole with other military efforts, influences consideration of the entire military budget of the country, and necessarily reflects upon balance of effort on various

aspects of research by determining the limitations within which that balance is to be established.

5. Overall Considerations. This is the broad question of the relative proportion of the country's effort which should be applied to military matters.

Stage 1 - Coordination. The first stage is clearly within the field in which the Board acts with authority. The coordination there contemplated, and the consequent allocation of responsibility, is clearly the duty of the appropriate committee of the Board, with review by the Secretariat and, if necessary, by the Board itself. In performing this function there may well be times when the correlation has been produced outside of the Board machinery, in which case the committee of the Board would need merely to assure itself that it had been done genuinely and completely. Thus, for example, in the case of a current program for supersonic wind tunnels, correlation as contemplated in Stage 1 has already occurred in NACA. The Committee on Aeronautics would therefore, as far as this stage is concerned, merely need to become satisfied by its own examination that the production of a unitary program had been effective.

Stage 2 - Evaluation. This is also clearly a responsibility of the Board, which in this case acts in its capacity as advisor to the two Secretaries, rather than by direct authority. There is, however, another important element which enters at this point. The component parts of a broad program and the facilities involved must be examined from the point of view of the broadest interpretation of the field of interest represented by a committee. Up to the time of approaching this stage, programs have presumably been in the hands of experts intimately concerned with them, who have produced an integrated and complete program for their specialized goals as they see them. In entering on Stage 2, however, it is necessary that examination proceed from the viewpoint of the overall objectives in the field involved, rather than from that of requirements for contributory or component programs. Important contributions can be made here by individuals who are not directly concerned with the conduct of specific parts of the program themselves, to ascertain whether programs are or are not over-elaborate in view of the objectives, whether alternative methods may have been overlooked, and any other pertinent aspects of the subject. This function will still normally reside with the appropriate committee of the Board and the relatively detached positions of the civilian members should prove a great asset. When a committee certifies to the Board, not only that a unitary program has been produced but that on examination it has been found to be a reasonable program in nature, extent, and cost, and a necessary program if the stated objectives in the field of interest are to be attained, the findings should have strong influence.

Stage 3 - Relative Emphasis. All of the determinations to this point, however, may well be carried out on the assumption that whatever is necessary for a complete effort can be provided. In other words, the approach is not that of dividing up a research dollar among participants, but rather of defining programs on the assumption of a flexible dollar. It cannot be expected that a situation of this sort can long continue. The question of relative emphasis becomes much more acute when performed under the condition of limited or declining overall research and development effort. The determination of proper

balance between major fields of emphasis involves the appraisal of the stated objectives upon which the programs recommended in the preceding stage are based. This third stage clearly is broader than the interests of any single committee. It can be considered only on a basis as broad as that of the Board itself. The Board also clearly has responsibility in the matter, again in its advisory capacity. It should present to the Secretaries clear recommendations on the basis of which they may be enabled to judge effectively as to the allocation of a limited amount of effort among the various lines of research and development. In making such recommendations, the Board will be guided by the deliberations of the Policy Council, in order that emphasis may be judged in the light of war planning. Tactical analyses, running in parallel with the development programs, should also be important in leading to an understanding of the related importance of different fields.

The mechanism by which the Board arrives at its conclusions in this stage essentially calls for a combination and resolution of the opinion of all the committees of the Board. The accomplishment of such an amalgamation of views will be a function in which the Secretariat can prove of particular usefulness. Presumably, representatives of the various committees will have to reach a meeting of minds on points where interests should merge, and a machinery for integration of views and resolution of issues must be devised.

Facilities. A special case of great importance throughout stages 1, 2, and 3 is the appraisal of the adequacy of major facilities. The need for a facility should be expressed in terms of the balance between the capacity of all available and planned facilities to cope with problems, and the actual problems which must be faced. This task will require highly specialized study, as well as broad and constructive planning. Inter-committee collaboration will often be essential. Clearly any estimate of the situation must be subject to periodic revision, but future considerations should be based upon the previous studies and the need for revision should be expressed in terms of the changes in previous commitments or estimates of capacity. The task is complicated by the difficulty of exactly defining the problems of fundamental research, and by the need for providing facilities not only for research but also for development of the resulting weapons and devices. But the only rational basis for planning equipment of such major size as is now desired is a comparison on a national scale of the overall job to be done against the total tools available.

Stage 4 - Status Within Military Program as a Whole. In the fourth stage the Board will have a serious problem properly to advise the Secretaries on this broad question. For the purpose of such advice the Board will need the programs of the services as summarized by or for the various committees as a starting point, as well as the combined program which it recommends in Stage 3. However, it may well need to work in the opposite direction, after Secretarial determination, and reexamine programs in the light of limited overall resources. This would ordinarily involve redetermination by committees in the light of general guidance from the inter-committee structure and the Board on this aspect. It would be assumed that in dealing with this matter the Board would primarily lean on the Policy Council for the examination involved.

Stage 5 - Overall consideration. The fifth stage lies entirely outside the scope of responsibility of the Board, but undoubtedly Board members will

need to join their opinions with those of others as the total effort devoted to national security is examined into by the President, operating through the Bureau of the Budget, with the advice of his Cabinet, and ultimately by the Congress.

Conclusion. The primary question raised by this analysis of the various stages concerns the operations of committees of the Board. If they were to perform merely the work on the first stage, their contribution would be very real but far short of the maximum. On the second stage, they have an exceedingly important duty to perform; and the Board will have to lean heavily on them in the third. They will undoubtedly be consulted in the later stages.

The explicit definition of the problem outlined herein is presented so that there may be no misunderstanding among the entire personnel of the Board's organization as to the existence of these responsibilities. Formal procedures to meet them, particularly the first three, will be required as the work progresses.

4 December 1946

THE JOINT RESEARCH AND DEVELOPMENT BOARD
Washington 25, D. C.

MEMORANDUM TO: The Secretary of War and the Secretary of the Navy

Subject: Policy for handling projects concerning which immediate opinions of the Joint Research and Development Board are desired.

1. The Joint Research and Development Board, at its Fourth Meeting on 4 December 1946, adopted an interim policy dealing with proposals for research and development facilities concerning which it is necessary, because of shortness of time, for the Board to express an opinion without making such thorough studies as it considers essentials for adequate considered judgment.

2. At its same meeting and in implementation of this policy, the Board also expressed specific opinions concerning thirteen projects submitted by the Navy Department. In accordance with paragraph 5b (2) of its Charter, the Board's findings concerning these projects are submitted in JRDB 37/3 for the information of the Secretaries of War and the Navy.

V. Bush
Chairman

THE JOINT RESEARCH AND DEVELOPMENT BOARD

4 December 1946

Interim Policy for Handling Projects on which Immediate
Opinions of the JRDB are Desired

1. This memorandum outlines an interim policy for dealing with proposals for research and development facilities concerning which it is necessary, because of shortness of time, for the Board to express an opinion without making such thorough studies as it considers essential for adequate considered judgment.
2. A JRDB memorandum on policy, JRDB 36/1, enunciates a procedure to be followed in the study of such proposals. Five stages are discussed:
 - (1) Coordination Stage
 - (2) Stage of Evaluation
 - (3) Balance of Total Emphasis
 - (4) Status Within the Military Program as a Whole
 - (5) Overall Consideration
3. Until Stage 3 is reached the Board can have no basis for lending its full support, backed by sound reasoning, either to overall budgets or to individual items. Due to the shortness of time available and the early state of organization of the JRDB, consideration of the items on which immediate opinions are required must necessarily be limited to studies of the types outlined in Stage 1 (and, to a small degree, Stage 2).
4. The Board considers that it would be a serious error to delay or temporarily stop all new projects until the JRDB is prepared to handle them completely. An interim policy, as stated below, is therefore adopted as a basis for action which is required at such short notice that complete studies cannot be made.
5. During the interim period the Board will give no consideration to the appropriateness of the quantities of money requested in connection with any of the projects under consideration.
6. Three types of projects are recognized. These are described below and will be handled in the manner indicated:
 - A. If the project is an integrated part of a previously approved program, the JRDB will confine its examination to possible duplication of effort and to the adequacy of provisions for joint use of the facility, where such provisions are necessary or advisable. Findings of the JRDB will rest on these points only.

B. If the project is new, the Board will determine its relationship to existing programs. If the criteria regarding duplication and joint use are satisfied and if existing programs for the development of new weapons would seriously be interrupted by delay of the new project, the Board will allocate responsibility for the projects and certify that the project has been coordinated. Subsequent justification of the project will then rest with the service to which the allocation has been made.

C. If the project is concerned with facilities for atomic energy, the JRDB will make no recommendation until the Committee on Atomic Energy is functioning and has established liaison with the Atomic Energy Commission.

7. Criteria for coordination and duplication will be considered to be adequately satisfied during the interim period when the Board finds that the following steps have been taken in an effective manner:

(a) The service sponsoring the facility has investigated existing related facilities.

(b) The sponsoring service has determined that such related facilities, if any, are inadequate or unavailable for realization of its current plans and objectives.

(c) The sponsoring service has informed other properly interested government agencies of its plans for the requested facility and has provided for possible use of the new facility and of results obtained therefrom by such agencies.

8. As the work of the Board and its committees progresses, more definite findings concerning the coordination and evaluation of projects should become available. The Board will be prepared to provide continuing information concerning its findings, as may be requested by the proper authorities.