BY ORDER OF THE COMMANDER
AIR FORCE RESEARCH LABORATORY
(AFRL)

AIR FORCE RESEARCH LABORATORY
INSTRUCTION 61-105

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Scientific/Research and Development

DIRECTORATE TECHNOLOGY COUNCILS

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This instruction implements Air Force Policy Directive (AFPD) 61-1, *Management of Science and Technology*. This instruction applies to all AFRL technology directorates (TDs) and 711th Human Performance Wing (711 HPW) and provides direction to establish Directorate Technology Councils (DTCs) within each TD and 711 HPW, and guarantee their functions are understood by all personnel. This publication may be supplemented at the TD and 711 HPW level, but all direct Supplements must be routed to the office of primary responsibility (OPR) of this publication for coordination prior to certification and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW the Air Force Records Disposition Schedule (RDS). Requests for waivers must be submitted to the OPR for consideration and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Route AF Form 847 from the field through appropriate functional chain of command.

1. Overview. Most TDs and 711 HPW already have technical committees that perform some of these functions that go by various names including Technology Council, Technical Advisory Committee, Technical Review Board, etc. For consistency in this document, the entity that performs the functions described in paragraph 3**.** will be referred to as the DTC. The DTC's

essential functions include conducting scientific quality reviews of the TD's and 711 HPW's entire Science and Technology (S&T) portfolio (with the exception of highly classified programs) and reviewing external work prior to TD and 711 HPW acceptance.

2. Roles and Responsibilities.

2.1. Director of the TD and 711 HPW. Charters the DTC as a formal advisory and review body for the TD or 711 HPW, specifying the roles and responsibilities for decision-making for the TD or 711 HPW, and basic operating procedures, and plans for continuation.

2.2. Chief Scientist of the TD and 711 HPW. Chairs the DTC and is the decision-making authority for the DTC, defends DTC recommendations, segregates membership of DTC when decisions represent a conflict-of-interest for a DTC member, and utilizes the DTC as an advisory group.

2.3. DTC Members. Make objective recommendations on all S&T programs reviewed.

2.4. DTC. Serves as the S&T review body for all viewable programs executed in the TD and 711 HPW; submits recommendations to the Director on matters of S&T quality, relevance, and strategy, and identifies concerns to the Director for any program where a review indicates serious reservations.

3. DTC Functions. The primary duties of the DTC are to provide an objective review and assessment of the quality of the Directorate's science and technology (S&T) programs and to review external work prior to acceptance to ensure that it is an appropriate use of AFRL resources. The DTC makes recommendations to the Director. The Director may choose to assign additional duties to the DTC beyond those duties described below.

3.1. S&T Reviews. The DTC will review the TD's and 711 HPW's entire viewable S&T portfolio to ensure that it is relevant, well-planned, and technically sound. TDs and the 711 HPW may decide the means by which the DTC will accomplish these comprehensive reviews. "Divide and conquer" approaches using subgroups of the DTC are permissible.

3.1.1. "Portfolio" is defined as the sum of all S&T work directly funded from AF Program Element (PE) categories 6.1, 6.2, and 6.3; Defense Health Program Funding; and all external funds of all PE category types.

3.1.2. The only funding source exceptions are certain "Base Support" funds and on-site facility support funding for those TDs and the 711 HPW that are considered their own "base tenant."

3.1.3. As part of S&T portfolio reviews, the DTC will identify opportunities for internal and/or external collaboration where the TDs and 711 HPW can leverage best-in-class scientific capabilities that exist elsewhere and should not be duplicated by the TD, 711 HPW, or AFRL. When considering TD and 711 HPW collaborations, the DTC should provide technical advice and counsel to the Director on the reasonableness and necessity of such collaborative work. The DTC will recommend collaborations that are strategic and at an appropriate level for that portfolio.

3.1.4. The DTC will review Core Technical Competency (CTC) strategic plans to ensure they reflect AF guidance, AF requirements, AFRL Commander (AFRL/CC) guidance, Research Council guidance, and address strategic documents such as the AF Chief Scientist's Technology Horizons document, AF S&T Plan, etc.

3.1.5. The DTC will conduct technical reviews to make sure programs meet AF, AFRL TD, and 711 HPW, and CTC missions. The number and focus of reviews will be determined by the TDs and 711 HPW. Topics may include:

3.1.5.1. Investment strategy (new start, mid-course, final),

3.1.5.2. In-house programs,

3.1.5.3. Section 219 programs,

3.1.5.4. Small Business Innovation Research programs,

3.1.5.5. National Research Council Resident Research Associates Program,

3.1.5.6. External program reviews,

3.1.5.7. AFRL Fellows nominations, or

3.1.5.8. Technical facilities.

3.2. External Work Reviews. The DTC will review external work prior to acceptance to ensure that it benefits the AF, requires TD and 711 HPW expertise, is aligned with the TD's and 711 HPW's strategic direction, and is an appropriate use of AFRL resources.

3.2.1. External work is defined as all work funded from any source other than PE 6.1, 6.2, or 6.3; Congressional Interest Items; or Operations and Maintenance.

3.2.2. The DTC will make recommendations regarding the acceptability of the external work following such reviews.

3.2.3. The DTC review will be performed on external work valued above a certain dollar-value threshold established by the Director of the TD and 711 HPW.

3.2.4. The DTC review requirement may be waived by the Director, but such waivers must be formally documented by letter.

3.2.5. The review of an externally funded program should weigh the benefits of the following attributes relative to the lost opportunity cost of dedicating AFRL resources to an external program:

3.2.5.1. AFRL has unique expertise or capabilities that meet the needs of the AF to execute the task.

3.2.5.2. The task aligns well with corporate TD and 711 HPW technical objectives (TOs).

3.2.5.3. The task is sufficiently aligned with TOs, and the execution costs are recovered sufficiently as to make the task a net positive activity for AFRL.

3.2.5.4. The task aligns with an acknowledged AFRL or TD and 711 HPW technical need for which there is insufficient funding or priority to capture AFRL resources.

3.2.5.5. The task meets an urgent need, supports AF operations, and has a significant S&T component reasonably aligned with TOs.

3.2.5.6. The task allows AFRL to develop or maintain facilities (or access to facilities) that AFRL could not otherwise afford or for which AFRL does not anticipate full-time usage.

3.2.5.7. The task provides a timing advantage for the development of important technology.

3.2.5.8. There is an opportunity to influence the course of the task in ways to make it more useful to the AF (e.g., Defense Advanced Research Projects Agency (DARPA) program).

3.2.5.9. There is adequate "budget assurance," i.e., that funding will continue to see the task to completion.

3.2.5.10. The task allows AFRL to develop an important relationship/collaboration with a key collaborator or customer.

3.2.5.11. The task allows AFRL to explore an opportunity of future investment.

3.2.5.12. The task allows AFRL to demonstrate appropriate leadership for the AF and nation.

3.2.5.13. The task allows AFRL to develop an organic expertise in areas where a national or industrial expertise does not suffice.

3.2.5.14. The task allows AFRL to maintain a contractor workforce (or access to a set of technical skills) that AFRL could not otherwise afford or for which AFRL does not anticipate full-time usage.

3.2.6. The existence of any of the following conditions should be considered grounds for recommending rejection of an externally funded program:

3.2.6.1. The cost of the lost opportunities exceeds the value to AFRL derived from the program.

3.2.6.2. The divergence from AFRL goals and objectives, at any level, is too great to warrant taking on the task.

3.2.6.3. The recovered costs are insufficient and would compel inappropriate utilization of government resources (manpower, equipment, or funds) to execute the task.

3.2.6.4. Another organization (within AFRL, AF, Department of Defense, etc.) would be better able to execute the task.

3.2.6.5. AFRL does not bring value beyond generic contract management to the requested task, i.e., AFRL is the executor of convenience rather than capability.

3.2.6.6. Other higher priority tasks demand the time and attention of the AFRL workforce.

3.2.6.7. The task would lead to a conflict of interest for the organization or the personnel involved.

4. Membership. The DTC is chaired by the TD or 711 HPW Chief Scientist, and membership on the DTC is at his/her discretion. The DTC may include but is not limited to the following members:

4.1. Chief Engineer of the TD and 711 HPW.

4.2. Division Technical Advisors (or equivalent).

4.3. CTC Leaders.

4.4. Senior Scientists.

4.5. Assistant to the Chief Scientist (or equivalent).

4.6. Subject Matter Experts (SMEs). SMEs who have technical expertise in the area being reviewed by the DTC may be appointed on a "per review" basis by the DTC Chair or his/her delegate.

4.7. TD and 711 HPW Functional Experts. As required, representatives of the TD's and 711 HPW's planning staff, contracting, finance, or security office may participate on a DTC as supporting members.

5. DTC Processes.

5.1. Meetings. The DTC shall meet on a periodic basis in order to conduct routine technical tasks, but will likely also need to meet on an as-needed basis in order to conduct the detailed reviews with which the DTC is charged.

5.2. Documentation. The DTC shall keep minutes for these meetings, especially when the business of the meeting is to agree on recommendations for program actions and advice to the Director. Rationale for program recommendations shall be captured, but it is often effective for the comments of individual members to be kept anonymous to facilitate candor and objectivity. Minutes of DTC shall be generated by a designated secretary/recorder and, when appropriate, be made available to the TD or 711 HPW.

5.3. Participation. TDs or 711 HPW may mandate attendance at DTC meetings, with substitutions permitted, because the makeup of the DTC allows for little redundancy in the technical areas of expertise of the members.

5.4. Consensus. The decision-making process should not be assumed to be majority-vote, nor should voting necessarily be the consensus mechanism, though at times such poll-taking can be informative. The decision authority in the DTC is the Chief Scientist.

6. TD and 711 HPW Implementation. The individual TDs and 711 HPW may develop a more detailed "TD- or 711 HPW-specific" implementation instruction based on this publication, provided that the minimal duties of the TD or 711 HPW DTC prescribed herein are retained and incorporated by reference. Any additional TD- and 711 HPW-specific DTC duties may be added at the discretion of the TD and 711 HPW Director.

THOMAS J. MASIELLO, Major General, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 61-1, *Management of Science and Technology*, 18 August 2011

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*, 22 September 2009