



General Programmatic Terms and Conditions (PTC) for the Materials Research Science and Engineering Centers (MRSEC), (NSF 07-563) Cooperative Agreements

1. **Key Personnel:** Changes in the PI or co-PIs listed on the cover page of the proposal require prior approval by NSF and must be submitted through FastLane. Please notify the cognizant Program Officer via email of other changes in the Center, such as Interdisciplinary Research Group, IRG, leaders, Education and Industrial Outreach Coordinators, subawardees, and/or partnerships specifically named in the proposal, that have been approved as part of this award.
2. **Program Description:** Materials Research Science and Engineering Centers, MRSECs, constitute a spectrum of coordinated Centers of differing scientific breadth and administrative complexity that may address any area, or several areas, of materials research. MRSECs bring together researchers with diverse expertise - in partnership with industry, government laboratories, and/or partners from other sectors - to address complex, interdisciplinary challenges in materials research, to integrate research with education both internally and through a variety of partnership activities. The MRSEC supports projects that are too complex and multi-faceted for individuals or small groups of researchers to tackle on their own.
3. **Project Governance:** The Awardee Institution will ensure that an efficient and effective Center governing structure is in place throughout the award period to support all critical or significant project activities. Components of the governing structure should include:
 - A. A MRSEC Director, the Principal Investigator of the award, who is the primary contact to the NSF Program Officers. The Director is the chief executive officer for the Center responsible for all technical and non-technical aspects of Center management and project reporting requirements throughout the award period. The Director chairs the MRSEC Management Team and ensures that decisions by that Team are properly executed. The Director, with the assistance of the Management Team, is the primary liaison to the External Advisory Committee (see below).
 - B. A MRSEC Management Team, generally called the Executive Committee, advises the MRSEC Director on all aspects of Center management. The

Management Team's membership generally consists of, but is not limited to, the Director as chair of the management team, the various leaders of the Center's Interdisciplinary Research Groups, the Education and Industrial Outreach Coordinators, and may include others who are not directly involved with the Center.

- C. An External Advisory Committee, EAC, serves in an advisory capacity to the MRSEC Director and the Management Team. The membership of the EAC is determined by the Director in consultation with the MRSEC Management Team. The EAC generally meets annually at a time and place to be determined in consultation with the Director and the Management Team.

4. Governance Responsibilities: Each MRSEC has the responsibility to manage and evaluate its own operation with respect to program administration, planning, content and direction. The Awardee will ensure efficient and effective execution of all program/project responsibilities by the governing components throughout the award period, including:

- A. A MRSEC strategic plan to achieve major goals in science and engineering requiring the coherence and critical mass of a University-based center;
- B. A MRSEC with a well integrated, inter-disciplinary research program distinguished by intellectual excellence and driven by a clear vision, in which the whole is greater than the sum of the parts;
- C. A MRSEC with strong emphasis on interdisciplinary education, incorporating extensive student participation in the Center's research;
- D. MRSEC supported activities to foster human resource development and enhanced participation of under-represented groups in science and engineering at all academic levels, including a diversity strategic plan to be updated annually as part of the annual report. The diversity strategic plan will discuss the execution of the previous year's diversity strategic plan, the outcomes and impacts achieved (statistical and other information), and it will update the diversity strategic plan for the coming year. The updated strategic plan should highlight key deficiencies identified in the previous year's plan and new strategies to rectify them;

Each MRSEC also incorporates all of the following activities to an extent commensurate with the size of the Center:

- E. A Research Experiences for Undergraduates (REU) program, accessible to students from other institutions is required. Additional activities as appropriate to the Center, may include, but are not limited to, course and

curriculum development, partnerships such as Research Experiences for Teachers, RET, to advance pre-college education, workforce training, and/or advancing the public understanding of science and engineering. The Project will assure diverse representation in the Center's mandatory REU and optional RET programs. The Project will develop ways to evaluate and assess the impact of the education and outreach activities;

- F. Support for shared experimental facilities, properly equipped and maintained, and accessible to users from the Center, the broader university community, and outside users;
- G. Active cooperation with industry and other sectors such as, national laboratories, other institutions, and international collaborations, as appropriate, to stimulate and facilitate knowledge transfer among the participants and strengthen the links between university-based research and its application;
- H. "Seed" support for junior faculty, potentially transformative projects, and emerging areas of interdisciplinary materials research. Seed support is intended to provide maximum flexibility in setting research directions, developing cooperative activities, and responding quickly and effectively to new opportunities.

5. **Ongoing Management and Award Oversight:** During the second and fourth years of the activity, the NSF will conduct site visit reviews of the operations of the Center in order to confirm that the organization continues to fulfill the goals of the project supported through the MRSEC program. The NSF may conduct additional site visit reviews as necessary. In the event that a site visit review reveals that the Center is not fulfilling the goals of the MRSEC Program, the NSF may choose to phase out the funding.

The Center Director, or a representative, will attend semi-annual meetings of MRSEC Directors to discuss issues common to MRSECs, facilitate communications among Centers, and identify innovative means to approach common problems and opportunities. Associated costs are allowable under the award.

The Center will create a World Wide Web page describing the essential features of the Center as well as progress highlights of the Center's technical and educational program in accordance with MRSEC guidance.

6. **Reporting Requirements:** The Awardee Institution will provide ad-hoc and regular reports as designated by the NSF Program Officer with content, format, and submission time lines established by the NSF Program Officer and communicated to them via electronic message. The Awardee Institution will submit all required annual and final reports and, if applicable, certifications to

NSF via FastLane. The Awardee will submit NSF Highlights at the request of the NSF Program Officer and will submit up-to-date Highlights to the MRSEC website (www.mrsec.org).