

NSF 15 589 Full Proposal FAQ

- 1. For the letters of support from member companies, is it sufficient that they express interest in and commitment to joining as a member of the ERC center? Or do they, for example, have to commit to a certain level of membership? Or a specific dollar amount in the letter?**

A letter of commitment from each firm or practitioner organization committed to joining the ERC as a member of the industry and practitioner advisory board (IPAB) and providing (cash and/or in-kind) support in the event that an award is made must be uploaded in Supplementary Documents. Letters from firms or practitioner organizations that are not committed as indicated above (e.g., only interested in a partnership) should not be included.

Section 4.f.6 of the Proposal should include a table (template at <http://www.erc-assoc.org/content/templates-proposal-preparation-0>) showing the levels of support for the first year from committed IPAB member firms and/or agencies. This section should include plans for allocation of these resources to fulfill the goals of the ERC.

- 2. Are there restrictions to what the membership fees can or can't be used for?**

IPAB membership fees are treated as program income (i.e., ERC Program Core Support) and must be allocated for unrestricted use for Center purposes. Awarded ERCs establish a Center-level account (i.e., ERC Cost Center) into which is deposited the ERC program base support, IPAB membership fees, and any other support provided directly by other sources to the Center to carry out its activities. Progress reports on the expenditure of these funds should be included in the Center's annual report and reported to the IPAB during the IPAB meetings.

- 3. Within the workforce development plan,**
 - a. we are developing new curriculum for outreach to our pre-collegiate partners. Is new formal curriculum within the research topic area (i.e., new lectures and lab courses, new certificate programs) also required for the u-grad and grad students participating in the center?**
 - b. how much can we focus on developing curriculum around key professional development areas for our students and post-docs who will be conducting research within the center?**

Engineering workforce development is one of the three overarching goals of the ERC program. Plans for workforce development in an ERC, including curriculum and training, should encompass graduate education and professional formation and undergraduate classroom and research experiences, as well as pre-college/community college outreach.

Workforce development begins with determining technical, professional, and transferable professional skills that undergraduate and graduate students in a particular ERC should possess upon graduation to achieve the ERC goals in its targeted industry sector. Next, research-based pedagogical and experiential approaches to impart these skill sets must be identified. This includes curriculum (e.g., new courses, course modules to insert in existing courses), research training, advising, mentoring, internships and other ERC student experiences that assure these desired skill sets are acquired.

The ERC workforce development program must be carried out in collaboration with the ongoing education programs of the domestic partner universities for ERC engineering and associated discipline students at B.S., M.S., and Ph.D. levels at each partner institution. Particular attention must be paid to broadening participation from populations underrepresented in engineering to cultivate a climate of inclusion with diverse representation.

Section 4.d.1 of the proposal should provide the targeted skill sets of ERC graduate and undergraduate students, the anticipated curricular impact of the ERC, and enabling plans and approaches to achieve these goals. Section 4.d.4 of the proposal should provide plans to disseminate workforce development outcomes and products to participating partner and outreach institutions and as materials for workforce training.

- 6. For the position of deputy director/executive manager, I've seen co-deputy directors. Is there a strong preferences for one deputy director or is there a limit as to how many co-deputies can be named?**

The ERC leadership team should have a faculty Deputy Director or Executive Manager who shares leadership and management responsibilities of the Center with the Director. In some ERCs, this responsibility is shared among co-Deputy Directors, each of whom represents a domestic university partner in the ERC. The Deputy Director may share in overseeing operational aspects of the center such as directing specific research areas, accessing new facilities, allocating resources, negotiating with university administrative personnel, spearheading industrial interaction and technology transfer, supervising administrative activities, and organizing and preparing the center's NSF annual report and site visit.

- 7. For cost sharing, if one university is required (based on their Carnegie Classification) to provide 15% and the rest are 20%, is the lead university responsible for the difference?**

Upon issuance of the award, the lead university is responsible to secure, retain, manage, certify, and deliver to NSF the ERC cost sharing (cash and in-kind), at the level stated in the cooperative agreement. The lead university is responsible for the entire amount; however cost sharing also can include contributions by any or all of the Domestic Partner University.

The total cost share ERC budget equals the sum of the required cost-share allocations from the lead and each Domestic Partner University, which are equal to the amount of the ERC award they receive, multiplied by the required cost-share factor for that institution. The total level of cost sharing proposed must be calculated using the following "Cost Sharing Formula". Cost sharing must not exceed the mandatory level stated in the ERC cost sharing formula.

- *RU/VH: Research Universities (very high research activity) - required cost sharing level is 20% of the allocation of the NSF budget to the lead or partner university;*
- *RU/H: Research Universities (high research activity) - required cost sharing level is 15% of the allocation of the NSF budget to the lead or partner university;*

- *DRU: Doctoral/Research Universities - cost sharing level is 10% of the allocation of the NSF budget to that partner university;*
- *Master's L: Master's Colleges and Universities (larger programs) - cost sharing level is 10% of the allocation of the NSF budget to that partner university/college;*
- *Bac/Diverse: Baccalaureate Colleges - Diverse Fields - cost sharing level is 5% of the allocation of the NSF budget to that partner college.*

The proposed cost sharing (including the estimated value of any in-kind cost sharing), according to the formula below, must be shown on Line M of the NSF proposal budget form. (Line M is masked from reviewers.)

*For example, suppose a proposed ERC consists of one lead university, an RU/VH institution, and one domestic partner university, a DRU institution. If 50% of the budget is allocated to each university, then the ERC's total level of cost share proposed should be $(0.20 * 0.5 * \text{Total Budget} + 0.10 * 0.5 * \text{Total Budget})$. The lead university is responsible to deliver the total amount to NSF.*

8. Can my institution, 'University Research Center', participate as a Domestic Partner University, or partner, in a full ERC proposal?

*A Domestic Partner University, or partner, must have a minimum of three ERC faculty, at least three ERC students, and be an active participant in all ERC features: research, workforce development (education), and innovation. To be an active participant in all ERC features, the Domestic Partner University must have autonomous authority to: (a) admit students at undergraduate and/or graduate levels in engineering field(s); (b) administer coursework toward a degree in engineering field(s) of study; (c) confer diplomas at the undergraduate and/or graduate level in engineering degree(s); (d) hire and promote tenure-track faculty; (e) support interdisciplinary research; and (f) negotiate intellectual property agreements on behalf of faculty and student researchers. Affiliation with or operation within a college or university that possesses these attributes does not qualify an institution (that lacks autonomous authority as described above) to be a Domestic Partner University. **An invited full proposal that identifies an institution as a Domestic Partner University that lacks autonomy in these attributes will be returned without review.***