

Executive Summary:

We propose to create and administer a financial aid mechanism for graduate students in nuclear engineering to be named the North Carolina State University's Graduate Fellowship In Nuclear Engineering (NCSU-GFINE). The primary objective of NCSU-GFINE is to enhance the ability of NCSU's Department of Nuclear Engineering to recruit and retain outstanding individuals and to provide incentive to the sponsored graduate students to maintain high academic performance. In addition, the selection formula will slightly favor minorities, women, and persons with disabilities in order to further promote diversity in the department's graduate student population. Ultimately, the collective effort by US educational institutions to raise the admission standards and to diversify their graduate student populations, as proposed here for NCSU, will translate into a highly competent and diverse cadre of leaders for the nuclear engineering endeavor at large. The benefit to the nation from NCSU-GFINE is that it will contribute to the production of a highly competitive group of advanced-degree nuclear engineers capable of assuming leadership positions in their area of specialization within the field of nuclear engineering. The diverse profile of NCSU-GFINE fellows will be reflective of the US's population and supportive of the nation's goals of achieving social justice and economic equity for underprivileged groups. The so-developed workforce will be best positioned to lead the nation's charge to reinvigorate its nuclear industry, and will shepherd the design, construction, operation, and regulation of new and innovative nuclear facilities, while maintaining the safety and security of processes for the handling of requisite nuclear materials. The commitment by NCSU's Department of Nuclear Engineering and College of Engineering to the success of NCSU-GFINE is evidenced by a cost-sharing contribution. The support of industry for the Department and its mission, and their interest in NCSU-GFINE is evidenced by their contribution to the cost-sharing arrangement.