

A. EXECUTIVE SUMMARY

Title: Support for Nuclear Engineering and Science Programs at South Carolina State University

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Amount Requested: **\$ 240,000 [Revision]** over two years

The Nuclear Engineering, Radiochemistry, and Health Physics programs at South Carolina State (SC State) University are requesting **\$ 240,000 [Revision]** over two years to support and strengthen these programs. The funds requested will be used primarily for scholarship and book support; peer tutoring and student laboratory assistants (Radiochemistry); faculty support for extra courses that must be taught as the Nuclear programs have expanded; student participation in national conferences (ANS, HPS); faculty travel to national and USNRC-featured conferences; a visiting distinguished lecturer series that brings prominent Nuclear professionals to campus; and licensing fees for computer programs (e.g. MATLAB and MAPLE) necessary for instruction.

The three Nuclear programs currently enroll about 52 students, with at least 12 new scholarship student and an unknown number of non-scholarship students expected to enroll in the fall 2010-2011 class. With this growth, additional scholarship support and student services will be required. We have also found that peer tutoring, where the strongest students support the less well prepared students entering freshmen, has been very effective in helping retention in the programs.

Typically students entering the Nuclear Engineering (25% to 30%) and Radiochemistry (80%) programs qualify for the Honors Program at South Carolina State University. While this is desirable and speaks of the quality of students that these Nuclear programs attract, the extra courses required by the Honors program during the freshman and sophomore years add hours to an already heavy course requirement, especially for Nuclear Engineering students (139 credit hours required for graduation vs. 120 for the typical student). As a result, it has become necessary over the last three years to offer extra sessions of courses in Nuclear Engineering over and above the normal teaching assignment load. These courses are offered either during the summer or during the academic school year in order to prepare senior-level students to complete their final term at the University of Wisconsin, and require funds to pay faculty for teaching overloads.

Travel to national student's conferences to present their research will help to prepare and will benefit student participants, and funds are requested for this function.

SC State University is an 1890 Historically Black land grant university. In 2008, the Nuclear Engineering program was ABET-EAC accredited, the first ever at an HBU. By May 2010, the Nuclear programs at SC State will have produced thirteen (13) Nuclear Engineering graduates, seven (7) graduates with Radiochemistry concentrations, and one (1) graduate with a Health Physics concentration, all within the last five years. About half of these graduates have either completed or are currently pursuing advanced degrees in the Nuclear field. Nearly 55% of these graduates are African American females. By May 2010, at least three SC State graduates in Nuclear Engineering and Radiochemistry will be permanently employed at the USNRC.