

APPENDIX N

August 20, 2003

MEMORANDUM

To: Committee on Educational Planning, Policies and Programs

From: Molly Corbett Broad

Subject: **Establishment of the Center for Embedded Systems Research at North Carolina State University (CESR)**

Request to Establish

In May 2000 North Carolina State University received authorization to plan the Center for Embedded Systems Research. The planning is now complete, and North Carolina State University has submitted a request to establish this unit as an institutional research center. The following sections briefly summarize the information provided by North Carolina State University to satisfy Chapter 1200.6[R] in the *University of North Carolina Policy Manual*.

Goals and Objectives

The center seeks to study embedded systems, which are computer systems embedded into a larger system that has a different purpose than merely computing. Embedded systems pose different challenges than in traditional disciplines, and their study is therefore distinct from other disciplines.

Specifically this center will:

- Establish an international reputation of excellence for North Carolina in embedded systems research.
- Provide a focus for NCSU faculty interested in researching embedded systems topics.
- Enable university/industry cooperation in embedded systems research.
- Create intellectual property relevant to the embedded systems marketplace.
- Educate undergraduate and graduate students through electives and coursework in embedded systems technology.

Relevance to Institutional Mission; Relationship with Similar Units

The center's main goal is to focus active research projects in the College of Engineering and College of Textiles. It also aims to maintain NCSU's place among peer institutions

Memorandum
Page Two
August 20, 2003

that are already following NCSU's lead in developing such centers. Finally, through the location at Centennial Campus, the center will enhance outreach by providing a focal point to companies interested in interacting with the university on embedded systems technology.

There are several active Centers that have expressed interest in or are actively interacting with CESR, including: the Center for Advanced Computing and Communication, the Center for Robotics and Intelligent Machines, the Analog Consortium, and the Biomedical Instrumentation Laboratory.

Anticipated Effects on Instructional Programs

CESR faculty has already introduced three new courses focused on embedded systems education to the Electrical and Computer Engineering Bachelor of Science curricula. This positive impact is expected to continue and grow.

Administrative Structure

The CESR Director will be Thomas M. Conte, a professor in the NCSU Department of Electrical and Computer Engineering. He will report to the Head of the department. The Associate Director will be Alexander G. Dean, an Assistant Professor in the NCSU Department of Electrical and Computer Engineering. The Center will also have an Industrial Advisory Board comprised of representatives of member companies that fund research projects inside the Center, which will meet annually.

Budget and Anticipated Sources of Funding

The center's projected operating budget for fiscal years 2004 and 2005 will be \$173,050 each year. This includes rental charges for space until it can move into COE2. CESR has already secured cost sharing commitments for these space rental expenses. During each of the subsequent three years it will require \$25,000 to pay the administrative assistant salary. The Department of Electrical and Computer Engineering has already agreed to pay \$9,000 and the remainder is expected to come from overhead returned to the unit, member company membership fees (currently \$10,000 per annum), grants, and contract budgetary line items when permitted.

Space and Capital Needs

No additional equipment, resources, or space are requested at this time.

Recommendation

It is recommended that North Carolina State University be authorized to establish the Center for Embedded Systems Research.