

Capital Project for Planning the Propulsion Laboratory

JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

August 1, 2011

The College of Engineering has identified expanding the research and instruction activities related to propulsion as a top priority. As part of this initiative, the college developed a capital project proposal as part of the 2012-2018 Capital Outlay Plan for construction of a new laboratory to be located at the Virginia Tech Montgomery Executive Airport. The college has completed a feasibility study for the facility to assure the scope will accommodate the program needs and has requested to move forward with design of the facility.

The Virginia Tech Propulsion group has long established associations with several gas turbine manufacturers, and these companies have donated several instruments, engines, and rigs for a state-of-the-art research program at Virginia Tech. Further, the university has entered productive collaborations with the Commonwealth of Virginia, Rolls-Royce, and other leaders in the propulsion industry to fund program research, including state funding for the Commonwealth Center for Aerospace Propulsion Systems.

The university does not have appropriate facilities to fully accommodate the propulsion program's equipment, which in turn limits the activities of the program research. The envisioned facility includes approximately 8,100 gross square feet of new construction to support research at the cutting edge of propulsion investigation, including next generation fighter and commercial aircraft engine technology and power generation gas turbine technology focused on the energy industry. The combination of this specialized facility and equipment will make Virginia Tech a unique destination within the United States for this type of research. As an illustration, of the National Aeronautics and Space Administration's nine Technology Readiness Levels (TRL), the proposed facility will shift Virginia Tech's propulsion program from TRL-1 to a TRL-5, which greatly expands opportunities for federal and industry funding sources.

The estimated project costs inclusive of design and construction are expected to be \$5 million. To advance the project, the college and university have worked together on a funding plan to provide assurance regarding the financial feasibility of the project. This plan calls for the use of overhead revenues from the college to cover the proposed project costs.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, and funding of nongeneral fund capital outlay projects. This request is for a \$400,000 planning authorization to move forward with design of the Propulsion Laboratory project. A subsequent request for the full project may be requested at a later date.

RESOLUTION OF CAPITAL PROJECT FOR PLANNING THE PROPULSION LABORATORY

WHEREAS, the College of Engineering has identified expanding the research and instruction activities related to propulsion as a top priority; and,

WHEREAS, the university does not have appropriate facilities to fully accommodate the propulsion program's equipment, which in turn limits the activities of the program research; and,

WHEREAS, the college has completed a feasibility study for the proposed facility to assure the scope will accommodate the program needs; and,

WHEREAS, the envisioned facility includes approximately 8,100 gross square feet of new construction to support research at the cutting edge of propulsion investigation; and,

WHEREAS, the estimated project costs inclusive of design and construction are expected to be \$5 million; and,

WHEREAS, the college and university have worked together on a funding plan to provide assurance regarding the financial feasibility of the project, which calls for the use of overhead revenues from the college to cover the proposed project costs; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has authority to approve the budget, size, scope, debt issuance, and overall funding of nongeneral funded major capital outlay projects; and

WHEREAS, the university may address minor cost variances provided sufficient funds are available to support the full project costs;

NOW THEREFORE BE IT RESOLVED, that the university be authorized to move forward with planning the Propulsion Laboratory project with a not to exceed planning authorization budget of \$400,000.

RECOMMENDATION:

That the resolution authorizing Virginia Tech to design the Propulsion Laboratory be approved.

August 29, 2011