



Virginia Department of Planning and Budget
Project Request Justification

2006-2008 Biennium Date: July 22, 2005

A. General Information

- 1. Agency name: Virginia Tech
- 2. Agency code: 208
- 3. Project title: Construct Hazardous Materials Facility
- 4. Agency priority: 10
- 5. Contact Person: M. Dwight Shelton, Jr.
- 6. Contact's telephone number: (540) 231-8775
- 7. Contact's e-mail address: mdsjr@vt.edu

B. Proposed Project

1. Project Cost:

General Fund/General Fund supported debt	3,500,000
Nongeneral fund	
9 (c) revenue debt	
NGF supported 9 (d) revenue bonds	
Total request	3,500,000

2. Project cost changes:

NONE.

3. Description:

- This project has been on the university's plan since 2001, formerly included as a component of the project titled Health, Safety, Accessibility. The project is envisioned as a 7,500 gross square foot building, sited in a remote area of campus, to provide a central location for the management, storage, and eventual disposal of hazardous materials that are products of the academic program.
- The life expectancy of the project is 60 years with proper maintenance.
- The scope of project was established based on historical and projected holding inventories of hazardous materials.
- The facility is needed to appropriately handle waste materials that are a normal function of the academic enterprise and thus the funding plan calls for full state support.

4. Project scope change:

NONE.

5. a. Approved Master Site Plan:

Yes No

If not, explain:

b. 2004-10 Capital Outlay Plan:

Yes No

If not, explain:

6. Equipment for a previously funded project.

NONE.

7. Supplement to a previously funded project.

NONE.

C. Project Justification

1. a. Existing condition:

- The current storage facilities are out-dated, inadequately sized, generally below standard expectations of hazardous materials management, and are located adjacent to student classrooms and laboratories.
- The university currently uses four out-dated, ill-suited facilities that would be replaced by the new building. They include substation sites at Davidson Hall, Litton-Reaves Hall, Veterinary Medicine, and the airport holding facility.
- The substation sites are located within academic buildings that have high faculty, staff, and student occupancy and thus pose risks that the university needs to mitigate.
- The airport holding facility is comprised of one concrete building, two modular chemical storage buildings, and a covered concrete pad surrounded by a chain link fence. The concrete building is over 30 years old and inadequate for the volume of waste now produced. The two modular buildings have outlasted their life expectancy and will need to be replaced if a new facility is not built. The two buildings are no longer adequate for the amount of chemical waste requiring storage. Security has become an issue at this facility and will continue to be as long as we are storing waste outside. Overall the facility is located too close to privately owned residences and the airport.
- The volume of materials that need to be stored until processing exceeds the capacity of the current facilities, necessitating more frequently scheduled pickups. A remote, centralized facility that is properly sized would facilitate safer handling and disposal of hazardous materials and decrease the cost of disposal by reducing the number of required pickups -- saving over \$10 thousand dollars in contractor costs per year.

- If a new facility is provided, existing facilities could be returned to the academic departments. The airport facility should be shut down and the land reverted back to the university.

Higher Education Only

b. Facility Condition Index:

FCI _____

c. Space deficit:

Yes No

2. Programmatic information:

- The Hazardous Materials Facility is planned for a remote area of campus to provide a central location for the management, storage, and eventual disposal of hazardous materials that are products of the academic programs. These materials include; waste radioisotopes, radioisotopes held for decay, regulated medical waste, hazardous chemicals, potentially explosive materials, and gas cylinders.
- Currently, these materials are processed at the four separate sites on campus described above. Relocating the storage and processing to an appropriately sited and sized facility is critical for campus. Further, because of the ill-suited environment of the current storage areas, some materials are moved or handled numerous times due to space constraints and material flow and this practice is not recommended.
- Hazardous materials handling at the university involves four main waste streams (radioactive, chemical, universal, and regulated medical waste) and equipment calibration. The current handling of each type is briefly described below.

Radio Active Waste: University staff pickup radioactive waste from 70 laboratories across campus and the school of veterinary medicine and transport the materials to a room located on the first floor of Litton Reaves. The waste is then sorted, segregated, repackaged for disposal and transported again for storage at an accumulation area located near the airport. Radioactive waste is then held for decay in 55-gallon drums for up to three years or shipped off-site for disposal. Holding waste for decay allows the university to keep the waste until it is no longer considered radioactive and therefore can be sent for incineration, which limits university liability.

Chemical Waste: These items are collected from over 900 laboratories and centers across campus. The laboratories include teaching areas for undergraduate and graduate students, and graduate research labs. The waste is taken to a facility located in the basement of Davidson Hall for processing. Chemicals are sorted by hazard classification, consolidated if possible, or packaged for shipment. When containers are full, they are moved to the waste facility at the airport due to space constraints. This stream averages approximately 65 tons of waste per year.

Universal Waste: These items are regulated material requiring specific disposal that may include, electronics, fluoresce lights and ballasts, and batteries from vehicles and

computers. This waste comes from all areas of campus. This stream averages approximately 15 tons of waste per year.

Regulated Medical Waste (infectious waste): These items are collected from the Veterinary School, Schiffert Student Center, Athletics, housekeeping, and some laboratories across campus. The waste is transported from its origin to a temporary storage shed behind Veterinary School to await contractor pick up. This stream averages approximately 60 tons of waste per year.

Instruments used for the Measurement of Radioactivity: These items require yearly calibration. These instruments are required for laboratories doing research with radioisotopes and any clinical use of isotopes in Veterinary School. This is currently being done at the waste facility located at the airport.

- The handling of the waste streams described above is being done in inadequate and potentially unsafe facilities co-located within academic program space. A new facility will reduce the risks associated with managing the materials listed above by consolidating the activities for improved safety, compliance, and efficiency of transportation and personnel resources.

3. Alignment to strategic plan:

This project will support Virginia Tech's strategic plan in the areas of Research and Scholarship, Graduate Education, and Undergraduate Education. The Hazardous Material Facility will provide a secure, central location for the management, storage, and disposal of laboratory materials and chemicals. By providing for the effective handling of these potentially hazardous items, this project will enable the safe pursuit of numerous laboratory and research activities and supports the following goals of the university:

Research and Scholarship:

1. Increase the stature of Virginia Tech as a national research university in quality of research and scholarship.
2. Increase the stature of Virginia Tech as a national research university in quantity of research and scholarship.

Graduate Education:

1. Increase the quality of the graduate programs.

Undergraduate Education:

1. Maintain a current, relevant, and comprehensive undergraduate curriculum.
2. Strengthen the quality of undergraduate instruction.
3. Create learning experiences for undergraduate students that maximize the benefits of attending a large research university.

D. Options Considered

Other options considered but not selected include leasing space or delaying the project entirely. Constructing a new, remote facility is the selected option because it would provide for more secure and efficient storage and disposal of hazardous materials.

Leasing is not a favorable option because of the regulatory requirements and because it must be stored on the university's contiguous property. Built in an appropriately sized area, the university as owner-operator would have the flexibility to expand the building as needed, without costly disruptions of current operations, and the facility could be more easily serviced by campus maintenance and security personnel.

Delaying the project to a future biennium is not a viable option because of the significant risk and exposure to the university community caused by the current storage situation. A remote, centralized facility would facilitate safer handling and disposal of hazardous materials and decrease the cost of disposal by reducing the number of required pickups.

E. Project Schedule Changes:

NONE.