



Master Planning Council (MPC)

MEETING NOTES - May 10, 2006

Office of the Architect for the University

Summary: Energy and Utilities at the University of Virginia

Meeting Attendees

Ed Ayers
Dean, College of Arts and Sciences

Elliott DeJarnette
Student, School of Law

Bill Edgerton
Albemarle County Planning Commission

Cheryl Gomez
Director of Energy & Utilities, Facilities Management

L. Cameron Howell
Assistant to the President

Ed Howell
Vice President and CEO, UVA. Health System

Patricia M. Lampkin
VP for Student Affairs

Cheri Lewis
Chair, City of Charlottesville Planning Commission

Craig K. Littlepage
Director of Athletic Programs

Richard Minturn
Senior Academic Facility Planner, Provost's Office

Julia Monteith, AICP
Senior Land Use Planner, Office of the Architect

David J. Neuman, FAIA
Architect for the University

Yoke San L. Reynolds
VP and Chief Financial Officer

Rick Rice
Chief Facilities Officer

Tim Rose
CEO, UVA Foundation

Mary Joy Scala
Neighborhood Planner, City of Charlottesville

Colette Sheehy
VP for Management & Budget

Karen Van Lengen
Dean, School of Architecture

Rebecca White
Director of Parking & Transportation

Casey Williams
Graduate Student, School of Architecture

Meeting Agenda

- Energy & Utilities at the University of Virginia – Presented by Cheryl Gomez, Director of Energy & Utilities, Facilities Management

Energy and Utilities at the University of Virginia

Cheryl Gomez, Director of Energy & Utilities

Cheryl Gomez, Director of Energy & Utilities, presented a report on the Energy & Utilities Department at UVA. The mission for this department is to provide efficient, reliable, cost effective, and environmentally sound energy in support of the University's educational, health care, and public service mission. The department has been awarded 25 national, state, and local awards since 1994 for its energy conservation and recycling efforts.

Centralization is a key strategy for utilities distribution at UVA, and Cheryl spoke of the many benefits as well as some of the negatives of a centralized distribution system. Despite a higher initial capital investment, the overall cost of a centralized system is lower. Cost savings are realized in part through lower fuel prices, better efficiency, and reduced maintenance expenses. Other advantages are increased NSF/GSF ratio, improved reliability, and better Grounds aesthetics. Among the disadvantages, a centralized system requires environmental compliance measures; a distributed system is not subject to compliance measures.

On the issue of initial capital cost, Cheryl presented a case study of centralized versus distributed costs of establishing chiller and hot water service for the upcoming Alderman Road residence halls replacement project. A centralized chiller system would require 3 to 4 chillers at a cost of \$4.7 million and distribution piping at a cost of \$3.5 million, for total cost of \$8.2 million. A distributed system would not require piping, but would require 20 to 24 chillers, for a total cost of \$9.2 million. In a comparison of heating costs, piping and auxiliaries to connect to the centralized Heat Plant would cost \$4.1 million, whereas a distributed system would cost \$3.6 million. Although centralized systems usually require a higher initial capital cost, this example shows that even in initial costs, a centralized system can be more cost-effective. Although heating capital costs are higher, centralized systems save in fuel costs. Last year's UVA heating bill would have been \$4 million greater if there was no central heating plant.

Cheryl also detailed the metrics that the Energy & Utilities Department uses and the success that they have had in recent years at meeting their zero growth goals. Electricity consumption per GSF has been flat in recent years

and heating and water usage on a per GSF basis is in decline.

Current planning and projects for the Energy & Utilities Department include major construction work on the Main Heat Plant, focusing on redundancy, capacity, and environmental goals. An expansion to the South Chiller Plant is currently in design. Cheryl also mentioned the recently completed upgrade to the Alderman substation and long-term planning for the North Grounds Plant, which is over 30 years old. On a related issue, the Rivanna Water and Sewer Authority are planning the installation of a new 42" water line to replace two 15" lines that currently run to the Observatory Water Plant.

Finally, Cheryl explained funding sources and options for construction and maintenance of infrastructure at UVA. Historically, funding for new infrastructure needs has come from construction projects, capital appropriation, connection fees, bonds, utilities revolving account, and leveraging. Costs for renewal of infrastructure have come from many of these sources and additionally from the maintenance reserve. UVA has had success in the past at getting state funding for infrastructure needs, but instability of state appropriations and competing needs for state funds could prove challenging in the future. Cheryl also spoke of the need to adjust the revenue stream to fund energy efficient practices and equipment. In the past, equipment that would have resulted in significant energy savings has not had a capital funding source and was not implemented. Adjusting the revenue stream to provide funding for efficient equipment and practices is a priority for the Energy & Utilities Department, which will reduce life-cycle costs and result in a payback of initial investment and continued savings thereafter.
