

**2.10 Utilities Element
Data and Analysis
2010-2020 Campus Master Plan Update**

CHILLED WATER PRODUCTION SUB-ELEMENT

- a) The total plant capacity, including redundant systems is more than 13,000 TONS.

A new chiller, a new thermal storage tank and associated chiller piping are being installed as new buildings are added to the campus.

ELECTRICAL POWER AND OTHER FUEL SUB-ELEMENT

- a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:
1. Existing conditions, based on the facility design capacity and the current demand on facility capacity:

Progress Energy currently serves the majority of the campus via an underground loop system originating in the substation located at the south entrance of the campus.

Only a few buildings located on the north-west side of the campus (Lake Claire apartments and the fraternity/sorority houses) and the 475' tower located on the Southwest side of campus are not on this loop system, and are fed from the existing overhead distribution lines that Progress Energy PE owns along Alafaya Trail (SR 434).

Progress Energy also owns a substation toward the northeast side of campus on North Orion Blvd. and McCulloch Rd. This substation currently serves the entire northern part of campus and provides a total of four (4) "feeder" lines into the campus. Progress Energy has organized our power grid in that, if any feeder into campus is interrupted, automatic switch gears will shift to a different feeder to provide power to that area of campus affected by the loss.

2. The general performance of existing electrical power and other fuel facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.

Progress Energy service appears to be performing well. No limitations on expected equipment life are known at this time.

3. An ongoing assessment of opportunities or available and practical technologies to reduce University energy consumption.

The University has been proactive in its approach to energy efficiency through lighting efficiency, occupancy sensors and remote capability for classroom lighting control in new facilities. Existing facilities are being retrofitted as quickly as possible. One new technology that is being used at the University is dimmable fluorescent lighting. This technology dramatically reduces the energy use in classrooms and eliminates lighting fixtures.

TELECOMMUNICATIONS SYSTEMS SUB-ELEMENT

- a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies

1. Existing conditions, based on the facility design capacity and the current demand on facility

The telecommunications infrastructure consists of an underground network of encased duct banks and Telecom Utility Vaults (TUVs) interconnecting the majority of the buildings on campus, as well as the satellites hubs or nodes.

The main copper telephone trunk originates from existing Siemens and VOIP telephone switches located in the Library Building and other buildings (nodes) to all the existing and new facilities. The data systems are connected to the Computer Science Building (CSB) and other buildings (nodes) via fiber optics cable.

2. The end of the planning time frame, based on the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility

As the campus continues to grow, the demand for additional copper lines and fiber optic cables will rise, and the need for additional copper and fiber nodes throughout campus will have to be reviewed with the Computer Services and Telecommunication's Department. Also as technology keeps constantly changing, the need to review standards increases in the same fashion.

- b) The general performance of existing telecommunications systems and facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility's surroundings.

The level of service provided by the telecommunications appears to be quite high. This is a great accomplishment considering the rapid changes in this field.

- c) An assessment of potential electromagnetic hazards resulting from facilities required to meet future telecommunications needs of the University, and an analysis of practical ways to mitigate such.

No hazards are known at this time.