

10. UTILITIES ELEMENT

STEAM/HOT WATER SUB-ELEMENT

Goal

To provide adequate heating to the facilities in the most cost efficient manner, providing for flexibility in the future growth of the campus.

Summary of Objectives and Policies

Objective 10.1. To economically improve the distribution and production of heat.

- Policy 10.1.1. USFSP shall maintain hot water piping until local boilers or electric heat are installed at the various buildings.
- Policy 10.1.2. The University shall establish and adopt a level of service standard for hot water (steam) which provides and maintains a range of 140-180 degrees hot water supply temperature to meet building heating demands.
- Policy 10.1.3. Hot water facility improvements shall be implemented based on the following priorities:
- Maintaining the existing system; and
 - Incrementally replace the central boiler plant with independent boilers or electric heat based on life cycle cost analysis.
 - Install independent boilers or electric heat based on life cycle cost analysis on all new construction.

CHILLED WATER SUB- ELEMENT

Goal

To provide adequate cooling to the facilities in the most cost efficient manner, providing for future growth of the campus.

Summary of Objectives and Policies

Objective 10.2. To economically maintain and expand the chilled water system to provide adequate cooling and redundancy now and in the future.

- Policy 10.2.1. The existing chilled water plant equipment will be relocated to the new chilled water plant location and expanded.
- Policy 10.2.2. The existing chilled water distribution system will be extended to accommodate future buildings and renovated buildings. Adequate facility capacities to meet future needs has been detailed in the GRGV chilled/hot water study.
- Policy 10.2.3. USFSP shall implement chilled water improvements as identified on Figure 10-a. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.
- Policy 10.2.4. USFSP shall require design engineers to submit a computerized life cycle cost analysis to establish the most efficient HVAC system configuration for each new and renovated building.
- Policy 10.2.5. USFSP shall require that cooling load data be supplied by the system designers to the University to determine what the impact will be on the chilled water system.
- Policy 10.2.6. USFSP will update their chilled water system configuration based upon cooling load data.
- Policy 10.2.7. USFSP shall establish and adopt a level of service standard for chilled water, which provides and maintains a maximum of 45 degrees chilled water supply temperature to meet building cooling demands.

- Policy 10.2.8. Since all chilled water production originates from within the campus, no outside sources from either private or public facilities will be required unless another more economical option exists.
- Policy 10.2.9. Chilled water facility improvements shall be implemented based on the following priorities:
- Elimination of existing system deficiencies;
 - Maintaining the existing system; and
 - Expanding the system to accommodate new chilled water needs.
- Policy 10.2.10. USFSP's Physical Plant Department will be responsible for reviewing all proposed development projects to ensure that adequate chilled water capacity exists.
- Policy 10.2.11. Proposed increases in chilled water use, whether residential or non-residential, shall be approved only after a finding that existing chilled water distribution capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.
- Policy 10.2.12. As the standard refrigerant (R-123) is approved for use until 2020, the University will continue its use until then, rather than use the less efficient R-134.
- Policy 10.2.13. Develop complete verified hydraulic models for the modifications and expansions of the piping system throughout the campus.
- Policy 10.2.14. Develop and implement non-destructive testing procedures and practices to evaluate the status of existing underground piping systems.
- Policy 10.2.15. Meter chilled water loads to implement load management and load history for planning and conservation measures.

ELECTRICAL POWER AND OTHER FUELS SUB-ELEMENT

Goal

To manage, maintain and expand existing utility and USFSP owned electrical power distribution system and existing utility owned natural gas distribution system to meet the needs of the University.

Summary of Objectives and Policies

Objective 10.3. Manage, maintain and expand the electrical power distribution system.

- Policy 10.3.1. USFSP's Facilities Planning and Construction Department shall establish a procedure and assign responsibility for regularly scheduled meetings with local electric utility provider to ensure continued high quality, reliable electrical service to USFSP.
- Policy 10.3.2. USFSP's Facilities Planning and Construction Department will be responsible for reviewing all proposed development projects to ensure that adequate electrical distribution system capacity exists.
- Policy 10.3.3. Proposed increases in electrical demand and consumption, residential or non-residential, shall be approved only after a finding that existing electrical power distribution system capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.
- Policy 10.3.4. A phasing schedule should be developed for upgrading the existing electric power supply capacity and distribution system to meet future USFSP needs when required. The adopted campus master plan shall be amended as needed to reflect any changes to the timing and phasing requirements.
- Policy 10.3.5. USFSP shall implement electrical power distribution system improvements as identified on Figure 10-b. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 10.3.6. Electrical power distribution system changes shall be implemented based on the following priorities:

- Elimination of existing deficiencies;
- Maintenance of the existing system; and
- Expansion to accommodate new requirements.

Objective 10.4. Manage, maintain and expand the natural gas distribution system.

Policy 10.4.1. USFSP's Facilities Planning and Construction Department shall establish a procedure and assign responsibility for regularly scheduled meetings with local natural gas provider to ensure continued high quality, reliable natural gas service to USFSP.

Policy 10.4.2. USFSP's Facilities Planning and Construction Department will be responsible for reviewing all proposed development projects to ensure that adequate natural gas distribution system capacity exists.

Policy 10.4.3. Proposed increases in natural gas demand and consumption, residential or non-residential, shall be approved only after a finding that existing natural gas distribution system capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.

Policy 10.4.4. A phasing schedule should be developed for upgrading the existing natural gas supply capacity and distribution system to meet future USFSP needs when required. The adopted campus master plan shall be amended as needed to reflect any changes to the timing and phasing requirements.

Policy 10.4.5. USFSP shall implement natural gas distribution system improvements as identified on Figure 10-d. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 10.4.6. Natural gas distribution system changes shall be implemented based on the following priorities:

- Elimination of existing deficiencies;
- Maintenance of the existing system; and
- Expansion to accommodate new requirements.

Objective 10.5. To provide energy efficient facilities and equipment.

- Policy 10.5.1. Energy design guidelines for all new buildings shall be in accordance with Florida Building Code Energy Efficiency chapter and University amendments.
- Policy 10.5.2. USFSP shall require that a computerized life cycle cost analysis be submitted for all new and renovated facilities to determine whether natural gas and/or electricity will be the source of fuel for space heating and air conditioning.
- Policy 10.5.3. USFSP shall require that a report be submitted for each new and/or renovated facility indicating the maximum demand and annual consumption of natural gas and/or electricity, which will be required for each renovated and/or new facility.
- Policy 10.5.4. USFSP shall require the use of occupancy sensors, energy efficient lighting fixtures, electronic ballasts, and high lumen efficiency lamps in all new and renovated buildings.
- Policy 10.5.5. USFSP shall require the use of energy efficient motors in appliances and equipment in all new and renovated buildings.
- Policy 10.5.6. USFSP shall require the use of energy efficient natural gas appliances and equipment in all new and renovated buildings.
- Policy 10.5.7. USFSP shall require the installation of electric and gas meters at each building on campus. Electrical meters shall record both demand and energy consumption by time of day and natural gas meters shall record consumption by time of day.

TELECOMMUNICATIONS SUB-ELEMENT

Goal

To manage, maintain and expand the telecommunications infrastructure and equipment to meet the needs of the University.

Summary of Objectives and Policies

Objective 10.6. To manage, maintain and expand the communications infrastructure at USFSP to meet the voice, data and video communications needs.

- Policy 10.6.1. USFSP's Facilities Planning and Construction Department will be responsible for reviewing all proposed development projects to ensure that adequate telecommunications capacity exists.
- Policy 10.6.2. USFSP's Information Technologies Department will be responsible for reviewing new telecommunication technologies to increase the effective capacity of existing infrastructure in lieu of replacement.
- Policy 10.6.3. Proposed increases in telecommunications use, residential or non-residential, shall be approved only after a finding that existing telecommunications capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.
- Policy 10.6.4. USFSP shall expand the infrastructure from the Davis building to the north and east most boundary, then west and south encompassing all properties owned by USFSP and also provide for possible future connections to medical facilities (or other University related facilities) in the area.
- Policy 10.6.5. USFSP shall provide adequate copper connectivity for voice, multi-mode fiber for data, and single mode fiber for video/data to all buildings USFSP.
- Policy 10.6.6. USFSP shall upgrade distribution wiring in all existing buildings and require that distribution wiring in all new buildings be provided at the current and/or appropriate technical levels.

Policy 10.6.7. USFSP shall implement telecommunications systems improvements as identified on Figure 10-c. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 10.6.8. Telecommunications system improvements shall be implemented based on the following priorities:

- Elimination of existing system deficiencies;
- Maintaining the existing system; and
- Expanding the system to accommodate new telecommunications needs.