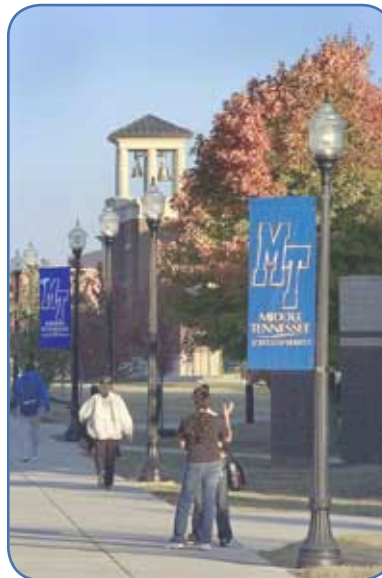


Middle Tennessee State University
Facilities Services Department



Summary of Services

Annual Report

July 2011 — June 2012

FACILITIES SERVICES DEPARTMENT

Middle Tennessee State University | PO Box 32

Murfreesboro, Tennessee 37132

Phone 615-898-2414 | Fax 615-898-5071

www.mtsu.edu/facserv/

October 2012





Then and now...

1936



1952



1960's



2011



Facilities Services is a department reporting to Senior Vice President John Cothorn of the Division of Business and Finance.

A Tennessee Board of Regents University, Middle Tennessee State University is an equal opportunity, non-racially identifiable, educational institution that does not discriminate against individuals with disabilities.

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Fiscal Year 11/12 has concluded and FY 12/13 has begun. Campus growth and aging facilities continue to be drivers for Maintenance and Operations (M&O) and utilities. New facilities, new road and infrastructure projects, and an increase in student enrollment add to the utility and M&O requirements for Facilities Services. In addition to new facilities and infrastructure, the existing facilities and infrastructure continue the normal aging process – accelerated by the increased wear and tear from additional enrollment – which also increases the utility and M&O requirements. The M&O budget for Educational and General facilities has remained fairly flat straining the departmental resources and personnel. To that end, Facilities Services maintains a strong commitment to productivity management, innovation, informed decision making, and effective communication in serving the campus community.

This report highlights many accomplishments in FY 11/12 for the department, updates the O&M and capital budget situations, revises deferred capital renewal projections, and addresses the impending actions called for in the Positioning for the Future initiative. The following is a sample of the Accomplishments and Challenges.

Accomplishments

Performance Metrics

The Summary of Services report from the previous FY identified a combined total of 77 individual goals across the departmental work units for the FY 11/12. Overall, 69 of the goals were completely met or had substantial progress toward their completion providing for a success rate of approximately 89.6%.

Capital Projects and Construction Renovation Projects

- 14 capital construction projects were completed totaling \$20.7 million
- 173 renovation projects were completed totaling \$3.7 million
- Construction of the Student Union Building was completed
- Construction on the Science Building, Student Services Building, and two Parking Garages began

Customer Service and Communication

- All work units combined to complete just over 16,300 work orders for the year
- Facilities Services held an informational meeting with academic and administrative personnel to discuss campus maintenance and operations and work order processing

Management and Productivity

- Quarterly meetings were conducted for every work unit within the department
- Extensive training was performed throughout the department

Energy Management

- Energy Management Guidelines were published for the University
- The campus has seen an overall reduction of energy consumed per gross square foot of approximately 2.6% for FY 11/12 versus FY 07/08

Association of Physical Plant Administrators (APPA)

- With MTSU as a member institution, Facilities Services personnel continued to participate in many forms of technical and leadership/management training at the state, regional, and national/international levels of APPA (*See APPA ACTIVE Page 18*)
- Several Facilities Services personnel serve in leadership positions and various support positions within APPA

Challenges

Budgets

Maintenance and Operations (M&O) budgets are for basic operational needs such as custodial services, grounds services,

(Continued on page 4)

The FSD Mission: To maintain the facilities and grounds and present them to the University and the public in a safe, clean, and functional condition while managing the resources and assets in accordance with applicable requirements, procedures, and constraints.

(Continued from page 3)

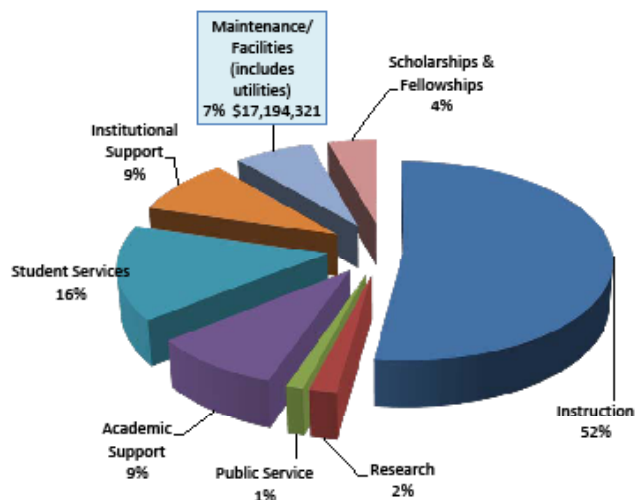
central utilities services, light bulb changing, etc., and routine maintenance and repair of facility systems such as HVAC, electrical, etc. The M&O budgets for Facilities Services have been fairly flat over the years. FY 11/12 saw a nominal increase in M&O funding.

Capital maintenance projects are submitted each year, typically totaling \$10 million - \$13 million, to provide for the major repair and replacement needs of the campus. Funding formulas indicate an annual need of approximately \$10 million just to remain level. Recent funding history shows annual funding received in the amounts of \$3.0 million - \$4.5 million. **In FY 11/12, MTSU received \$3,440,000 for capital maintenance.** This under funding of capital maintenance accumulates over time to a condition referred to as "deferred capital renewal." Deferred capital renewal puts an increased burden on the M&O needs because systems that need to be replaced remain in operation and are subject to more failures. As stated above, this condition is reported in the Campus Master Plan and highlighted in the body of this report (page 19).

Utilities/Energy Costs

On the whole, energy and utility costs remained fairly flat in FY 11/12. Natural gas continues to remain fairly low compared to pricing peaks a couple of years ago. This continues to be positive considering the reliance on natural gas to fuel the 5 mw turbine/cogeneration system. In addition, the Tennessee Valley Authority continues to adjust (net increases) electrical rates. These increases create additional incentive to be judicious in our utilities operations and more efficient in every aspect of energy usage management.

MTSU E&G Expenditures 2011-2012



Total: \$247,830,744

Source: FY 2012 Old Format Statements Schedule 3

'...we strive to maintain
the campus in a safe, clean, and
functional condition...'

-the FSD mission

New Buildings and Infrastructure

New buildings add to the M&O and utility needs of the campus. The recent growth continually stretches M&O services as well as the infrastructure capacity. Construction on the Student Union project is complete. In addition, several renovation projects were completed as was a major phase of the Parking and Transportation project.

Energy and Sustainability

Sustainability is both an opportunity and challenge for the campus. There are many initiatives designed to increase the greening of the campus such as the Sustainable Campus Fee program, the Tennessee Sustainable Design Guidelines for capital projects, the recycling program, etc. These programs and initiatives are effective but are also limited by economic factors such as first costs and paybacks. Energy and environmental regulations are expected to increase in the near term that should produce higher utility costs - straining resources further.

Conclusion

Although highly constrained by resources, we continue striving to maintain the campus in a safe, clean, and functional manner while aligning the department with the University mission and the Academic Master Plan. I want to express appreciation to the Facilities Services staff for their dedication and good work in pursuit of these goals. The accomplishments listed throughout this document are a testament to their commitment to Middle Tennessee State University while facing real challenges to success.

Finally, as we serve the university, it is important that we hear from our customers. Please review this document (as well as our website) for our service delivery. As always, feel free to contact us and let us know how we can serve you better.

—David Gray

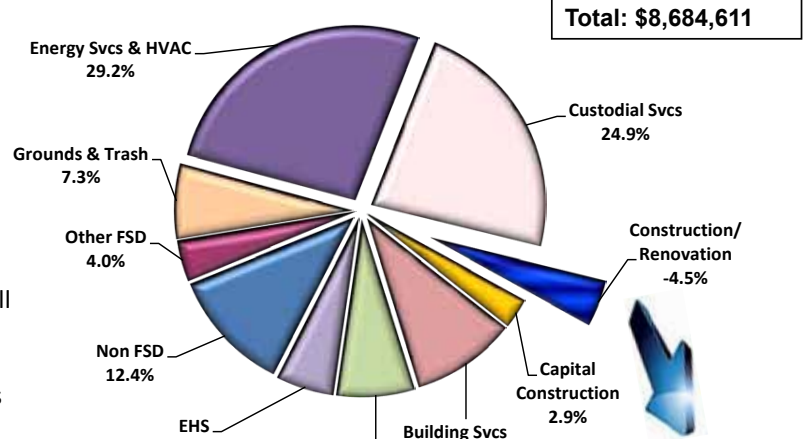
Accomplishments & Highlights 2011/2012

- Added new accountant position & promoted employee
- Trained additional FSD staff on MTSource
- Set up QuickBooks Pro to reconcile to Banner
- Attended APPA Individual Effectiveness Training

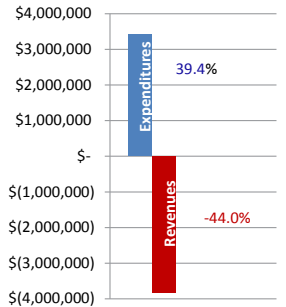
Goals 2012/2013

- Ensure that Mainsaver financial amounts reflect Full Cost Recovery (FCR)
- Update plant cost allocation spreadsheets
- Update year-end allocations to reflect how services are provided
- Seek new technological processes and integrate software to improve workflow and reduce redundancies.
- Produce training video, procedure manual, Power Point presentation to train FSD employees on administrative processes
- Encourage employee development, education and certification, and team building and communication

Net E&G Expenditures for M&O Function
2011/2012

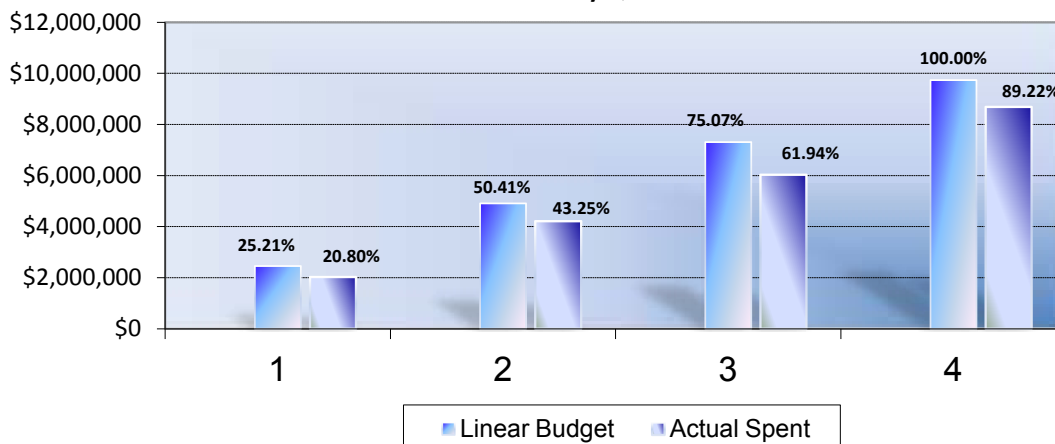


*Construction/Renovation: -4.5%



*Includes overhead for FSD Administration

Education & General (E&G)
Maintenance and Operations Budget
FY 11-12 by Quarter



| 2011-2012 | 1st Qtr | 2nd Qtr | 3rd Qtr | 4th Qtr | Annual Totals | Percent of Total |
|---------------------------|----------------|----------------|----------------|----------------|----------------|------------------|
| *Total M & O Expenditures | \$ 3,921,686 | \$ 3,403,447 | \$ 3,306,342 | \$ 4,591,573 | \$ 15,223,048 | |
| Work for Others | \$ (1,896,843) | \$ (1,218,512) | \$ (1,487,514) | \$ (1,935,567) | \$ (6,538,436) | 43% |
| Net E & G Expenditures | \$ 2,024,843 | \$ 2,184,935 | \$ 1,818,828 | \$ 2,656,006 | \$ 8,684,612 | 57% |
| E & G Budget | \$ 9,733,752 | \$ 9,733,752 | \$ 9,733,752 | \$ 9,733,752 | \$ 9,733,752 | |
| % of Budget | 20.8% | 22.4% | 18.7% | 27.3% | 89.2% | |

*M&O function minus longevity benefits

Accomplishments & Highlights 2011/2012

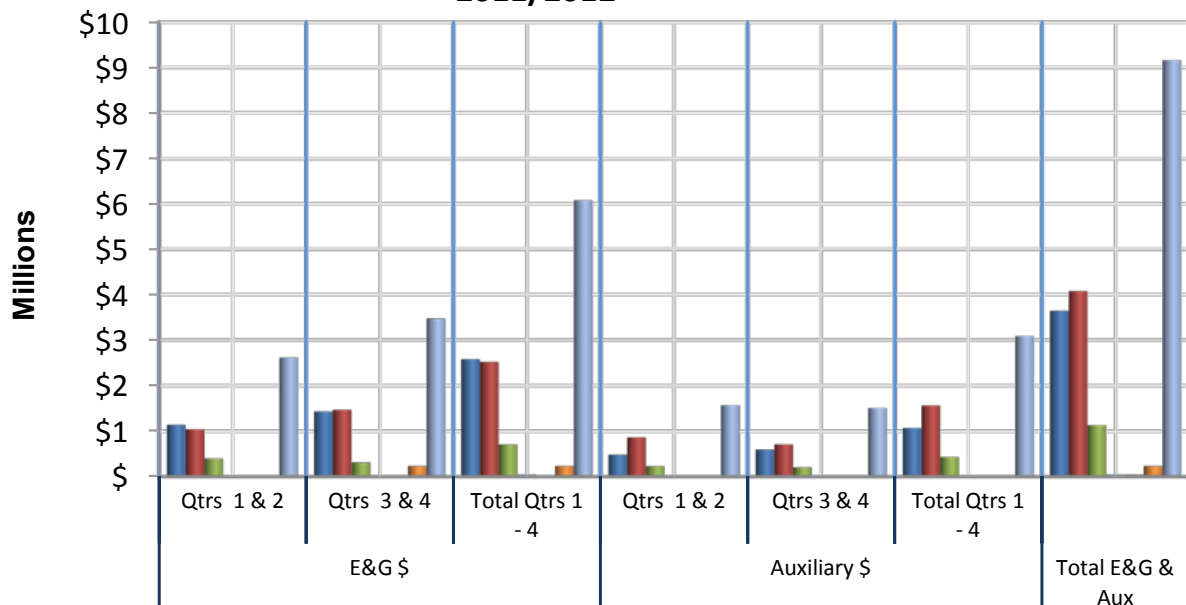
- Completed University Energy Management Guidelines; published on FSD website <http://www.mtsu.edu/facserv/MTSUEnergyGuidelines.pdf>
- Completed a multi-facility energy management system project using ARRA funding
- Completed THEC and NCAA annual reporting
- Provided utilities planning and allocations for new Student Union Building
- Provided utilities support for emissions reporting
- Continued working with the MTSU Sustainable Campus Fee Committee (*Page 21*)
- Updated Facility Surveys for TBR and Construction Administration
- Provided six columns for *Facilities Manager Magazine* (J Whitefield)
- Continued on the President's Commission on the Status of Women (L Hardyman)
- Continued serving on planning and funding committees for Tennessee Higher Education Sustainability Association
- Published Summary of Services Annual Report for 10/11
- Attended APPA Individual Effectiveness Training, TNAPPA

Goals 2012/13

- Negotiate utility related contracts with Tennessee Valley Authority and Murfreesboro Electric (Amend MED utility contract, Generation Partners, Green Power Purchase Agreement)
- Work with underground electrical project pertaining to IDGS (Interactive Distributed Generation System)
- Support planning of new MED substation for campus
- Support utilities planning for Student Services Building and parking garages
- Continue to monitor transition of electric utility into time of use rate system with MED
- Support APPA Institute for Facilities Management and Leadership Training
- Continue to provide utility and energy management support to university departments
- Continue support of MTSU Sustainable Campus Fee Program
- Continue to support Engineering Technology, and other classroom instruction and projects where possible (on-going)
- Continue training and professional development

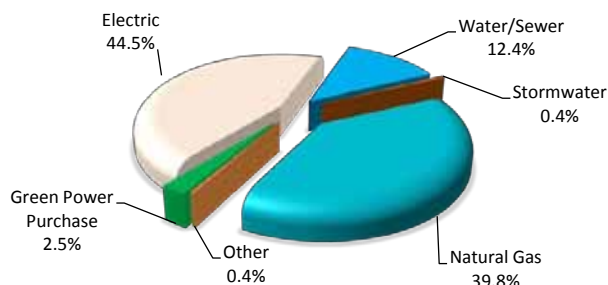
Campus Utilities

2011/2012

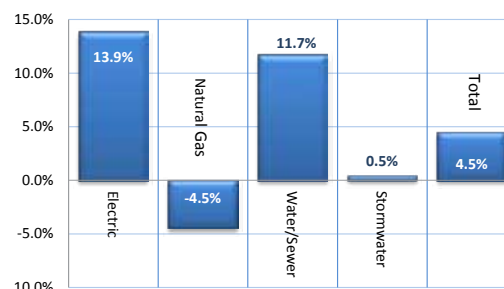


| | Qtrs 1 & 2 | Qtrs 3 & 4 | Total Qtrs 1 - 4 | Qtrs 1 & 2 | Qtrs 3 & 4 | Total Qtrs 1 - 4 | Total E&G & Aux |
|------------------------|-------------|-------------|------------------|--------------|-------------|------------------|-----------------|
| | E&G \$ | | | Auxiliary \$ | | | |
| ■ Natural Gas | \$1,139,780 | \$1,433,007 | \$2,572,787 | \$477,536 | \$592,019 | \$1,069,555 | \$3,642,342 |
| ■ Electric | \$1,042,684 | \$1,470,275 | \$2,512,959 | \$858,671 | \$707,280 | \$1,565,951 | \$4,078,910 |
| ■ Water/Sewer | \$395,010 | \$309,312 | \$704,322 | \$226,934 | \$201,248 | \$428,182 | \$1,132,504 |
| ■ Other | \$18,200 | \$19,309 | \$37,509 | \$- | \$- | \$- | \$37,509 |
| ■ Stormwater | \$11,383 | \$9,273 | \$20,656 | \$8,797 | \$8,797 | \$17,595 | \$38,250 |
| ■ Green Power Purchase | \$- | \$230,000 | \$230,000 | \$- | \$- | \$- | \$230,000 |
| ■ Total | \$2,607,057 | \$3,471,176 | \$6,078,233 | \$1,571,939 | \$1,509,344 | \$3,081,282 | \$9,159,515 |

**Total Utilities: E&G and Auxiliary
2011/2012**



Main Utility Costs 10/11 to 11/12



Recycling Program - MTSU Recycles

Linda Hardyman

Accomplishments & Highlights 2011/2012

- Maintained recycling program to meet campus needs employing student workers
- Utilized MTSU Sustainable Campus Fee project funds for improvements to the recycling program (bins and equipment)
- Integrated recycling containers in new Student Union Building
- Added two used vehicles to recycling fleet
- Supported Construction/Renovation projects
- Provided safety training for recycling staff
- Attended TNAPPA, Chick-fil-A Leadercast and other workshops and tours geared towards recycling education

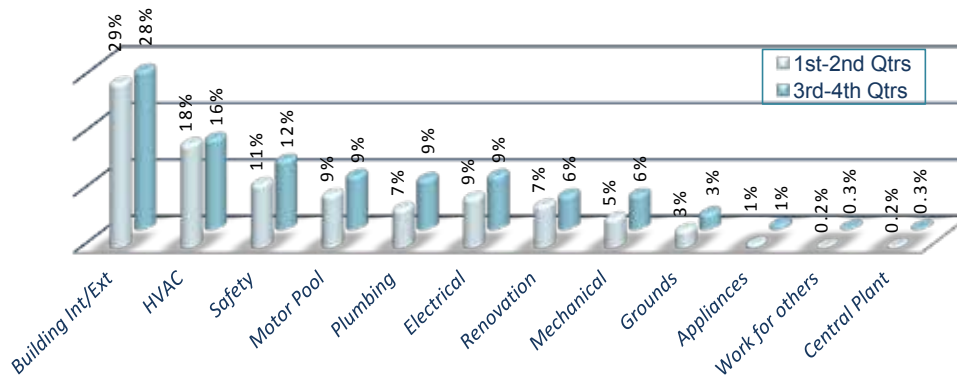
Goals 2012/2013

- Work with student organizations to provide football tailgating in Walnut Grove
- Develop recycling education materials for Customs and other campus support needs
- Upgrade appearance of recycling containers with new bins
- Continue to recover recyclables from the campus waste stream
- Continue to support Construction/Renovation project work
- Support recycling planning for new construction: Student Services Building, parking garages, new science building
- Add a visual presence with student workers wearing recycling vests
- Continue working with MTSU Sustainable Campus Fee (SCF) Program
- Continue involvement with Tennessee Higher Education Sustainability Association
- Explore new initiatives as the opportunity arises to grow the program and increase commodities collection
- Continue to provide classroom support
- Continue participation in training and development programs

| Recycling Program Collections | |
|-------------------------------|---------|
| Commodity | Pounds |
| | 2011/12 |
| Aluminum | 8,736 |
| Mixed/White Paper | 370,380 |
| Newspaper/Magazines | 341,676 |
| Maintenance Metals | 53,313 |
| Cardboard | 332,800 |
| E-waste | 67,000 |
| Plastics | 30,545 |
| | Units |
| | |
| Batteries | 1,505 |
| Ink Cartridges | 1,581 |
| Pallets | 1,350 |



Work Orders Originated 2011/2012



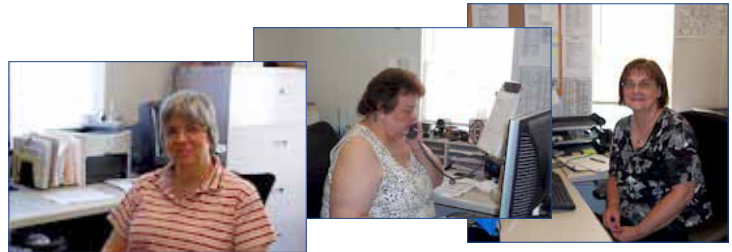
Accomplishments & Highlights 2011/2012

- Worked with ITD to upgrade Mainsaver to latest version and install on server and client PCs; coordinate on site Mainsaver training
- Continued to offer computer support with installing software and troubleshooting minor software and hardware issues
- Revised work order completed/closed procedures to provide better accounting for work completed
- Hired and trained new work order clerk
- Continued to assist ITD in preparing and moving all documents and data to new server
- Served on MTSU Classified Employee Recognition Committee
- Attended APPA Individual Effectiveness Training

Goals 2012/2013

- Work with accounting group to revise labor, material and contract processing so Mainsaver data reflects full cost recovery
- Participate in Evelyn Wood Speed Reading Course
- Work with Energy Services to design and implement filter tracking database
- Become familiar with Argos reporting software; investigate possibility of distributing reports via web
- Help coordinate ITD virtualized desktop project

http://www.mtsu.edu/facserv/work_request_forms.php



2011/2012 WORK ORDERS ORIGINATED

| | 1st Qtr | | 2nd Qtr | | 3rd Qtr | | 4th Qtr | | Annual Totals | |
|----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|---------------|-------------|
| | # WO | % of Total | # WO | % of Total | # WO | % of Total | # WO | % of Total | # WO | % of Total |
| Appliances | 30 | 1% | 26 | 1% | 33 | 1% | 37 | 1% | 126 | 1% |
| Building Interior/Exterior | 1,375 | 29% | 1,082 | 29% | 1,049 | 27% | 1,037 | 26% | 4,543 | 28% |
| Central Plant | 12 | 0.3% | 9 | 0.2% | 10 | 0.3% | 11 | 0.3% | 42 | 0.3% |
| Electrical | 401 | 9% | 336 | 9% | 380 | 10% | 295 | 7% | 1,412 | 9% |
| Grounds | 180 | 4% | 82 | 2% | 129 | 3% | 189 | 5% | 580 | 4% |
| HVAC | 924 | 20% | 615 | 16% | 598 | 16% | 688 | 17% | 2,825 | 17% |
| Mechanical | 198 | 4% | 233 | 6% | 227 | 6% | 225 | 6% | 883 | 5% |
| Motor Pool | 436 | 9% | 347 | 9% | 369 | 10% | 543 | 14% | 1,695 | 10% |
| Plumbing | 292 | 6% | 285 | 8% | 385 | 10% | 286 | 7% | 1,248 | 8% |
| Renovation | 364 | 8% | 263 | 7% | 191 | 5% | 233 | 6% | 1,051 | 6% |
| Work for others | 12 | 0.3% | 3 | 0.1% | 18 | 0.5% | - | 0% | 33 | 0.2% |
| Safety | 492 | 10% | 456 | 12% | 467 | 12% | 457 | 11% | 1,872 | 11% |
| Total | 4,716 | 100% | 3,737 | 100% | 3,856 | 100% | 4,001 | 100% | 16,310 | 100% |

Central Administration: Employee Development Services

Joe Whitefield Connie Hagberg



Accomplishments & Highlights 2011/2012

- Facilitated employee training sessions for FSD work units
- Served on the Tennessee Board of Regents (TBR) Janitorial Supplies RFP Committee
- Attended ISSA /Interclean Conference, TNAPPA, and APPA Individual Effectiveness Training



Goals 2012/2013

- Review current training program; add new training sessions (as required or requested)
- Continue to organize and coordinate training sessions for FSD work units
- Continue to review specific cleaning tasks and grounds work, with overall focus on improved campus facility and grounds cleanliness and appearance
- Continue maintenance and productivity studies for FSD with emphasis on custodial services
- Attend professional development and leadership training



| 2011/2012 FSD Employee Training Records | | Leadership/Professional Development | | | Technical Training | | |
|--|--------------------------|-------------------------------------|-------------|------------|----------------------|-------------|------------|
| By Training Type | Employees (Full-Time) | Employees Trained | Total Hours | | Employees Trained | Total Hours | |
| | | | In-House | Conference | | In-House | Conference |
| Central Administration | | | | | | | |
| -Assistant Vice President | 2 | 2 | 2 | 79 | 2 | 5 | 0 |
| -Accounting Services | 5 | 5 | 101 | 26 | 5 | 28 | 0 |
| -Center for Energy Efficiency | 3 | 3 | 53 | 24 | 3 | 20 | 5 |
| -Employee Development | 1 | 1 | 26 | 31 | 1 | 3 | 0 |
| -Work Orders | 3 | 3 | 6 | 0 | 3 | 17 | 0 |
| Building & Engineering Services | 31 | 31 | 89 | 162 | 31 | 130 | 0 |
| Construction Administration | 4 | 4 | 6 | 6 | 4 | 5 | 0 |
| Custodial Services | 25 | 25 | 47 | 12 | 25 | 78 | 0 |
| Energy Services | 19 | 19 | 29 | 39 | 18 | 58 | 0 |
| Grounds Services/Motor Pool | 17 | 17 | 24 | 36 | 17 | 36 | 11 |
| Total | 110 | 110 | 381 | 415 | 109 | 377 | 16 |

| Number of Employees Per Total Hours Trained | Employees (Full-Time) | 0 Hrs | 1-10 Hrs | 11-20 Hrs | >20 Hrs |
|--|--------------------------|----------|-----------|-----------|-----------|
| Central Administration | | | | | |
| -Assistant Vice President | 2 | | | | 2 |
| -Accounting Services | 5 | | 1 | 1 | 3 |
| -Center for Energy Efficiency | 3 | | 1 | | 2 |
| -Employee Development | 1 | | | | 1 |
| -Work Orders | 3 | | 3 | | |
| Building & Engineering Services | 31 | | 20 | 8 | 3 |
| Construction Administration | 4 | | 4 | | |
| Custodial Services | 25 | | 23 | 2 | |
| Energy Services | 19 | | 15 | 4 | |
| Grounds Services/Motor Pool | 17 | | 16 | 1 | |
| Total | 110 | 0 | 83 | 16 | 11 |

Accomplishments & Highlights 2011/2012

- Managed 255 after hours callbacks
- Supported capital construction efforts for the Student Union Building
- Prepared EPA report for Green House Gas emissions
- Supported new reverse osmosis system installation
- Prepared new air pollution control permit report
- Continued completion of safety training
- Provided training to maintain compliance regarding confined space and code issues
- Continued to evaluate operating schedules for the natural gas turbine generator with respect to natural gas and electric pricing
- Attended APPA Individual Effectiveness Training

Goals 2012/2013

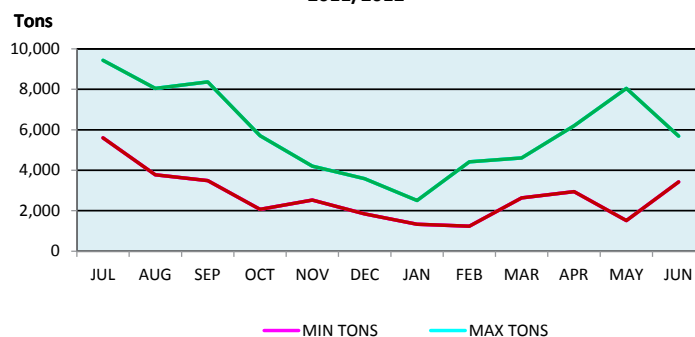
- Replace/repair cooling towers at Main Central Plant
- Support new deaerator tank installation and physical plant upgrades
- Replace economizer on energy recovery boiler
- Continue to support capital and construction/renovation projects on campus
- Continue to investigate training opportunities
- Continue exploring recovery of loop system condensate
- Support design and installation of new lube oil coolers for turbine
- Support design and construction of new science building



Energy Recovery Boiler

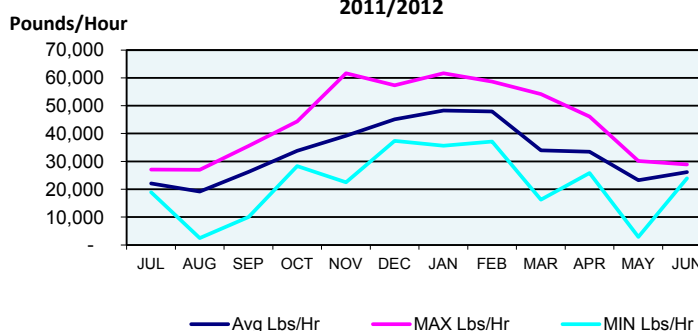
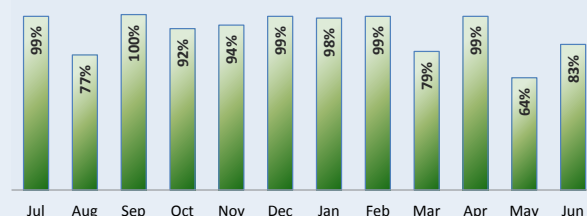
Chilled Water Tonnage

2011/2012



Steam Production

2011/2012

Turbine: Percent Runtime By Month
2011/2012

2011/2012 Central Plant Equipment Peak Operational Levels

| 2011/2012 Central Plant Equipment Peak Operational Levels | | | | | | | | | | | | | | |
|---|----------|---------------------|---------------------|--------|---------------------------|----------|---------------------|---------------------|--------|--------------------|----------|---------------------|---------------------|--------|
| Natural Gas Fired Turbine/ Generator | | | | | Steam Boilers | | | | | Chillers | | | | |
| 5MW (nominal) | | | | | 85,000 Pounds/Hour (peak) | | | | | 10,500 Tons (peak) | | | | |
| | Mid-Year | 3 rd Qtr | 4 th Qtr | Annual | | Mid-Year | 3 rd Qtr | 4 th Qtr | Annual | | Mid-Year | 3 rd Qtr | 4 th Qtr | Annual |
| Peak MW | 5.01 | 5.01 | 4.93 | 5.01 | | | | | | | | | | |
| Ave MW | 4.40 | 4.64 | 4.30 | 4.44 | Ave LBS/ Hr | 31,011 | 43,400 | 27,640 | 34,017 | Max Peak Tons | 9,440 | 4,607 | 8,043 | 9,440 |
| Total MWH | 18,179 | 9,302 | 7,690 | 35,171 | Peak LBS/ Hr | 61,667 | 61,625 | 46,083 | 61,667 | Min Tons | 1,846 | 1,233 | 1,516 | 1,233 |
| Purchased power: 25,849.89 MWH | | | | | | | | | | | | | | |

Purchased power: 25,849.89 MWH

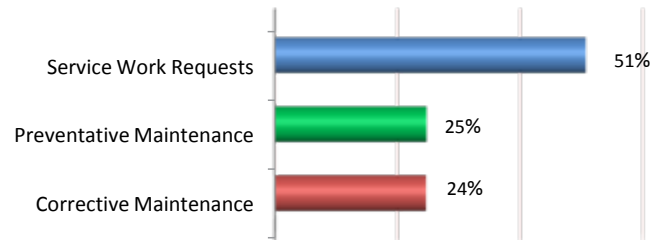
Accomplishments & Highlights 2011/2012

- Managed 88 after hours callbacks
- Improved HVAC building air filtering system in parallel with the MTSU Sustainable Campus Fee program
- Supported construction of the Student Union Building
- Completed several projects for the MTSU Sustainable Campus Fee program
- Supported Energy Modernization Project through stimulus funds
- Participated in training for staff
- Monitored construction projects for 'out of warranty' state
- Reviewed implementation procedures on services to auxiliaries and zone maintenance
- Attended APPA Individual Effectiveness Training
- Supported construction and renovation projects



Central Plant

Energy Services Total Work Order Hours



Goals 2012/2013

- Develop an inventory system for monitoring filters
- Continue improving HVAC filtering systems
- Continue work with TVA on Energy Right Program
- Support renovation of LRC
- Manage budget reductions
- Improve department processes
- Prepare new project applications for the MTSU Sustainable Campus Fee program
- Continue participation in additional training for HVAC staff
- Support design and construction of new science building, Student Services Building, and parking garages
- Continue support of construction/renovation projects

| PERFORMANCE MEASURES: Energy Services | | | | | | | | | |
|---------------------------------------|---------------|--------------|--------|-----------|--------|----------------|--------|---------------|--------|
| 2011/2012 | | #Work Orders | | Man Hours | | Avg Man Hours/ | | % Closed Past | |
| CORRECTIVE MAINTENANCE (CM) | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
| | Appliances | 12 | 35 | 67 | 149 | 5.6 | 4.3 | 25.0% | 14.3% |
| | Central Plant | 0 | 1 | 0 | 3 | 0.0 | 3.0 | 0.0% | 0.0% |
| | HVAC | 877 | 1603 | 2641 | 5091 | 3.0 | 3.2 | 7.0% | 7.0% |
| | Mechanical | 104 | 226 | 733 | 1462 | 7.0 | 6.5 | 14.4% | 12.4% |
| | Total | 993 | 1865 | 3441 | 6705 | 3.5 | 3.6 | 8.0% | 7.8% |

| PREVENTIVE MAINTENANCE (PM) | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
|-----------------------------------|---------------|----------|--------|----------|--------|----------|--------|----------|--------|
| | Appliances | 6 | 12 | 5 | 14 | 0.8 | 1.2 | 0.0% | 0.0% |
| | Central Plant | 8 | 16 | 1202 | 2324 | 150.3 | 145.2 | 0.0% | 6.3% |
| | HVAC | 423 | 874 | 1773 | 3496 | 4.2 | 4.0 | 14.7% | 14.6% |
| | Mechanical | 324 | 633 | 478 | 909 | 1.5 | 1.4 | 0.6% | 0.8% |
| | Total | 761 | 1535 | 3458 | 6742 | 4.5 | 4.4 | 8.4% | 8.7% |

| SERVICE WORK ORDERS | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
|------------------------|---------------|----------|--------|----------|--------|----------|--------|----------|--------|
| | Appliances | 0 | 3 | 0 | 7 | 0.0 | 2.3 | 0.0% | 0.0% |
| | Central Plant | 14 | 26 | 5231 | 9381 | 373.6 | 360.8 | 21.4% | 19.2% |
| | HVAC | 130 | 245 | 2088 | 4351 | 16.1 | 17.8 | 12.3% | 19.6% |
| | Mechanical | 9 | 21 | 34 | 61 | 3.8 | 2.9 | 0.0% | 14.3% |
| | Total | 153 | 295 | 7353 | 13800 | 48.1 | 46.8 | 12.4% | 19.0% |

In the fourth quarter work order completed/closed procedures were revised to provide better accounting for completed work.

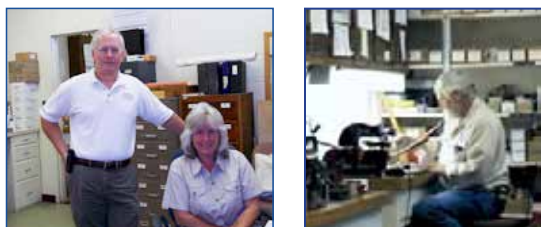
Accomplishments & Highlights 2011/2012

- Developed overall facilities plan for reduction of shop space, allowing for modular building elimination project to proceed
- Attended APPA Individual Effectiveness Training

Building Services

- Averaged 389 work orders completed per month - General Maintenance/ Metal Shop
- Implementation of "Safety 411" weekly safety awareness meetings
- Implementation of "Rotational Zone Maintenance"
- Filled vacant supervisory position
- Developed bid specifications to procure a new fork lift for the shops

Key Shop



Construction Services and Key Shop

Key Shop

- Completed 1,645 work orders
- Cut a total of 4,381 keys for Residential Life, Construction Administration and Construction/Renovation projects
- Rekeyed and tagged eight departmental key boxes and procured a new peg board for the HVAC Shop
- Consulted with architect's and designer's on security issues for the new Student Union
- Hired an electronic access technician

Construction Services Shop

- Supported Residential Life in a \$330K renovation/clean up of Greek House #4
- Hired a lead carpenter
- Supported Construction/Renovation with skilled craft on 94 in house projects and completed 258 work order
- Completed 70% of GPS work or underground domestic water utilities

EH&S

- Responded to 378 emergency service requests for fire alarms and medical emergencies
- Responded and managed a 750 gallon oil spill at the Co-Gen without a release to the environment
- Managed the disposal of approximately 12 tons of hazardous waste
- Received Notice of Coverage from TDEC for our NPDES (National Pollutant Discharge Elimination System) permit
- Hosted four stormwater training sessions
- Worked at 23 outreach events to distribute educational materials to get school children, college students & the community involved in stormwater education, and cleaning up the environment.
- Completed TEMA Pre-Hazard Mitigation Grant
- Hired an environmental engineer
- EH&S Online Training provided training to 1656 employees.

Construction/Renovation

- Completed over 200 projects with a total value of \$3,774,167
- Major departmental renovations completed:
- Davis Science – back-up generator - Biology portion
- Managed renovation of various spaces vacated by College of Education move
- Mass Comm – renovated classroom as part of new Media Convergence Center
- Handball Court – constructed new facility on East Main Street
- Murphy Center – finalized dance offices and classrooms/electrical support for new football lockers
- Greek Row – supported and participated in renovation of Greek House #4



Renovated classroom

2011/2012 Construction/Renovation Project Summary

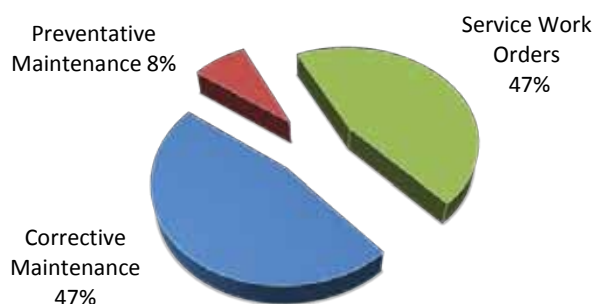
| | 1st Qtr | | 2nd Qtr | | 3rd Qtr | | 4th Qtr | | Annual Totals | |
|---------------------------|------------|-------------------|------------|-------------------|------------|-------------------|------------|-------------------|---------------|-------------------|
| | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects |
| Beginning Active Projects | 210 | \$ 2,297,832 | 219 | \$ 2,309,606 | 213 | \$ 2,659,173 | 204 | \$ 2,578,760 | 210 | \$ 2,297,832 |
| Added Projects | 50 | \$ 908,711 | 35 | \$ 1,271,451 | 32 | \$ 917,200 | 42 | \$ 1,154,609 | 159 | \$ 4,251,971 |
| Completed Projects | 41 | \$ 896,937 | 41 | \$ 921,884 | 41 | \$ 997,613 | 50 | \$ 897,140 | 173 | \$ 3,713,574 |
| Ending Active Projects | 219 | \$ 2,309,606 | 213 | \$ 2,659,173 | 204 | \$ 2,578,760 | 196 | \$ 2,836,229 | 196 | \$ 2,836,229 |

Goals 2012/2013

- Implement a procedure to schedule classrooms for electronic access
- Renovate Haynes Turner to accommodate persons moving from the mod and schedule demo of modular building.
- Complete the domestic water systems on the GIS and begin the underground electrical systems
- Update In-House Construction Guidelines with new 500K limit
- Continue training and professional development
- Support Campus Planning and Construction Administration in construction of the new science building



**Engineering/Building Services
Annual Man Hours
by Work Order Type
2011/2012**



| PERFORMANCE MEASURES: Engineering and Building Services | | | | | | | | | |
|--|----------------------------|-------------------------|--------------|--------------|---------------|------------|------------|-------------------|--------------|
| 2011/2012 | | # Work Orders Completed | | Man Hours | | Avg MH/WO | | % Closed Past Due | |
| CORRECTIVE MAINTENANCE (CM) | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
| | Appliances | 25 | 44 | 41 | 77 | 1.6 | 1.7 | 0.0% | 2.3% |
| | Building Interior/Exterior | 1,407 | 1,164 | 1,694 | 3,304 | 1.2 | 2.8 | 5.5% | 6.3% |
| | Electrical | 639 | 1,194 | 1,755 | 3,564 | 2.7 | 3.0 | 5.0% | 4.9% |
| | Key Shop | 726 | 1,417 | 1,237 | 2,917 | 1.7 | 2.1 | 4.7% | 4.9% |
| | Plumbing | 539 | 1,077 | 877 | 1,871 | 1.6 | 1.7 | 2.8% | 2.0% |
| | Safety | 36 | 81 | 51 | 157 | 1.4 | 1.9 | 13.9% | 29.6% |
| | Total | 3,372 | 4,977 | 5,654 | 11,890 | 1.7 | 2.4 | 4.9% | 5.0% |
| PREVENTIVE MAINTENANCE (PM) | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
| | Building Interior/Exterior | 67 | 103 | 127 | 210 | 1.9 | 2.0 | 0.0% | 15.5% |
| | Electrical* | 38 | 62 | 6,806 | 90 | 179.1 | 1.5 | 39.5% | 29.0% |
| | Plumbing | 30 | 129 | 105 | 306 | 3.5 | 2.4 | 56.7% | 21.7% |
| | Safety | 833 | 1,635 | 698 | 1,370 | 0.8 | 0.8 | 0.1% | 0.1% |
| | Total | 968 | 1,929 | 7,736 | 1,976 | 8.0 | 1.0 | 3.9% | 3.3% |
| *includes generator PMs performed by Motor Pool Services | | | | | | | | | |
| SERVICE WORK ORDERS | | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
| | Appliances | 8 | 12 | 14 | 18 | 1.8 | 1.5 | 0.0% | 8.3% |
| | Building | 821 | 1,558 | 2,696 | 4,288 | 3.3 | 2.8 | 19.0% | 15.9% |
| | Electrical | 102 | 140 | 245 | 458 | 2.4 | 3.3 | 7.8% | 12.9% |
| | Key Shop | 87 | 144 | 310 | 648 | 3.6 | 4.5 | 13.8% | 11.8% |
| | Plumbing | 51 | 63 | 135 | 169 | 2.6 | 2.7 | 13.7% | 14.3% |
| | Renovation | 492 | 966 | 2,381 | 5,852 | 4.8 | 6.1 | 8.3% | 9.6% |
| | Safety | 27 | 113 | 76 | 102 | 2.8 | 0.9 | 11.1% | 43.4% |
| | Total | 1,588 | 2,996 | 5,856 | 11,534 | 3.7 | 3.8 | 14.3% | 14.5% |

In the fourth quarter work order completed/closed procedures were revised to provide better accounting for completed work.

Accomplishments & Highlights 2011/2012

- Continued participation in APPA Educational opportunities
- Continued updates of Campus Standards
- Completion of College of Education Building
- Completed Capital Maintenance Budget for 2012-2013
- Attended APPA Individual Effectiveness Training



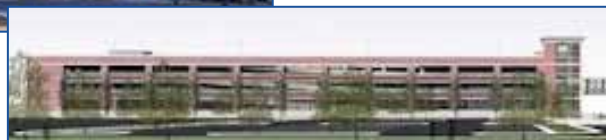
Student Services
Construction



Holmes
Garage

Goals 2012/2013

- Initiate new meetings with City Departments for better cooperation
- Continued participation in educational opportunities both on & off campus
- Complete Underground Electric project
- Complete Campus Standards updates
- Continued participation is "Green, Sustainable" status in Capital Maintenance projects
- Continued communication meetings with Construction Administration staff



| 2011/2012 Capital Projects Review | | |
|-----------------------------------|---|---|
| | New Projects | Completed Projects |
| July - September | <ul style="list-style-type: none"> Woods, Fleder, Gore, Clement demos Fairview Building renovation | <ul style="list-style-type: none"> Deere and Nicks Hall Renovation Dairy Farm Improvements Monohan Hall masonry improvements |
| October - December | <ul style="list-style-type: none"> AMG elevator Underground Electrical Phase 2 Several buildings envelope repair College Heights parking lot Parking garage projects | <ul style="list-style-type: none"> Campus lighting modernization Energy system modernization Woods, Felder, Gore, Clement demos Boiler feedwater & reverse osmosis projects Mass Comm- Media Convergence Center Fairview Building renovation Women's basketball office renovations Jones Hall steamline replacement |
| January - March | <ul style="list-style-type: none"> Stadium club level renovation | <ul style="list-style-type: none"> AMG elevator |
| April - June | <ul style="list-style-type: none"> Student Rec Center reroof Science Facilities site improvements Roof replacement- LRC, Todd Davis Science fume hoods replacement Todd Hall air quality upgrades Student Services Building | <ul style="list-style-type: none"> Parking & Transportation Phase 3 Several buildings envelope repair |



| 2011/2012 Construction Administration Capital Project Summary | | | | | | | | | | |
|---|------------|-------------------|------------|-------------------|------------|-------------------|------------|-------------------|---------------|-------------------|
| | 1st Qtr | | 2nd Qtr | | 3rd Qtr | | 4th Qtr | | Annual Totals | |
| | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects | # Projects | Value of Projects |
| Beginning Active Projects | 11 | \$ 95,225,326 | 10 | \$ 93,096,413 | 7 | \$ 106,835,287 | 7 | \$ 107,835,287 | 11 | \$ 95,225,326 |
| Added Projects | 2 | \$ 1,850,000 | 5 | \$ 22,498,000 | 1 | \$ 1,650,000 | 6 | \$ 22,449,067 | 14 | \$ 48,447,867 |
| Completed Projects | 3 | \$ 3,978,913 | 8 | \$ 8,759,926 | 1 | \$ 650,000 | 2 | \$ 7,306,487 | 14 | \$ 20,695,326 |
| Ending Active Projects | 10 | \$ 93,096,413 | 7 | \$ 106,835,287 | 7 | \$ 107,835,287 | 11 | \$ 122,977,867 | 11 | \$ 122,977,867 |

Accomplishments & Highlights 2011/2012

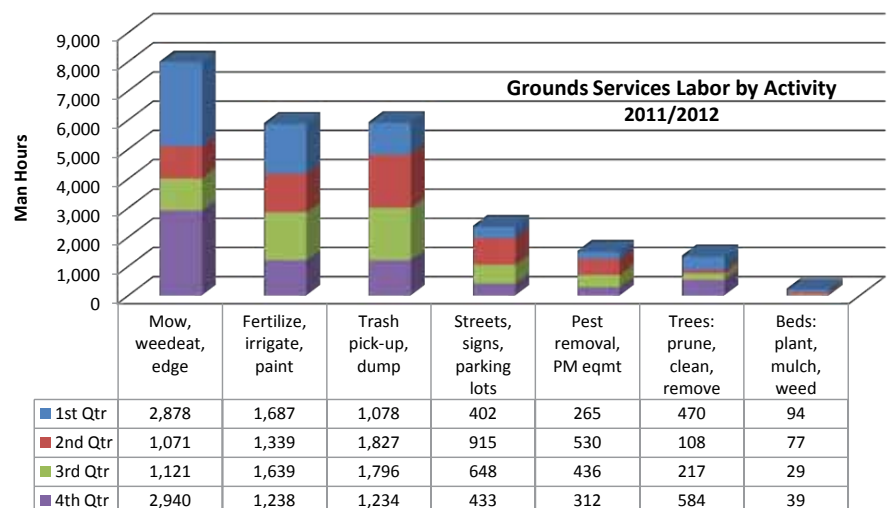
- Developed new landscape specifications for campus designer guideline standards
- Improved communication with Campus Planning and outside contractors for design review of new construction projects
- Implemented soil testing, new fertilizer program, and new weed control program to improved athletic field playing surfaces
- Installed irrigation zones around perimeter of practice football field to improve overall appearance and playability
- Improved lining athletic fields with new paint machine and spray tips; switched to a more environmentally friendly type of paint
- Greenhouse continued providing plants and greenhouse support for events on campus
- Started new type of landscape/athletic field documenting using time-lapse cameras and HD quality videos for multiple purposes, including training and cross-training of employees
- Continued to review and implement strategies to improve overall quality and efficiency of mowing, trimming, pruning, trash removal, snow removal, leaf removal, and other various services
- Maintained quarterly communications, required training, and cross-training activities
- Attended APPA Individual Effectiveness Training

| PERFORMANCE MEASURES: Grounds | | | | | | | | |
|-------------------------------|--------------|--------|-----------|--------|-----------|--------|-------------------|--------|
| 2011-2012 | #Work Orders | | Man Hours | | Avg MH/WO | | % Closed Past Due | |
| | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
| Maintenance | 31 | 72 | 190 | 333 | 6.1 | 4.6 | 16.1% | 11.1% |
| Preventative (PM) | 0 | 12 | 0 | 14 | 0.0 | 0.0 | 0.0% | 0.0% |
| Corrective (CM) | 31 | 60 | 190 | 319 | 6.1 | 5.3 | 16.1% | 13.3% |
| Service | 218 | 488 | 3,241 | 35,878 | 14.9 | 73.5 | 19.7% | 21.9% |
| Routine | 218 | 481 | 3,241 | 8,842 | 14.9 | 18.4 | 16.1% | 22.2% |
| Annual | 0 | 7 | 0 | 27,036 | 0.0 | 3,862 | 0.0% | 0.0% |
| Total | 249 | 560 | 3,431 | 36,212 | 13.8 | 64.7 | 19.3% | 20.5% |

In the fourth quarter work order completed/closed procedures were revised to provide better accounting for completed work.

Goals 2012/2013

- Continue improvements to athletic field surfaces through soil testing, fertilizing, and weed control
- Implement new mowing height schedule to help improve turf quality for athletics during transition periods
- Investigate improved irrigation and drainage on athletic fields
- Continue to provide design review on new construction projects
- Develop and implement new strategy to improve the efficiency of curb/street sweeping
- Improve irrigation water usage on campus by performing more frequent inspections and making repairs so system runs as efficiently as possible
- Continue to implement and improve video documentation; utilize technology to more effectively train our employees
- Develop and implement new strategies to improve the quality of shrub beds and mulching



Accomplishments & Highlights 2011/2012

- Installed electric vehicle (EV) charging station for Nissan Leaf
- Improved lighting for Motor Pool shop
- Provided on-site emission testing for university vehicles
- Continued to provide service to FSD shops and departments with repair and upkeep of university vehicles
- Continued with training and educational opportunities, attended APPA Individual Effectiveness Training



Leaf

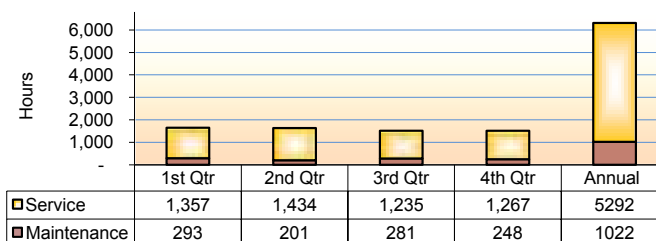


Hybrid



Mini-bus

Motor Pool Man Hours
2011-2012



Goals 2012/2013

- Upgrade the air conditioning service equipment
- Establish inventory/monitoring system for golf carts, gators, and utility vehicles
- Provide on-site emission testing
- Keep up with new EPA regulations
- Install EV charging stations across campus (2)
- Continue training

PERFORMANCE MEASURES: Motor Pool

| 2011-2012 | # Work Orders Completed | | Man Hours | | Avg MH/WO | | % Closed Past Due | |
|-------------------|-------------------------|--------|-----------|--------|-----------|--------|-------------------|--------|
| | Mid-year | Annual | Mid-year | Annual | Mid-year | Annual | Mid-year | Annual |
| Maintenance | 406 | 954 | 494 | 1021.5 | 1.2 | 1.1 | 5.4% | 3.2% |
| Preventative (PM) | 400 | 943 | 490 | 1003 | 1.2 | 1.1 | 5.5% | 3.3% |
| Corrective (CM) | 6 | 11 | 4 | 19 | 0.6 | 1.7 | 0.0% | 0.0% |
| Service | 389 | 731 | 2710 | 7 | 7.0 | 0.0 | 5.1% | 7.0% |
| Total | 795 | 1685 | 3203 | 1028.7 | 4.0 | 0.6 | 5.3% | 4.9% |

In the fourth quarter work order completed/closed procedures were revised to provide better accounting for completed work.

Custodial Services

Joe Whitefield Connie Hagberg
David Feagans John Knox

Accomplishments & Highlights 2011/2012

- Built strong working relationship with contractor to ensure that Contract terms are firmly upheld
- Coordinated special event/conference cleaning requirements with contractor and in-house Custodial Services
- Amended Custodial Services Contract to provide service for three in-house facilities effective March 18, 2012
- Finalized renewal of the Custodial Services Contract (effective date July 1, 2012) including service for new Student Union Building and transfer of one in-house facility to contractor
- Revised Cleaning Standards & Frequencies for High Intensity Buildings (buildings with heavy pedestrian traffic and use; effective July 1, 2012)
- Increased day porter staff and tasks to improve overall facility cleanliness and appearance
- Completed safety and administrative training sessions, attended APPA Individual Effectiveness Training

Goals 2012/2013

- Ensure custodial contractor service is completed according to contract terms
- Continue productivity studies of in-house custodial services
- Continue facility inspections for cleanliness according to FSD Cleaning Standards & Frequencies

| E&G Space 2011/2012 | Gross Square Feet | Cleanable Square Feet | % Cleanable Square Feet |
|---------------------------------------|----------------------|--------------------------|----------------------------|
| Facilities Services Department | | | |
| In-house | 642,043 | 335,928 | 17% |
| Contract Labor | 1,542,238 | 1,098,673 | 57% |
| Murphy Center Complex | | | |
| In-house | 0 | 0 | 0% |
| Contract Labor | 604,458 | 500,531 | 26% |
| Total | 2,788,739 | 1,935,132 | 100% |

Sustainable Campus Fee Case Study

'Coin Toss'

Excerpts from Campus Master Plan December 2007

APPA (Association of Physical Plant Administrators) Active at Work

Capital Maintenance Project List

MTSU Sustainable Campus Fee Project List



Sustainable Campus Fee Case Study: Closed Loop Air and Sediment Filtering System

As part of a Sustainable Campus Fund (SCF) project originally approved in 2007 and each year following, closed loop air and sediment filtering systems have been installed in eight buildings on campus by Energy Services as part of a heating efficiency program.

The filtering process cleans sediment, rust, other particles, and air suspended within the fluid in the loop in each building. Energy savings is realized through better thermal efficiency, improving overall system performance by requiring less energy to pump the fluid, eliminating clogged heating coils, and improving the efficiency of the system and heat transfer, and lowering maintenance costs.

Installation has shown a noticeable improvement in equipment performance, distribution efficiency, and comfort level in the buildings. Improved temperatures throughout each building are making the environment more comfortable for our faculty, students, and staff.



Mass Comm

MTSU FSD Hosted an APPA Leadership Academy Track I: Individual Effectiveness Skills Workshop in March 2012

The APPA Leadership Academy has been developed for, and focuses on, the educational institution's administrative professionals. The purpose is to enhance and further develop leadership throughout the educational industry, providing opportunities for professionals to increase their awareness of industry issues, to learn the skills necessary to handle today's changes, and to discover the leadership potential within each of us.

Track I: Individual Effectiveness Skills - This program helps to achieve sustained superior results by focusing on making individuals and leaders more effective. This track includes a 360-degree benchmark providing participants with feedback from managers, peers, and direct reports and clear indicators of their top strengths as well as areas to target for improvement.






18 FSD is APPA Active at WORK!





APPA offers premier training for educating and equipping facilities professionals in leadership, management, and latest technologies. As an active member of APPA, at state, regional, and international levels, the MTSU Facilities Services staff supports APPA in a variety of ways from hosting workshops to holding offices.





FSD Staff Involvement 2011/2012


| | |
|---|---|
|  | Current Officers |
| | APPA- Past-president - David Gray |
| | TNAPPA- Secretary/Treasurer - Gerald Grimes |
| | TNAPPA- Web Master - Kelly Ostergrant |
| | Thought Leaders |
|  | Joe Whitefield |
| | Facility Manager Magazine |
|  | Joe Whitefield - Columnist |


| | |
|---|---|
|  | TNAPPA - Nashville, TN |
| | FSD Units attending: Assistant Vice-President staff, Center For Energy Efficiency, Employee Development, Construction Administration, Construction/Renovation, Energy Services, Building Services, Key Shop, Environmental Health & Safety, Grounds Services (32 staff members) |


| | |
|--|--|
|  | Institute for Facilities Management |
| | Attendee - Kelly Ostergrant |


| | |
|---|---|
|  | SRAPPA - Jackson, MS |
| | Attendees - Gerald Caudill, Reggie Floyd, Gerald Grimes, Kelly Ostergrant |

| | |
|--|---|
|  | Leadership Academy - Hilton Head, SC |
| | Attendees- Jeff McConnell, Gerald Grimes, |

| | |
|---|---|
|  | Attended APPA - Atlanta, GA |
| | John Cothorn, David Gray, Joe Whitefield, Gerald Caudill, Jay Wallace, Reggie Floyd, Kelly Ostergrant |

| | |
|--|---|
|  | APPA Facilities Drive-In Workshop - MTSU |
| | For area Universities, Colleges, and K-12 35 attendees |

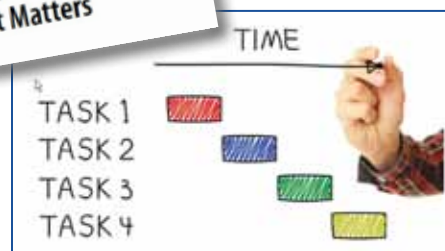
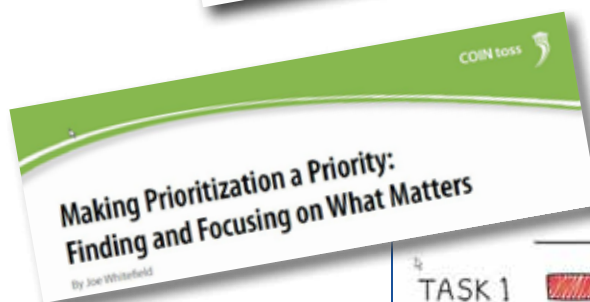
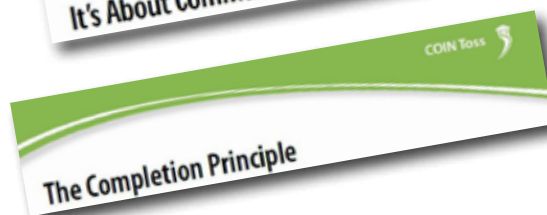
| | |
|--|--|
|  | Leadership Academy Track 1 - MTSU |
| | Attendees - 27 MTSU staff from Facilities Services, Human Resources, Campus Planning, Distribution, and other guests |

| | |
|---|---|
|  | Upcoming in 2012/13 |
| | APPA - Immediate Past-president - David Gray APPA International Conference (Denver, CO), SRAPPA, TNAPPA |

The Association of Physical Plant Administrators promotes leadership in educational facilities for professionals seeking to build careers, transform institutions, and elevate the value and recognition of facilities education. www.appa.org

'Coin Toss'

Facilities Manager Magazine -
Joe Whitefield



<http://www.appa.org/FacilitiesManager/index.cfm>

Excerpts from Campus Master Plan December 2007--

The following information categorizes the Education and General (E&G) facilities according to condition and quantifies the overall level of deferred maintenance.

19

Existing Building Analysis: Education and General Facilities

| Building Name | Year Constructed | Bldg ID | Current Condition (1) | Potential Value (2) | Overall Building Rating (3) | Net SF | Gross SF |
|--|------------------|---------|-----------------------|---------------------|-----------------------------|--------|----------|
| Alumni Relations House (2259 Middle Tennessee Boulevard) | 1908 | P0174 | 99.8 | High | A | 5,598 | 10,105 |
| President's Home ** | 1910 | P0001 | 87.0 | High | B | 7,015 | 7,794 |
| Tom H. Jackson Building ** | 1911 | P0003 | 86.0 | High | B | 4,921 | 8,792 |
| Kirksey Old Main ** | 1911 | P0002 | 69.8 | High | C | 45,772 | 83,705 |
| Jones Hall ** | 1921 | P0005 | 82.3 | High | B | 21,110 | 39,855 |
| Pittard Campus School ** | 1927 | P0007 | 65.5 | High | C | 29,805 | 52,424 |
| Ellington Human Science Annex | 1928 | P0018 | 77.6 | Low | D | 7,254 | 10,276 |
| Wiser-Patten Science Hall | 1932 | P0008 | 83.0 | Medium | B | 27,991 | 41,116 |
| Voorhies Industrial Studies | 1942 | P0009 | 89.4 | Medium | B | 28,516 | 39,289 |
| ROTC Annex | 1942 | P0010 | 60.2 | Low | D | 8,574 | 10,143 |
| Alumni Office (2263 Middle Tennessee Boulevard) | 1948 | P0172 | 100 | High | A | 1,869 | 2,796 |
| 1114 East Lytle Street (Lytle House) | 1948 | P0171 | 95.1 | High | A | 1,379 | 1,874 |
| Sam H. Ingram Building (2269 Middle Tennessee Boulevard) | 1951 | P0169 | 98.6 | High | A | 18,907 | 27,498 |
| Parking Services Building (1403 East Main Street) | 1951 | P0158 | 98.2 | High | A | 7,349 | 12,099 |
| James Union Building | 1952 | P0015 | 84.5 | Medium | B | 37,101 | 59,351 |
| Forrest Hall | 1954 | P0017 | 90.3 | Low | D | 8,562 | 14,177 |
| Photography Building | 1957 | P0046 | 76.0 | Low | D | 8,196 | 11,873 |
| Todd Hall | 1958 | P0019 | 96.0 | High | A | 65,598 | 114,388 |
| Saunders Fine Art | 1959 | P0022 | 89.6 | Medium | B | 20,088 | 32,870 |
| E.W. Midgett Building | 1959 | P0076 | 65.0 | Low | D | 10,804 | 18,326 |
| Fairview Building | 1962 | P0149 | 90.5 | Medium | A | 22,584 | 38,250 |
| Ellington Human Science | 1962 | P0025 | 83.6 | Medium | B | 10,828 | 15,509 |
| Boutwell Dramatic Arts | 1964 | P0031 | 81.4 | Medium | B | 37,655 | 59,876 |
| Cope Administration Building | 1965 | P0034 | 89.4 | High | B | 30,815 | 51,184 |
| Keathley University Center | 1967 | P0042 | 84.4 | Medium | B | 78,973 | 122,671 |
| Davis Science Building | 1967 | P0041 | 82.7 | Medium | B | 44,411 | 75,258 |

Notes:

- 1.) Current condition - Facility Survey Score as of 10/07
- 2.) Potential Value determined by factors including: various land use, program suitability, code issues, original campus structure
- 3.) Overall building rating combines the current condition and potential values

| Building Name | Year Constructed | Bldg ID | Current Condition (1) | Potential Value (2) | Overall Building Rating (3) | Net SF | Gross SF |
|--|------------------|---------|-----------------------|---------------------|-----------------------------|---------|----------|
| Stark Agribusiness and Agriscience Center | 1968 | P0045 | 89.3 | High | B | 15,059 | 24,813 |
| Peck Hall | 1968 | P0044 | 84.0 | Medium | B | 52,724 | 110,440 |
| McFarland Health Service | 1969 | P0054 | 81.4 | Low | D | 6,873 | 10,285 |
| Tennessee Livestock Center | 1972 | P0070 | 91.8 | Low | D | 135,079 | 158,191 |
| Ezell Hall | 1973 | P0072 | 78.5 | Low | D | 32,497 | 52,452 |
| Greenhouse | 1975 | P0073 | 100 | Low | D | 4,709 | 4,774 |
| Ned McWherter Learning Resources Center | 1975 | P0074 | 85.1 | High | B | 41,763 | 65,865 |
| Vocational Agriculture | 1979 | P0080 | 90.9 | Low | D | 5,217 | 6,000 |
| Wright Music Building | 1980 | P0081 | 92.8 | Medium | A | 20,802 | 31,141 |
| Telescope Building | 1986 | P0106 | n/a | Low | D | 328 | 412 |
| ProjectHELP | 1986 | P0088 | 100 | High | A | 3,258 | 4,568 |
| John Bragg Mass Communication Building | 1990 | P0083 | 95.5 | High | A | 53,735 | 91,114 |
| Cason-Kennedy Nursing Building | 1994 | P0084 | 97.3 | High | A | 18,755 | 31,494 |
| Telecomm Building | 1997 | P0089 | 100 | High | A | 5,957 | 10,267 |
| Business & Aerospace Building | 1997 | P0091 | 99.3 | High | A | 100,973 | 184,931 |
| Horticulture Facility | 1997 | P0093 | 94.0 | Low | D | 6,458 | 9,002 |
| James E. Walker Library | 1998 | P0094 | 99.3 | High | A | 172,928 | 254,596 |
| Tennessee Center for the Study and Treatment of Dyslexia | 2000 | P0155 | 94.0 | High | A | 4,148 | 7,169 |
| Wood-Stegall Center | 2001 | P0156 | 100 | High | A | 4,636 | 10,142 |
| Paul W. Martin, Sr. Honors Building | 2003 | P0166 | 100 | High | A | 11,605 | 20,720 |
| Printing Services Building | 2005 | P0175 | 100 | Low | D | 3,927 | 4,320 |
| Nursing Building Addition | 2006 | P084A | 100 | High | A | 13,924 | 24,044 |

** Original campus structure

Overall Building Rating - Current Condition

| Potential Value | | 90-100 | 80-90 | <80 |
|-----------------|--------|--------|-------|-----|
| | High | A | B | C |
| | Medium | A | B | C |
| | Low | D | D | D |

Deferred Maintenance

| Educational and General (includes maintenance, utilities, and athletics) | | |
|--|------------------|----------------------------------|
| Overall Buildings Ratings | Square Footage | 20-year Deferred Maintenance (1) |
| A | 1,212,841 | \$15,758,902 |
| B | 1,031,907 | \$57,839,731 |
| C | 297,334 | \$32,098,524 |
| D | 95,614 | \$6,215,084 |
| Other | 67,808 | \$2,038,594 |
| Infrastructure | | \$28,487,709 |
| 20-YR Capital Maintenance Funding | | \$(24,380,000) |
| Totals | 2,705,504 | \$118,058,544 |

(1) 20-YR Deferred Maintenance is the sum of the Annual Capital Maintenance calculations for the most recent 20 year period for each facility. The Annual Capital Maintenance formula is:

$$ACM = 2/3 (\text{Building Current Replacement Value}) * \text{Building Age}/1275$$

Like many universities and colleges, MTSU has experienced significant growth and associated financial needs over many years. These conditions have led to a postponement of major repairs and replacements of facilities and infrastructure. The delay, combined with the age of the facilities, is leading to a deterioration of the facilities and an increased backlog of maintenance and capital renewal projects. This backlog is commonly referred to as "deferred maintenance".

The E&G Deferred Maintenance table summarizes the estimated cost of 20 years of accumulated deferred maintenance for the Education and General facilities and the infrastructure on campus according to Overall Building Rating category, the 20-year total of capital maintenance funding, and the net deferred maintenance.

MTSU Capital Maintenance

List of Projects for Capital Budget Request

| 2010 - 2011 | Priority | Project Name | FY 10/11 Request | Appropriated Funding |
|-------------|----------|--|------------------|----------------------|
| | 1 | "D" Steam Line Replacement | \$ 850,000 | \$ 850,000 |
| | 2 | Underground Electrical Phase V | \$ 3,105,000 | \$ 3,110,000 |
| | 3 | Several Buildings Roof Replacement | \$ 750,000 | \$ 750,000 |
| | 4 | Boiler Feed System & Steam Line Improvements | \$ 1,698,000 | \$ - |
| | 5 | Several Buildings Envelope Repair | \$ 865,000 | \$ - |
| | 6 | Domestic Water/Sewer System Updates | \$ 400,000 | \$ - |
| | 7 | Peck Hall HVAC Updates Phase II - VAV | \$ 550,000 | \$ - |
| | 8 | Murphy Center Exterior Door Repair/Replacement | \$ 500,000 | \$ - |
| | 9 | Murphy Center HVAC | \$ 1,275,000 | \$ - |
| | 10 | Underground Electrical Phase VI | \$ 1,425,000 | \$ - |
| | 11 | Business/Aerospace Roof Replacement | \$ 925,000 | \$ - |
| | 12 | Walker Library Roof Replacement | \$ 825,000 | \$ - |
| | 13 | Murphy Center Roof Replacement | \$ 1,990,000 | \$ - |
| | Total: | | \$ 15,158,000 | \$ 4,710,000 |
| 2011 - 2012 | Priority | Project Name | FY 11/12 Request | Appropriated Funding |
| | 1 | Boiler Feed System & Steam Line Improvements | \$ 1,690,000 | \$ 1,690,000 |
| | 2 | Several Buildings Envelope Repair (pulled) | \$ 1,285,000 | \$ - |
| | 3 | Domestic Water/Sewer System Updates | \$ 460,000 | \$ 460,000 |
| | 4 | Sauders Fine Arts HVAC | \$ 900,000 | \$ 1,290,000 |
| | 5 | Peck Hall HVAC Updates Phase II - VAV | \$ 635,000 | \$ - |
| | 6 | Murphy Center Exterior Door Repair/Replacement | \$ 575,000 | \$ - |
| | 7 | Murphy Center Arena HVAC | \$ 1,470,000 | \$ - |
| | 8 | Underground Electrical Phase VI | \$ 1,640,000 | \$ - |
| | 9 | Walker Library Roof Replacement | \$ 950,000 | \$ - |
| | 10 | Murphy Center Roof Replacement | \$ 2,289,000 | \$ - |
| | Total: | | \$ 11,894,000 | \$ 3,440,000 |
| 2012 - 2013 | Priority | Project Name | FY 12/13 Request | Appropriated Funding |
| | 1 | Domestic Water/Sewer System Updates | \$ 506,000 | \$ 510,000 |
| | 2 | Murphy Center Arena HVAC | \$ 1,617,000 | \$ 1,620,000 |
| | 3 | Underground Electrical Phase VI | \$ 2,140,000 | \$ 2,140,000 |
| | 4 | Peck Hall HVAC Updates Phase II - VAV | \$ 860,000 | \$ - |
| | 5 | Murphy Center Exterior Door Repair/Replacement | \$ 633,000 | \$ - |
| | 6 | Walker Library Roof Replacement | \$ 1,045,000 | \$ 1,050,000 |
| | 7 | Murphy Center Roof Replacement | \$ 2,518,000 | \$ - |
| | 8 | Jones Hall Plumbing Upgrade | \$ 1,000,000 | \$ - |
| | 9 | Several Buildings Electrical Equipment Upgrade | \$ 1,000,000 | \$ - |
| | 10 | Campus Stormwater BMP | \$ 550,000 | \$ - |
| | 11 | Central Plant Cooling Tower Replacement | \$ 750,000 | \$ - |
| | Total: | | \$ 12,619,000 | \$ 5,320,000 |
| 2013 - 2014 | Priority | Project Name | FY 09/10 Request | Appropriated Funding |
| | 1 | Murphy Center Roof Replacement | \$ 2,720,000 | \$ - |
| | 2 | Central Plant Cooling Tower Replacement | \$ 810,000 | \$ - |
| | 3 | Absorption Chiller/Tower Replacement | \$ 1,100,000 | \$ - |
| | 4 | Murphy Center Accoustical Ceiling Replacement | \$ 800,000 | \$ - |
| | 5 | Jones Hall Plumbing Upgrade | \$ 1,080,000 | \$ - |
| | 6 | Several Buildings Electrical Equipment Upgrade | \$ 1,080,000 | \$ - |
| | 7 | Several Buildings Exterior Renovations | \$ 1,100,000 | \$ - |
| | 8 | Domestic Water/Sewer Systems Upgrade | \$ 506,000 | \$ - |
| | 9 | Murphy Center Exterior Door Repair/Replacement | \$ 684,000 | \$ - |
| | 10 | Peck Hall HVAC Updates Phase II - VAV | \$ 929,000 | \$ - |
| | 11 | Campus Stormwater BMP | \$ 594,000 | \$ - |
| | 12 | Sidewalk Repair/Replacement | \$ 350,000 | \$ - |
| | Total: | | \$ 11,753,000 | \$0 |

MTSU Sustainable Campus Fee Project List

Joe Whitefield Linda Hardyman

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| MTSU Sustainable Campus Fee (SCF) Program | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Approved Project Listing | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
| Green Power Purchase | \$ 220,000 | \$ 230,000 | \$ 230,000 | \$ 230,000 | \$ 230,000 | \$ 230,000 |
| Atrium lighting project for Walker Library | | | | | | \$19,366 |
| Bioremediation of barbiturates for ecofriendly composting | | | | | | \$16,846 |
| Blade servers- Server consolidation/Virtualization | | | \$ 20,000 | \$ 21,000 | \$ 21,708 | |
| Blast hand dryers for Campus Rec | | | | | \$ 11,270 | |
| Bus conversion to run on used cooking oil | \$ 15,000 | | | | | |
| Change hot water valve tops in Murphy Center | | | | | | \$6,502 |
| Chilling plant: pressure gauges installation | \$ 1,000 | | | | | |
| Clean coils Multiple Buildings (AMG, Mass Comm, Forest Hall, Voorhies, JUB, Fairview, KUC, Telecomm, BDA, Wiser Patten, TN Livestock Cntr) | | | \$ 10,288 | \$ 7,490 | \$ 6,204 | \$4,100 |
| Closed loop sediment filtering system multiple buildings (KUC, Walker Library, Murphy Cntr, Todd, Stark Ag, VET, LRC, Mass Comm) | | \$ 12,000 | \$ 28,900 | \$ 30,900 | \$ 30,900 | \$15,450 |
| Conduct light level studies in Todd, Mass Comm, BAS and Peck Bldgs | | | | \$ 5,500 | | |
| Convert vehicle to operate on natural gas/installation of compressed gas station | | | | \$ 8,500 | | |
| Creating MTSU as a bicycle friendly university | | | | | | \$38,169 |
| Creation of a rain garden to assist with storm water run off | | | | \$ 3,000 | | |
| Dehumidifier project | | | | | | \$2,100 |
| Development of a biosensor to detect hydrogen production | | | | | | \$4,250 |
| Development of flex-fueled engine 1 and 2 (sun and hydrogen) | \$ 13,000 | \$ 41,000 | | | | |
| DRIPS Project (Development and Research into Pervious Surfaces) | | \$ 13,500 | | | | |
| FLIR i7 compact infrared camera for energy audits | | | | \$ 3,450 | | |
| Golf cart conversion 1 and 2 (electric to solar) | | \$ 10,500 | | | | |
| Hot/chilled water valve assessment | | \$ 5,000 | | | | |
| HVAC controls replacement Wright Music | \$ 29,950 | | | | | |
| HVAC pocket filter project (BAS Phase 1 & 2, JUB Phase 1 & 2, Walker Library Phase 1 & 2, Honors, DSB, Todd, McFarland, Stark Ag, LRC, Holmes) | | | \$ 6,250 | \$ 41,507 | \$ 19,250 | \$25,806 |
| Hybrid/Alternative fuel vehicle purchase (subsidy) | \$ 17,250 | | | | | |
| Infrared thermometer guns | | | | | | \$500 |
| Install 10kW solar system | | | | | \$ 81,224 | |
| Install frequency drive in BDA | | | | | \$ 12,777 | |
| Install milk cooling system | | | | | \$ 17,500 | |
| Install FilterPave Porous Pavement in parking lot on Champion Way | | | | \$ 18,665 | | |
| Installation of a geothermal cooler system on the MTSU farm | | | | \$ 27,150 | | |
| Installation of programmable thermostats in F/S maintenance shops | \$ 1,200 | | | | | |
| Installation of variable speed compressor in the Central Utilities Plant | | | | \$ 24,000 | | |
| Insulate pipes & remove asbestos in 4 buildings- DSB, WPS, SFA, Wright | | | | | | \$11,337 |
| Insulate pipes & remove asbestos in Human Sciences | | | | | | \$7,000 |
| Insulate pipes & remove asbestos in Murphy Center | | | | | | \$19,000 |
| Kenaf Agriculture for Sustainable Community (alternative energy crop) | | | \$ 5,935 | | | |
| Lamp crusher | \$ 4,000 | | | | | |
| Laser alignment devices | | | | | \$ 5,681 | |
| LED lamps in Mass Comm and Peck | | | | | \$ 39,562 | |
| Library book purchase | | | \$ 4,500 | | | |
| Light switch plate stickers | \$ 2,500 | | | | | |
| Multi-fuel bus emission testing project | | \$ 10,944 | | | | |
| Occupancy sensors Honors Building | | | \$ 3,372 | | | |
| Permeable Pavers for Sustainable Learning Environment (Forest Hall) | | | \$ 13,050 | | | |
| Poster campaign and Earthwise reusable bag project | | \$ 18,160 | | | | |
| Protreat (kills mold in air handling unit pans) | | | | | | \$1,400 |
| Purchase & installation of surge protectors | | | | | \$ 1,904 | |
| Purchase of organic dyes to be used in organic dye sensitized solar cells | | | \$ 1,100 | | | |
| Rain Gardens on MTSU Campus for MS4 Compliance | | | | | | \$4,000 |
| Re-caulk exterior windows (Davis Science Building) | | \$ 14,000 | | | | |
| Recycling - community drop-off relocation/expansion | \$ 3,000 | | | | | |
| Recycling containers/supplies for MTSU Recycling Program | \$ 1,500 | \$ 5,000 | \$ 5,500 | \$ 6,000 | \$ 13,500 | \$5,500 |
| Re-lamp Cason Kennedy Nursing Building (existing portion) and Fairview | \$ 30,600 | \$ 30,600 | | | | |
| Replace filters in AHU & clean coils in CKN & KOM | | | | | \$ 11,312 | |
| Replace old V-Belts system | | | | | \$ 2,900 | |
| Replace older motor with energy efficient motor in Holmes | | | | | | \$2,279 |
| Replacement of exterior windows McFarland and Holmes | | \$ 35,000 | \$ 25,000 | | | |
| Replacement of incandescent lamps in Murphy Center | | | | | | \$5,729 |
| ReRev Cardio System elliptical machines in Rec Center | | | | \$ 30,000 | | |
| Solar attic fans in Ellington Human Science | | | | | | \$16,720 |
| Solar exhaust fans | | | | | | \$12,212 |
| Steam trap ultrasonic test equipment | | | | | \$ 2,600 | |
| Studio lighting installed in Mass Comm and LRC | | | \$ 22,960 | | | |
| Sub-metering for Chilling Plant and Murphy Cntr | \$ 8,000 | | | | | |
| Turning manure into gold | | | | \$ 1,000 | | |
| Ultrasonic transmitters Midgett | | | \$ 18,130 | | | |
| WMTS-FM Solar power supply | | | | | | \$12,000 |
| Annual Total: | \$ 347,000 | \$ 425,704 | \$ 394,985 | \$ 458,162 | \$ 508,292 | \$ 460,266 |



Funded by a fee initiated by the MTSU student body, administered by the Division of Student Affairs, and supported by the Tennessee Board of Regents, the intent of the MTSU Sustainable Campus Fee Program is to decrease consumption on the campus of non-renewable energy.

A portion of the fee is designated for purchasing 'green power' to facilitate production of electricity from wind, solar power, and methane gas as a clean alternative to traditional energy sources.

The remainder of the funds generated by the fee provides support for campus projects that increase or improve energy efficiency on campus, such as retrofitting older systems, lowering consumption and decreasing energy expenses.

Projects approved support energy and environmental sustainability.



Summary of Services 2011/2012 Annual Report

This report is produced by the FSD assistant vice president and staff and published by FSD Central Administration.

Linda Hardymon, Editor/Publishing Coordinator

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