

Middle Tennessee State University  
Facilities Services

# *Summary of Services*

**Annual Report  
July 2008—June 2009**

FSD  
Implementation

Innovation

FSD  
Planning

Strategy

Positioning the University  
for the Future

FSD

FSD

FSD

Teamwork

## **FACILITIES SERVICES DEPARTMENT**

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



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*Fiscal Year 08/09* is history. And while it is officially over, in many ways it will mark the beginning of a new era in facilities management for the university. Massive budget reductions have been announced for MTSU from the State. Federal stimulus funding to the university – provided for 2 years – has staved off the full effect of the budget reductions for now. However, Facilities Services has participated in many budget cutting exercises and planning sessions – most notably the Positioning for the Future initiative commissioned by President McPhee. These sessions have yielded plans for reducing services and cutting costs that will be implemented in various phases over the next two fiscal years.

For FY 08/09, Summary of Services report will highlight many accomplishments for Facilities Services, update the O&M and capital budget situations, revise deferred maintenance projections, and address 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

This report presents several performance indicators of each work unit in Facilities Services while outlining specific goals and accomplishments. The Summary of Services Annual Report for 2007/2008 identified a total of 66 individual goals across the departmental work units for the fiscal year. Overall, 57 of the goals were completely met or had substantial progress toward their completion providing for a success rate of approximately 86.4%.

### Capital Projects and Construction/Renovation Projects

- Fourteen capital construction projects were completed totaling \$53.46 million
- Two-hundred and eighty-six renovation projects were completed totaling \$2.39 million
- Design processes continued for the new College of Education and the Student Union projects – both expecting to break ground in FY 09/10



### Customer Service and Communication

- All work units combined to complete approximately 17,500 work orders for the year

### Management and Productivity

- Quarterly meetings were conducted for every work unit within the department
- Extensive training was performed throughout the department
- Service contracts were reviewed and, in some cases, re-bid

### Positioning for the Future

- Facilities Services was represented on the Energy Efficiency and Conservations Work Group that provided 15 recommendations for immediate cost savings and 12 recommendations for addressing future needs or opportunities

## Challenges

### Budgets

Operations and maintenance (O&M) budgets are for basic operational needs such as custodial services, grounds services, central utilities services, light bulb changing, etc., and routine maintenance and repair of facility systems such as HVAC, electrical, etc. The O&M budgets for Facilities Services have been fairly flat over the years. FY 08/09 saw no increases in O&M funding.

(Continued on page 4)

*The mission of Facilities Services is to prepare and present the facilities/grounds to the university tenants 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 4)

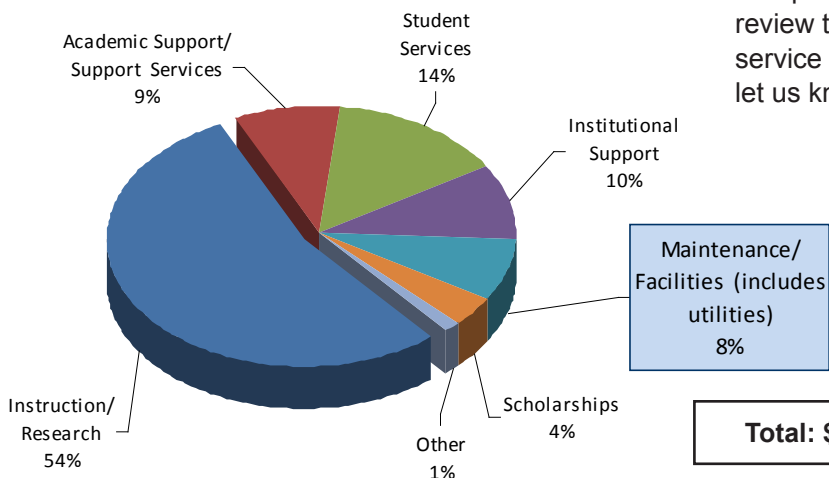
Capital maintenance projects are submitted each year, typically totaling \$10 million — \$13 million, to provide for the major repair and replacement needs of the campus. Funding formulas indicate an annual need of approximately \$8 million just to remain level. Recent funding history shows annual funding received in the amounts of \$3.5 million — \$4.5 million. Due to State budget cuts, there has been a steep downward trajectory for capital maintenance funding.

In FY 09/10 MTSU received no funding for capital maintenance. This under-funding of capital maintenance accumulates over time to a condition referred to as “deferred maintenance.” Deferred maintenance puts an increased burden on the O&M needs because systems that need to be replaced remain in operation and are subject to more failures. As stated before, this condition is reported in the Campus Master Plan and highlighted in the body of this report.

### Utilities/Energy Cost Increases

On the whole, energy and utility costs are going up. This is a function of both the increasing campus footprint and the rate escalations for the major utilities. Natural gas volatility is still the norm. FY 08/09 began with escalated natural gas rates that gave way to significant decreases. In addition, the Tennessee Valley Authority continues to adjust (net increases) electrical rates. These increases require additional incentive to be judicious in our utilities operations and more efficient in every aspect of energy usage management.

**MTSU Total Expenditures  
2008/2009**



‘..we strive to maintain  
the campus in a safe, clean, and  
functional manner...’

**-the FSD mission**

### New Buildings

New buildings add to the O&M and utility needs of the campus. Since capital funding for a project does not ensure adequate operational funding for operating the facility, the recent growth has substantially stretched the O&M services as well as the infrastructure capacity.

### 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.

### Summary

In summary, we strive to maintain the campus in a safe, clean, and functional manner while aligning the department with the University mission and the Academic Master Plan. As we pursue these goals, 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*

**Total: \$225,106,476**

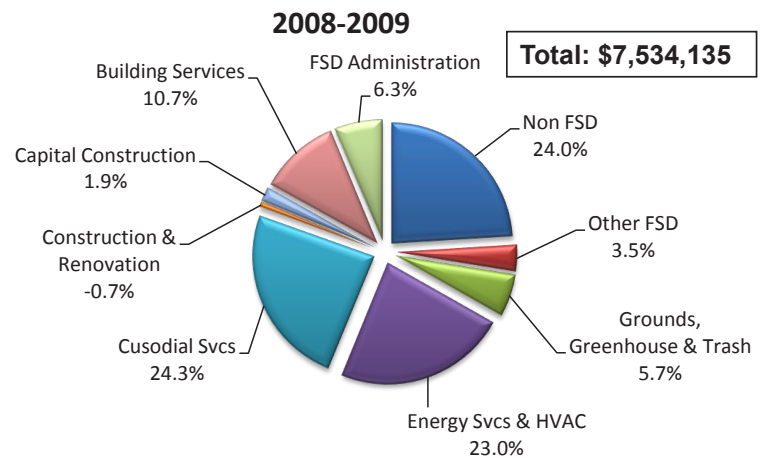
## Accomplishments & Highlights 2008/2009

- Purchased two electric hybrid motor pool vehicles
- Began scanning all invoices for departmental on-line access
- Investigated feasibility of using QuickBooks software for departmental use
- Developed a monthly budget reporting system to each director/manager
- Adjusted allocation formulas for new Wellness/ Recreation Building addition
- Adjusted departmental procedures to comply with new Facility Use Policy
- Continued improving communications with other MTSU departments
- Began emailing monthly customer billing reports to MTSU departments
- Participated in APPA Live Web Event
- Provided financial data for Positioning the University for the Future Initiative
- Served as departmental Information Security Officer

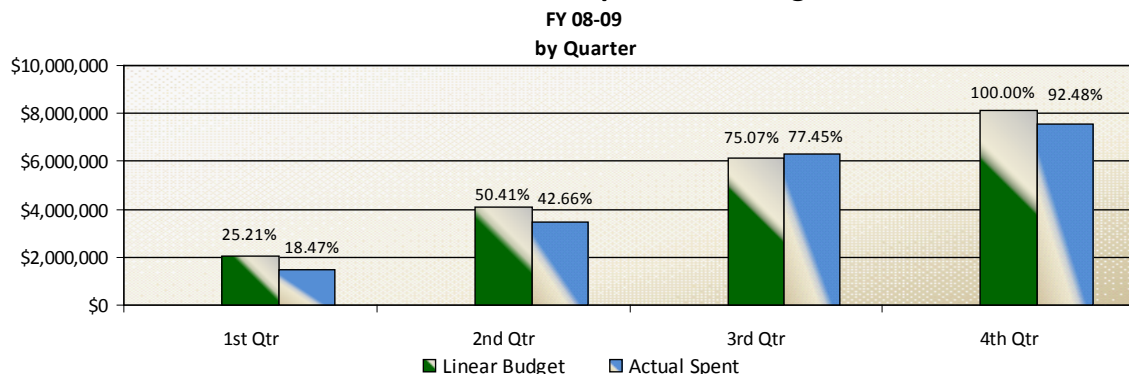
## Goals 2009/2010

- Continue to investigate ways to more efficiently reconcile to Banner
- Improve usefulness of monthly budget reports to each director/manager
- Implement monthly billing for Campus School maintenance
- Update allocation to auxiliaries for maintenance contracts
- Switch from rental to purchase of uniforms and develop on-line ordering procedure with vendor
- Maintain financial records for expenditures related to FEMA grant
- Support Positioning for the Future Initiative

## Net E & G Expenditures by M & O Function



## E & G Maintenance and Operations Budget



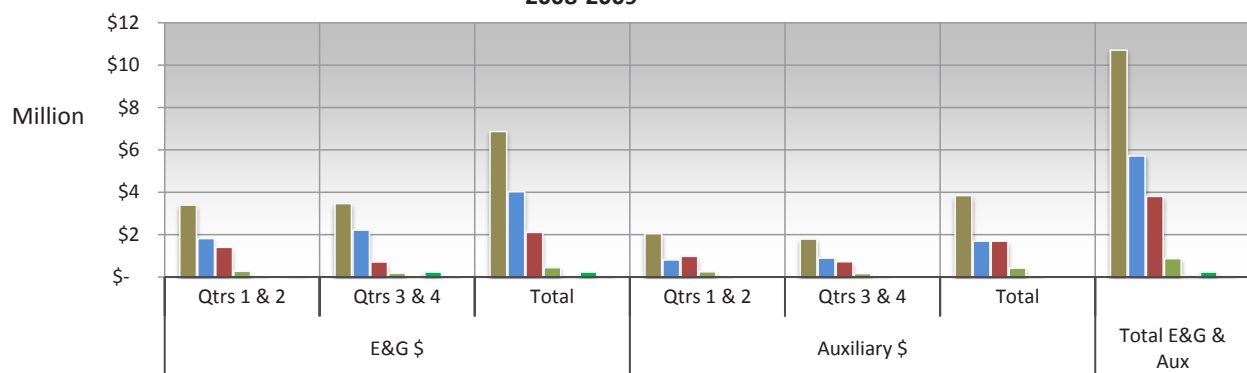
| 2008/2009                                   | 1st Qtr       | 2nd Qtr       | 3rd Qtr       | 4th Qtr       | Annual Totals |
|---|---------------|---------------|---------------|---------------|---------------|
| *Total M & O Expenditures                   | \$2,815,694   | \$3,021,955   | \$4,026,334   | \$2,741,977   | \$12,605,960  |
| Work for Others                             | (\$1,311,059) | (\$1,051,098) | (\$1,192,058) | (\$1,517,610) | (\$5,071,825) |
| Net E & G Expenditures                      | \$1,504,635   | \$1,970,857   | \$2,834,276   | \$1,224,367   | \$7,534,135   |
| E & G Budget                                | \$8,147,099   | \$8,147,099   | \$8,147,099   | \$8,147,099   | \$8,147,099   |
| % of Budget                                 | 18.47%        | 24.19%        | 34.79%        | 15.03%        | 92.48%        |
| * M&O function minus longevity and benefits |               |               |               |               |               |

## Accomplishments & Highlights 2008/2009 Goals 2009/2010

- Represented Facilities Services on the Committee for Positioning the University for the Future (J Whitefield)
  - Strategic workgroup for Energy Efficiency and Conservation Initiatives (see page 18)
- Participated in design and development of Student Union and College of Education Buildings supporting utilities and recycling planning
- Provided utilities cost analysis supporting university budget adjustments
- Graduated from APPA Institute for Facilities Management (L Hardymon)
- Presented at the APPA Institute for Facilities Management (J Whitefield)
- Recognized as Green Power Partners with EPA due to Green Power Purchase
- Participated in APPA Live Web conference
- Continued working with the MTSU Sustainable Campus Fee Committee (see page 21)
- Updated Facility Surveys for TBR and Construction Administration
- Published the *Summary of Services Annual Report* for 07/08
- Continued on the President's Commission on the Status of Women
- Continued serving on planning and funding committees for Tennessee Higher Education Sustainability Association (L Hardymon)
- Negotiate utility related contracts with Tennessee Valley Authority and Murfreesboro Electric
  - Five Minute Response (5MR) utility contract
  - Generation Partners
  - Green Power Purchase Agreement
- Complete a utilities audit and irrigation plan (Positioning for the Future)
- Resolve issues and complete metering options for College Heights satellite chilling plant
- Continue to provide utility and energy management support to university departments
- Continue support of MTSU Sustainable Campus Fee Program
- Continue serving on Tennessee Higher Education Sustainability Association committees
- Continue to support Engineering Technology, and other classroom instruction and projects (on-going)
- Support and develop energy efficiency projects for Positioning for the Future Initiative involving lights out campaign, recycling, etc.
- Complete and publish *Summary of Services Annual Report* for 08/09
- Continue training and professional development
- Complete and publish article for *Facilities Manager Magazine* (J Whitefield)

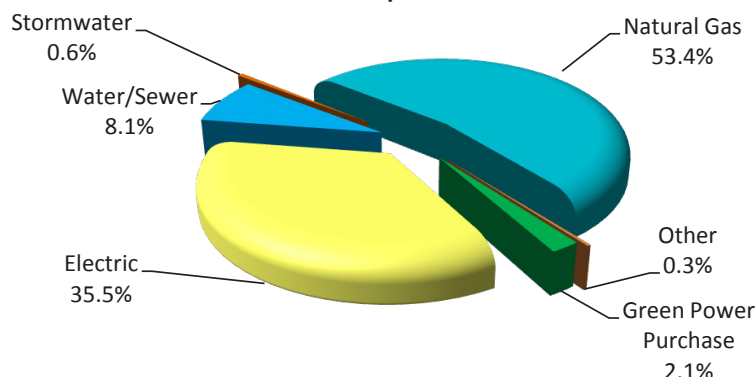
### Campus Utilities

2008-2009



|                        | E&G \$      |             |             | Auxiliary \$ |             |             | Total E&G & Aux |
|------------------------|-------------|-------------|-------------|--------------|-------------|-------------|-----------------|
| ■ Total                | \$3,399,900 | \$3,467,681 | \$6,868,907 | \$2,041,997  | \$1,796,845 | \$3,838,845 | \$10,707,752    |
| ■ Natural Gas          | \$1,812,987 | \$2,215,252 | \$4,028,240 | \$804,763    | \$886,966   | \$1,691,729 | \$5,719,969     |
| ■ Electric             | \$1,402,163 | \$709,733   | \$2,111,896 | \$973,279    | \$719,786   | \$1,693,065 | \$3,804,961     |
| ■ Water/Sewer          | \$267,012   | \$178,008   | \$445,020   | \$251,842    | \$167,895   | \$419,738   | \$864,758       |
| ■ Stormwater           | \$12,352    | \$12,352    | \$24,704    | \$17,156     | \$17,156    | \$34,312    | \$59,016        |
| ■ Green Power Purchase | \$-         | \$230,000   | \$230,000   | \$-          | \$-         | \$-         | \$230,000       |
| ■ Other                | \$13,623    | \$16,057    | \$29,680    | \$-          | \$-         | \$-         | \$29,680        |

**Total Utilities: E&G and Auxiliary  
2008/2009**



## Recycling Program - MTSU Recycles

Linda Hardymon

| <b>Recycling Program Collections<br/>2008/2009</b> |               |
|--|---------------|
| <b>Commodity</b>                                   | <b>Pounds</b> |
| Aluminum   | 8,455         |
| Mixed/White Paper                                  | 290,700       |
| Newspaper/Magazines                                | 376,868       |
| Maintenance metals                                 | 75,420        |
| Cardboard  | 312,000       |
| E-waste  | 45,000        |
| Plastics   | 30,600        |
| <b>Units</b>                                       |               |
| Batteries  | 894           |
| Ink cartridges                                     | 1,283         |

## Accomplishments & Highlights 2008/2009

- Maintained recycling program to meet campus needs employing student workers
- Consulted on design for new student union building
- Utilized Sustainable Campus Fee project funds for improvements to the recycling program (bins and equipment)
- Expanded drop-off area, adding additional roll-offs and bins
- Attended workshops and tours geared towards recycling education
- Added plastic to recycling commodities (November 2008)
- Joined athletics on plastic recycling at athletic events
- Supported Construction/Renovation projects
- Provided safety training for recycling staff

## Goals 2009/2010

- Upgrade appearance of recycling containers on campus
- Reorganized Department
- Continue to support Construction/Renovation project work
- Develop a plan for vehicle replacement
- Continue working with MTSU Sustainable Campus Fee Program for recycling for special events on campus (BRAA, athletics, Residential Life)
- Continue involvement with Tennessee Higher Education Sustainability Association
- Continue exploring new initiatives: ink cartridge collection for residential life; light bulb exchange; wooden pallet recycling
- Increase volumes and revenues
- Continue to provide classroom support
- Continue participation in training and development programs
- Support the Positioning for the Future Initiative





# Central Administration: Work Order Services

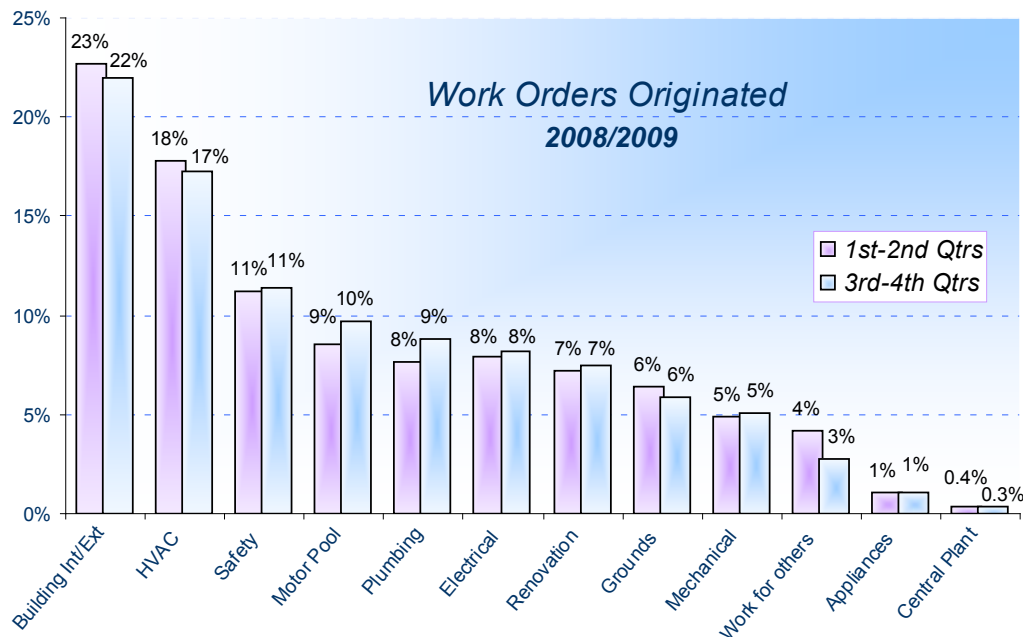
Joe Whitefield Joyce Reed

## Accomplishments & Highlights 2008/2009

- Participated in Facilities Services Review Session
- Assisted with security audit
- Helped devise system for paperless invoice tracking
- Helped devise Sustainable Campus Fee work order process
- Supported year-end billing and reporting process, warehouse inventory, and Summary of Services

## Goals 2009/2010

- Install new version of Mainsaver on server and client PCs
- Coordinate computer replacement project for Facilities Services
- Hire and train new work order clerk and part time clerk, replacing retired employees
- Support Positioning for the Future Initiative



## Work Orders Originated: 2008/2009

| Description                | 1 <sup>st</sup> Qtr |         | 2 <sup>nd</sup> Qtr |         | 3 <sup>rd</sup> Qtr |         | 4 <sup>th</sup> Qtr |         | Annual Totals |         |
|----------------------------|---------------------|---------|---------------------|---------|---------------------|---------|---------------------|---------|---------------|---------|
|                            | #WO                 | % Total | #WO                 | % Total | #WO                 | % Total | #WO                 | % Total | #WO           | % Total |
| Appliances                 | 57                  | 2%      | 43                  | 1%      | 39                  | 1%      | 51                  | 1%      | 190           | 1%      |
| Building Interior/Exterior | 1,108               | 23%     | 961                 | 23%     | 911                 | 22%     | 865                 | 24%     | 3,845         | 23%     |
| Central Plant              | 17                  | 0.4%    | 16                  | 0.4%    | 14                  | 0.3%    | 11                  | 0.3%    | 58            | 0.4%    |
| Electrical                 | 376                 | 7%      | 351                 | 8%      | 384                 | 9%      | 324                 | 8%      | 1,435         | 8%      |
| Grounds                    | 352                 | 7%      | 233                 | 6%      | 232                 | 6%      | 216                 | 7%      | 1,033         | 7%      |
| HVAC                       | 912                 | 21%     | 711                 | 19%     | 567                 | 14%     | 833                 | 17%     | 3,023         | 17%     |
| Mechanical                 | 197                 | 5%      | 247                 | 6%      | 224                 | 6%      | 217                 | 4%      | 885           | 5%      |
| Motor Pool                 | 439                 | 9%      | 339                 | 9%      | 355                 | 9%      | 559                 | 13%     | 1,692         | 10%     |
| Plumbing                   | 362                 | 7%      | 339                 | 9%      | 482                 | 12%     | 354                 | 7%      | 1,537         | 8%      |
| Renovation                 | 354                 | 6%      | 307                 | 6%      | 303                 | 7%      | 341                 | 6%      | 1,305         | 6%      |
| Work for Others            | 207                 | 2%      | 178                 | 1%      | 59                  | 1%      | 43                  | 4%      | 487           | 3%      |
| Safety                     | 564                 | 11%     | 461                 | 12%     | 500                 | 12%     | 465                 | 9%      | 1,990         | 12%     |
| Total                      | 4,945               | 100.00% | 4,186               | 100.00% | 4,070               | 100.00% | 4,279               | 100%    | 17,480        | 100%    |



# Central Administration: Employee Development Services

Joe Whitefield Connie Hagberg



## Accomplishments & Highlights 2008/2009

- Facilitated employee training sessions for FSD work units
- Attended APPA Webinar training modules
- Prepared a book review on "It's Your Ship" published in the *Facilities Manager Magazine*

## Goals 2009/2010

- Continue to organize and coordinate training sessions for FSD work units
- Continue maintenance and productivity studies for FSD with emphasis on custodial services
- Attend professional development and leadership training

### FSD Staff Training Records - 2008-2009

|                                    |                       | 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's Office | 3                     | 3                                     | 11          | 66         |                    |             |            |
| -Accounting Services               | 2                     | 2                                     | 8           |            |                    |             |            |
| -Center for Energy Efficiency      | 2                     | 2                                     | 17          | 118        | 2                  | 22          | 4          |
| -Work Order Services               | 2                     | 2                                     | 4           | 8          |                    |             |            |
| -Employee Development              | 1                     | 1                                     | 4           | 7          |                    |             |            |
| Engineering & Building Services    | 34                    | 34                                    | 134         | 142        | 28                 | 158         |            |
| Energy Services                    | 19                    | 19                                    | 50          |            | 19                 | 81          |            |
| Construction Administration        | 4                     | 4                                     | 23          | 82         | 1                  |             | 16         |
| Grounds Services/Motor Pool        | 19                    | 19                                    | 63          |            | 19                 | 125         |            |
| Custodial Services                 | 24                    | 21                                    | 57          | 18         | 22                 | 142         |            |
| Total                              | 110                   | 107                                   | 370         | 441        | 91                 | 527         | 20         |

| Number of Employees Per Total Hours Trained | Employees | 0 Hrs | 1-10 Hrs | 11-20 Hrs | >20 Hrs |
|---|-----------|-------|----------|-----------|---------|
| Central Administration                      |           |       |          |           |         |
| -Assistant Vice President's Office          | 3         |       | 2        |           | 1       |
| -Accounting Services                        | 2         |       | 2        |           |         |
| -Center for Energy Efficiency               | 2         |       |          |           | 2       |
| -Work Order Services                        | 2         |       | 1        | 1         |         |
| -Employee Development                       | 1         |       |          | 1         |         |
| Engineering & Building Services             | 34        |       | 28       | 2         | 4       |
| Energy Services                             | 19        |       | 19       |           |         |
| Construction Administration                 | 4         |       | 2        | 1         | 1       |
| Grounds Services/Motor Pool                 | 19        |       | 11       | 8         |         |
| Custodial Services                          | 24        | 2     | 22       |           |         |
| Total                                       | 110       | 2     | 87       | 13        | 8       |

## Accomplishments &amp; Highlights 2008/2009

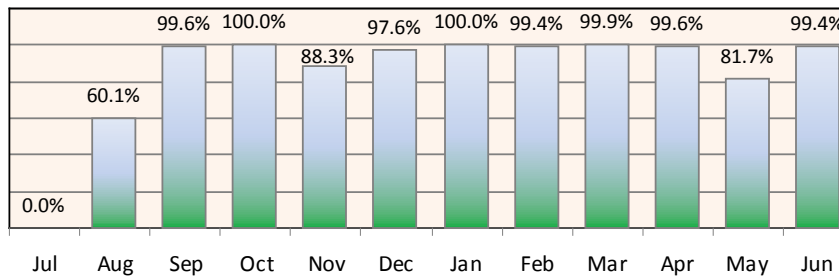
- Managed 286 callbacks
- On-going preventative maintenance program implemented by staff resulting in no unplanned central plant (steam or chilled water) outages, maintaining zero incident record for unplanned outages
- Supported steam manhole project phase II
- Supported development of College of Education and Behavioral Science and Student Union Building projects
- Supported Master Plan with regard to satellite chilling plant
- Supported construction of new satellite chilling plant
- Prepared new turbine bid specifications
- Operated turbine in accordance with sound economic principles
- Supported central plant shutdown in May 2009
- Participated in training and professional development

## Goals 2009/2010

- Support construction of College of Education and Behavioral Science and Student Union Building projects
- Implement New Reverse Osmosis water treatment and control system for Cogen Plant
- Continue to evaluate operating schedule for gas turbine generator with respect to natural gas and electric rates
- Continue in-house training for employees on central plant operation
- Prepare new project applications for the MTSU Sustainable Campus Fee program
- Support Positioning for the Future Initiative

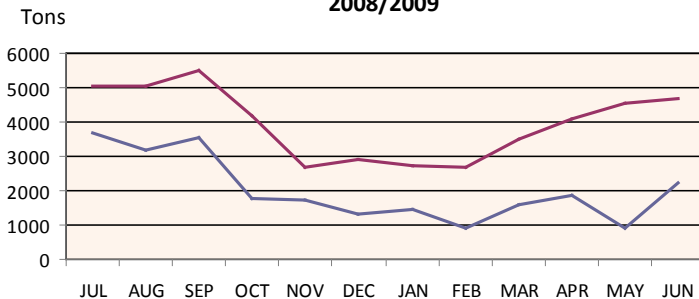
## Turbine: Percent Runtime by Month

2008/2009



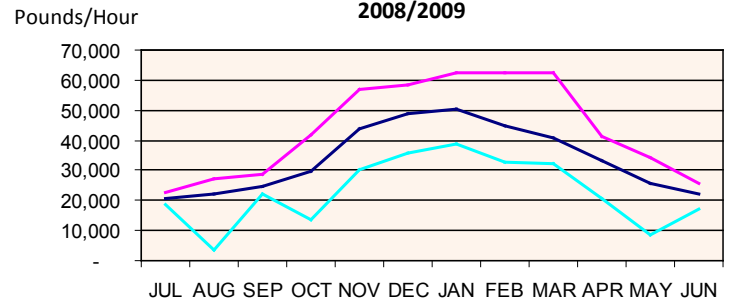
## Chilled Water Tonnage

2008/2009



## Steam Production

2008/2009



— MAX PEAK TONS — MIN TONS

— Avg Lbs/Hr — MAX Lbs/Hr — MIN Lbs/Hr

## Central Plant Equipment Peak Operational Levels 2008/2009

| Natural Gas Fired Turbine/Generator |          |                     |                     |        | Steam Boilers             |          |                     |                     |        | Chillers          |          |                     |                     |        |
|-------------------------------------|----------|---------------------|---------------------|--------|---------------------------|----------|---------------------|---------------------|--------|-------------------|----------|---------------------|---------------------|--------|
| 5MW (nominal)                       |          |                     |                     |        | 85,000 Pounds/Hour (peak) |          |                     |                     |        | 6,000 Tons (peak) |          |                     |                     |        |
|                                     | Mid-Year | 3 <sup>rd</sup> Qtr | 4 <sup>th</sup> Qtr | Annual |                           | Mid-Year | 3 <sup>rd</sup> Qtr | 4 <sup>th</sup> Qtr | Annual |                   | Mid-Year | 3 <sup>rd</sup> Qtr | 4 <sup>th</sup> Qtr | Annual |
| Peak MW                             | 5.05     | 5.34                | 5.02                | 5.34   |                           |          |                     |                     |        |                   |          |                     |                     |        |
| Avg MW                              | 4.64     | 4.79                | 4.44                | 4.63   | Avg LBS/Hr                | 31,666   | 45,205              | 27,057              | 34,643 | Peak Tons         | 5,484    | 3,519               | 4,672               | 5,484  |
| Total MWH                           | 15,189   | 10,350              | 9,062               | 34,601 | Peak LBS/Hr               | 58,667   | 62,625              | 41,208              | 62,625 |                   |          |                     |                     |        |

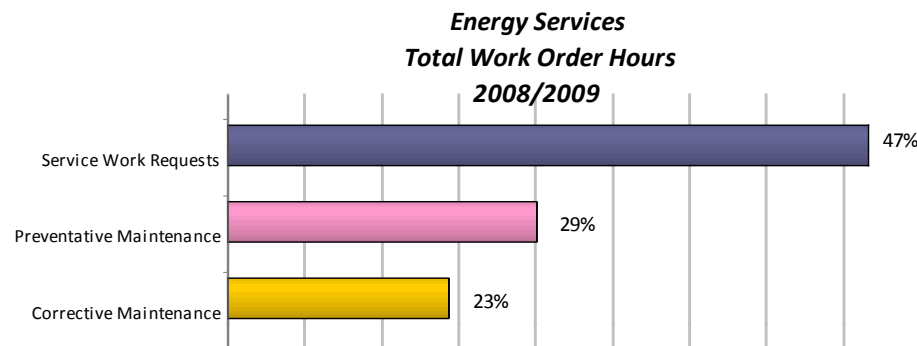
Purchased power: 36,406.41 MWH

## Accomplishments & Highlights 2008/2009

- Responded to 93 callbacks
- Supported installation of Cope Administration Building computer room HVAC units
- Assisted Pittard Campus School renovations
- Supported renovation of Woodmore/Cyber Cafe HVAC
- Supported Construction/Renovations projects
- Implemented projects approved by MTSU Sustainable Campus Fee
- Participated in safety training initiative
- Continued participation in additional training for HVAC staff

## Goals 2009/2010

- Review and implement recommendations on services to auxiliaries, zone maintenance, runners, and shift work, where applicable
- Gain 410A refrigerant certification
- Improve HVAC building air filtering systems
- Prepare new project applications for MTSU Sustainable Campus Fee Program
- Support Positioning for the Future Initiative



| PERFORMANCE MEASURES: Energy Services |               |                        |        |           |        |                            |        |                   |        |
|---------------------------------------|---------------|------------------------|--------|-----------|--------|----------------------------|--------|-------------------|--------|
| 2008/2009                             |               | #Work Orders Completed |        | Man Hours |        | Avg Man Hours/ Work Orders |        | % Closed Past Due |        |
| CORRECTIVE MAINTENANCE (CM)           | 2008/2009     | Mid-Year               | Annual | Mid-Year  | Annual | Mid-Year                   | Annual | Mid-Year          | Annual |
|                                       | Appliances    | 15                     | 32     | 81        | 143    | 5.4                        | 4.5    | 33.3%             | 18.8%  |
|                                       | Central Plant | 0                      | 1      | 0         | 2      | 0.0                        | 2.0    | 0.0%              | 0.0%   |
|                                       | HVAC          | 912                    | 1,681  | 2,513     | 4,991  | 2.8                        | 3.0    | 6.1%              | 6.1%   |
|                                       | Mechanical    | 92                     | 188    | 549       | 1,355  | 6.0                        | 7.2    | 7.6%              | 6.4%   |
|                                       | Total         | 1,019                  | 1,902  | 3,143     | 6,490  | 3.1                        | 3.4    | 6.7%              | 6.3%   |
| PREVENTIVE MAINTENANCE (PM)           | 2008/2009     | Mid-Year               | Annual | Mid-Year  | Annual | Mid-Year                   | Annual | Mid-Year          | Annual |
|                                       | Appliances    | 8                      | 13     | 18        | 20     | 2.3                        | 1.5    | 0.0%              | 0.0%   |
|                                       | Central Plant | 21                     | 34     | 1,460     | 2,772  | 69.5                       | 81.5   | 19.0%             | 11.8%  |
|                                       | HVAC          | 441                    | 895    | 922       | 3,413  | 2.1                        | 3.8    | 9.5%              | 12.6%  |
|                                       | Mechanical    | 336                    | 654    | 1,005     | 1,957  | 3.0                        | 3.0    | 0.3%              | 0.2%   |
|                                       | Total         | 806                    | 1,596  | 3,405     | 8,160  | 4.2                        | 5.1    | 5.8%              | 7.4%   |
| SERVICE WORK ORDERS                   | 2008/2009     | Mid-Year               | Annual | Mid-Year  | Annual | Mid-Year                   | Annual | Mid-Year          | Annual |
|                                       | Appliances    | 3                      | 8      | 3         | 13     | 1.0                        | 1.6    | 0.0%              | 12.5%  |
|                                       | Central Plant | 12                     | 25     | 4,348     | 8,658  | 362.3                      | 346.3  | 33.3%             | 16.0%  |
|                                       | HVAC          | 210                    | 406    | 2,113     | 4,355  | 10.1                       | 10.7   | 19.5%             | 9.4%   |
|                                       | Mechanical    | 15                     | 42     | 67        | 169    | 4.4                        | 4.0    | 20.0%             | 14.3%  |
|                                       | Total         | 240                    | 481    | 6,531     | 13,194 | 27.2                       | 27.4   | 20.0%             | 10.2%  |

## Accomplishments & Highlights 2008/2009

- Added Estimator/Coordinator to staff
- Purchased Data Logger for electrical evaluations.
- Staff attended webinar training for infra-red camera
- Inventoried building electrical panels for arc flash study
- Consultant for Campus Planning and Capital Construction

### Building Services

- Completed successful first year of testing the backflow devices on a monthly schedule
- Utilized new technology for sewer line repair by installing a fiber liner in the sewer line on the one way street by Wright Music
- Replaced main sewer line from Walker Library

### Construction/Renovation

- Completed 286 projects valued at \$2,387,991
- In-House Construction Guidelines updated to include TBR sustainability requirements
- Renovated Campus Planning offices, adding a conference room to the Holmes Building
- Completed 8 major Technology Access Fee projects

### Environmental Health & Safety (EH&S)

- Initiated MTSU Environmental Health & Safety Services Master Plan & MTSU Environmental Handbook
- Managed the identification, collection, packaging, transportation, and disposal of approximately 20 tons of hazardous waste
- Completed hazard assessments, specifics, and purchases of Personal Protective Equipment for FSD Shops
- Updated Hazardous Waste Reduction Plan
- Responded to and remediated 9 chemical/ biohazard emergencies
- Coordinated Fire/ EMS/ Hazmat support related to arson fires in a dormitory
- Investigated & coordinated clean-up of Saunders Fine Arts structure fire
- Developed campus policy regarding candles and other ignition hazards
- Completed 1,779 EH&S work orders
- Appointed to TBR EH&S Executive Advisory Group (G Caudill)
- Organized two EH&S training sessions for TBR institutions in the mid-state area (G Caudill)
- Developed job description for an industrial hygienist position

Construction/Renovation Project Summary 2008/2009

|                           | 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 | 157        | \$1,080,567       | 143        | \$883,154         | 156        | \$1,006,223       | 145        | \$1,319,504       | 157           | \$1,080,567       |
| Added Projects            | 87         | \$320,469         | 55         | \$302,402         | 67         | \$1,389,316       | 89         | \$436,883         | 298           | \$2,448,770       |
| Completed Projects        | 101        | \$517,882         | 42         | \$179,333         | 78         | \$1,076,035       | 65         | \$614,741         | 286           | \$2,387,991       |
| Ending Active Projects    | 143        | \$883,154         | 156        | \$1,006,223       | 145        | \$1,319,504       | 169        | \$1,141,346       | 169           | \$1,141,346       |



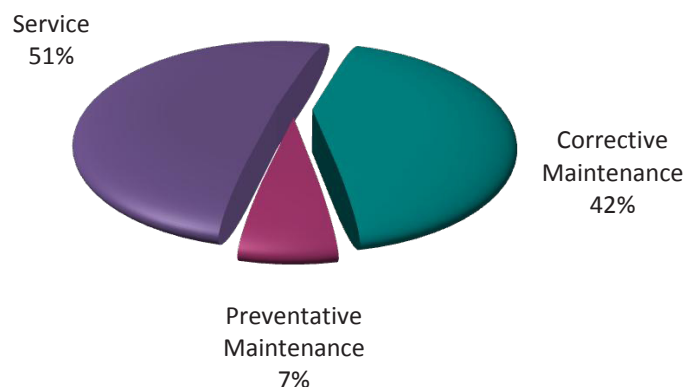
## Key Shop

- Supported projects for Residential Life, Construction Administration and Construction/ Renovation requiring construction cores and/or rekeying
- Consulted with architects and designers on security issues for the new Student Union and College of Education buildings

## Goals 2009/2010

- Continue to monitor opportunities for improved services to all areas of the University by monitoring performance and evaluating opportunities for improvement
- Continue to review and report on recommendations on services to auxiliaries, zone maintenance, runners and shift work
- Continue development of the University EH&S program
- Continue to refine the process flow charts for Construction/ Renovation that are compatible with the TBR In-House Construction Guidelines
- Manage work units to obtain optimum productivity and quality while dealing with reduced budgets and manpower
- Continue training and professional development, SRAPPA and TNAPPA
- Interview and fill industrial hygienist position
- Support Positioning for the Future Initiative

## Engineering & Building Services Man Hours by Work Order Type 2008/2009



| PERFORMANCE MEASURES: Engineering and Building Services |                             |                         |        |           |        |                  |        |                   |        |
|---|-----------------------------|-------------------------|--------|-----------|--------|------------------|--------|-------------------|--------|
| 2008/2009   |                             | # Work Orders Completed |        | Man Hours |        | Avg Man Hours/WO |        | % Closed Past Due |        |
| CORRECTIVE MAINTENANCE (CM)                             | 2008/2009                   | Mid-Year                | Annual | Mid-Year  | Annual | Mid-Year         | Annual | Mid-Year          | Annual |
|   | Appliances                  | 26                      | 78     | 82        | 337    | 3.2              | 4.3    | 15.4%             | 6.4%   |
|   | Building Interior/ Exterior | 1,194                   | 2,237  | 2,585     | 5,319  | 2.2              | 2.4    | 6.0%              | 7.2%   |
|   | Electrical                  | 552                     | 1,156  | 1,853     | 4,253  | 3.4              | 3.7    | 4.0%              | 4.6%   |
|   | Plumbing                    | 565                     | 1,244  | 1,418     | 2,883  | 2.5              | 2.3    | 1.9%              | 2.0%   |
|   | Renovation                  | 2                       | 2      | 7         | 7      | 3.5              | 3.5    | 0.0%              | 0.0%   |
|   | Safety                      | 75                      | 182    | 115       | 252    | 1.5              | 1.4    | 8.0%              | 7.1%   |
|   | Total                       | 2,414                   | 4,899  | 6,060     | 13,050 | 2.5              | 2.7    | 4.8%              | 5.3%   |
| PREVENTIVE MAINTENANCE (PM)                             | 2008/2009                   | Mid-Year                | Annual | Mid-Year  | Annual | Mid-Year         | Annual | Mid-Year          | Annual |
|   | Building Interior/ Exterior | 101                     | 148    | 263       | 390    | 2.6              | 2.6    | 5.9%              | 8.8%   |
|   | Electrical *                | 35                      | 68     | 32        | 58     | 0.9              | 0.9    | 0.0%              | 0.0%   |
|   | Plumbing                    | 58                      | 134    | 151       | 318    | 2.6              | 2.4    | 5.2%              | 5.2%   |
|   | Safety                      | 643                     | 1,428  | 659       | 1,264  | 1.0              | 0.9    | 0.3%              | 0.4%   |
|   | Total                       | 837                     | 1,778  | 1,105     | 2,030  | 1.3              | 1.1    | 1.3%              | 1.4%   |

\* includes generator PMs performed by Motor Pool Services

| SERVICE WORK ORDERS | 2008/2009                   | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual | Mid-Year | Annual |
|---------------------|-----------------------------|----------|--------|----------|--------|----------|--------|----------|--------|
|                     | Appliances                  | 11       | 20     | 23       | 32     | 2.0      | 1.6    | 0.0%     | 5.0%   |
|                     | Building Interior/ Exterior | 656      | 1,374  | 2,270    | 4,560  | 3.5      | 3.3    | 7.6%     | 8.2%   |
|                     | Electrical                  | 110      | 182    | 345      | 453    | 3.1      | 2.5    | 7.3%     | 5.5%   |
|                     | Plumbing                    | 70       | 133    | 97       | 186    | 1.4      | 1.4    | 2.9%     | 2.3%   |
|                     | Renovation                  | 619      | 1,262  | 3,501    | 10,150 | 5.7      | 8.0    | 5.7%     | 7.9%   |
|                     | Safety                      | 111      | 169    | 136      | 356    | 1.2      | 2.1    | 4.5%     | 14.8%  |
|                     | Total                       | 1,577    | 3,140  | 6,371    | 15,736 | 4.0      | 5.0    | 6.3%     | 8.0%   |

## Accomplishments &amp; Highlights 2008/2009

- Continuing Education
- Completed Capital Maintenance Budget Request for 2010/2011 submitted
- Continued efforts for more cooperative relationship with City Codes and other Departments
- Continued updating of Campus Standards for Facilities
- Continued effort with Murfreesboro Water & Sewer – co-permittee status for Phase II storm water



## Goals 2009/2010

- Continue enhancement of City Code/ University relations
- Greater participation in Educational opportunities
- Update campus standards and plans review process
- Continue understanding and benefits of Construction Management/General Contractor process for the University
- Continued participation of Construction Administration staff in APPA Facilities Education programs
- Initiate participation in “Green” status for capital projects and campus generally
- Support Positioning for the Future Initiative

| Capital Projects Review 2008/2009 |  |   |
|-----------------------------------|--|---|
|                                   | New Projects   | Completed Projects  |
| July - September                  | <ul style="list-style-type: none"> <li>• Campus School Renovation</li> <li>• Scarlett Commons stairwell repair</li> <li>• Cope electrical service entry upgrade</li> <li>• Veteran's Memorial Wall</li> </ul>        | <ul style="list-style-type: none"> <li>• Sewer steam manhole project</li> <li>• Lyon Hall renovation</li> </ul>   |
| October - December                | <ul style="list-style-type: none"> <li>• Murphy Center fire alarm</li> </ul>   | <ul style="list-style-type: none"> <li>• Satellite chilling plant</li> <li>• KOM exterior renovation and reroof</li> <li>• Monohan Hall reroof</li> <li>• Lyon Hall reroof</li> <li>• Scarlett Commons stairway repair</li> <li>• Student Health, Wellness &amp; Rec Center</li> <li>• Baseball Stadium upgrade</li> <li>• Cope electrical service entry upgrade</li> </ul> |
| January - March                   | <ul style="list-style-type: none"> <li>• Stark Ag elevator</li> </ul>  |   |
| April - June                      | <ul style="list-style-type: none"> <li>• Sewer line replacement - Walker Library</li> <li>• Tennessee Livestock Center upgrades</li> <li>• Stark Ag fire alarm system upgrade</li> <li>• Cope HVAC update</li> </ul> | <ul style="list-style-type: none"> <li>• Parking and Transportation—various road improvements including round-about at MTSU Blvd</li> <li>• Campus School renovation</li> <li>• Tennessee Livestock Center upgrades</li> <li>• Sewer line replacement - Walker Library</li> </ul>   |

## Construction Administration Capital Projects Summary 2008/2009

|                           | 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         | \$74,728,698      | 13         | \$74,377,098      | 6          | \$38,870,610      | 7          | \$39,139,610      | 7             | \$39,139,640      |
| Added Projects            | 4          | \$5,564,000       | 1          | \$550,000         | 1          | \$569,000         | 4          | \$618,225         | 10            | \$7,001,225       |
| Completed Projects        | 2          | \$5,915,600       | 8          | \$36,056,488      | 0          | \$-               | 4          | \$11,450,835      | 14            | \$53,422,923      |
| Ending Active Projects    | 13         | \$74,377,098      | 6          | \$38,870,610      | 7          | \$39,139,610      | 7          | \$28,307,000      | 7             | \$28,307,000      |

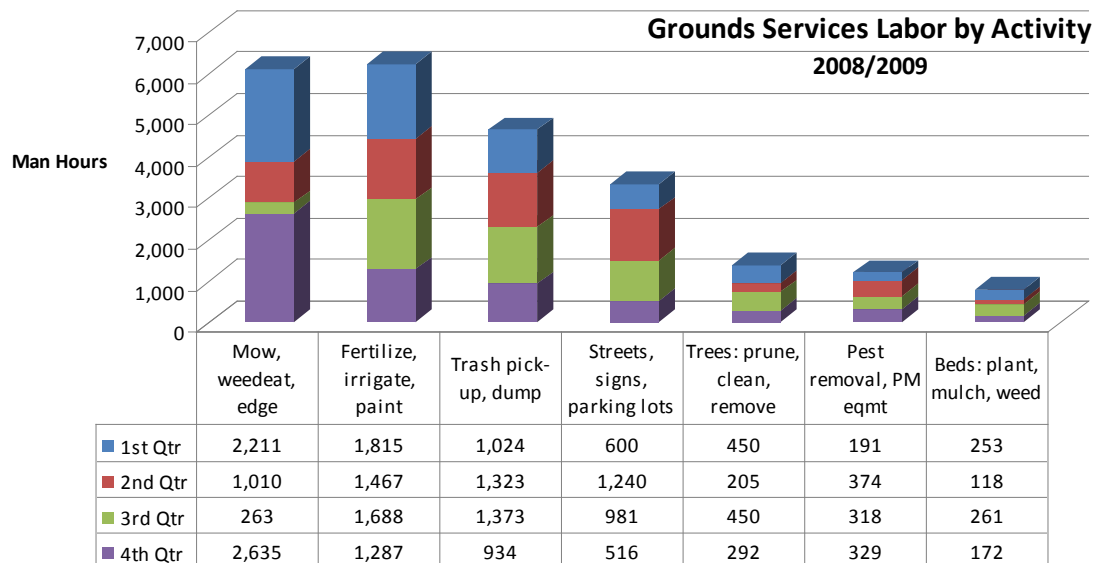
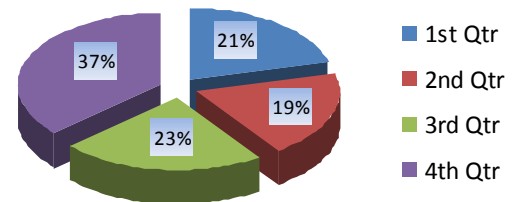
## Accomplishments & Highlights 2008/2009

- Developed new landscape specifications for campus standards
- Worked with Campus Planning to replace old trees on campus
- Improved communication with athletic department
- Assisted in design review with regard to the new Student Union and College of Education buildings
- Developed and improved campus rain gardens

## Goals 2009/2010

- Continue improvements to athletic fields playing surfaces
- Continue design review with regard to any new construction
- Develop and implement new strategy to improve quality and efficiency of trash removal
- Effectively manage tree trimming activities for overall look of campus and improve mowing efficiency
- Improve appearance of shrub beds; develop a three year pruning schedule
- Improve campus grounds with attention to stump removal, repairing unleveled areas, and repairing electrical and valve boxes
- Greenhouse to continue providing plants and support for events on campus
- Begin cross training for grounds positions for better work efficiency and shared responsibilities
- Support Positioning for the Future Initiative

**Grounds  
Routine Work Order Hours  
per Quarter  
2008/2009**



| Performance Measures: Grounds |               |        |             |        |                   |        |                   |        |
|-------------------------------|---------------|--------|-------------|--------|-------------------|--------|-------------------|--------|
| 2008/2009                     | # Work Orders |        | # Man Hours |        | Avg Man Hours /WO |        | % Closed Past Due |        |
|                               | Mid-Year      | Annual | Mid-Year    | Annual | Mid-Year          | Annual | Mid-Year          | Annual |
| Maintenance                   | 46            | 108    | 268         | 541    | 6                 | 5      | 10.9%             | 17.6%  |
| Preventative (PM)             | 5             | 9      | 53          | 91     | 11                | 10     | 40.0%             | 66.7%  |
| Corrective (CM)               | 41            | 99     | 215         | 450    | 5                 | 5      | 7.3%              | 13.1%  |
| Service                       | 546           | 930    | 3,644       | 29,421 | 7                 | 32     | 7.0%              | 7.9%   |
| Routine                       | 546           | 930    | 3,644       | 9,196  | 7                 | 10     | 7.0%              | 8.0%   |
| Annual                        | 0             | 8      | 0           | 20,225 | 0                 | 2,528  | 0.0%              | 0.0%   |
| Total                         | 592           | 1,038  | 3,911       | 29,962 | 7                 | 29     | 7.3%              | 8.9%   |

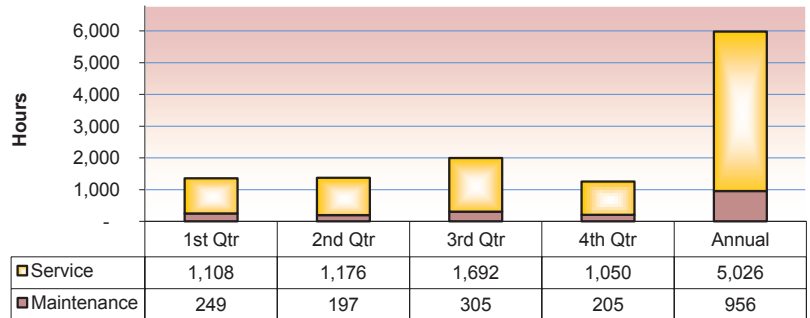
## Accomplishments & Highlights 2008/2009

- Added two Hybrid vehicles to the motor pool fleet
- Received certification for in-house emission testing
- Received certification for mobile A/C repair
- Completed engine performance training
- Participated in safety training

## Goals 2009/2010

- Get update for diagnostic machine
- Continue working with other shops for upkeep and repair of machines and vehicles
- Continue training opportunities
- Support Positioning for the Future Initiative

**Motor Pool Man Hours  
2008-2009**



| Performance Measures: Motor Pool |               |        |             |        |                   |        |                   |        |
|----------------------------------|---------------|--------|-------------|--------|-------------------|--------|-------------------|--------|
| 2008/2009                        | # Work Orders |        | # Man Hours |        | Avg Man Hours /WO |        | % Closed Past Due |        |
|                                  | Mid-Year      | Annual | Mid-Year    | Annual | Mid-Year          | Annual | Mid-Year          | Annual |
| Maintenance                      | 345           | 839    | 446         | 956    | 1.3               | 1.1    | 3.8%              | 0.6%   |
| Preventative (PM)                | 336           | 822    | 421         | 918    | 1.3               | 1.1    | 3.9%              | 0.7%   |
| Corrective (CM)                  | 9             | 17     | 25          | 38     | 2.7               | 2.2    | 0.0%              | 0.0%   |
| Service                          | 435           | 871    | 2,284       | 5,026  | 5.3               | 5.8    | 5.1%              | 1.7%   |
| Total                            | 780           | 1,710  | 2,730       | 5,981  | 3.5               | 3.5    | 4.5%              | 1.1%   |

## Custodial Services

Joe Whitefield Connie Hagberg  
David Feagans Linda Jordan John Knox

## Accomplishments & Highlights 2008/2009

- Issued the Custodial Services RFP with reduced cleaning standards & frequencies; reviewed contractor proposals, with no award of contract
- Brought new Wellness Center and Recreation Center addition on-line

## Goals 2009/2010

- Re-issue RFP and award Custodial Services contract
- Build a strong, professional relationship with custodial contractor administration to ensure contract terms are upheld
- Manage transition of new custodial contractor

**E&G Space  
2008-2009**

|                       | Gross Square Feet | Cleanable Square Feet | % Cleanable Square Feet |
|-----------------------|-------------------|-----------------------|-------------------------|
| Facilities Services   | 583,072           | 233,058               | 12%                     |
| Murphy Center Complex | 604,458           | 494,049               | 26%                     |
| Contract Labor        | 1,569,956         | 1,169,458             | 62%                     |
| Total                 | 2,757,486         | 1,896,565             | 100%                    |

- Continue task force inspections of facilities
- Restructure FSD custodial work unit for increased productivity and budget savings
- Support Positioning for the Future Initiatives



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## Features

What 2 Watch 4: Positioning the University for the Future

Excerpts from Campus Master Plan December 2007

Capital Maintenance Project List

MTSU Sustainable Campus Fee Project List

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The MTSU Positioning the University for the Future Initiative began in April 2008 with brainstorming sessions, including academic chairs, deans, vice presidents, and the Faculty Senate President. An oversight steering committee explored suggestions and ideas generated during the sessions resulting in the development of four strategic work groups. Those recommendations submitted by the work groups that the president has approved for Facilities Services are included below.

## Positioning the University for the Future

### Facilities Services Initiatives Recommendations Approved by our President as of May 2009

#### Energy / Utilities

##### Immediate Savings

- 1 (A): Lights Out Campaign
- 1 (B): Reset Temperature Set-points—Occupied Hours
- 1 (C): Reset Temperature Set-points—Unoccupied Hours
- 1 (D): Reduce Plug Load Energy
- 1 (E): De-lamp Campus Vending Machines

##### Positioning for the Future

- 2 (A): Provide/Expand Opportunities for Energy Efficient Projects
- 2 (B): Implement Watering/Irrigation Strategy to Reduce Watering Costs
- 2 (C): Incorporate Economically Sound Sustainability Initiatives in New Construction

#### Physical Resources/Physical Plant

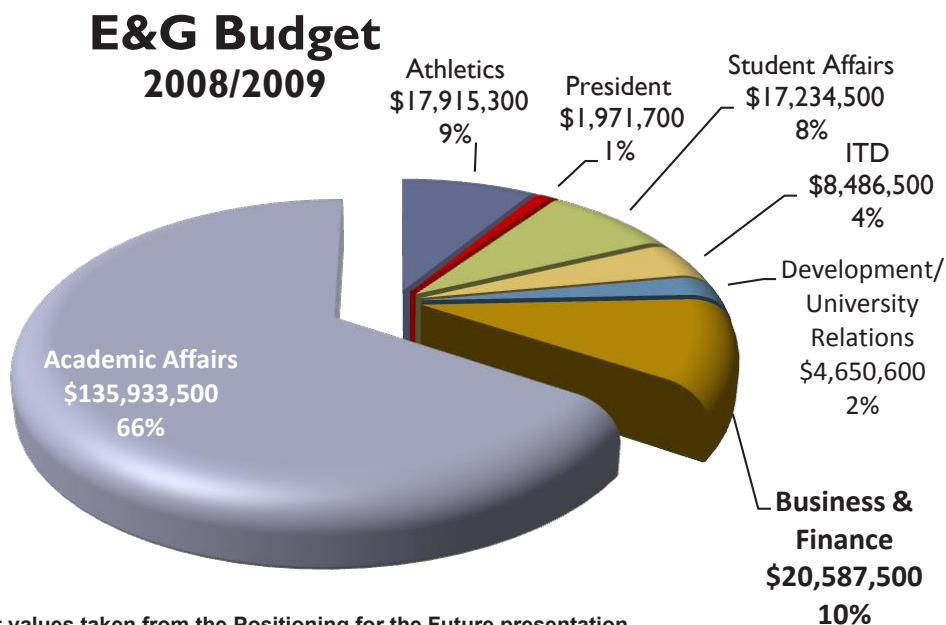
##### Immediate Savings

- 3 (A): Reduce Cleaning Standards for E&G Facilities
- 3 (B): Rebid Custodial Contract
- 3 (C): Reduce Grounds/Greenhouse Services to E&G
- 3 (F): Update Chargeback Procedures to Auxiliaries for Trash Services

##### Positioning for the Future

- 4 (B): Implement Watering/Irrigation Strategy to Reduce Watering Costs

For additional information, go to Positioning for the Future at [www.mtsu.edu/strategic/docs/Complete\\_Response\\_Document\\_052109\\_2.pdf](http://www.mtsu.edu/strategic/docs/Complete_Response_Document_052109_2.pdf)



# 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)                   |
| <b>Totals</b>  | <b>2,705,504</b> | <b>\$118,058,544</b>             |

(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 |          |   |                  |                      |
| 2007 - 2008                                 | Priority | Project name  | FY 07/08 Request | Appropriated Funding |
|   | 1        | Several Buildings Life Safety Updates               | \$1,376,685      | \$1,380,000          |
|   | 2        | Cope Administration Electrical Service Entry Update | \$650,000        | \$650,000            |
|   | 3        | Underground Electrical Update Phase IV              | \$750,000        | \$750,000            |
|   | 4        | Sewer System and Steam Manhole Updates Phase II     | \$500,000        | \$500,000            |
|   | 5        | Jones Hall HVAC Update                              | \$705,000        | \$710,000            |
|   | 6        | Several Buildings Envelope Repair                   | \$600,000        | \$-                  |
|   | 7        | Several Buildings Roof Replacements                 | \$350,000        | \$-                  |
|   | 8        | Murphy Center Fire Alarm Replacement                | \$550,000        | \$550,000            |
|   | 9        | Underground Electrical Phase V                      | \$1,300,000      | \$-                  |
| Total:                                      |          |   | \$6,781,685      | \$4,540,000          |
| 2008 - 2009                                 | Priority | Project name  | FY 08-09 Request | Appropriated Funding |
|   | 1        | Pittard Campus School Renovation                    | \$1,000,000      | \$1,000,000          |
|   | 2        | Underground Electrical Phase V (7.1)                | \$2,000,000      | \$-                  |
|   | 3        | Underground Electrical Phase VI (7.2)               | \$1,500,000      | \$-                  |
|   | 4        | Domestic Water/Sewer System Updates                 | \$250,000        | \$-                  |
|   | 5        | Several Buildings Envelope Repair                   | \$650,000        | \$-                  |
|   | 6        | Several Buildings Roof Replacement                  | \$400,000        | \$-                  |
|   | 7        | Peck Hall HVAC Updates Phase 2 - VAV                | \$410,000        | \$-                  |
|   | 8        | Murphy Center Exterior Door Repair/Replacement      | \$350,000        | \$-                  |
|   | 9        | Murphy Center Arena HVAC                            | \$975,000        | \$-                  |
|   | 10       | Business/Aerospace Roof Replacement                 | \$680,000        | \$-                  |
|   | 11       | Walker Library Roof Replacement                     | \$600,000        | \$-                  |
|   | 12       | Murphy Center Roof Replacement                      | \$1,500,000      | \$-                  |
|   | 13       | Several Buildings Life Safety                       | \$500,000        | \$-                  |
| Total:                                      |          |   | \$10,815,000     | \$1,000,000          |
| 2009 - 2010                                 | Priority | Project name  | FY 09/10 Request | Appropriated Funding |
|   | 1        | Underground Electrical Phase V                      | \$2,700,000      | \$-                  |
|   | 2        | Boiler Feed System & Steam Line Improvements        | \$1,475,000      | \$-                  |
|   | 3        | Several Buildings Roof Replacement                  | \$450,000        | \$-                  |
|   | 4        | Domestic Water/Sewer System Updates                 | \$300,000        | \$-                  |
|   | 5        | Several Buildings Envelope Repair                   | \$750,000        | \$-                  |
|   | 6        | Peck Hall HVAC Updates Phase 2 - VAV                | \$460,000        | \$-                  |
|   | 7        | Murphy Center Exterior Door Repair/Replacement      | \$400,000        | \$-                  |
|   | 8        | Murphy Center Arena HVAC                            | \$1,100,000      | \$-                  |
|   | 9        | Underground Electrical Phase VI                     | \$1,235,000      | \$-                  |
|   | 10       | Business/Aerospace Roof Replacement                 | \$785,000        | \$-                  |
|   | 11       | Walker Library Roof Replacement                     | \$700,000        | \$-                  |
|   | 12       | Murphy Center Roof Replacement                      | \$1,725,000      | \$-                  |
| Total:                                      |          |   | \$12,080,000     | \$0                  |
| 2010 - 2011                                 | Priority | Project name  | FY 10/11 Request | Appropriated Funding |
|   | 1        | "D" Steam Line Replacement                          | \$850,000        | TBD                  |
|   | 2        | Underground Electrical Phase V                      | \$3,105,000      | TBD                  |
|   | 3        | Several Buildings Roof Replacement                  | \$750,000        | TBD                  |
|   | 4        | Boiler Feed System & Steam Line Improvements        | \$1,698,000      | TBD                  |
|   | 5        | Several Buildings Envelope Repair                   | \$865,000        | TBD                  |
|   | 6        | Domestic Water/Sewer System Updates                 | \$400,000        | TBD                  |
|   | 7        | Peck Hall HVAC Updates Phase II - VAV               | \$550,000        | TBD                  |
|   | 8        | Murphy Center Exterior Door Repair/Replacement      | \$500,000        | TBD                  |
|   | 9        | Murphy Center HVAC                                  | \$1,275,000      | TBD                  |
|   | 10       | Underground Electrical Phase VI                     | \$1,425,000      | TBD                  |
|   | 11       | Business/Aerospace Roof Replacement                 | \$925,000        | TBD                  |
|   | 12       | Walker Library Roof Replacement                     | \$825,000        | TBD                  |
|   | 13       | Murphy Center Roof Replacement                      | \$1,990,000      | TBD                  |
| Total:                                      |          |   | \$15,158,000     | TBD                  |



# MTSU Sustainable Campus Fee Project List

Joe Whitefield Linda Hardyman

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Funded by a fee initiated by the 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.

The following table lists the approved projects for the last three fiscal years.



| MTSU Sustainable Campus Fee Program                                       |                  |                  |                  |
|---|------------------|------------------|------------------|
| Approved Project Listing  | 2006-07          | 2007-08          | 2008-09          |
| Green Power Purchase  | \$220,000        | \$230,000        | \$230,000        |
| Blade servers- Server consolidation/Virtualization (two pairs)            |                  |                  | \$20,000         |
| Bus conversion to run on used cooking oil                                 | \$15,000         |                  |                  |
| Chilling plant: pressure gauges installation                              | \$1,000          |                  |                  |
| Closed loop sediment filtering system Voorhies                            |                  |                  | \$14,450         |
| Closed loop sediment filtering system KUC                                 |                  | \$12,000         |                  |
| Closed loop sediment filtering system Mass Comm                           |                  |                  | \$14,450         |
| Coil Cleaning Multiple Buildings (AMG, Mass Comm, Forrest Hall, Voorhies) |                  |                  | \$10,288         |
| Development of flex-fueled engine (sun and hydrogen)                      | \$13,000         | \$14,000         |                  |
| Development of flex-fueled engine 2 (sun and hydrogen)                    |                  | \$27,000         |                  |
| DRIPS Project (Development and Research into Pervious Surfaces)           |                  | \$13,500         |                  |
| Golf cart (electric to solar)   |                  | \$8,000          |                  |
| Golf cart conversion (electric to solar) Safety and suspension upgrade    |                  | \$2,500          |                  |
| Hot/chilled water valve assessment  |                  | \$5,000          |                  |
| HVAC controls replacement Wright Music                                    | \$29,950         |                  |                  |
| HVAC pocket filter project BAS  |                  |                  | \$6,250          |
| Hybrid/Alternative fuel vehicle purchase (subsidy)                        | \$17,250         |                  |                  |
| Installation of programmable thermostats in F/S maintenance shops         | \$1,200          |                  |                  |
| Kenaf Agriculture for Sustainable Community (Alternative energy crop)     |                  |                  | \$5,935          |
| Lamp crusher  | \$4,000          |                  |                  |
| Library book purchase   |                  |                  | \$4,500          |
| Light switch plate cover replacement                                      | \$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         |                  |
| Purchase of organic dyes to be used in organic dye sensitized solar cells |                  |                  | \$1,100          |
| Re-caulk exterior windows (Davis Science Building)                        |                  | \$14,000         |                  |
| Recycling - community drop-off relocation/expansion                       | \$3,000          |                  |                  |
| Recycling containers  | \$1,500          | \$5,000          | \$5,500          |
| Re-lamp Cason Kennedy Nursing Building (existing portion)                 | \$30,600         |                  |                  |
| Re-lamp Fairview Building   |                  | \$30,600         |                  |
| Replacement of exterior windows McFarland Building                        |                  |                  | \$25,000         |
| Replacement of 21 exterior windows Holmes Building                        |                  | \$35,000         |                  |
| Studio lighting installed in Mass Comm and LRC                            |                  |                  | \$22,960         |
| Sub-metering for Chilling Plant   | \$4,000          |                  |                  |
| Sub-metering for Murphy Center  | \$4,000          |                  |                  |
| Ultrasonic transmitters Midgett   |                  |                  | \$18,130         |
| <b>Annual Total:</b>  | <b>\$347,000</b> | <b>\$425,704</b> | <b>\$394,985</b> |



## *Summary of Services 2008/2009 Annual Report*

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

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