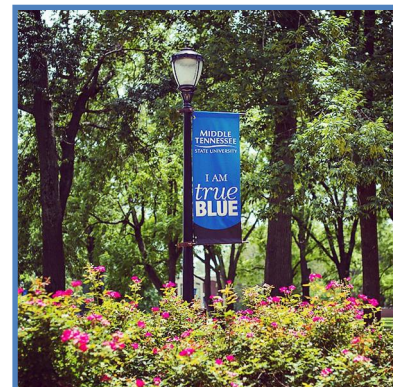




Summary of Services

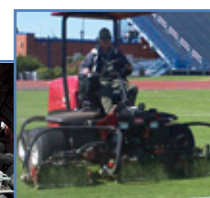
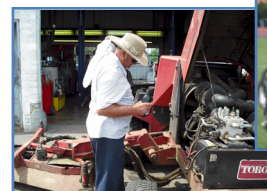
Annual Report

July 2014 — June 2015



MTSU Facilities Services

*...maintaining facilities and grounds... in a safe, clean, and functional condition...
Continuous growth...Continuous Improvement*



Middle Tennessee State University

Facilities Services Department

PO Box 32 Murfreesboro, Tennessee 37132
Phone 615-898-2414 | Fax 615-898-5071
www.mtsu.edu/facserv/

September 2015

**MIDDLE
TENNESSEE**
STATE UNIVERSITY



I AM *true* **BLUE.**
MIDDLE TENNESSEE STATE UNIVERSITY



MTSU Facilities Services is a department reporting to Senior Vice President John W. 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.

Assistant Vice President's Summary	3
Central Administration	
Accounting Information Services	5
Employee Development Services	9
Work Order Services	8
Building Services	14
Construction Administration	15
Construction Administration/Capital Maintenance Services	15
Construction/Renovation Services	16
Custodial Services	18
Energy Services	
HVAC	11
Utilities: Central Plant	10
Engineering Services	
Center for Energy Efficiency	6
GIS/Location	12
Key Shop	12
Recycling Program	7
Systems Engineering	12
Environmental Health & Safety Services	13
Features	
Campus Master Plan Excerpts	19
Capital Maintenance Project List	20
Enabling Leadership	21
MTSU Host's TNAPPA 2015	21
MTSU Sustainable Campus Fee Project List	22
Grounds Services & Greenhouse Services	17
Motor Pool Services	18
Performance Measures	
Building Services	14
Energy Services	11
Environmental Health & Safety	13
GIS/Locating	12
Grounds Services	17
Key Shop	12
Motor Pool Services	18
Systems Engineering	12



Assistant Vice President's Summary

Joe Whitefield

3



FY 14/15 has concluded and FY 15/16 is well underway. The Maintenance and Operating (O&M) budget for Educational and General (E&G) facilities has remained fairly flat. To that end, Facilities Services provides constant attention to productivity management, innovation, informed decision making, and effective communication in serving the campus community.

Of particular note, there were significant changes in the Facilities Services organization in FY 14/15 resulting from retirements of the Assistant Vice President (David Gray) and the Director of Engineering, Building Services, Construction/Renovation, and EH&S (Gerald Caudill). These changes include some restructuring of responsibilities and positions for some personnel and the need to hire a new Director. The organizational changes have taken place throughout the year and are reflected in this report.

This report highlights many accomplishments in FY 14/15 for the department, updates the O&M and capital budget situations, and revises deferred capital renewal projections. The following are samples of the Accomplishments and Challenges.

Accomplishments

Performance Metrics

The Summary of Services report from the previous FY identified a combined total of 85 individual goals across the departmental work units for the FY 14/15. Overall, 56 of the goals were completely met or had substantial progress toward their completion (65.9%), 24 of the goals had progress toward completion but remain on-going (28.2%) and 5 of the goals had showed little to no progress (5.9%).

Capital Projects and Construction Renovation Projects

- 7 capital construction projects were completed totaling \$18.8 million
- 177 renovation projects were completed totaling \$5.9 million
- The Science Building was completed and is operational
- The Murphy Center renovation was completed and is operational
- MTSU electrical substation was completed and is operational

Customer Service and Communication

- All work units combined to complete approximately 17,800 work orders for the year
- Maintained a brochure for academic and administrative personnel that outlines campus maintenance and operations and work order processing
- Updated Residential Life Handbook
- A customer service liaison was added to the Work Orders Office to facilitate improved communications and service delivery to the campus customers

Management and Productivity

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

Energy Management

- The TN Sustainable Design Guidelines were used to design energy efficiency and sustainability features into capital projects
- Facilities Services applied for and was awarded numerous Sustainable Campus Fee projects to improve energy efficiency and sustainability of several existing facilities across campus
- The MTSU Energy Guidelines remained in effect for the campus

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 – This was highlighted with MTSU hosting the TNAPPA Conference in May with 119 total MTSU employees able to attend

(Continued on page 4)

The mission of Facilities Services is to maintain facilities and grounds and present them 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 3)

- 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, 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 14/15 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 14/15, MTSU received \$1,320,000 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 at risk for more failures. As stated above, this condition is reported on in the Campus Master Plan.

Utilities/Energy Costs

On the whole, energy and utility costs increased approximately 4.4% in FY 14/15. This is primarily due to the construction and occupation of new buildings across campus coupled with nominal rate increases for utilities. Natural gas continues to remain fairly low compared to pricing peaks a few of years ago. This is 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.

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. The new Science Building has its first full year of operation. Construction is underway for the Middle Tennessee Medical Center facilities (Bell St. properties). In addition, several renovation projects were completed including a major renovation at Murphy Center (HVAC, Arena lighting, roof, concession stands, and restrooms) and new field turf for Floyd Stadium.

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 determined by economic factors such as first costs and paybacks. Energy and environmental regulations are increasing as well.

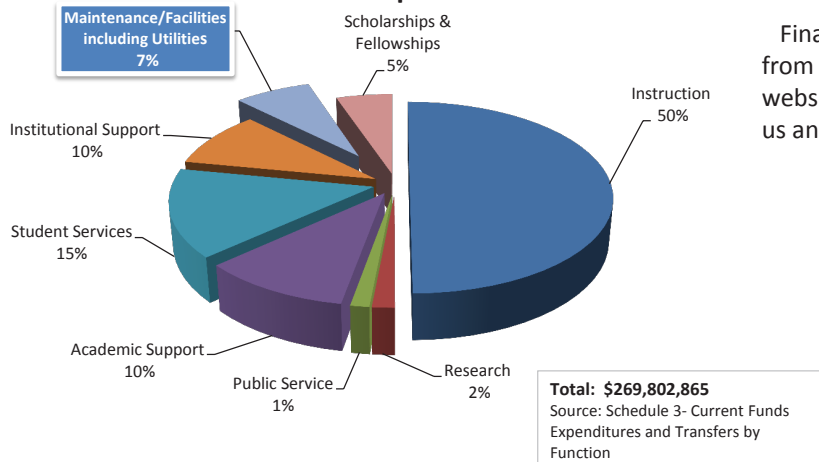
Conclusion

Although 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.

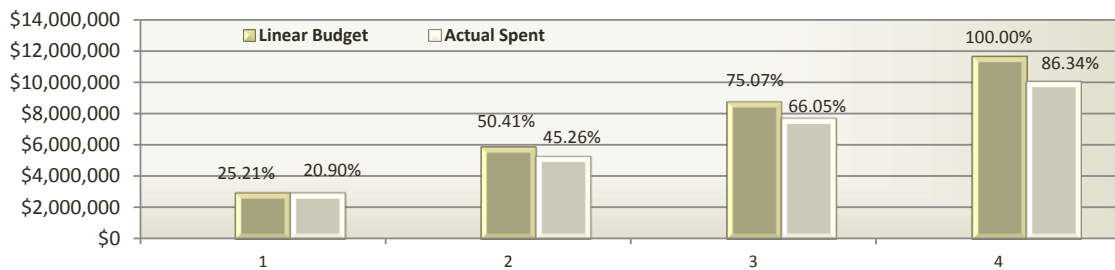
Finally, as we serve the University, it is important that we hear from our customers. Please review this document (as well as our website) for our service delivery. As always, feel free to contact us and let us know how we can serve you better.

—Joe Whiefield

MTSU E & G Expenditures 2014-2015



Educational & General (E & G) Maintenance and Operations Budget FY 2014 - 2015 by Quarter



2014/2015	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual Totals	% of Total
Total M & O Expenditures (1)	\$ 5,375,632	\$ 3,996,627	\$ 4,012,327	\$ 4,721,744	\$ 18,106,330	
Work for Others	\$ (2,437,360)	\$ (1,658,592)	\$ (1,588,476)	\$ (2,879,626)	\$ (8,564,054)	46%
Net E & G Expenditures	\$ 2,938,272	\$ 2,338,035	\$ 2,423,851	\$ 2,364,769	\$ 10,064,927	54%
E & G Budget (2)	\$ 11,657,220	\$ 11,657,220	\$ 11,657,220	\$ 11,657,220	\$ 11,657,220	
% of Budget	25.21%	20.06%	20.79%	20.29%	86.34%	

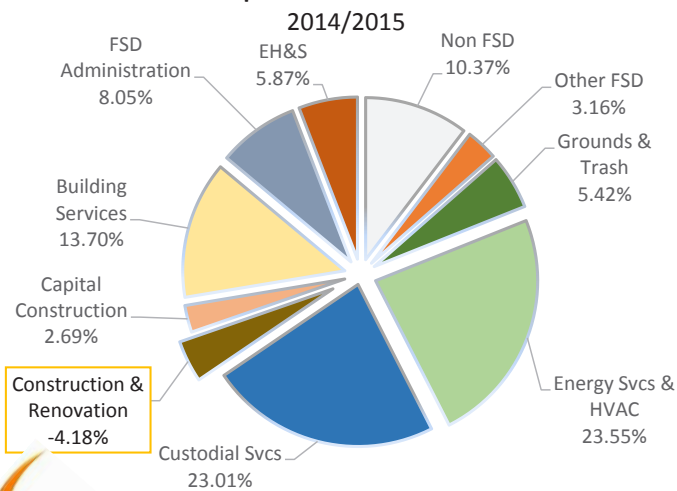
(1) Net of \$522,651 insurance reimbursements

(2) Net of \$2,241,755 encumbrance roll from FY2014

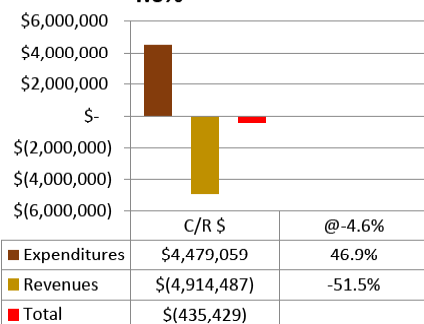
Accomplishments & Highlights 2014/15

- Implemented automated work order billing
- All FSD Accounting employees again attended a leadership seminar together
- All employees participated in hosting TNAPPA conference
- One employee completed the 3-year College Business Management Institute
- Improved financial reporting using Argos
- Updated monthly and yearly allocations to Auxiliaries

Net E&G Expenditures for M&O Function



Construction/Renovation: -4.6%



Goals 2015/16

- Update Motor Pool billing by using work orders & FuelMaster reports
- Reconcile Fuel Inventory to FuelMaster reports
- Move to new offices
- Add budget to QuickBooks Pro
- Seek new technological processes and integrate software to improve workflow and reduce redundancies
- Increase frequency of billing closed work orders
- Produce training video, procedure manual, PowerPoint presentation to train FSD employees on administrative processes
- Encourage employee development, education and certification, including team building and communication

Accomplishments & Highlights 2014/15

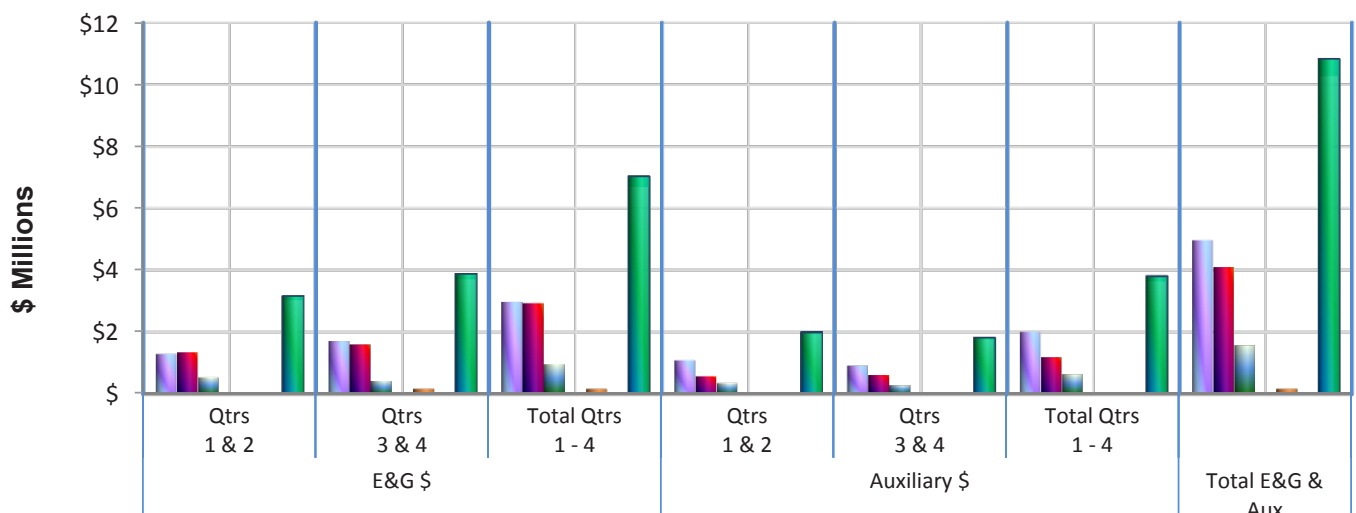
- Negotiated utility related contracts with Tennessee Valley Authority and Murfreesboro Electric (Generation Partners, Green Power Purchase Agreement)
- Worked with underground electrical project pertaining to IDGS (Interactive Distributed Generation System)
- Completed THEC and NCAA annual reporting
- Supported property demolish projects (Photography Building, Ellington Annex)
- Continued working with the MTSU Sustainable Campus Fee Committee (Page 22)
- Updated Facility Surveys for TBR and Construction Administration
- Worked with new Master Plan Development Committee
- Provided intern position for Center for Energy Efficiency
- Continued on the President's Commission on the Status of Women and Women in STEM Boards
- Published Summary of Services Annual Report for 13/14
- Assisted with hosting and attended TNAPPA 2015

Goals 2015/16

- Work on energy dashboard initiative
- Continue to support development of new Campus Master plan
- Develop project for sale of five 2MW generators; support distributed generation changes
- Provide transition support for newly acquired Bell St Center properties
- Support utilities planning for new Science Building
- Continue to monitor alternative electric utility with MED into time of use (TOU) rate system
- Support APPA Institute for Facilities Management and Leadership Training
- Continue to provide utility and energy management support and research to university departments
- Continue support of MTSU Sustainable Campus Fee Program and other sustainable practices on campus
- Continue to support Engineering Technology, Honors, and other classroom instruction (on-going)
- Continue training and professional development
- Attend SRAPPA 2015

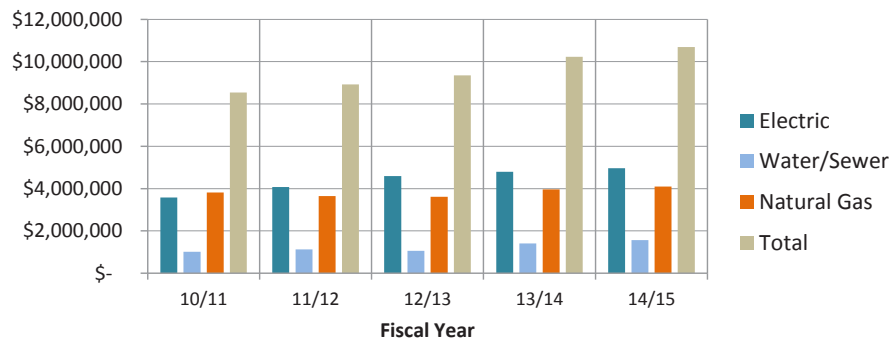
Total Campus Utilities

2014/2015



Electric	\$1,277,742	\$1,693,411	\$2,971,153	\$1,081,801	\$912,277	\$1,994,077	\$4,965,231
Natural Gas	\$1,334,180	\$1,593,074	\$2,927,253	\$560,470	\$609,710	\$1,170,180	\$4,097,433
Water/Sewer	\$530,518	\$418,989	\$949,507	\$341,153	\$278,704	\$619,857	\$1,569,364
Other	\$3,816	\$10,570	\$14,386	\$-	\$-	\$-	\$14,386
Green Power Purchase	\$-	\$150,000	\$150,000	\$-	\$-	\$-	\$150,000
Stormwater	\$11,438	\$12,730	\$24,168	\$8,561	\$8,561	\$17,122	\$41,290
Total	\$3,157,694	\$3,878,774	\$7,036,468	\$1,991,984	\$1,809,252	\$3,801,236	\$10,837,704

Major Campus Utilities by Fiscal Year



Recycling Program - MTSU Recycles

Linda Hardyman

Accomplishments & Highlights 2014/15

- Maintained recycling program to meet campus needs employing student workers
- Utilized MTSU Sustainable Campus Fee project funds to improve and update recycling program appearance across campus; new and appropriate bin styles to encourage further recycling
- Supported Construction/Renovation move-out projects in multiple buildings as requested
- Provided football season recycling in stadium and suites
- Provided support for student tailgate recycling program
- Supported Students for Environmental Action (SEA) for installation of Big Belly solar trash compactors and initiated pilot program for dorm room recycling in two dorms

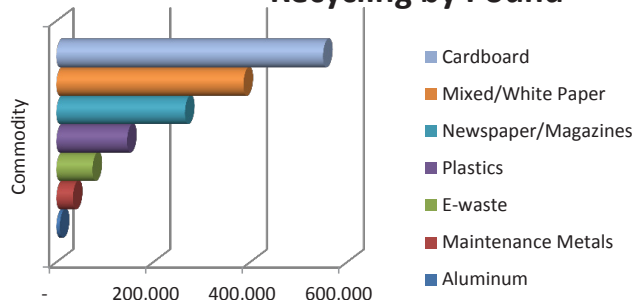
- Outfitted new science building and new office spaces across campus for recycling
- Responded to 665 special requests for recycling on campus in addition to normal program assignments
- Provided safety and diversity training for recycling staff
- Supported TNAPPA event on campus

Goals 2015/16

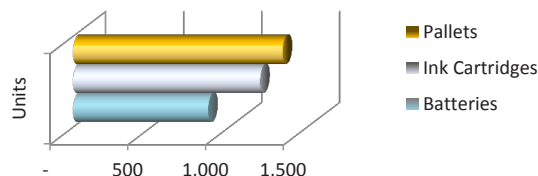
- Direct Sustainable Campus Fee approved student projects – water refill stations, dorm room recycling (phase 2), solar trash compactors, etc.
- Continue to provide campus recycling education, upgrade appearance of recycling containers
- Continue to work with Murphy Center Complex staff to provide recycling at athletic events
- Continue to support Capital Construction and Construction/Renovation project work and planning for added construction/renovation areas
- Continue working with MTSU Sustainable Campus Fee Program for recycling project funding
- Explore new initiatives as the opportunity arises to grow the program and increase commodities collection while helping lower campus trash going to the landfill
- Continue partnership opportunities with Recycle Rutherford and TN Department of Environment and Conservation
- Continue to provide classroom support for environmental seminars and storm water initiatives
- Continue participation in training and development programs



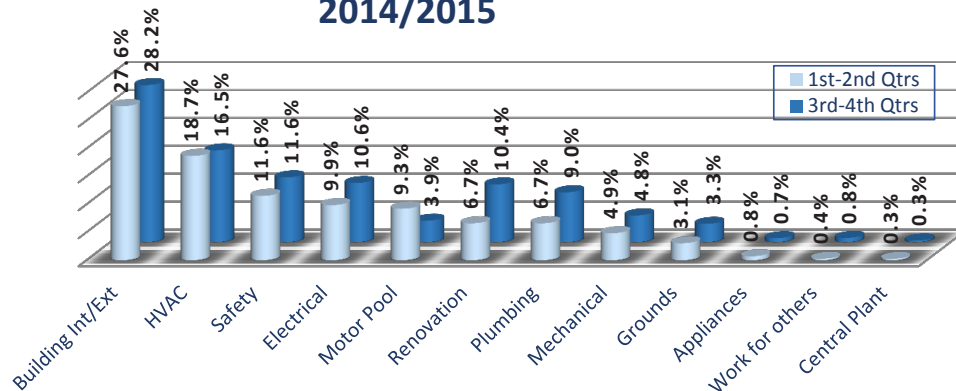
Recycling by Pound



Recycling by Unit



Work Orders Originated 2014/2015



Accomplishments & Highlights 2014/15

- Worked with Energy Services and Work Orders staff to design and implement filter tracking database
- Continued to work with consultant to design and run Argos reports
- Finalized procedures and practices to be compatible with Mainsaver to Banner interface requirements and implemented monthly direct to Banner billing process



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

Goals 2015/16

- Design reports for new work orders metric focusing on work unit productivity
- Purchase new Mainsaver module to allow mobile access to database and ad-hoc reporting
- Design and implement process for tracking maintenance projects cost
- Coordinate move of Work Orders Office to newly renovated space in Haynes Turner
- Hire work order coordinator to assist with work order processing and customer service

Reports! Daily, monthly, yearly!

Work Order Recap - YTD 7/1/2015 - 8/31/2015				
Work Unit	Index	Originated	Completed	
			Total #	Past Due #
Building Services	2-71109	1223	1,131	155
Custodial	2-74100	235	223	117
Energy Services	2-75209	775	717	58
Grounds Services	2-76109	91	66	25
Greenhouse	2-76200	26	21	5
Environmental Health & Safety	2-77200	494	462	32
Totals		2,845	2,620	320

2014/2015 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	25	0.5%	17	0.4%	19	0.4%	27	0.6%	88	0.5%
Building Interior/Exterior	1,335	27.8%	1,155	28.3%	1,295	30.3%	1,276	27.5%	5,061	28.4%
Central Plant	13	0.3%	9	0.2%	12	0.3%	11	0.2%	45	0.3%
Electrical	504	10.5%	400	9.8%	499	11.7%	435	9.4%	1,838	10.3%
Grounds	178	3.7%	119	2.9%	102	2.4%	183	3.9%	582	3.3%
HVAC	895	18.7%	690	16.9%	699	16.3%	721	15.5%	3,005	16.9%
Mechanical	190	4.0%	227	5.6%	239	5.6%	219	4.7%	875	4.9%
Motor Pool	474	9.9%	443	10.9%	437	10.2%	699	15.0%	2,053	11.5%
Plumbing	311	6.5%	267	6.6%	12	0.3%	297	6.4%	887	5.0%
Renovation	311	6.5%	215	5.3%	395	9.2%	240	5.2%	1,161	6.5%
Work for Others	55	1.1%	23	0.6%	38	0.9%	30	0.6%	146	0.8%
Safety	505	10.5%	511	12.5%	530	12.4%	507	10.9%	2,053	11.5%
Total	4,796	100.00%	4,076	100.00%	4,277	100.00%	4,645	100.00%	17,794	100.00%

Accomplishments & Highlights 2014/15

- Facilitated employee training sessions for FSD work units
- Coordinated forklift training sessions by certified trainer; offered enrollment to employees in other University departments



Goals 2015/16

- Review current training program; add new training sessions (as required or requested)
- 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

2014/2015 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	72	1	2	6
-Accounting Services	5	5	20	69	5	28	0
-Employee Development	1	1	2	13	1	1	0
-Work Orders	3	3	6	12	3	9	0
Engineering Services							
-Center for Energy Efficiency	2	2	21	9	2	5	2
-Key Shop	5	5	8	20	5	26	0
-GIS/Locating	1	1	2	4	1	6	0
-Systems Engineering	1	1	2	44	1	4	0
Environmental Health & Safety	7	7	0	28	5	27	35
Building Services	20	20	28	177	20	138	0
Construction Administration	4	4	6.5	24.5	4	10	0
Construction Renovation	4	4	16	115	3	7	0
Energy Services	21	21	32.5	72	21	86	0
Custodial Services	20	20	33	72	20	88	0
Grounds Services/Motor Pool	18	18	30.5	72	18	89	0
Total	114	114	207	801.5	110	524.8	43

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			2	3
-Employee Development	1			1	
-Work Orders	3		3		
Engineering Services					
-Center for Energy Efficiency	2		1		1
-Key Shop	5		2	3	
-GIS/Locating	1			1	
-Systems Engineering	1				1
Environmental Health & Safety	7		4	1	2
Building Services	20		7	9	4
Construction Administration	4		3	1	
Construction Renovation	4		1	1	2
Energy Services	21		18	3	
Custodial Services	20		13	7	1
Grounds Services/Motor Pool	18		6	12	
Total	114	0	58	41	16

Accomplishments & Highlights 2014/15

- Managed 297 after hours callbacks
- Prepared EPA report for greenhouse gas emissions
- Prepared air pollution control permit
- Continued evaluate operating schedules for natural gas and electric pricing
- Supported Construction/Renovation projects
- Located and replaced major condensate leaks
- Replaced cooling towers at Central Plant
- Provided training to maintain compliance regrading confined space and code issues
- Completion of safety training

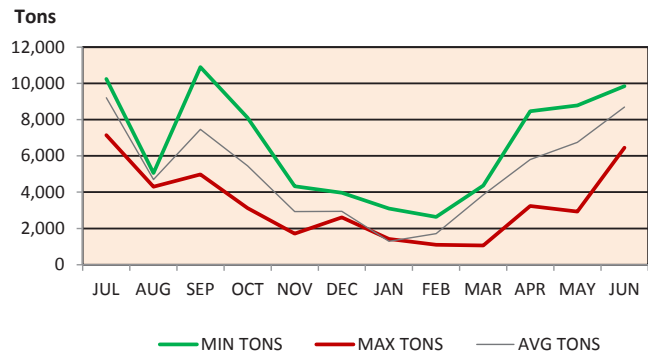
Goals 2015/16

- Replace economizer on energy recovery boiler
- Retube energy recovery boiler
- Upgrade Solar turbine/ boiler controls
- Upgrade Walker Library, stadium, and Bell Street controls
- Continue to support capital and construction/renovation projects on campus
- Continue exploring recovery of loop system condensate
- Continue to support physical plant upgrades
- Continue to investigate training opportunities

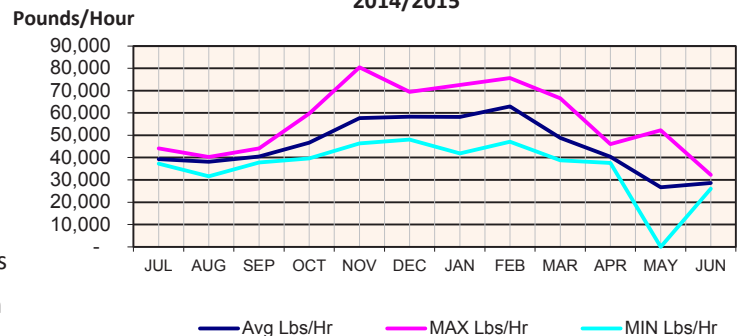
Central Plant
Control Room



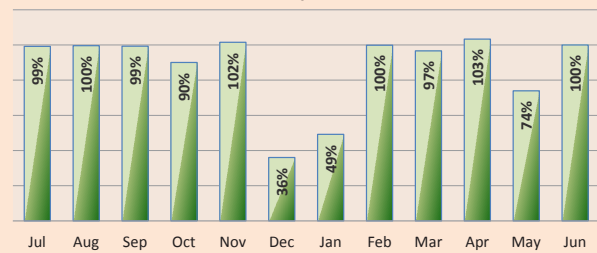
Chilled Water Tonnage 2014-2015



Steam Production 2014/2015



Turbine: Percent Runtime By Month 2014/2015



2014/2015 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	5.49	5.70	5.35	5.70										
Ave MW	4.64	5.01	4.60	4.72	Ave LBS/ Hr	46,737	56,648	31,871	45,498	Max Peak Tons	10,895	4,363	9,852	10,895
Total MWH	17,925.7	8,803.8	9,266.9	35,996.4	Peak LBS/ Hr	80,458	75,625	52,250	80,458	Min Tons	4,304	1,063	2,931	1,063
Purchased power: 46,854.5 MWH														

Purchased power: 46,854.5 MWH

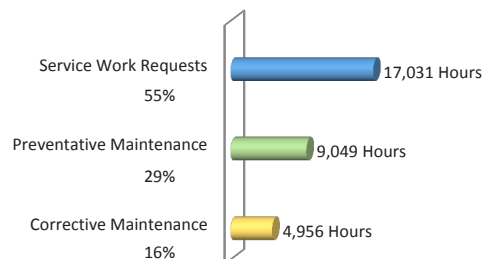
Accomplishments & Highlights 2014/15

- Managed 95 after hours callbacks
- Continued completion of safety training
- Provided training to maintain compliance regarding confined space and code issues
- Supported construction of new science building
- Supported Construction/Renovation projects
- Reviewed implementation procedures on services to auxiliaries and zone maintenance
- Installation of boilers for Ellington Human Science eliminating building from campus Central Plant steam
- Worked with TVA's Energy Right Program on energy efficient projects on campus



Satellite Plant

Energy Services: Total Work Order Hours 2014/2015



Goals 2015/16

- Continue to support capital and construction/renovation projects on campus
- Continue to improve HVAC building air filtering systems
- Continue to investigate training opportunities
- Develop new project for MTSU Sustainable Campus Fee
- Investigate new ways of saving energy on campus
- Continue to work with TVA on energy right program
- Improve department processes
- Reduce work order completed past due percentage by addressing identified work flow and documentation process issues

PERFORMANCE MEASURES: Energy Services

2014/2015		#Work Orders Completed		Man Hours		Avg Man Hours/WO		% Completed Past Due	
CORRECTIVE MAINTENANCE (CM)		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Appliances	5	10	22	52	4.3	5.2	20%	20%
	Central Plant	2	4	2	13	1.0	3.3	50%	25%
	HVAC	471	957	1746	3528	3.7	3.7	13%	24%
	Mechanical	31	147	338	1363	10.9	9.3	32%	53%
	Total	509	1118	2108	4956	4.1	4.4	15%	28%
PREVENTIVE MAINTENANCE (PM)		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Appliances	4	11	9	22	2.3	2.0	0%	0%
	Central Plant	7	14	2058	4173.3	294.0	298.1	43%	57%
	HVAC	418	840	1211	3652.6	2.9	4.3	12%	14%
	Mechanical	314	629	746	1200	2.4	1.9	12%	13%
	Total	743	1494	4024	9047.9	5.4	6.1	12%	14%
SERVICE WORK ORDERS		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Appliances	7	22	19	54	2.7	2.5	0%	27%
	Central Plant	14	27	4434	8179	316.7	302.9	43%	37%
	HVAC	586	1263	3920	8386	6.7	6.6	13%	21%
	Mechanical	21	86	66	412	3.1	4.8	29%	51%
	Total	628	1398	8439.25	17031	13.4	12.2	14%	23%

Accomplishments & Highlights 2014/15

Systems Engineering – Jeff McConnell

- Created and implemented 36 new PM's for new Science building
- Documented and executed new Science building Siemens contract, Evoqua Deionized water system contract
- Adjusted Kone elevator as well as Thompson Power generator contracts
- Assisted demo phase of Davis/Wiser Patten renovation

Key Shop – Don Chumney

- Completed 1,528 work orders
- Cut a total of 2,113 keys for Residential Life, Construction Administration/Renovation projects
- Re-Keyed McFarland Building, House 1 and 3 at The Row, and the Haynes-Turner build out
- Added wireless on-line card access on two additional Houses at The Row



GIS and Locating – Dwayne Alexander

- Completed new building and road infrastructure removal and completion for Gis mapping services; added off campus properties
- Supervised elevator upgrades for Corlew Hall, Cummings Hall, and Business Aerospace
- Managed maintenance, repairs, invoices and permits for all campus elevators and emergency back-up generators
- Completed automatic transfer switch test for all emergency backup generators
- Supervised new emergency backup generator installation in James Union Building; also completed upgrade to freight elevator and code upgrades for electrical and fire alarm system
- Supervised elevator code upgrades for preowned elevators in buildings purchased by MTSU

PERFORMANCE MEASURES: Engineering Services					
2014/2015		#Work Orders Completed		% Completed Past Due	
CORRECTIVE MAINTENANCE (CM)		Mid-Year	Annual	Mid-Year	Annual
	Keyshop	355	630	5.6%	8.6%
	Locating/GIS	2	12	0.0%	0.0%
	Total	357	642	5.6%	8.4%
PREVENTIVE MAINTENANCE (PM)		Mid-Year	Annual	Mid-Year	Annual
	Locating/GIS	136	269	0.0%	0.0%
	Total	136	269	0.0%	0.0%
SERVICE WORK ORDERS		Mid-Year	Annual	Mid-Year	Annual
	Keyshop	461	966	7.4%	8.0%
	Locating/GIS	14	33	0.0%	0.0%
	Total	475	999	7.2%	7.7%

Goals 2015/2016

Systems Engineering

- Continue to implement necessary PM's to care for new Science building
- Develop emergency protocol for De-ionized water system for leak containment and response
- Improve access and safety for employees and contractors working on the Science building roof
- Support construction phase of Davis Science/Wiser Patten renovation

Key Shop

- Implement a procedure to import classroom schedules from the scheduling office database into the access control software
- Support Capital Projects at the Bell Street Building and Davis Science/Wiser Patton

GIS and Locating

- Manage elevators more efficiently by working closer with Kone technicians for minor repairs to decrease elevator down time; monitor specific elevators due to repetitive problems
- Replace three existing emergency back-up generators for the Telecomm system
- Train an employee in the use of GPS navigational equipment
- Decrease minor repairs to emergency generators to cut costs

Environmental Health & Safety (EH&S)

Doug Brinsko Shelia Knight Terry Logan

13

Accomplishments & Highlights 2015/16

- Developed & maintained seven online safety training modules through the EH&S website that trained 1,803 MTSU faculty and staff
- Managed the identification, collection, packaging, transportation, and disposal of approximately 14.5 tons (29,000 pounds) of hazardous waste
- Established a laboratory auditing program for the university to be implemented campus wide, bi-annually. 2014-2015 was the inaugural year for the start of the laboratory inspection system
- Conducted 25 monthly SPCC (Spill Prevention, Control & Countermeasures Plan) inspections on generators & cooking waste on campus
- Conducted 200+ bi-annual SPCC inspections on elevators & transformers on campus
- Completed 10 Mold & Air Quality inspections & reports on MTSU buildings as a follow-up from a work order generated by a complaint
- Responded to, managed, and remediated 7 chemical/ biohazard emergencies
- Led 5 Safety Training sessions for MTSU staff, faculty & students for topics such as heat stress, spiders, working conditions, chemical safety and other safety topics
- Provided response to 5 spills/incidents on campus.; provided spill kits, first aid kits, and burn kits for all laboratories in Science Building
- Responded to and managed 2 OSHA complaints
- Initiated updates and revisions to the MTSU Emergency Operations Plan to conform to TEMA/ RCEMA format changes
- Initiated updates and revisions to the MTSU Campus Safety Handbook
- Provided oversight & completion of the chemical move from DSB/ WPS to the Science Building, taking over four months to complete
- Formed an active Radiation Safety Committee, which meets quarterly with committee members chosen by Dr. Bud Fischer, Dean of Basic & Applied Sciences
- Provided Radiation Safety training for campus police

PERFORMANCE MEASURES: Environmental Health & Safety

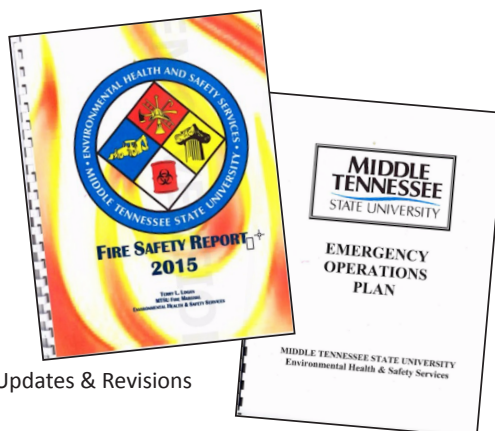
2014/2015		Corrective Maintenance (CM)	Preventative Maintenance (PM)	Service Work Orders	Work Orders Completed	Program Total
EH&S	Mid-Year	4	178	43	225	3,779
	Annual	5	408	86	499	
Safety Systems	Mid-Year	36	868	62	966	
	Annual	123	1,762	204	2,089	



Stormwater Program

MTSU Environmental Health and Safety Online Training					
Training Modules					
Modules You Need To Take					
Module Name	Date Assigned	Attempts	Options		
Hazard Communication Standard	08-13-2012	0	Take		
Portable Fire Extinguishers	08-13-2012	0	Take		
Stormwater	08-20-2012	0	Take		
Showing 1 to 3 of 3 entries					
Modules You Can Take					
Group Name	Associated Modules		Options		
No groups available					
Showing 0 to 0 of 0 entries					
Modules You Have Completed					
Module Name	Date Assigned	Date Completed	Date Expires	Options	

Training Modules



Updates & Revisions

Goals 2015/2016

- Improve communication with the campus regarding EH&S activities and initiatives
- Implement ongoing metrics reporting at monthly EH&S campus committee meetings to foster greater awareness and input among committee members
- Develop a Fire Alarm response and management program
- Provide support and input for development of future Access Control, Security, and Fire Alarm platforms



14.5 Ton Lab Clean-out

STORMWATER PROGRAM ACTIVITIES 2014/2015	
Targeted Education	
Events: stream cleanups, tree plantings, tree day, rain barrel workshops	6
Volunteers coordinated	682
Trees planted	124
Tree Day trees distributed	500
Mailouts to residents	133
Door hangers to residents	469
Business Outreach	79
By the numbers	1,987
Trash removed from local streams- pounds	3,129
General Education	
Overall Events: booths, workshops	8
Classroom visits	3
Radio Public Service Announcements	566
TV ads played	343
Educational Print media	1,012
Promotional items distributed	978
Overall public educated/served	6,951
By the numbers	9,861

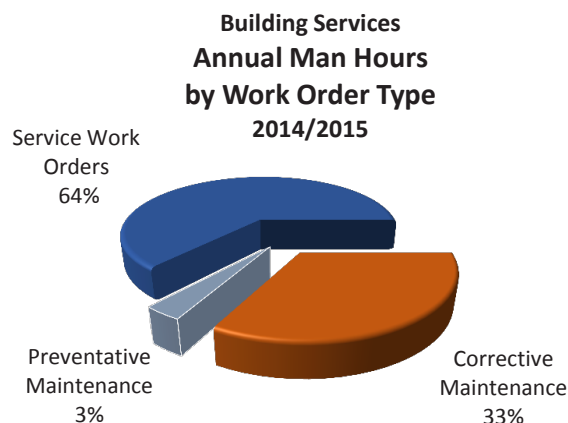
Accomplishments & Highlights 2014/15

- Identified (1) Maintenance Mechanic and (1) Lead Electrician to support activities for Science Buildings
- Increased work unit effectiveness by creating mobile workshops for Construction Services and Building Services
- Supported and contributed to Capital Construction and Construction/Renovations projects through document reviews and project implementation
- Assisted Environmental Engineer (EH&S) with oversight of Grease Trap Contract
- Staff members participated in training opportunities and in annual TNAPPA conference hosted on campus

Goals 2015/2016

- Continue to improve inter-departmental and campus customer relations
- Minimize departmental expenditures while maximizing budget
- Continue to develop bid specs for more efficient materials and equipment
- Support development and expansion of "Safety 411" to TBR - Risk Management
- Develop protocol to replace/upgrade deficient life safety equipment
- Develop educational training opportunities for staff

PERFORMANCE MEASURES: Building Services									
2014/2015		#Work Orders Completed		Man Hours		Avg Man Hours/WO		% Completed Past Due	
CORRECTIVE MAINTENANCE (CM)		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Appliances	9	20	10	21	1.1	1.0	0.0%	0.0%
	Building Interior/Exterior	424	847	805	2,257	1.9	2.7	7.1%	8.3%
	Electrical	475	984	1,811	3,574	3.8	3.6	7.6%	8.5%
	Plumbing	447	863	836	1,542	1.9	1.8	2.2%	2.9%
	Total	1355	2714	3,461	7,394	2.6	2.7	5.6%	6.6%
PREVENTIVE MAINTENANCE (PM)		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Building Interior/Exterior	158	408	149	340	0.9	0.8	5.7%	27.9%
	Electrical	203	429	116	230	0.6	0.5	33.0%	38.5%
	Plumbing	28	159	45	200	1.6	1.3	14.3%	14.5%
	Total	389	996	309	770	0.8	0.8	20.6%	30.3%
SERVICE WORK ORDERS		Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
	Appliances	5	14	11	49	2.1	3.5	0.0%	0.0%
	Building Interior/Exterior	1,048	2,319	1,892	4,216	1.8	1.8	17.1%	12.9%
	Electrical	206	439	571	1,146	2.8	2.6	11.2%	8.0%
	Plumbing	105	260	180	649	1.7	2.5	4.8%	3.8%
	Renovation	458	949	2,335	8,311	5.1	8.8	5.2%	5.6%
	Total	1822	3981	4,988	14,370	2.7	3.6	12.7%	9.9%



Accomplishments & Highlights 2014/15

- Completed Capital Maintenance Budget 2016-2017
- Implemented updates, improvements to Campus Standards
- Improved storm water compliance for construction projects
- Continued participation in on and off campus Educational opportunities
- Completed major renovation of HVAC systems in Murphy Center
- Completed major road improvement with third roundabout (Parking & Transportation IV)

Goals 2015/16

- Complete transition of power service to underground system
- Continue review of Campus Standards for updates
- Attend APPA and SRAPPA conferences in Nashville
- Complete major steam and chilled water improvements



2014/2015 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	6	\$ 18,533,460	6	\$ 8,448,160	8	\$ 30,828,639	5	\$ 25,968,179	6	\$ 18,533,460
Added Projects	1	\$ 269,700	4	\$ 25,698,479	0	\$ -	4	\$ 2,262,482	9	\$ 28,230,661
Completed Projects	1	\$ 10,355,000	2	\$ 3,318,000	3	\$ 4,860,460	1	\$ 269,700	7	\$ 18,803,160
Ending Active Projects	6	\$ 8,448,160	8	\$ 30,828,639	5	\$ 25,968,179	8	\$ 27,960,961	8	\$ 27,960,961



Cope 2nd floor



New Science Building opened in August 2014



Roundabout

2014/2015 Capital Projects Review		
	New Projects	Completed Projects
July - September	✓ Rec Field Lighting	✓ Parking & Transportation IV
October - December	✓ Davis Science/Wiser Patten Renovation ✓ Flight Simulator Building ✓ Bell Street Center Renovation ✓ Underground Electrical Phase 3	✓ Learning Resource Center 101 ✓ Murphy Center HVAC/Restroom Renovations ✓ Walker Library roof replacement
January - March		✓ Cope Building Renovation ✓ McFarland Building Renovation ✓ Physical Plant Upgrades/Cooling Tower
April - June	✓ Warehouse Building Renovation ✓ Steam/Condensate Line Upgrade ✓ Chiller & Tower Replacement ✓ Saunders Fine Arts HVAC Updates	✓ Rec Field Lighting

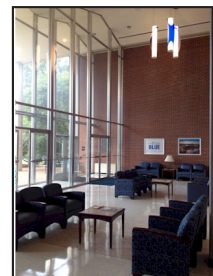
Accomplishments & Highlights 2014/15

- Completed approximately 171 projects; managed more than \$5,500,000 worth of products and services during the course of those projects
- Major renovations include:
 - Business/Aerospace building improvements (new floors in all corridors and 100+ private office updates)
 - Business/Aerospace 24/7 Computer Lab update/reconfigure
 - New advising offices for 55 full-time advisors
 - Murphy Center concessions stands build-out
 - Cope Administration – multiple suite renovations
 - Greek Row – House #3 renovations
 - Multiple master classroom conversions and equipment upgrades
 - Murphy Center – Athletic Office updates
 - Voorhies Engineering Technology – New Mechatronics Lab
 - Ellington Human Sciences – Commercial style demonstration kitchen
 - Aerospace – Airport Composite/Maintenance Lab
- Involved with hosting TNAPPA conference
- Attended APPA Facilities Management and Leadership training

Goals 2015/16

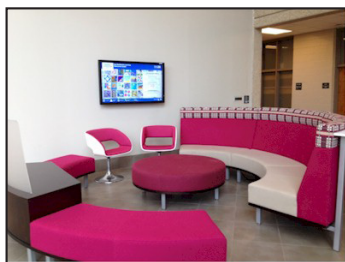
- Complete departmental paperwork flow process to be published for other shops to use when tracking Special Project requests
- Work with in-house shops on more project-based jobs
- Hire new project manager/coordinator for permanent, full-time work
- Successfully complete major renovations:
 - Haynes-Turner renovation into office space
 - Mass Comm – Maintenance improvements (~\$250K)
 - KUC – New Veterans' Center
 - Multiple master classrooms and equipment upgrades
 - BAS – Stock Trading Collaborative Classroom
 - Cason-Kennedy – Video Recording classrooms
 - University Police station improvements and Bell Street office
- Attend TNAPPA, SRAPPA, and APPA conferences

Cope Lobby

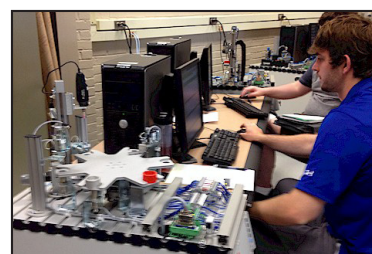


2014/2015 Construction/Renovation Project Summary

	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	229	\$ 3,690,514	199	\$ 2,119,066	215	\$ 1,875,059	224	\$ 2,242,182	229	\$ 3,690,514
Added Projects	33	\$ 881,338	35	\$ 527,063	60	\$ 1,553,196	51	\$ 285,580	179	\$ 3,247,177
Completed Projects	63	\$ 2,452,786	19	\$ 771,070	51	\$ 1,186,073	44	\$ 1,461,001	177	\$ 5,870,930
Ending Active Projects	199	\$ 2,119,066	215	\$ 1,875,059	224	\$ 2,242,182	231	\$ 1,066,761	231	\$ 1,066,761



LRC lobby & Room 100



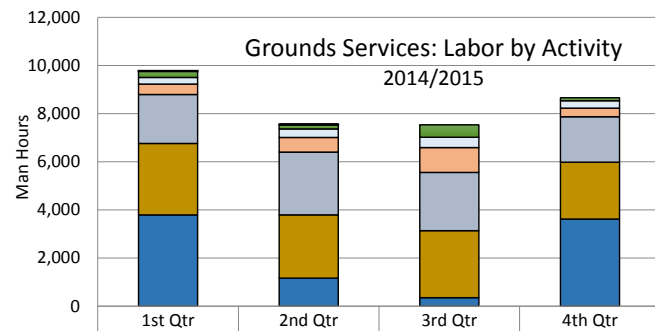
VET-Mechatronics Lab

Accomplishments & Highlights 2014/15

- Developed and implemented a better strategy for fall/winter leaf clean-up
- Began a weed control program in the academic core of campus to help improve curb appeal
- Continued progress with sidewalk grinding project to remove small imperfections and uneven spots on sidewalks
- Implemented new safety green uniform shirts and jackets for grounds crew to make them more visible for both safety purposes and to promote a more professional/visible image
- Worked with Athletic Department to redesign and improve landscaping around weight room/Hall of Fame area
- Implemented a new strategy to improve maintenance at the landscape beds around campus entrances and roundabouts
- Began process to have campus designated with a Tennessee Arboretum Certification Level 1
- Entire crew attended TNAPPA training hosted on campus



Sidewalk repair



	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Beds, Mulch, Weed, Plant, Water	23	3	0	0
Trees: Prune, Trim, Remove	255	179	514	122
Pest Removal, PM Equip	275	354	427	307
Streets, Parking Lots, Sidewalks	433	609	1,032	357
Trash Pickup, Dump	2,033	2,606	2,419	1,889
Fertilize, Topdress, Seed, Irrigate, Paint	2,966	2,628	2,782	2,360
Mow, Weedeat, Blow, Edge	3,794	1,168	357	3,621

Goals 2015/16

- Develop and implement a new winter trimming/pruning schedule for trees, shrubs, and bushes
- Monitor and improve work orders percentage closed past due
- Continue to monitor and improve strategy for improving the curb appeal of the academic core of campus and explore more areas for weed control program
- Create plan to re-landscape areas around campus to require less maintenance while at the same time improve overall look of campus
- Develop and implement a new preemerge/mulch strategy to improve weed control and appearance of landscape beds
- Continue to provide design review on new construction projects
- Continue required training and seek more training opportunities for staff



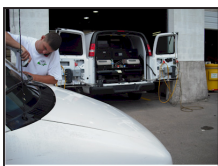
Green uniform shirts in training and at work!



PERFORMANCE MEASURES: Grounds Services								
2014-2015	#Work Orders Completed		Man Hours		Avg Man Hours/ Work Order		% Completed Past Due	
	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
Maintenance	39	59	262	307	6.7	5.2	17.9%	13.6%
Preventive (PM)	13	13	103	103	7.9	7.9	15.4%	15.4%
Corrective (CM)	26	46	160	205	6.1	4.4	19.2%	13.0%
Service	275	563	3,544	62,254	12.9	110.6	42.5%	38.0%
Routine	275	551	3,544	38,582	12.9	70.0	42.5%	38.8%
Annual	0	12	0	23,672	0.0	1,972.7	0.0%	0.0%
Total	314	622	3,806	62,561	12.1	100.6	39.5%	35.7%

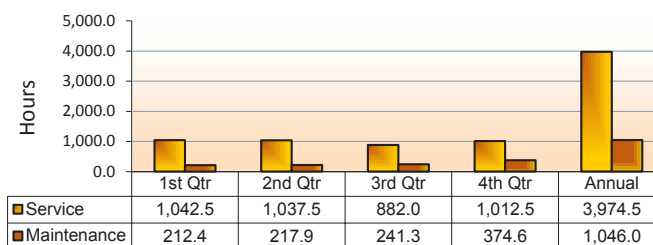
Accomplishments & Highlights 2014/15

- Upgraded motor pool fleet by replacing several older vehicles with new ones
- Successfully continued on site emissions testing
- Performed annual fuel tank cleaning and maintenance
- Replaced shop garage doors with insulated doors to help with energy efficiency
- Worked with TDEC Division of Underground Storage Tanks to ensure our tanks were in compliance with all EPA regulations
- Attended training



On Site Emission testing

Motor Pool Man Hours
2014/2015



PERFORMANCE MEASURES: Motor Pool

2014-2015	#Work Orders Completed		Man Hours		Avg Man Hours/WO		% Completed Past Due	
	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
Maintenance	410	1028	430	1,046	1.0	1.0	6.1%	6.0%
Preventive (PM)	405	1021	401	1,016	1.0	1.0	5.7%	5.9%
Corrective (CM)	5	7	29	30	5.8	4.3	40.0%	28.6%
Service	450	911	2,080	3,975	4.6	4.4	21.6%	20.6%
Total	860	1939	2,510	5,021	2.9	2.6	14.2%	12.9%

Goals 2015/16

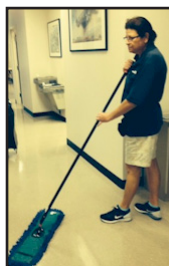
- Continue monitoring and cleaning of underground storage tanks
- Upgrade shop equipment to keep up to date with the newest technology on vehicles
- Continue on site emissions testing
- Evaluate replacement plan for facilities carts to have a more standardized appearance.
- Continue training

Custodial Services

Connie Hagberg David Feagans Brenda Wunder

Accomplishments & Highlights 2014/15

- Service for the new Science Building, Fall Semester
- Service for renovated McFarland Building, Spring Semester
- Work closely with Custodial Services contract administration to ensure terms firmly upheld
- Coordinated special event/conference cleaning requirements with contractor and in-house Custodial Services
- Completed productivity studies for in-house Custodial Services; review options for staffing and building service, with renovation of Bell Street property
- Completed safety and administrative training sessions



Goals 2015/16

- Ensure custodial contractor service is completed according to contract terms
- Inspection of facilities for cleanliness according to Cleaning Standards & Frequencies
- Continue productivity studies of in-house custodial service; review and finalize plans for in-house custodial assignments for building service and the Recycle Program
- Service for the newly renovated Bell Street building, Spring Semester opening

E&G Space 2014/2015	Gross Square Feet	Cleanable Square Feet	% Cleanable Square Feet
Facilities Services Department			
In-house	579,878	301,267	13%
Contract Labor	2,122,123	1,487,258	65%
Murphy Center Complex			
In-house	0	0	0%
Contract Labor	606,239	502,312	22%
Total	3,308,240	2,290,837	100%

Excerpts from Campus Master Plan December 2007--2013

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

		90-100	80-90	<80
Potential	High	A	B	C
Value	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

2013 - 2014	Priority	Project Name	FY 13/14 Request	Appropriated Funding
	1	Murphy Center Roof Replacement	\$ 2,720,000	\$ 2,720,000
	2	Central Plant Cooling Tower Replacement	\$ 810,000	\$ 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	\$ 3,530,000

2014 - 2015	Priority	Project Name	FY 14/15 Request	Appropriated Funding
	1	Absorption Chiller/Tower Replacement	\$ 1,320,000	\$ 1,320,000
	2	Several Buildings Electrical Equipment Upgrade	\$ 1,300,000	\$ -
	3	Several Buildings Exterior Renovations	\$ 1,320,000	\$ -
	4	HVAC Control Upgrade	\$ 915,000	\$ -
	5	Domestic Water/Sewer Systems Updates	\$ 610,000	\$ -
	6	Peck Hall HVAC Updates Phase II-VAV	\$ 1,115,000	\$ -
	7	Jones Hall Plumbing Upgrade	\$ 1,300,000	\$ -
	8	Campus Stormwater BMP	\$ 715,000	\$ -
	9	Sidewalk Repair/Replacement	\$ 500,000	\$ -
	Total:		\$ 9,095,000	\$ 1,320,000

2015 - 2016	Priority	Project Name	FY 15/16 Request	Appropriated Funding
	1	Central Plant Controls Upgrade	\$ 2,650,000	\$ 2,650,000
	2	Generator Replacement	\$ 825,000	\$ -
	3	Several Buildings Electrical Equipment Upgrade	\$ 1,450,000	\$ -
	4	Replacement of BAS Control Panels	\$ 715,000	\$ -
	5	Several Buildings Exterior Renovations	\$ 1,480,000	\$ -
	6	Domestic Water/Sewer Systems Updates	\$ 680,000	\$ -
	7	Jones Hall Plumbing Upgrade	\$ 1,450,000	\$ -
	8	Sidewalk Repair/Replacement	\$ 560,000	\$ -
	9	Campus Stormwater BMP	\$ 800,000	\$ -
	10	Peck Hall HVAC Updates Phase II-VAV	\$ 1,250,000	\$ -
	Total:		\$ 11,860,000	\$ 2,650,000

2016 - 2017	Priority	Project Name	FY 16/17 Request	Appropriated Funding
	1	Saunders Fine Arts HVAC Phase II Updates	\$ 1,750,000	\$ -
	2	Energy Recovery Boiler Repair	\$ 875,000	\$ -
	3	Several Buildings Electrical Equipment Upgrade	\$ 1,595,000	\$ -
	4	Replacement of BAS Control Panels	\$ 787,000	\$ -
	5	Several Buildings Exterior Renovations	\$ 1,628,000	\$ -
	6	Domestic Water/Sewer Systems Updates	\$ 748,000	\$ -
	7	Peck Hall Stairwell & Flooring Restoration	\$ 450,000	\$ -
	8	Several Buildings Plumbing & Restroom Upgrades	\$ 1,500,000	\$ -
	9	Maintenance Complex Roofs' Replacement	\$ 850,000	\$ -
	10	Sidewalk Repair/Replacement	\$ 616,000	\$ -
	11	Campus Stormwater BMP	\$ 880,000	\$ -
	12	Peck Hall HVAC Updates Phase II-VAV	\$ 1,375,000	\$ -
	13	Bell Street Facility Roof Replacement	\$ 800,000	\$ -
	Total:		\$ 13,854,000	TBD

FSD is APPA Active at WORK!

www.appa.org



APPA offers premier training for educating and equipping facilities professionals in leadership, management, and latest technologies.

FSD Staff Involvement 2014/2015

	Attended APPA - San Diego, CA
	David Gray, Joe Whitefield, Gerald Grimes, Kelly Ostergrant
	Facility Manager Magazine Joe Whitefield - Columnist

	Leadership Academy - Ft. Lauderdale, FL
	Jeff McConnell- graduated 9/2014
	Terri Carlton- graduated 1/2015

	SRAPPA - Huntington WV
	Current Officers
	Kelly Ostergrant- VP for Communications
	Gerald Grimes- Emerging Professionals Committee Rep
	Attendees - Gerald Caudill, Gerald Grimes, Kelly Ostergrant, Connie Hagberg, Les Mayberry

	TNAPPA - Hosted by MTSU!
	Hosted at MTSU on May 12-13, 2015- MTSU had 119 employees attend educational sessions
	Over 300 attendees from 13 Universities & Community Colleges in Tennessee were present
	Current Officers
	Secretary/Treasurer - Gerald Grimes Web Master/Editor - Kelly Ostergrant
FSD Units attending: Assistant Vice-President staff, Center For Energy Efficiency, Accounting Services, Work Order Services, Employee Development, Energy Services, Building Services, Construction Administration, Construction Renovation, Environmental Health & Safety, Grounds Services, Motor Pool, Custodial Services	

Upcoming in 2015-16- APPA International Conference- Chicago, IL; SRAPPA- Baton Rouge, LA

To be honored- David Gray-one of three recipients of the Meritorious Service Award; Kelly Ostergrant- one of eight Unsung Heroes at the 2015 APPA in Chicago

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.



enabling leadership



...important leadership issues presented by author
Joe Whitefield - **Facilities Manager Magazine**



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



Ownership and the Problem of Moral Hazard

**The Real Deal:
Authentic Leadership—Lessons from David**

Facilities Manager brings the reader the views and experiences of the people behind the facilities operations.

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 of non-renewable energy with a portion directed for purchasing 'green power' to facilitate production of electricity from wind, solar power, and methane gas as a clean alternative to traditional energy sources.

MTSU Sustainable Campus Fee (SCF) Program									
Approved Projects	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Green Power Purchase	\$ 220,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 150,000	\$ 150,000
Alternative Fuel (Biodiesel) Production Project							\$ 2,500		
Alternative Fuel- Bus conversion to run on used cooking oil	\$ 15,000								
Alternative fuel- Convert vehicle to operate on natural gas/installation of compressed gas station				\$ 8,500					
Alternative fuel- Development of flex-fueled engine Phase 1 and 2 (sun and hydrogen)	\$ 13,000	\$ 41,000							
Alternative fuel- Multi-fuel bus emission testing project		\$ 10,944							
Alternative fuel- Running Vehicles off Gasification from Wood									\$ 4,500
Bioremediation of Barbiturates for Ecofriendly Horse Composting/Soil bacteria for Degrading Toxic Barbiturates from Horses in Landfills						\$ 16,846			\$ 5,400
Blast hand dryers for Campus Rec					\$ 11,270				
Boiler Sequencing Controller- M2G, Ingram Building									\$ 7,698
Bring green chemistry to campus program								\$ 13,066	\$ 2,100
Change hot water valve tops in Murphy Center						\$ 6,502			
Chilling plant: pressure gauges installation	\$ 1,000								
Clean/replace coils multiple buildings (AMG, Mass Comm, Forest Hall, Voorhies, JUB, Fairview, KUC, Telecomm, BDA, Wiser Patten, TN Livestock Cntr, McFarland, Murphy Center first floor)			\$ 10,288	\$ 7,490	\$ 6,204	\$ 4,100	\$ 20,157	\$ 15,100	
'Clickable' Polymers							\$ 600		
Closed loop sediment filtering system multiple buildings (KUC, Walker Library, Murphy Cntr, Todd, Stark Ag, VET, LRC, Mass Comm, Jones. Cope, Cason Kennedy; EHS, BDA, BAS, other buildings)		\$ 12,000	\$ 28,900	\$ 30,900	\$ 30,900	\$ 15,450	\$ 46,650	\$ 15,750	\$ 21,000
Conduct light level studies in Todd, Mass Comm, BAS, Peck				\$ 5,500					
Creating MTSU as a Bicycle Friendly University; Progression towards becoming a bicycle friendly Univ./ advancing the project						\$ 38,169	\$ 30,668	\$ 19,295	
Data Loggers for Energy Efficiency Analysis								\$ 4,000	\$ 2,000
Dehumidifier project/Dehumidify for Voorhies 108						\$ 2,100	\$ 11,500		
Develop Novel Approach to Producing Biofuel									\$ 9,500
Development of a biosensor to detect hydrogen production						\$ 4,250			
DRIPS Project (Development and Research into Pervious Surfaces)		\$ 13,500							
Energy Books purchase- Library and Facilities offices			\$ 4,500				\$ 1,823		
Energy Conservation Project in BDA, Theater Production (Motion Sensors)									\$ 4,568
Environmentally Friendly Bio-Composting of Toxic Horse Carcasses							\$ 8,894		
Filter- Pleated filter project- New Science Building, Jones, Fairview, Mass Comm, Cason Kennedy, Horse Science								\$ 4,427	\$ 9,654
FLIR i7 compact infrared camera for energy audits				\$ 3,450					
Golf cart conversion 1 and 2 (electric to solar)		\$ 10,500					\$ 2,000		\$ 11,880
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, COE, Murphy Center first floor, Photography, Peck; BDA)			\$ 6,250	\$ 41,507	\$ 19,250	\$ 25,806	\$ 40,235	\$ 4,801	
Hybrid/Alternative fuel vehicle purchase/subsidy/ continue project	\$ 17,250							\$ 15,000	\$ 15,600
Increasing Production Capacity of Biodiesel							\$ 9,965		
Infrared thermometer guns						\$ 500			
Install FilterPave Porous Pavement in parking lot on Champion Way				\$ 18,665					
Install frequency drive in BDA					\$ 12,777				
Install milk cooling system					\$ 17,500				
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- DSB, WPS, SFA, Wright Music, Ellington, Murphy Center, Stark Ag, McFarland, AMG; Todd, TLC, CKN, Midgett; Mass Comm, Peck, Cogen Plant (3 phases)						\$ 37,337	\$ 5,000	\$ 17,000	\$ 42,872
Insulated Garage Door Replacement- Motor Pool									\$ 3,950
ITD- AMX Resource Mgmt Suite System Upgrade								\$ 7,500	
ITD- 'Lights out' Cope Data Center									\$ 1,316
ITD- Server consolidation/Virtualization/Blade servers			\$ 20,000	\$ 21,000	\$ 21,708		\$ 47,000	\$ 32,500	\$ 26,000
Kenaf Agriculture for Sustainable Community (alternative energy crop)			\$ 5,935						
Lamp crusher	\$ 4,000								
Laser alignment devices					\$ 5,681				
Light switch plate labels	\$ 2,500								
Lighting- Atrium lighting project for Walker Library						\$ 19,366			
Lighting- Campus Rec indoor pool LED lights								\$ 31,450	
Lighting- LED lamps in Mass Comm and Peck					\$ 39,562				
Lighting- Re-lamp Cason Kennedy Nursing Building (existing portion) and Fairview	\$ 30,600	\$ 30,600							
Lighting- Replacement of incandescent lamps in Murphy Center						\$ 5,729			
Lighting- Studio lighting installed in Mass Comm and LRC			\$ 22,960						

(Continued on page 23)

(Continued from page 22)



The remainder of the funds generated by the fee provides funds for campus projects supporting sustainability efforts on campus, such as retrofitting older systems, lowering consumption and decreasing energy expenses.

Recent SCF Funded Projects:



Water Refill Stations

HVAC Coil Cleaner



Tailgate Recycling

Big Belly Solar Trash Compactors



New Recycling Bins

MTSU Sustainable Campus Fee (SCF) Program									
Approved Projects	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
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							
Promotion of SCF Program							\$ 1,000		
Propane Powered Mower to Replace Older Gas Powered									\$ 12,045
Protreat (kills mold in air handling unit pans)						\$ 1,400			
Purchase & installation of surge protectors					\$ 1,904				
Purchase Ethanol E100 Generator									\$ 1,355
Rain Gardens for Stormwater Control; Bioremediation Ponds on MTSU Campus for MS4 Compliance/Maintenance; Bank stabilization				\$ 3,000		\$ 4,000	\$ 3,000		\$ 10,000
Re-caulk exterior windows (Davis Science Building)		\$ 14,000							
Recycling - community drop-off relocation/expansion	\$ 3,000								
Recycling at special events pilot programs (1 and 2)								\$ 3,500	\$ 3,500
Recycling containers/supplies for MTSU Recycling Program	\$ 1,500	\$ 5,000	\$ 5,500	\$ 6,000	\$ 13,500	\$ 5,500	\$ 6,500	\$ 17,500	\$ 5,500
Recycling- increase behavior thru application of behavior science principles								\$ 1,300	
Recycling pilot program: Dorm room recycling bins								\$ 3,000	\$ 6,000
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; Wright Music; Stark Ag; Murphy Center Phase 1 & 2						\$ 2,279	\$ 5,300	\$ 26,180	
Replace Older Pump with Energy Efficient Pump- KUC									\$ 5,424
Replace use of Helium and Hydrogen Cylinders in New Science Building with Hydrogen generated via Electrolysis									\$ 15,116
Replace use of Helium GAS in DSB with Hydrogen Generated Via Electrolysis								\$ 14,160	
Replacement of exterior windows McFarland and Holmes		\$ 35,000	\$ 25,000						
ReRev Cardio System elliptical machines in Rec Center				\$ 30,000					
Self Sustainability Initiative through Alternative Horticulture							\$ 10,000		
Server consolidation/Visualization- Health Services								\$ 20,000	
Siemens Energy Analysis- New Science Building									\$ 12,000
Solar - Install 10kW solar system					\$ 81,224				
Solar attic fans in Forresr Hall; Ellington Human Science						\$ 28,932			
Solar- Big Belly solar trash compactor pilot program									\$ 12,000
Solar boat project								\$ 6,165	
Solar- Purchase of organic dyes to be used in organic dye sensitized solar cells			\$ 1,100						
Solar- Student Projects Trailer									\$ 7,846
Solar- WMTS-FM 88.3 Solar Power Supply Project						\$ 12,000	\$ 19,900		
Steam trap ultrasonic test equipment					\$ 2,600				
Student Suitabilities Education Initiative							\$ 2,500		
Study- Building Heating/AC Energy Efficiency Study									\$ 1,500
Sub-metering for Chilling Plant and Murphy Cntr	\$ 8,000								
Test & balance hot water system- KUC								\$ 12,716	
Tree planting project								\$ 3,000	\$ 500
Turning manure into gold				\$ 1,000					
Ultrasonic transmitters Midgett			\$ 18,130						
Variable Frequency Drive- Jones Hall; Walker Library							\$ 5,225		\$ 9,800
Water bottle filling stations- Rec Center								\$ 3,400	
Water Refill Stations- SGA Resolution 7-14-F- BAS, COE, Student Union									\$ 6,132
Y-pattern Valve Changeout- Cogen Plant									\$ 7,600
Annual Total:	\$ 347,000	\$ 425,704	\$ 394,985	\$ 458,162	\$ 508,292	\$ 460,266	\$ 510,417	\$ 440,810	\$ 434,356



Summary of Services 2014/2015 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

FACILITIES SERVICES DEPARTMENT

Middle Tennessee State University
PO Box 32
Murfreesboro, Tennessee 37132

Phone 615-898-2414
Fax 615-898-5071
Email: cee@mtsu.edu
Web page: www.mtsu.edu/facserv/



Please Recycle!