Facilities Management Department
A Division of Business and Finance
Annual Report 2018
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Change and transformation has been the focus for many years in higher education facilities and WMU. This past year has been no different with FM hiring 28 new employees and wishing 21 employees well on their retirement. Our senior management team came together for a retreat at the Edward Lowe Foundation campus to review how we can support the B&F and University strategic plans and support each other during these transformational times. I am pleased to share some highlights of the past year. I hope you enjoy reading the accomplishments of all FM professionals in this year’s annual report.

Campus planning completed the design for the BTR Park 2.0, campus wayfinding, and renovating building space for the Doctorate of Physical Therapy and Product Design and Innovation programs. Master planning started for a significant part of the main campus that included detailed planning for new housing and the student center. Engineering has been very busy with capital renewal projects that included transformers, primary cable, steam mains and vaults, storm water, chillers, parking lots and roadways. Energy conservation, control upgrades, and retro-commissioning projects have lowered energy costs and support a more sustainable facility footprint. Architecture and design has supported many renovation projects and completed an update of facility standards. On-line furniture ordering and auditing building interiors have helped FM with our stewardship responsibilities.

The construction team has been very active with changing our campus footprint. All of the Elmwood apartments have been razed and the campus steam main under Arcadia Road has been replaced. The number of new project requests processed reached 261. They included a new e-sports venue, paper pilot plant relocation, and significant projects in Waldo Library and Schneider Hall.
The FM operating units have also been very engaged with changes to our campus. There is a new contract for our bargaining unit employees and better collaboration between all units for contract administration. Maintenance has been actively planning for all after hour non-police calls going outside of the DPS dispatch center due to a new county-wide 911 call center. They have been involved in many process improvements, including summer housing room turn-over, preventative maintenance, and overtime posting as they managed 26,159 service requests and 17,248 preventative maintenance work orders. The custodial unit has a new assistant director, restructured work zones, completed implementing process cleaning structure to all areas, made significant improvements to carpet and furniture cleaning practices, and implemented their annual building coordinator and employee surveys.

Landscape Services is proud to be awarded Tree Campus USA, Michigan Turfgrass Environmental Stewardship Certification, and renew the coveted 4-star Landscape Management Accreditation for the fourth straight year. There have been numerous landscape improvements across campus that continue to support a wonderful first appearance for guests and maintain a culture of best practices for landscape stewardship. The transportation unit saw changes with two new employees and added responsibility with all landscape equipment. They do a great job managing 281 University vehicles and meeting all EPA fleet requirements. The power plant managed significant challenges with lightening damage to primary electrical equipment at the BTR Park and a Consumers Energy power failure to the main campus. Professional development continues to be a hallmark with the plant employees and apprentices. Plant efficiencies and energy output metrics continue to show improvement. The natural gas purchasing team implemented positive changes and buying strategies. FM also completed a strategic operation review and received approval to add a new engine generator to cost effectively manage peak electric demand.

The administrative units have been very engaged with supporting all FM areas with collective bargaining, subcontracting, IT, budgeting/accounting, and process improvement needs. Technology and software have and will continue to improve our efficiencies and customer service. The 400 benefit eligible FM employees carefully managed $53,902,965 in operating funds and 361 active projects budgeted at $118,590,305. The entire FM team continues to support the University and B&F strategic goals and be good stewards of University funds. We take great pride with our stewardship responsibilities for the University’s physical assets that continue to transform this great institution.

Pete Strazdas
Associate Vice President
**Administration Division**

**Business Operations**

**FM PROJECTS JULY 2017 - JUNE 2018**

- Total Number of Active Projects: 361
- Total of Project Budgets: $118,590,305
- Total Billed: $30,711,536

**BUDGETS & EMPLOYEE INFORMATION**

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**Administration**

- Network Services       | $366,920          | 3.0               |
- Associate VP           | $523,676          | 3.0               |
- Business Operations & Labor Relations | $316,900 | 4.5 |
-                         | $1,207,496        | 10.5              |
-                         | $53,902,965       | 400.0             |
**Information Technology Unit**

**Accomplishments**
- Deployed Windows 10 to all new computers and laptops.
- Upgraded windows 10 to approximate 30% of existing computers/laptop.
  Focusing on new replacements.
- Continued deployment of Anti-Virus 14.
- Landscape services move to EWB.
- Computer refresh for Maintenance, Landscape, Business Operations.
- Deployed a new desktop imaging environment - SCCM
- Building Automation (BAS) – End-of-life for Java in the browser. Deployed Java Webstart for connection to BAS AX, and Workplace Pro legacy application for BAS R2.
- Refresh all the mechanical room computers with Win 10 repurposed machines utilizing Webstart and legacy application.
- Moved to mainline consumer branch of Windows 10 from LTSB.
- Got Service Center ready for Dispatch consolidation.
- Hired new Database Analyst to support TMA and FM.
- InfoRoof in the cloud
- TMA update to 5.1.31
- Upgraded iPad operating system and TMA application.
- Support new project management model – various reporting and pop ups when areas are under a project.
- Stores reporting and moving toward less reliance on paper tracking
- Begin updating and collecting area (space) ownership
- Refresh TMA executive dashboards.
- Added https security to TMA web systems.
- License usage for AutoCad improvements.
- Began migrating documentation to SharePoint site for internal documentation.
- Assisted in the deployment of Bluebeam.
- Subcontractor daily email is now more consistent and documented.
- Student Affairs reporting overhaul to help identify crossover labor.
- Web camera for South Neighborhood redevelopment.
- Support stores for year-end inventory.
- Month-End process enhancements.
- IT Tickets; opened: 214, closed: 211
Western Michigan University
Information Technology
Organizational Chart
October 2018

Director
Erik Dantes

Network Administrator
Senior
Mark Scafaria

Database Specialist
Jonathan Orweller
Labor Relations Unit

Accomplishments

- Participated in interview panel for multiple positions with the goal of complying with university policies, employment laws and diversity standards.
- Received, heard and answered all step two AFSCME grievances.
- Attended all step three grievance meetings.
- Participated in the monthly meetings of the Contract Administration Team with the goal of discussing contract administration issues and preparing for contract negotiations with the AFSCME bargaining unit.
- Worked with the Power Plant training committee and kept Department of Human Resources apprised of all activity. This included quarterly meetings with the Vice President, AVP and Director of Staff Labor Relations.
- Continued meeting with division directors to work on common threads and work towards consistency of contract administration and disciplinary actions.
- Participated in ongoing professional development: Miller Canfield annual employment seminar, Kalamazoo Area Labor Management monthly speaker series, MiAPPA conferences.
- Participated as a member of the management team in negotiating the AFSCME collective bargaining agreement.
Organizational Performance and Effectiveness

Accomplishments

Project Processes
- Continuing collaborated with all FM Divisions and personnel in assessing current project processes for accuracy, continuity and emulation of industry defined standards and practices.
- Continued documentation of new and amended project processes and related project phases in the Facilities Management Project Manager Handbook.
- General project process education through personal interaction and presentations to various Facilities Management and client groups.

Subcontracting
- Provided subcontracting training for FM personnel.
- Assessed and provided AFSCME notifications for all Facilities Management subcontracted work.
- Provided a monthly forum for subcontracting discussions with AFSCME representatives and other WMU departments as related to new project approvals, ongoing projects and subcontracted work.

Project Execution
- Assessed all new project requests and assigned project managers.
- Continuing Project Manager education and process oversight - Ongoing weekly meetings with Project Managers, FM Directors and Technical Specialists to identify and document challenges, successes and improvement strategies in all areas of construction planning and execution.
- Provided semi-monthly meeting opportunities for non-Facilities Management construction assets to address coordination, progress and process questions for past, present and future projects.
- Facilitated weekly discussions with Facilities Management Operations Administrators in areas of professional development and intra-organizational coordination.
• Advice and training for anomalous project issues so subscription to existing processes and policies is maintained.

Additional continuing and future initiatives
• New Project Manager Onboarding
• Subcontracting Notification Process Improvement
• Project Debriefing Protocol
• Options and Assessment of Project Management Tracking Technology
• APPA / MIAPPA Project Management
• Professional Development for FM Administration
• Construction Team and Client Surveys
Architecture and Design Division

Accomplishments

- Professional Architectural and Interior Design services for the campus community, ranging from design specification, design review, furniture bidding procurement, and construction administration. Projects completed: Physical Therapy EWB and Central Kohrman renovations, Campus Services Building expansion, Rood Hall ADA Toilet Room, Waldo Library Graduate program space and Administration Suite, Schneider Hall Sales Lab, Schneider Hall Haworth Display, Schneider Hall Sanford Center, Floyd Hall classroom, and EUP renovation. Numerous other projects completed for classrooms, public spaces, toilet rooms and support spaces located in Bernhard Center, Floyd, Annex (Georgeau Construction Research Institute), Ellsworth, Seibert, Moore, Kohrman, Dalton, Sprau Tower, Fetzer Center, Walwood OVPR, and others. Design proposals were successfully completed exceeding client expectation.

- Annual Building Interior Condition Analysis audit for General Fund portfolio of classrooms, public spaces and toilet rooms conducted by students completing course internship requirement – continued academic collaboration.

- Organize and revise University design standards and guidelines for the Architecture and Design division into MasterSpec format. Complete 60 percent.

- Promote WMU design culture through education, university branding, professional development and global diversity awareness. Diversity awareness events participation and Behind the W branding staff participation complete. Blue Beam software training.

- Continue to track divisional performance. Design services completed within budget as estimated on projects. Divisional average billing hours exceeded annual set goal.

- Maintain the Architecture and Design webpage with current information highlights, including the WMU Sign Shop webpage. Complete 100 percent.

- Expanded online furniture options for campus clients to procure direct. Collaborated with local dealerships for effective pricing and partnership. Webpage is 75% complete: Seating, Desks and Tables sections are live.

- Provide support to the FM department for Award for Excellence. Continuous effort – on going by means of effective customer service, successful project design and construction and post occupancy support.

- Awards: Second Place, Association of University Interior Designers, National Competition.
Construction Division

Accomplishments

- Paper Pilot Plant—Design and infrastructure was implemented at the Parkview Pilot Plant for the paper machines and recycling equipment relocation from McCracken Hall
- Waldo Library—Constructed work pods with power and data. Created four glass meeting spaces with flat panel displays and white boards.
- E Sports—We transformed the Little Theatre into a world class E Sports competitive venue for contestants as well as audiences.
- Elmwood Apartments—Demolished the aged apartments along Stadium Drive to make way for the new South Neighborhood residence and other future South Neighborhood Campus development.
- Arcadia Steam phase II—Completed the steam replacement along Arcadia road.
- Schneider/Sanford Center—Transformed classroom into reception and offices.
- CEAS Annex—Building engineering materials testing lab and supporting offices.
- Schneider/Kaiser Sales Lab—Glass donor recognition system with display case and flat panel display dashboard.
Accomplishments

- Howard Strip Mall MAU Rooftop Unit Replacement: Remove and replace the make-up air rooftop unit at the Howard Strip Mall.
- Richmond Center for the Virtual Arts Retro-Commissioning: Provide retro-commissioning services for the existing building project.
- Heritage Hall Continuous Commissioning: Provide continuous commissioning fault detection and diagnostics technology for new building and 34 AX Air Handlers across campus.
- Wood Hall Growth Chamber Refrigeration System Upgrades: Removal of existing refrigeration system in 4 Environmental Growth Chambers and replace with new.
- HAE Replace SLS 3 Cooling Coil: Cooling Coil froze and require purchase and installation of new coil.
- Bernhard Center Restroom Sinks: Provide hot water to the 1st floor men’s and women’s restroom faucets.
- LAW – Lower Level Unit Heater Improvements: The Heating Hot Water system shows two significant piping modifications from design and should be balanced and thoroughly insulated to avoid heating complications.
- ADM Business Services A/C Unit: Install an a/c unit in the internal office of Business Services located in 2080 Seibert Administration Building. Provided analysis and project cost estimate.
- AUD Chiller Electronics Interference at Soundboard: Review issue with electromagnetic interference on microphones. Chiller operation disrupts sound equipment. Normally, this kind of noise will be filtered so that no noise will penetrate the system. This is not a simple chiller problem. It is an EMI problem for that particular site. An investigation from system level is needed.
- AUD – Repair or Replace Hallway Heaters: Hallway base heaters are not operating due to piping being capped. The lines had failures behind block walls in
the basement, to develop a preliminary plan for heating these spaces. Design and construction services restored HHW to hallway and offices.

- GV Valley 3 – Replace primary sanitary line within building – DM: Redistributed estimate which included the replacement of all the laterals and risers within the building.
- Annual Medium Voltage
- VDC – Goldsworth Valley
- Lawson Arena improvements – electrical support
- College of Aviation site expansion – electrical support
- SRC – Replace failed 4800-volt transformer
- KOR – Renovate 1st and 3rd floor – electrical support
- ELM – Demolition all buildings – utility termination analysis
- Campus Services Building Expansion – electrical support
- CEAS Annex – Renovate Georgeau - electrical support
- East Hall Renovation - electrical support
- Campus Wayfinding Construction - electrical support
- UCC 1018 – Replace UPS
- New Student Center and Dining Facilities – design support
- WHA – Tennis Courts – replace lighting
- OLT – eSports venue in Little Theatre – electrical construction support
- Walwood Hall Electric Riser Diagram development
- EWB Renovation - electrical support
- VDC – Electric Metering Configuration
- Valley 2 Substation Replacement
- Switchgear Maintenance on medium voltage infrastructure
- Creation of electronic panel schedules for multiple buildings
- Creation of updated one line and riser drawing for multiple buildings
- Continued work on Arc Flash through main breaker for campus
- Review of Arc Flash studies for Kohrman, EWB, Lawson and others as needed
- Electrical Vault renewal at selected sites
- Power upgrades for stage lighting – Miller Auditorium
- Rood Hall breaker maintenance
- SRC - replace 4800v transformer
- Sorensen Courts - relocate transformers
- Replace portion of failed duct bank
- Wood Hall steam re-feed from utility tunnel – engineering support
- Steam vault maintenance and survey.
- Arcadia phase 2 steam replacement support.
- Spindler Hall domestic hot water replacement.
- Paper pilot pressure reducing station steam leak repair.
- Steam vault SB-066 add ventilation.
- Completed phase 1 of the pilot continuous commissioning fault detection diagnostic program for Heritage Hall, and 24 air handler units across campus. The project resulted in a total cost avoidance of $24,383.
• Performed in-house commissioning activities for the Ernest Wilbur Building (EWB) Physical Therapy renovation project.
• Completed the retro-commissioning process for Richmond Center for Visual Arts (RCVA), Student Recreation Center (SRC), Miller Auditorium, Seelye Athletic Center, and Welborn Hall. These projects resulted in a total cost avoidance of $42,289.
• Assisted with the BIM to FM presentation to our guests (University of Tennessee - Knoxville and OSU) that visited campus on August 24, 2017.
• Assisted with the WMU BAS and CMMS overview with our guest (University of Wisconsin - Madison) that visited campus on October 12, 2017.
• Developed the newest version of WMU's BIM Project Execution and Standards Guide Version 17.
• Helped the project team resolve all warranty related issues for Heritage Hall.
• Worked with project team to get the Aviation Education Center renovation project enrolled in the Consumers Energy Zero Net Energy pilot program.
• Voted as Western Michigan University representative to serve as Vice President in 2017 for the United States Green Building Council (USGBC) West Michigan Chapter.
• Worked with the project team on the LEED process for the Valley Dining Center. This project achieved LEED Gold certification on May 30, 2018.
• Presented on Western Michigan University's BIM to FM initiative at various conferences that include TMA User Conference (UC17 & UC18), 2017 CFTA Conference, and 2018 MiAPPA Winter Conference.
• Continually tracking all warranty work orders for major capital and renovation projects for completion and closed.
• 2018 Paving Program: Parking lots 56, 72F, 97, Valley 3 Drive, Business Court, and the Ring Road from Valley 3 to Valley 1.
• Parking Ramp Maintenance: Annual maintenance program – this year included work done at Miller Ramp, Ellsworth Ramp, and the East and West Ramps at the College of Engineering.
• Friedman Hall Control Upgrade: Replacement of all building automation system (BAS) controls in Friedman Hall which had reached the end of their useful life. WMU has used replacements for all of these controls except for the ASD Integrator used for room controller communication.
• Electrical Vault and Duct Bank: Installation of new electrical vault E-90 and completion of electrical duct bank from E-84 to E-90 to E-57.
• Storm Water Erosion: Excessive storm water was eroding the slope adjacent to parking lot 10, threatening the access roadway. This project diverted much of the storm water to upstream infiltration basins and re-established the eroded slope.
• Storm Water Remediation: Project addresses erosion of parking lot 54 due to excess storm water. Slope stabilization was installed as well as infiltration basins adjacent to the lot to allow for water infiltration.
• Vault Maintenance: Remove debris, repair cable racks, and add labels to feeder cables.
• Relocate Transformers: Move transformers from Sorenson Courts to South Pump House.
- Replace Portion of G Feeder: Replace and repair failed section of G feeder.
- Lawson Pool Repair: Project addressed the alarming loss of water from the pool by identifying the source, developing a unique solution and contracting to complete the work. In addition, substantial mechanical improvements were made as part of the project.
- SRC Chiller Plant Expansion: Installation of chilled water piping from the main mechanical room of the Student Recreation Center and extending into Read Fieldhouse.
- CEAS Exhaust Fan Modifications: Install new EF-1 at the College of Engineering and Applied Sciences and rework supply ductwork to reduce static pressure losses increasing flow and capacity.
- Steam and Condensate Line: Ran new steam and condensate line from the A loop to feed Wood Hall and abandoned direct buried feed from the B loop which had been leaking into the building and vault.
- Held bi-weekly controls meetings with Havel.
- Controls upgrades in Miller, Kohrman, and Schneider Halls.
- Updated facilities guidelines.
- Distributed control drawings to mechanical rooms.
- Held building education meetings for CHHS, Waldo Library, UCC, Haenicke, Chemistry, S. Kohrman.
- Setup BAS alarms for West Hills Staff.
- Update BAS security for various staff changes.
- Assist with Cx efforts at RCVA, Wellborn.
- Hosted guests from U of M to discuss laboratory controls.
- Provided troubleshooting support on numerous issues.
- Provided materials and support for new controls staff.
- Assist power plant staff with controls upgrades and issues.
- Changed heating system operations to avoid loss of building heat during the winter.
- Attended MiAPPA conference.
Planning, Space Management and Capital Projects Division

Accomplishments

- Updated the Five Year Capital Outlay Plan
- Completed the Exterior Signage Project in Grand Rapids
- Completed the College of Aviation Renovation and Addition Project Design
- Completed the Business Technology & Research Park 2.0 Design
- Completed the renovation of the second floor of EWB for the Doctor of Physical Therapy Program
- Completed the renovation of Central Kohrman for the Product Design and Innovation Center
- Initiated the south neighborhood master plan
- Initiated the south neighborhood housing project
- Initiated the new student center and dining facility
- Completed the initial Campus Wayfaring Project
- Analysis and completion of a number of feasibility studies
WESTERN MICHIGAN UNIVERSITY
PLANNING, SPACE MANAGEMENT AND
CAPITAL PROJECTS
ORGANIZATIONAL CHART
OCTOBER 2018
Operations Division

Custodial Services Unit

Accomplishments
- Review of all zones for process cleaning effectiveness
- Restructuring of supervisory zones and work load balancing
- Create and implement a process for on-call pager use
- Carpet cleaning and furniture cleaning processes updated
- Joint employee-management committee established

Key performance indicators
- Annual building coordinator survey
- Annual employee survey
- Supervisor quality control:
  - Building condition audits
  - Building coordinator interaction
  - Employee skill checks
  - Closet and equipment audits
Landscape Services Unit

Accomplishments

- 10th Consecutive year of Tree Campus USA awarded through the Arbor Day Foundation.
- 6th consecutive year of certification in the Michigan Turfgrass Environmental Stewardship Program.
- 4th consecutive year of 4-star Landscape Management Accreditation awarded by the Professional Grounds Management Society (PGMS).
- Implemented Landscape University, based on the model from Mississippi State and established a motto from our staff, “Grow with Us.”
- Completed all landscape, quarterly staff meetings.
- 2nd consecutive year using ArcGIS Collector for data collection using the sidewalks as the asset.
- Attended monthly budget projection meetings to increase awareness of tracking trends in all Cost Centers.
- Created checkbook system to increase individual budgetary responsibility for supervisors.
- Started collective bargaining agreement training with supervisors and human resources.
- Revision and publishing of 2018-19 Snow Book and paperless distribution to our customers/building coordinators across campus’.
- Creation and weekly maintenance of a cohesive weekend snow removal calendar.
- Increased presence on TMA system by creating and tracking work orders.
- The Landscape Services leaders continue in peer learning, land stewardship, leadership education and strategic information programs with the Edward Lowe Foundation.
- Assisted staff with management of BTR Prairies, Main Campus woodlots and storm water features.
- Facilitated work by Stewards of Kleinstuck in WMU Kleinstuck Preserve.
- Facilitated work by Asylum Lake Policy and Management Council at WMU Asylum Lake Preserve.
- Supported 5 WMU professors and academic classes by providing lectures, leading tours, supporting graduate research, and facilitating service learning opportunities.
- Mentored 1 WMU student and members of the WMU Biology club.
- Supported 1 Kalamazoo College professor and students with Native Plant education.
- Managed native plant propagation program in cooperation with the Biology Departments Finch Greenhouse. This six-month project provided thousands of native plants to over 12 local schools and environmental organizations; taught students, faculty and staff propagation and greenhouse techniques.
- Represented WMU Landscape services at Liberty Hyde Bailey Museum Conference, Kalamazoo Wild Ones presentation, local garden club and social organizations meetings.
- Provide daily morning presentations on topics of horticulture and environmental science to WMU Landscape staff, students, and supervisors.
- Renovated the baseball infield which includes a home plate halo and engineered soil skin.
- Continuing the regenerative turf management model for Heritage which follows the LEED Platinum standards and implemented the same program at the Zhang Legacy and CHHS landscapes.
- Continued to develop low impact systems for managing the landscape in South Region that will further reduce our need for damaging, conventional management tools such as: inorganic fertilizers, pesticides, high volume irrigation, fossil fuel dependent machinery.
- Initiated restoration of land at the Noble Lodge, CHHS, EWB, Heritage, Spindler locations.
- Implemented and Installed the Forest Garden and Contemplative Recreation landscapes that will further the mission of WMU by providing “Living Laboratories” for students, staff and the local community.
- Worked with FM to establish a presence on social media and tell “our” story.
- Irrigation monitoring, use of compost over inorganic, encouraging bio-dynamic systems over high intensity systems, reduced overall pesticide use using low volume sprayers and mulching.
- South Region was a leader for the department in leading programs regarding sustainability and regenerative landscape management.
- Planted over 300 native trees’ and 500 native perennials; reforestation projects and restoration sites.
- Collected our own bio-regional seed for future plant production from various sites around South Region.
- South Region is leading the way restoring WMU’s land so that it will serve future Broncos for generations to come! Clean air, clean water, living soils and productive landscapes that have the potential to provide food, medicine, fibers.
- Improved efficiencies with less staff through a team-based, priority focused model. EX: Mowing days were reduced from five days to two and a half!
- South Region staff have continued their professional development and we have added two certified Master Gardeners and two certified Rain Garden Specialists.
- Renovated the front beds of Kanley Chapel with additional perennial plants.
- Renovated beds in the courtyards of Goldsworth Valley Apartments, with additional perennials.
- Traditionally rotated the thousands of annual bulbs and mums in high traffic areas.
- Continued to move plants to new locations, making way for the new Wayfinding signs on campus.
- Restored the Valley Dining Center planter beds along the stairs with Allium, Salvia, and Sedum.
- Updated the front of the Icon with perennials.
- Added colorful rocks to the Butterfly bushes at Read Arena parking lot 14 to control erosion.
- Renovated landscape bed on the West side of the Administration building to control erosion.
- Added colorful rocks to the West side of the Bernhard Center along the steps to control erosion.
- Flowering shrubs have been planted in various beds throughout the region.
- Continue to re-purpose roof ballast rock from roof projects.
- Arbor Day Event at Heritage Hall with a tree dedication to the Montgomery’s.
Maintenance Services Unit

Accomplishments

- Planning and implementation of Consolidated Dispatch.
- Implemented Cultural Assessment “Pulse Survey.”
- Acquired increase in base budget for operational needs – General Fund and Student Affairs.
- Streamlined Overtime Posting within the division.
- Streamlined training needs for skilled trades via online request forms and tracking.
- Streamlined hiring process for new employees by shortening the time for the process and including skilled trades in all interviews.
- Reassigned work force for better utilization for immediate service needs and performing preventative maintenance.
- Developed process for Residence Hall and Apartment turnover such as staffing service center and having skilled trades on campus during move in weekend.
- Enhanced construction project transition process for turnover to operating units.
- Facilitated 113 construction projects for close out.
- Exterior summer facility asset painting program – light poles, railings, generators, kiosks and loading docks.
- Inventoried and performed flagpole structural assessment.
• Integrated Landscape, Custodial, Engineering and Construction Services into Service Center operations.
• Developed and implemented budget expenses and OT expenses tracking report.
• Initiated efficiency study for roofing and chiller mechanics cost benefit for outsourcing.
• Summer room to room readiness – approximately 3,000 rooms and 241 apartments completed and available for leasing.
• Medieval Conference turnover.
• Replaced emergency exit signs for Valley 1,2,3.
• Modernized 2 elevators – SRC and Gilmore Theatre.
• Participated in Bronco Bash 2018.
• Completed steam trap testing cycle 29.
• Added 7 elevators to central monitoring system.
• Implemented 23 training programs for skill trades.
• Bronco Fix It Request: 18,568
• Bronco Project Request: 261
• Service Center created 23,061 work orders in total
• Service Center received 9,844 calls
• Event Request Processed: 247
• Do It Now work orders addressed by Maintenance: 26,159
• PM work orders addressed by Maintenance: 17,248
Every year is special and unique at the Robert M. Beam Power Plant and this year was no exception with its own unique events and accomplishments highlighted as follows:

OVERVIEW: This was a year of first (and hopefully lasts) as the Power Plant experienced its first total electrical outage in over twenty years when we lost power from Consumers Energy on Tuesday, March 27th. Compounding the issue was being single sourced at the time from Consumers with only one of the normally two 46,000 volt supply lines in operation. A malfunction in the aerial transmission line resulted in the one substation in operation to trip and consequently the plant and campus to go “black”. Operational issues with the “black start” engine generator prevented us from restoring power as soon as we would have liked, but fortunately Consumers was able to complete their repair in a timely manner and power was restored to campus by the time classes started that morning.

The other outage affected our facilities (College of Engineering and Paper Pilot Plant) at the BTR Park when a lightning strike knocked out our one transformer at the Bronco Substation coincidentally at the same time as the “great flood” at Bronco Stadium on homecoming Saturday, Oct. 14, 2017, causing these facilities to go dark. This involved a number of rental generators and a lot of hands on deck to connect up and restore power before classes resumed the following Monday. The damaged transformer was subsequently replaced with a new (used) unit three weeks later. More than the outage itself, we remember the support of a number of individuals from management to the “boots on the ground” for their dedication and effort to restore power – it was all very impressive.
Another milestone event this year was completion of a Long Term Energy Strategy Study by the engineering consulting firm HDR (formerly Cummins & Barnard) which reviewed a number of options to best meet the long term energy needs of the university. Their study ultimately validated the present co-generation system in place for best meeting these needs for a resilient and economic energy source. One of the recommendations from the study was to incorporate a large, 5 megawatt capacity gas fired engine generator for backup and peak shaving. We are looking forward to implementing this project next fiscal year.

SAFETY: I always like to lead off with safety and am glad to report that this year we continued our on-going record (at least 14 years now and counting) of no employee lost time due to on-the-job injuries. I’ve come to believe this is no “accident” or “luck” but attributable to our employee training program where safety is continually emphasized. That and excellent mentoring by our senior employees to our newer employers where the emphasis is on being constantly vigilant and professional in their work which often involves welding, rigging, fabrication and electrical activities. Also, a big part of our success is the continued support and training we receive from Environmental Health & Safety – a truly valuable resource.

STAFFING TRANSITIONS: Fortunately employee turnover in the power plant is relatively minimal, especially when compared to other departments in our division. However, changes still occur and this year was no exception. Mr. William Long resigned in the beginning of the year and was subsequently replaced by Mr. Kevin Bridges who assumed the new position of Assistant Chief Operating Engineer in October. Mr. Paul Uldriks was subsequently hired to fill the opening created by this movement beginning in September. Further change is forthcoming this next year as Mr. Randy Bortolussi submitted his resignation after thirty-two years on May 9 with his last day set for August 28, 2018.

STAFF TRAINING & DEVELOPMENT: The training program is coordinated through the many efforts of the joint Labor-Management Training Committee. The program again generated positive progress this year with a major accomplishment being the development, acceptance and implementation of a revised mechanical incentive program that greatly expanded the opportunities for advancement beyond the journey level and addressed a growing imbalance issue between the number of our respective “graduates” that was of concern. Another major highlight was the acceptance by NIULPE (National Institute for the Uniform Licensing of Power Engineers) of the successful completion of the “Boiler-ology” program developed by Mr. Walden at RMTC as meeting the requirements to sit and test for the various NIULPE licenses. Thanks to this program, employees can complete the “Boiler-ology” class and then take the exam.
here in the power plant without having to go off site. This is extremely important as all plant staff are required to have at least a Class IV NIULPE licenses and now, for the first time, we can confirm that all employees now have one. All the credit goes to Mr. Walden for making this happen.

A singular highlight this past year from the efforts of the apprentices was their fabricating and installing a 100-foot catwalk over the above ground steam lines to safely access the steam tunnel to West Campus.

Our total apprenticeship program graduates this year remained at 10 (9 active and 1 retired) since it was first registered and approved by the US Department of Labor on April 15, 2002.

In regards to professional development, both Mike Walden and Kevin Bridges self-performed the EIA (Energy Information Agency) 860 and 923 submittal reports as well as MAERS input data this past year. Kevin also participated in the university wide Make-a-Difference program as well as representing MSEA on Dr. Hill’s retirement program review committee. Kevin also completed the Supervisor’s Toolkit as part of the Winter MiAPPA program at Western.

PROCESS IMPROVEMENTS: Improvements this past year included installation by plant staff of a boiler blowdown “cascade” (blowdown water routed from the on line boiler to the off line boiler(s) that resulted in significant reductions of chemical usage (and cost) at ERC this past year. We have begun steps to implement this at the central plant with hopefully similar results. Another major process change was power plant staff formally assuming first maintenance response to the mechanical systems in the steam/condensate distribution tunnel to KPH. Over 300 feet of galvanized piping on the domestic hot water supply system has already been replaced by plant staff (primarily apprentices) with stainless steel piping with more planned to do this coming year.

GAS PURCHASING: This was the first full year of our new gas purchasing arrangement where we transitioned from our old consultant (Summit Energy Services) to the State of Michigan. This new arrangement is working well with monthly incremental purchases effectively communicated and executed. We continue to benefit from low gas costs due to our current purchasing strategy with 70% of our gas supply locked in through June 2022 at $3 delivery to the city gate. Add in Consumers transportation charges and we are under $4 burner tip at the central power plant. This provides needed budget certainty at a very attractive price going forward affording us the opportunity to use the monies saved here his to invest in our energy infrastructure and projects to further reduce demand and consumption.
BILLING/SCHEDULING: This was our first year working with Sarah Larson on the power plant billing. She is obviously a quick study and was instrumental in making several key changes in simplifying the accounting (most items now in 0191120) and in reducing, if not eliminating, the need for monthly accrual reporting deemed unnecessary. Employee scheduling in a 24/7/365 operation is absolutely critical especially in balancing employee leave and plant requirements but this continues to be a bright spot thanks largely to the efforts of Kevin Bridges and Tara Tresh. Scheduling requests are responded to in the on-line system they set up typically in minutes and mistakes are literally a thing of the past.

TOURS: We saw a marked increase in tours through the plant this past year with a partial list consisting of Tom Hiatt from Armstrong and San Diego State University; Siemens and Southern Utility Co.; Jay McMahon from Rolls Wood Group; US Army; Dr. Sharma's ME 433 engineering class; entire WMU Purchasing Department; several MiAPPA winter conference attendees; WMU Faculty Executive Leadership Conference attendees; and Kurt Graham.

PRODUCTION: Overall plant steam generation was up slightly (4%) to 600 million pounds largely attributable to a "normal" winter of 6256 heating degree days that was up substantially from the previous winter which was comparatively mild with 5399 HDD. Natural gas use was up accordingly and arguably wound have been up more were it not for the many energy conservation efforts on campus. Total electrical generation was up 3.6% from the previous year at 72,215,000 kWh despite a 15% drop in the production of turbine 7 due to on-going operational challenges with that unit. However, the engine has been rebuilt and reinstalled and this should see marked improvement next year. The loss in turbine 7 operating hours (6901 down to 6071) translated into higher boiler operating hours which affected our yearly goal of achieving 60% heat recovered or "free steam" production. Despite the challenges above, we still nearly hit this mark coming in at 58.3%. With equipment repairs and rebuilds now behind us, we hope to be back above this next year.

The Energy Resource Center provides electrical, steam and chilled water utilities to the College of Engineering and Paper Pilot Plant and is operated by the central power plant staff. Utility usage is fairly repeatable however natural gas use and corresponding steam use was up almost 10% due, again, to the rather significant increase in heating degree days this past winter. Some good news in that overall electric use was down over 4% to 9.15 million kWh’s in part due to lower chilled water production with overall tonnage produced down 8% to 1,032,900 tons.
LOOK AHEAD TO 2018/2019: Some of the major areas of focus this coming year are:

- Purchase, installation and startup of the new reciprocating engine generator;
- Negotiation of a new long term service contract with Siemens for the gas turbines;
- Negotiation of a new bargaining unit agreement with MSEA that expires in June 2018;
- Complete conversion of ERC controls to control logix;
- Complete Phase III of the boiler feedwater header modifications;
- Complete installation of boiler blowdown “cascade” system in central plant
Accomplishments

Addition of Landscape equipment to TMA database
- Completed inventory of all Landscape Services mowers and equipment, created and installed new numbering system on the landscape equipment, created a new database of Landscape equipment in TMA reflecting the new numbering system.

New Mechanics
- We welcomed two new master certified vehicle mechanics to the Transportation Services team, Craig LaDuke joined our team in late October and Dan LaDuke joined our team in mid-February.

Routine Services
- Routine services on all 281 university vehicles, off-road pieces of equipment, golf carts, utility vehicles, ice resurfacing machines, loaders, backhoes, tractors, trailers, etc. were completed on time and within a reasonable time frame.
- All of the semi-annual generator services were completed in the spring and fall, repairs were made and they were completed on time and within expectations.
- Yearly dielectric testing was done in April on two aerial lift trucks, testing results indicated they were both well within specifications.
- Yearly snow plow services were completed in October.

EPA Requirements
- The 2016-2017 EPA requirements were met and exceeded. EPA regulations require 75% of all newly acquired vehicles to be alternative fuel capable. Twenty-five vehicles were purchased during the 2017-2018 regulations period, of those vehicles, seventeen vehicles were exempt from the regulations yet twenty of the twenty-five vehicles were alternative fuel capable. EPA gives credit for exceeding the minimum requirements.
Vehicle purchases this year

- 7 – Sedans
- 1 – Small SUV
- 1 – Large SUV
- 3 – Compact passenger vans
- 2 – Full Size passenger van
- 11 – Full size cargo vans

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