



CACUBO

**Central Association of College & University Business Officers
Best Practices Award Program**

Title: Centralized HVAC Watch – Improved Service & Significant Savings Through Centralization

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Abstract:

St. Louis Community College, a four-campus district with additional satellite education centers, is faced annually with budget challenges. One of the myriad services provided by the district-wide maintenance/HVAC department is mechanical equipment operation and monitoring (watch). Until recently this was accomplished as a decentralized, site-specific activity requiring a total of 12 licensed stationary engineers. Through the use of existing infrastructure and building automation systems enhancements (a one-time expense of less than \$20,000.00), the operation was centralized, eliminating six positions (eight positions were displaced, but two were retained and reassigned to field work duties). The design of the new "centralized watch" function was carefully planned and implemented through a committee comprised of college administrators, employee representatives, and union officials. The collaboration resulted in a smooth and successful transition producing an annual saving exceeding \$450,000.00. Additional field service improvements were realized by retention of two of the eight displaced watch engineers, reassigned to field work. Of the six positions eliminated, three were vacated by retirement, one was vacated through termination based on poor performance, one worker accepted employment elsewhere, and one worker was temporarily laid-off (he was immediately hired back as a part-time temporary mechanic and then hired as a permanent full-time mechanic in less than six months) minimizing the impact to existing staff.

Introduction of the Organization:

St. Louis Community College is a four-campus community college district founded in 1962 offering Associate degrees, certificates of proficiency, and certificates of completion in a variety of academic disciplines. These four campuses, along with additional satellite education centers, serve the St. Louis metropolitan area. Enrollment levels include approximately 27,000 traditional college students and 80,000 students taking advantage of continuing education opportunities. The facilities are comprised of over 50 buildings totaling more than 2.5 million square feet on approximately 330 acres.

The district-wide maintenance/HVAC department includes 26 maintenance mechanics, 18 stationary engineers (after the staffing reduction), various supervisors, managers, and support staff. Department responsibilities include the repair, maintenance, renewal, and renovation of all campus buildings, equipment and vehicle fleet.

Statement of the Problem / Initiative:

St. Louis Community College is regularly faced with budget challenges. Looking for operational cost savings has become an annual exercise, resulting in many new methods and changing staffing levels. In response to these economic conditions, the Maintenance / HVAC Department reviewed their services and procedures, ultimately identifying a redundant activity that could be “streamlined” through the use of existing systems, if minor software and hardware enhancements were obtained and installed. The function identified was a previously decentralized HVAC equipment “watch” activity, staffed and performed by licensed Stationary Engineers. Through the implementation of

a centralized redesign, six positions were eliminated, while enhancing other department provided services.

Design:

Working with the two Building Automation System (BAS) software vendors already providing support to the college, and in collaboration with college information systems personnel, the existing BAS software was enhanced and computer pathways were created to enable mechanical equipment monitoring from a single location. Additional computer monitors were purchased and installed in the “HVAC control room”, providing dedicated viewing of every college campus and college owned satellite location.

Implementation:

Implementing the previously described design was very straightforward. Additional computer monitors were both purchased and obtained from surplus property available at the time. Building Automation System (BAS) software vendors already providing support to the college were contacted and the minor enhancements required occurred over a two-day period at a minimal expense. The overall investment in hardware and software was under \$20,000.00.

The elimination of positions and redeployment of remaining personnel required the establishment of an implementation committee comprised of department workers, supervisors, and manager; the director of physical facilities; the manager of labor relations (from the college Human Resource Department); and the business agent from

the union representing the college's physical plant bargaining unit. The committee met on several occasions to discuss concerns and collaboratively arrived at solutions to possible problems relating to the selection of watch engineers from the remaining staff, training, difficulties that might be encountered during the project "roll-out", normal operating procedures, and trouble / emergency procedures. Through the flexibility and dedication of all parties involved, the conversion to, and continued success of centralized HVAC watch has been a major success, operationally and economically.

Benefits:

Centralized HVAC watch has provided a number of benefits. By eliminating the redundancy of the previous decentralized approach, remaining employees were redeployed in a more effective manner, allowing a heightened level of attention to the mechanical equipment within the college district. This greater attention has proven to increase equipment reliability and is expected to prolong equipment life. The effect is better service to college customers and an environment supportive of teaching and learning.

In addition, the elimination of six positions saved the college over \$450,000.00 annually in salaries, benefits, and premium pay avoidance on holidays. This funding is now available for the college's primary focus – affordable education for residents of the St. Louis Metropolitan area.

Retrospect:

Despite the elimination of six permanent full-time positions. Only one person was laid-off. This impacted employee was immediately re-hired on a part-time temporary basis, and was eventually rehired as a permanent full-time employee in a similar position at nearly the same pay rate within six months. Had the college been able to anticipate the re-hiring opportunity which materialized six months after project roll-out, the college could have continued to employ the single impacted employee on a permanent full-time basis. This would have minimally affected first-year savings, while sheltering the employee from any economic hardship.