



**PLANT  
OPERATIONS**



**2004-2005  
ANNUAL REPORT**



## Plant Operations

### Director's Note

I would like to present the second Plant Operations Division Annual Report. The enclosed report is for the fiscal year 2004 – 2005 and details much of the accomplishments, economics, and notable program performance for the division. The report has been restructured from last year's format to make it more readable and easier to navigate. In addition, an executive summary has been added to the report to highlight the more notable accomplishments.

For those of you not familiar with Plant Operations, we are a division within the Business and Finance sector of the University of Michigan's administration. Plant Operations provides the services of building and grounds maintenance, construction, waste management, utilities, building custodial and operations for the nearly 14 million square feet of general fund space on the Ann Arbor campuses. We also provide the above services on a fee or reimbursable basis for the University's Hospitals and Health Centers, Housing, University Athletics, Student Services, and a variety of auxiliary units in and around the Ann Arbor vicinity. In all, we provide the above services for more than 27 million square feet. Arguably -- one of the largest single campuses in North America.

Now that you know what we do, let me tell you who we are. Plant Operations is a diverse group of individuals that reflect the demographics of our campus community and our region. We are more than 1300 in number. Our credentials vary widely. We are comprised of skilled trade's persons, mechanics, custodians, construction managers, maintenance professionals, clerical assistants, IT professionals, engineers, grounds keepers, truck drivers and movers, boiler operators, accountants and more. I could go on. We all have two things in common -- we pride ourselves in our ability to support the facility and operations needs of this world class educational, research, and public service institution and **We Make Blue Go!!!**

Richard Robben



# Plant Operations

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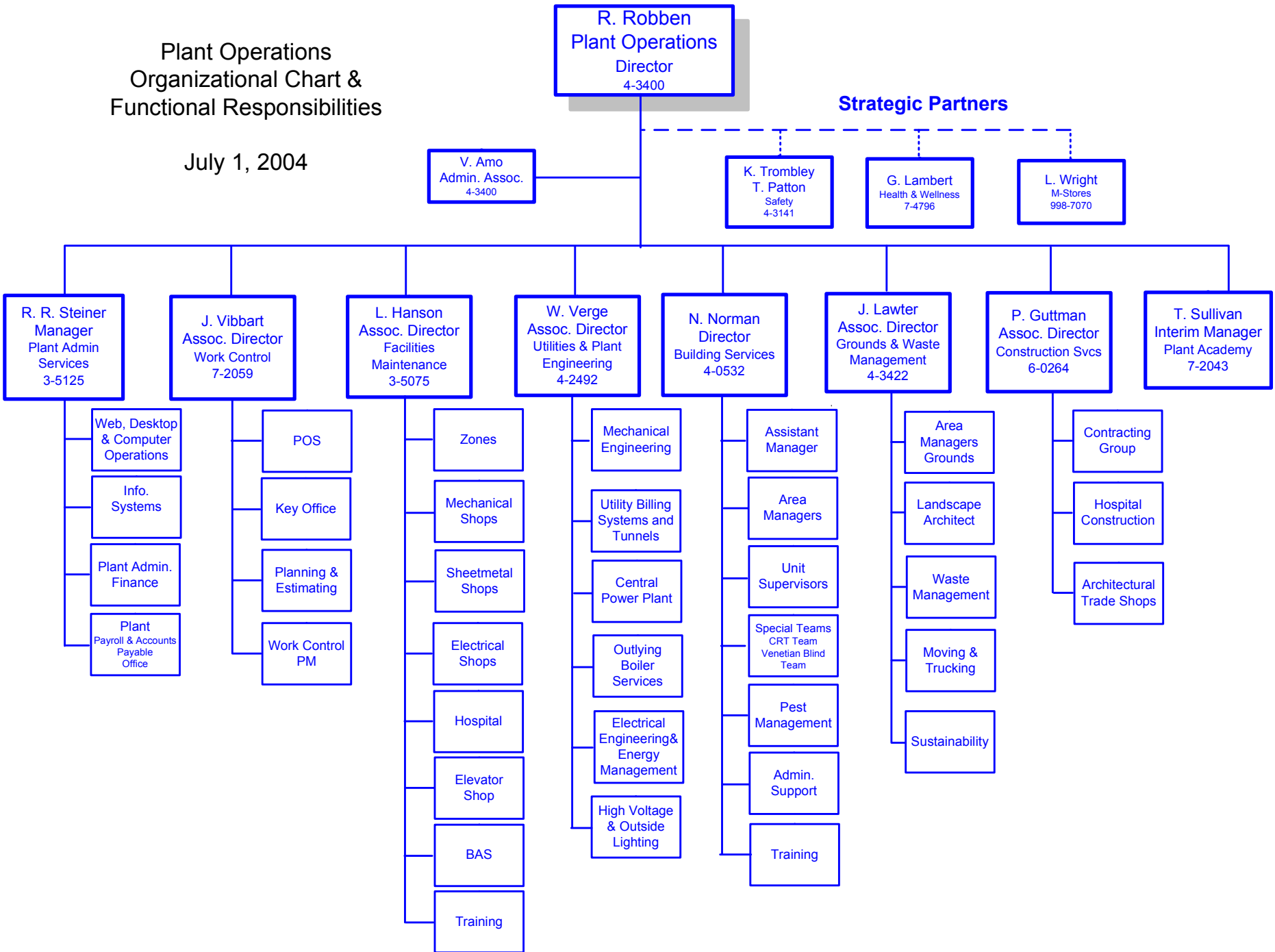


**Plant Operations**

# **Plant Operations Overview**

# Plant Operations Organizational Chart & Functional Responsibilities

July 1, 2004





## Plant Operations

### Introduction & Executive Summary

Fiscal year 2004-2005 has been a banner year for the department. We have reached the final year of our strategic business plan Vision 2005. With this milestone, we are able to look back on achievements of the past year and the preceding four years of the plan. At the outset, the Plant Operations lead team decided to pursue a course of action that would set the division apart in terms of financial & technical performance, customer orientation & service, employee recognition & development, and finally, creating an environment & work culture worthy of a great world class university such as Michigan.

Last year, many notable accomplishments were achieved in all areas and are detailed in the following sections of this report. Those of particular significance are highlighted below:

#### Financial

- The departments' financial position in all enterprise accounts improved markedly. We believe this is a result of continued attention to efficient operations, good fiscal policy decision-making, and continued and growing support of our customer base.
- Of the Enterprise accounts, the fixed price work accounts have made the most dramatic turnarounds and are now all in excellent shape.
- General Fund accounts were managed to within \$25,000 of base amount of over \$46 million dollars. This was accomplished after three consecutive years of major cost cutting initiatives and major new building additions to budget base.
- The department made over \$800,000 in budget reductions this past fiscal year including the changing of the office-cleaning schedule from weekly to bi-weekly. Most reductions, however, have resulted from Process Improvement, efficiency improvements, and overhead reduction.
- Grounds & Waste Management has reduced rates two years in a row.
- Equipment Reserves for maintenance equipment replacement are fully funded until 2010.
- A major milestone in the new space funding methodology was accepted by Financial Analysis and the Provost's office, which allows for the first time, funding for net equipment added during small renovation projects. This change going forward will finally address what has become known as the "Phantom Building" problem. This issue addressed years of equipment adds to the general fund that resources were not provided to maintain.

#### Customer Focus

- We participated in the development and roll out of the first Business & Finance Strategic Plan and initiatives to the Plant Operations Department. Our slogan of *We Make Blue Go* was adopted as that of Business and Finance.

## **Introduction & Executive Summary (cont.)**

- The department's rate setting mechanism is fully transparent to the customer base.
- The University acknowledged the role the Facility Users Network (FUN) serves in communication with the Service end users by listing it as an entity in the budget review process. Many in the FUN group feel that the organization has come of age this year. This organization was a direct offshoot of the Plant Operations Strategic plan.
- A new service guide and web based methods for communication with the end users were launched and proven, making information exchange easier for all parties
- New Business Object reports were created at the request of Plant operations so that financial operations of Plant could be more transparent to our customers.
- Similarly, a new billing system has been developed for utility billing so that customers can view and manipulate data for ad hoc reports.
- New methods of contractor and vendor payment were initiated by Plant so that our SUB could occur in a timelier manner. This had consistently been an issue for our customers, which has been effectively put to rest.
- Several new SLAs have been initiated with customers and strategic partners to better define and report service performance. These include Housing (After Hours Call Center), Hospitals (Refuse and Maintenance), DPS (Fire Safety Inspection), University Stores (Materials Procurement), Federal Services Administration (Ford Library Maintenance), and Parking Operations (After Hours Call Center).
- Started a customer shutdown notification system to coordinate and alert the community of pending maintenance shutdowns.
- Conducted the first B&F Customer Survey
- Plant Operations continues to provide operational engineering support to auxiliary units. These assets are providing FCA, operational engineering support, design review, and energy management services. The auxiliaries taking advantage of these assets are Hospital, Athletics, Housing, Student Services, and LS&A.
- Construction pre-billing was instituted through an SLA adjustment with University Stores. This enables us to shorten the billing cycle for SUB's.
- The Hospital maintenance group received outstanding comments from JCAHO for an inspection visit in early FY 05. A visit from CMS, which is a much more difficult inspection was in progress at the conclusion of the fiscal year.
- Implemented a new process for audit of invoices to insure duplicate invoices are not paid.

### **Internal Business Processes**

- The department continues to add new equipment to the already robust Preventive Maintenance work plan. This past year outlying boilers, variable frequency drives, and high voltage electrical equipment were added to the extensive inventory of equipment. PM completion rates are exceeding 75% and rising to the goal of 90%.
- Utilizing the extensive database of work order history the department continues to develop meaningful Performance metrics for each area of the operations. Associated with this effort we have established a dashboard project to standardize the reporting format for all shops/areas/zones
- Plant Operations issued its first annual report, containing an extensive amount of annual performance data.

## Introduction & Executive Summary (cont.)

- The Facilities Condition Assessment (FCA) database continues to be the premier vehicle for the tracking and prioritizing of deferred maintenance projects on campus and among our peer institutions. FCNI of the campus continues to improve with current score of .19 from .21 last year.
- Plant Operations is partnering with the Medical Sciences Facilities group to pre-staff the BSRB building during the final stages of construction to facilitate early maintenance of equipment and training of new staff. This is clearly a best practice in the industry.
- In accordance with prior Master Planning efforts, the first of what may become a new generation of regional chilled water plants has been completed for serving North Campus cooling needs. The Plant will ultimately produce over 10,000 tons of refrigeration and will save the University \$200,000 in its first year of operation.
- Building automation systems groups has begun using new software to analyze building performance that will lead to continued energy conservation efforts without major investment through optimization of building systems.
- Working with M-Stores, Plant Building Services was able to reduce cleaning and paper product inventories while maintaining just-in-time delivery methods to buildings staffs. Additionally, lost inventory has been reduced to near zero levels.
- The last of the University Schools were converted over to the new trash and recycling program with the conclusion of a pilot program in the College of Engineering.
- Working with Internal Audits and ITD, the Facilities Maintenance Department conducted a major audit of communication closets on campus. Deficiencies were corrected and new procedures put in place for upkeep and utilization of these spaces. The net result should be better security for communication processes.
- The Utilities and Plant Engineering group lead the way in negotiating a new power supply contract with Detroit Edison Company for all of our power needs. Savings from this contract, although variable, are over \$300K in the first year of the agreement.
- Revisions have been made to the University's Energy Conservation Guidelines and Standards used in new construction, which will provide greater energy awareness in projects including energy impact statements and methodology for analyzing competing cost demands related to energy usage.
- The Central Power Plant has successfully concluded several projects and studies that will lead to increased efficiency and reliability. These include:
  - Black Start Study – Power Plant Restart after a regional power outage
  - Steam Path Upgrade Study and subsequent purchase of new high efficient turbine rotors
  - Gas Turbine Rotor Replacement with higher efficiency turbine rotors
  - Steam header improvements to reduce pressure drop in headers and improve distribution efficiency.
  - NOx trading program first year of participation in this new program, which will help to reduce regional emission levels of Nitrous oxides to the environment.

### People

- Conducted and analyzed the second Denison Climate Survey and have begun acting on its results. The survey showed marginal improvement in climate overall and significant improvement in some areas.
- Conducted the first B&F Employee Satisfaction Survey. The average employee satisfaction was in the high 70's percent range.

## Introduction & Executive Summary (cont.)

- Reduced the number of recordable injury cases for the third year in a row
- The Plant Operations Care program continued its recognition efforts. A record number of awards have been issued. These include:
  - A total of 1,300 coupons were issued in FY 05:
    - 453 for Attendance
    - 667 for Silver Arrow Nominations
    - 13 for ideas 20/20
    - 130 awarded by departments for safety incentives; Managers of the Year/Quarter, and Hospital Awards for Employees participating in the preparation for the JCAHO accreditation.
    - 320 gifts were redeemed using 993 coupons
- Plant Academy conducted more hours of training and more subject areas than in any previous year. New programs were added to build on the already successful Leadership and Supervisory Skills program. The new venues include Facilities Management and 7 Habits.
- The Training & Administration Compliance program (TACs) has gone live and is being used by supervisors to report and track training. Additional modules will be coming on board in the first half of next year to finish the roll out of this important training objective.
- Started transmitting actual accrual and usage information to payroll for inclusion on monthly paid staff paychecks. Bi-weekly were already receiving this information.
- Completed HR Classification System Project for all P&A and Clerical Technical job families.
- Continued a robust Health and Wellness program for our employees that included such features as exercise programs, health management information, Weight Watchers program, health assessments, flu shots, and charitable benefit programs.
- Developed a comprehensive wellness data analysis function for training decisions that will produce the best impact.
- Initiated a “brown bag” lunch lecture series on topics of interest and benefit to the workforce. Topics included *Balancing Work and Life*, *Thinking Outside the Box*, and *Improving Memory*.
- We negotiated a new Skilled Trades contract that was overwhelmingly approved by the membership while meeting management objectives as well. A win-win effort.

Not all of the news however has been good. The price of natural gas, which is the main fuel of the campus, has grown in cost since 2001, from approximately \$17 million dollars annually to over \$45 million this year, but the Division has not been idle in trying to contain this expansion in unit price. Significant efforts have been in place to control the rise in utility costs

- The department implemented a buying strategy using the Futures market to buy Natural Gas futures up to 18 months in advance. We have been able to avoid most of the wide fluctuations in the market and have saved the University \$4 million in avoided gas costs.
- The Energy Star program, although largely complete, is providing a continuous stream of savings approaching \$6 million per year. As we work to maintain this level of savings, we are implementing a new program.

## **Introduction & Executive Summary (cont.)**

- The Energy Communication and Outreach program is our follow up program to Energy Star. The program is well under way in implementing new conservation projects, while working to educate the campus on ways to improve energy performance through greater awareness of our daily actions.

As stated earlier, we have closed our Vision 2005 Strategic Business Plan with the Plant Operations Division receiving the following distinguished awards and recognitions:

- Energy Star Partner of the Year by the US EPA
- The Power House received the Combined Heat and Power Award for the efficiency level of the Central Power Plant
- The National Recycling Coalition America College and University Award
- Numerous articles were published in trade magazines by Plant Operations staff
- Waste Knot Award from Washtenaw County

Most importantly, however, we believe that Plant Operations has become a customer focused, performance driven organization that values both its workforce and our relationship with the University of Michigan. Testament to this statement can be seen in the voluminous amount of accomplishments that this department is able to post year after year. This is possible because Plant Operations has been “in step” in execution, strategically focused on our customers, and determine to be the best facilities organization in the field.

We Make Blue Go!



## Plant Operations

### Vision 2005: Strategic Link to The University's Mission

#### Director's Message

*“Part of human nature resents change, loves equilibrium, while another part welcomes novelty, loves the excitement of disequilibrium. There is no formula for the resolution of this tug of war, but it is obvious that absolute surrender to either of them invites disaster.”*

With these wise words of noted professor of history J. Bartlet Brebner firmly in mind, **Plant Operations** began its strategic planning effort in the fall of 2000. Our goal was to energize the division by looking at new ways to enhance the quality and cost-effectiveness of our campus-wide services while at the same time preserving the strengths and qualities that had served the University of Michigan community so well over the past several decades. To achieve this goal, the **Plant Operations** Lead Team, with the assistance of the Plant Academy staff, began a planning process that solicited the input and opinion of our stakeholders – both internally and externally – of the **Plant Operations** organization.

Our planning process included the use of surveys, focus groups, questionnaires, interviews, and information-sharing sessions that enabled us to understand our current situation, and what we would need to do in the foreseeable future to align the delivery of our services with the desires of our stakeholders. Throughout this process, we routinely checked back with our constituents to verify that we were on track with what we were formulating as plans and goals.

I am delighted to report that all of the personnel in the University departments who chose to participate in the strategic planning process were excited to be involved, and provided valuable information for our efforts. This brochure provides an overview of the objectives that **Plant Operations** will be pursuing over the next several years. We also have included a few details about how we intend to achieve those objectives. I hope you enjoy the reading.

In addition, I would like to take the opportunity to thank all of the many deans, administrators, facilities managers, unit liaisons, Facilities & Operations, Business & Finance, and **Plant Operations** personnel who participated in this worthwhile effort.

Richard Robben

## Vision 2005: Strategic Link to The University's Mission (cont.)

### BACKGROUND

**Plant Operations** recently brought renewed enthusiasm to an exciting initiative specifically designed to reshape the focus of each of its seven departments. Since October 2000 when we began our strategic planning process, everyone – from administrators and supervisors to managers, hourly employees, and especially our colleagues in the Schools, Auxiliaries, and Colleges – became involved in devising a strategic plan that would enhance our workplace in every respect. These efforts continue to stress close collaboration with all of our stakeholders and have resulted in updated mission and vision statements that are guided by principles of ongoing improvement.

### Mission Statement

**Plant Operations**, a member of the University of Michigan community, maintains the physical environment and provides related services to support the University in reaching its goal of excellence in education, research, and public service. **Plant Operations** includes Building Services, Construction Services, Facilities Maintenance, Grounds and Waste Management, Plant Administrative Services, Utilities and Plant Engineering, and Work Control.

### Vision Statement

**Plant Operations** will be an organization where continuous and measurable improvement in service is the standard. We will be recognized by the University community for excellence in service, as a partner in solving our customers' problems, and as the provider of choice. The organization will be an innovative leader in facilities management. **Plant Operations** will be an organization where all employees will be treated equitably and honestly in an effective and diverse work community. We will be a learning organization, where all staff members are empowered and supported in reaching their full potential. **Plant Operations** will be a workplace where the atmosphere of trust encourages creativity and innovation.

### Guiding Principles

We understand that progress will be made and success achieved only through the determined and coordinated effort of every member of each of our teams. Focused now on optimizing financial resources and continuing open discussions with stakeholders, **Plant Operations** has established the following six principles by which all of us continue to be guided:

***Focus*** - Our mission is to serve the University of Michigan through partnerships and understanding.

***Integrity*** - Our conduct must conform to the highest standards of trust and character

***Respect*** - Each person must be accorded dignity and respect.

***Empowerment*** - All team members are invested with the freedoms and responsibilities inherent in making decisions that affect their own work lives.

***Innovation*** - Improvement in all areas is essential, requiring creativity, challenging ourselves, and learning from our mistakes.

***Environmental Responsibility*** - We must respect the environment by preserving resources, reducing waste, and recycling.

## Vision 2005: Strategic Link to The University's Mission (cont.)

### CHANGING THE CULTURE

Traditionally, **Plant Operations** has managed itself in accordance with the best practices employed within the facilities management industry. Yet while an effective physical environment – in terms of cleanliness and aesthetics – is essential, it is also a mere first step toward meeting the University of Michigan’s academic, research, and public service goals. We made certain that the strategic planning process we undertook to make **Plant Operations** a leader in fostering university-wide excellence would involve every stakeholder throughout the campus community. As an outcome of these unique information-sharing sessions, we were able to establish interest in and support for the Facilities Users Network for the University’s facilities managers.

### STRATEGIC DIRECTION: A FOUR-WAY FOCUS

Our detailed strategic planning process made us aware of our need to improve, substantially, our performance in communication, work quality, job completion rates, and billing practices. These key concerns are addressed by the following focus areas, which we have labeled **Customers, Financial, People, and Internal Business Processes**. We have further identified the vision direction, key challenges, and goals for each focus area as discussed below.

#### CUSTOMERS

**Vision Direction** To become an integral partner and colleague with the campus community for responsible facilities stewardship

**Key Challenges** To provide tailored services that create ongoing relationships that add unique value to the campus community

**Goals**

- I. To enhance communication by providing opportunities for clear and open discussions with external stakeholders
- II. To improve customer expectations and satisfaction by collaborating with external stakeholders to tailor our service capabilities for optimized delivery

#### FINANCIAL

**Vision Direction** To ensure that the campus community understands our service levels and financial boundaries, and trusts our fiscal stewardship of the University’s facilities

**Key Challenges** To develop community understanding and trust, stakeholder information exchange, understandable service level agreements, and an effective dispute resolution process

**Goals**

- I. To improve productivity and efficiencies by controlling labor rate increases, increasing billable hours for billable staff by decreasing lost time, reducing warranty costs, and improving productivity and efficiency to reduce job costs.

## Vision 2005: Strategic Link to The University's Mission (cont.)

- III. To improve budgeting tools, methods, and staff training by developing financial models as needed to support service level agreements, staying within budgets, and developing expenditure forecasting, tracking, reporting, and analysis tools

### PEOPLE

***Vision Direction*** To cultivate a work climate of open communication and trust in which all employees have both an opportunity and a responsibility to develop to their greatest potential

***Key Challenges*** To maintain training programs despite decreasing revenue, and factor demographics of the workforce into the planning process

- Goals***
- I. To develop a comprehensive “multi-aspect” training program by pursuing best practices through continuous improvement, training for skills and development at all levels -- including project management, creating a safe work environment, and promoting a diverse workforce
  - II. To promote a cultural environment that encourages trust, teamwork, integrity, recognition, empowerment, accountability, diversity, and community involvement by expanding the employee recognition program; developing and encouraging community involvement such as participation in community events; and developing an open, two-way, 360-degree communication system

### INTERNAL BUSINESS PROCESS

***Vision Direction*** To develop internal business processes that enhances efficiency, communication, and overall effectiveness

***Key Challenges*** To provide better technological access to meaningful and accurate performance data, create a more flexible and upbeat culture, and promote overall efficiency

- Goals***
- I. To streamline internal business processes by improving reporting and renovating billing methods
  - II. To refine communications by identifying and implementing improvements in the workflow function between management and front-line staff

### CROSS-FUNCTIONAL THEMES

During the strategic planning process, several cross-functional themes were identified and implemented across **Plant Operations**. These themes are 1) human resource planning and succession planning; 2) better financial reporting and accountability; 3) organization of community service activities; and 4) improving communications within **Plant Operations** and between **Plant Operations** and its customers.

Development of these cross-functional teams and their mission statements, recommendations, and goals currently are underway. We expect deployment of specific initiatives during summer 2005.