



An Energy-Efficiency Workshop and Exposition

Orlando, Florida

The Walt Disney Company

Disney's Environmentality



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Orlando, Florida

Welcome to
Walt Disney World!

- Paul Allen
 - Reedy Creek Energy Services
- Brett Rohring
 - Corporate Environmental Policy, TWDC



August 17-20, 2003

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Disney's *Environmentality*

- *Environmentality*
 - The attitude and commitment to think and act with the environment in mind, both at work and at home
 - World wide program





Disney's *Environmentality*

- Three Guiding Principles
 - Education
 - Communication
 - Action



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Disney's *Environmentality*

- Mission
 - The Walt Disney Company is committed to balancing environmental stewardship with its corporate goals throughout the world.



Disney's *Environmentality*

- Cultural Diversity
 - Corporate
 - Parks and Resorts
 - Internet Group
 - Studio Entertainment
 - Media Networks
 - Consumer Products
 - Walt Disney International



Business of *Environmentality*

- Alternate Fuels
- Commuter Transportation
- Compliance
- Green Building
- Integrated Pest Management
- International Standards
- Outreach Programs
- Resource Conservation
- Strategic Sourcing
- Waste Minimization



Alternate Fuels

- On Stage and Backstage Vehicles
- CNG + Electric + Hybrid Fuels
- Refueling Stations
- 27,000 Pounds of Vehicle Emissions Saved Annually



Commuter Transportation

- Use of Single-Occupant Vehicle Alternatives Helps Air Quality and Congestion
- Cast Member and Employee Incentives
- EPA Commuter Choice



2003 Compliance

- Maintenance Operations
- California Universal Waste Rule
 - Battery Recycling
 - Fluorescent Lighting
- Inspections





Green Building

- Original Member, US Green Building Council
- Disney's Green Building Goals & Guidelines
- Master Building Specifications and Design Criteria
- The Disney Wilderness Preserve
 - 8,500 → 12,000 Acres
 - Managed by The Nature Conservancy
 - Green Office and Education Facilities

Integrated Pest Management

- Florida and California Theme Parks
- Reduction and Elimination of Pesticides
- Weekly Release of Ladybugs and Butterflies at Walt Disney World – Unique Guest Interactive Experience



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International Standards

- Code of Conduct for Manufacturers
- Audits and Inspections
 - Laws and Regulations
 - Consistency
- Member of Businesses for Social Responsibility (BSR)



Outreach Programs

- **WOW – Wonderful Outdoor World**
 - Urban Camping Experience to Introduce Environmental Education to Youth Ages 8 to 12 Years
 - Six States
- **Jiminy Cricket’s Environmental Challenge**
 - Fifth-Grade Students in CA & FL Implement a Real-Life Environmental Action Project and Report Results
 - Over 120,000 Students Have Accepted the Challenge Each Year



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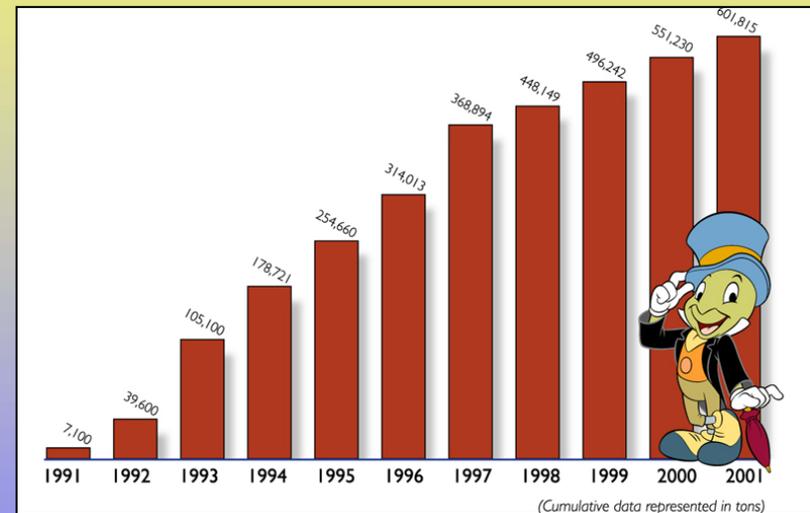
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Resource Conservation

- Water
 - WDW 2 Billion Gallons Saved Annually
- Energy
 - Savings Powered Disney's Animal Kingdom 1st Year
- Recycling of Commodities
 - 55,000 Tons Annually
- Reuse
 - Movie and Television Sets
 - 85% reused for daytime series General Hospital





Strategic Sourcing

- Office Supply Sourcing
 - One Contract Company Wide
 - Maximize Savings
 - Recycled office paper and toner cartridges save approximately \$1M annually
 - MWBE
 - Environmental Partnerships
 - Take-back programs, etc.



Waste Minimization

- Benchmark Existing Activities
- Study to Develop Potential
 - Food Waste Recovery
 - Asset Disposition Contracts
 - Electronics and Computers
 - Warehouse Housekeeping
 - Donations
 - LA Shares





Disney's Environmentalism

- Sense of Ownership *and Fun!*
 - Employees
 - Green “Circles”
 - Earth Month Events
 - VoluntEARS
 - Communication
 - Internal Newsletter Articles
 - Intranet
 - Disney's *Enviroport*
 - Awards
 - Recognition



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Paul Allen

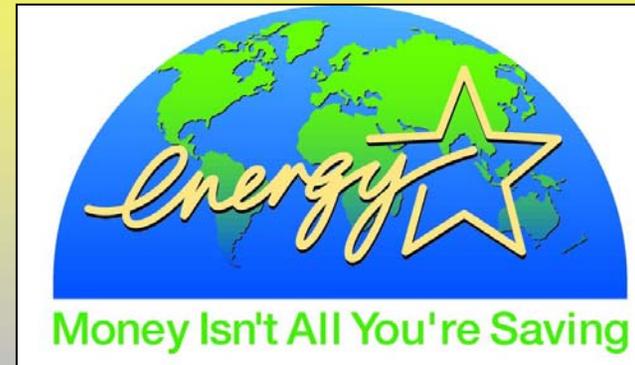
Reedy Creek Energy Services

Walt Disney World

The logo for the 2003 Energy Program features a stylized sunburst in shades of orange and yellow on the left. To its right, the year "2003" is written in a purple, italicized font, and the word "Energy" is written in a blue, italicized font below it.

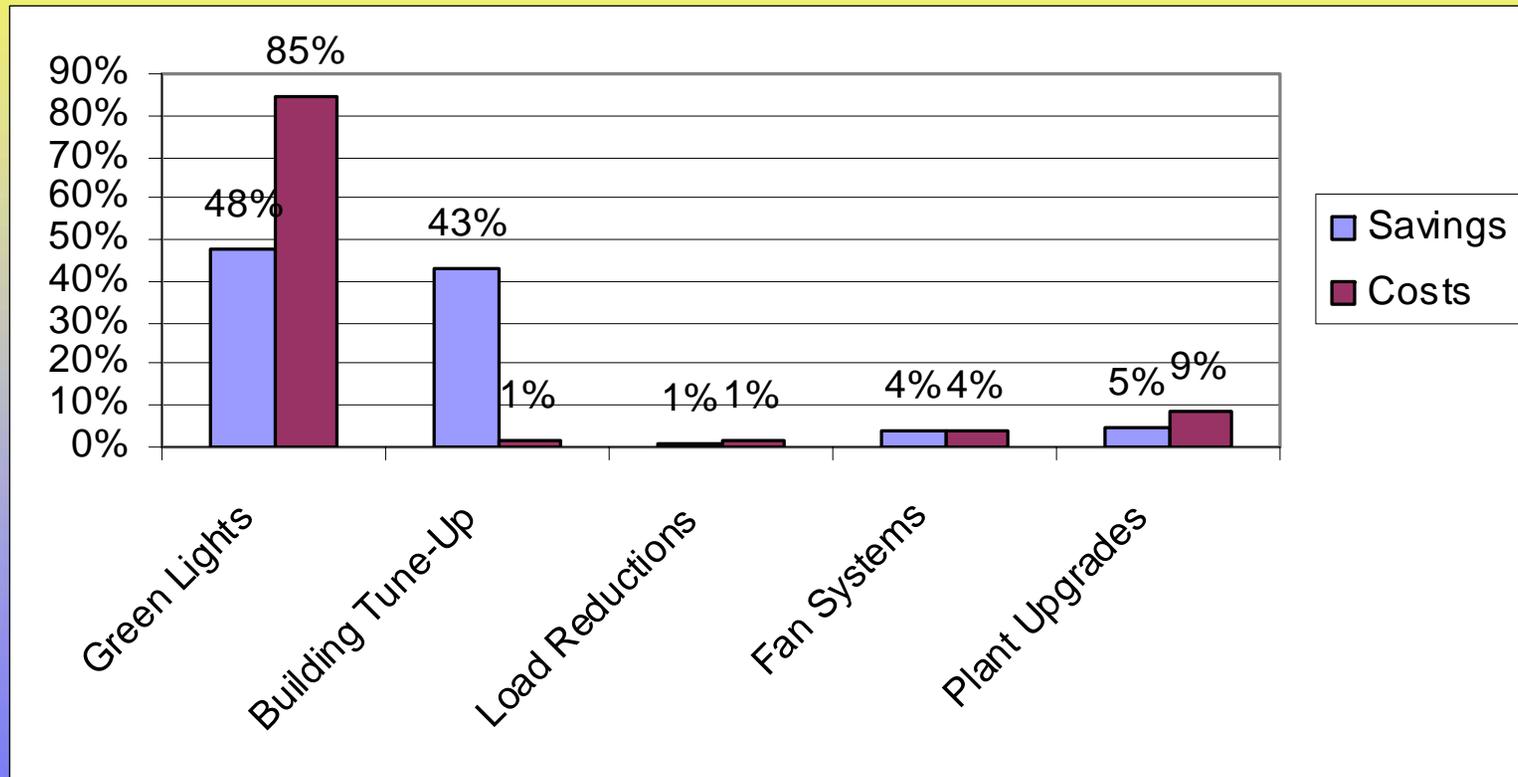
2003 Energy Star Buildings Program

1. Green Lights Upgrades
- 2. Building Tune-Up**
3. Load Reductions
4. Fan System Upgrades
5. Heat and Cooling Plant Upgrades





Energy Star Results



Overall Program Results – 44% IRR

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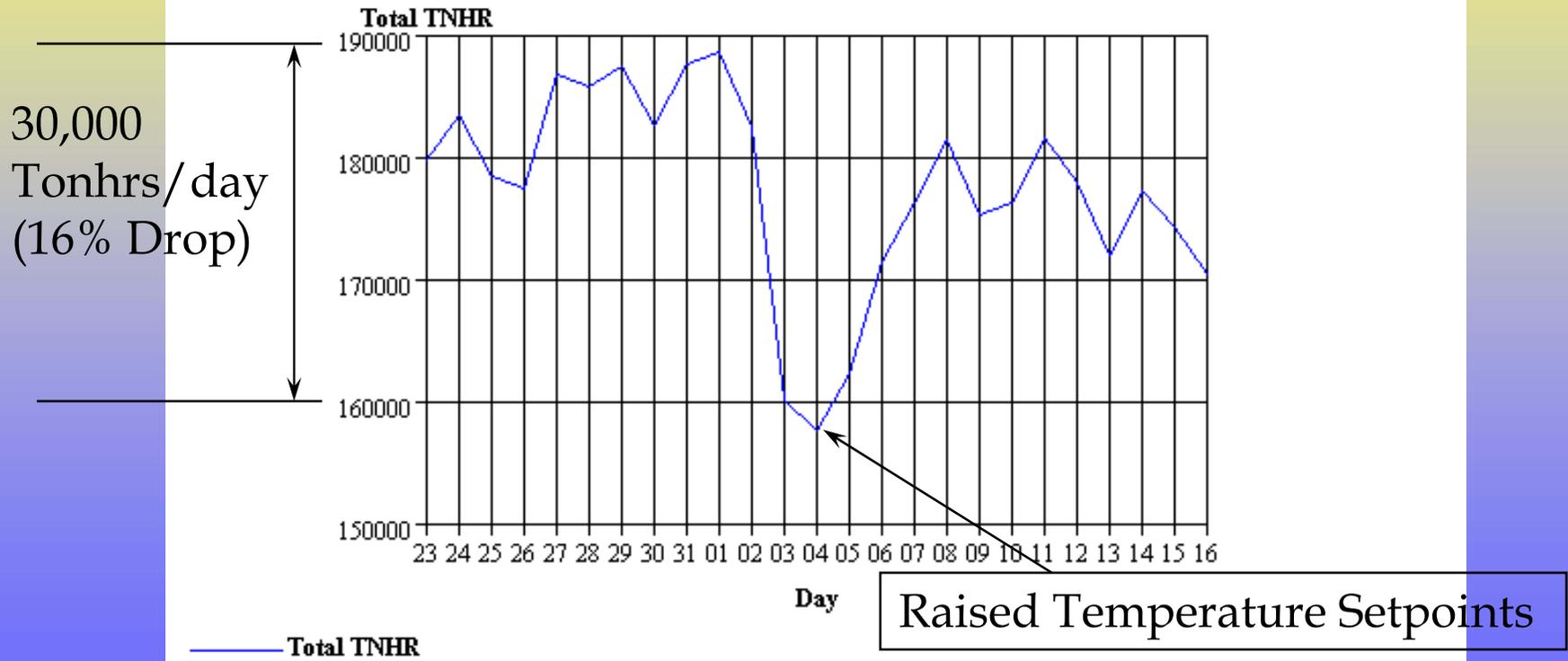
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Epcot's Building Tune-Up

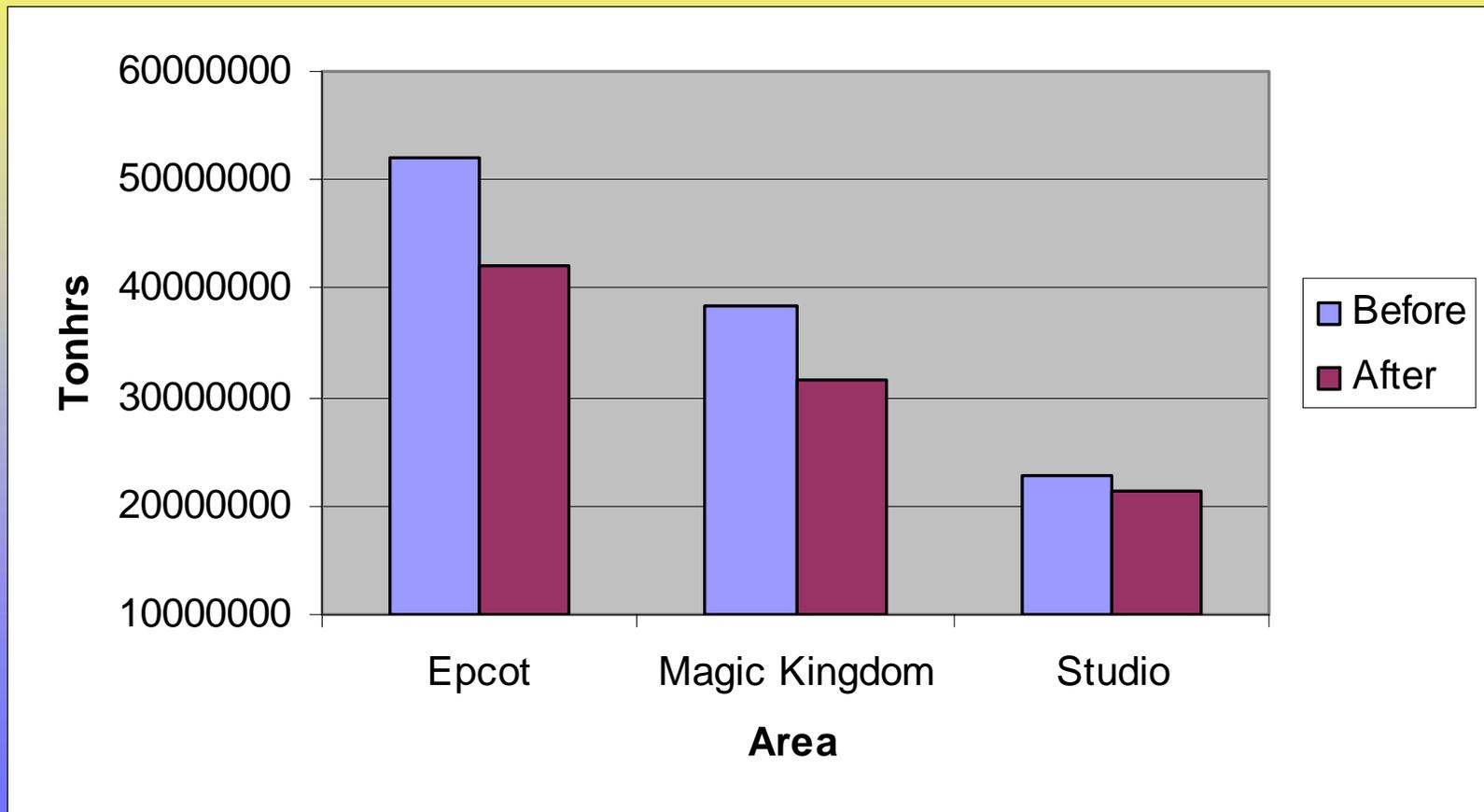
DAILY TOTAL Graph of TNHR PROFILE for Subarea; ECEP-PLANT-CW; ECEP-PLANT-CW



Lesson Learned: Slow & Steady Wins the Race



Chilled Water Savings



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Building Tune-Up Process

- **Tune-Up HVAC Control System**
 - Optimize time/setpoint schedules - Auto-reset daily
 - Understand energy management system control strategies
- **Repair Controls that have Failed**
 - Control valves, dampers and sensors
- **Measure Utility Consumption**
 - Track monthly utility bills
 - Install submetering strategically
 - Publish the data on an Intranet



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Building Tune-Up BTU Team Structure

- **Facilitator**
 - RCES Energy Management
 - Productivity Manager
- **Team Leader**
 - Engineering Services
- **Members**
 - EMS Global Support Team
 - Operations/Foods/Merchandise/Custodial
 - EMS Vendor Support (if needed)





Building Tune-Up System (BTUS)

- **Energy Management System Data**
 - HVAC Equipment
 - Time Schedules
 - Setpoint Schedules
 - Link to Temp/RH Trends
- **Facility Time Schedule Program (FTS)**
 - Nightly Download of Time and Setpoint Schedules
- **BTUS Demo**

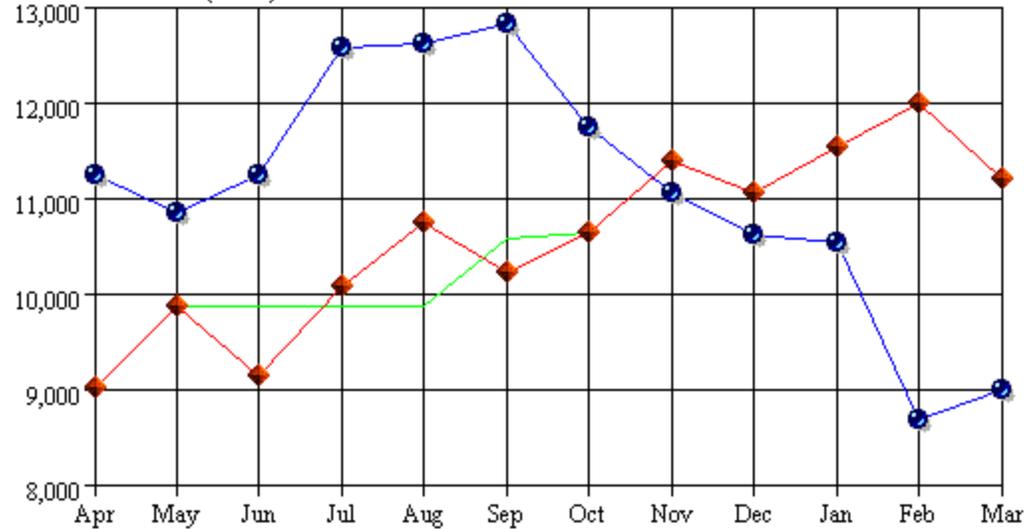




Cirque du Soleil BTU

CIRQUE DU SOL AREA Cost, Consumption and Budget Comparison, Month Range Apr FY 2000 to Mar FY 2001

AVG ELECTRIC PER DAY (KWH)



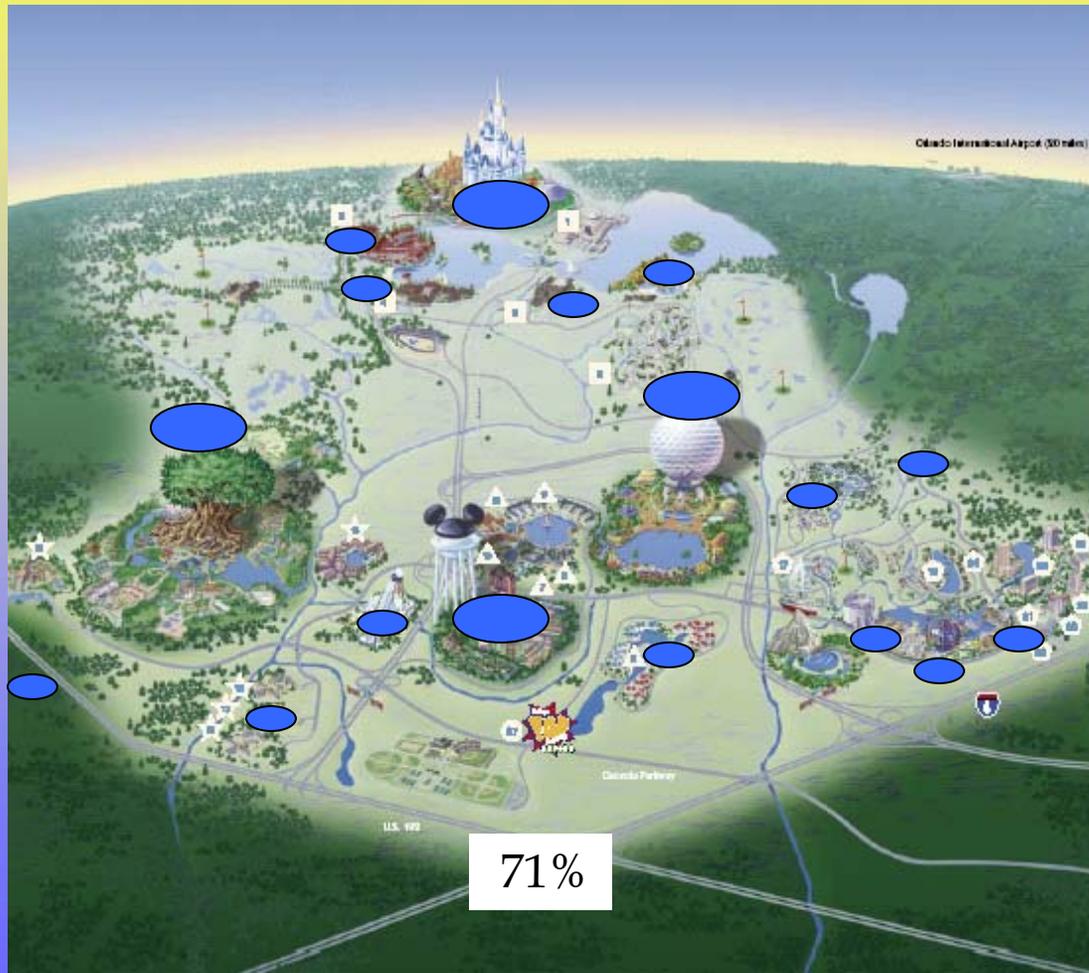
● Current Period Use ◆ Prior Period Use — Current Period Budget

-20%

Used Energy Management System to Turn off HVAC units at night. Raised Temperature Setpoints.



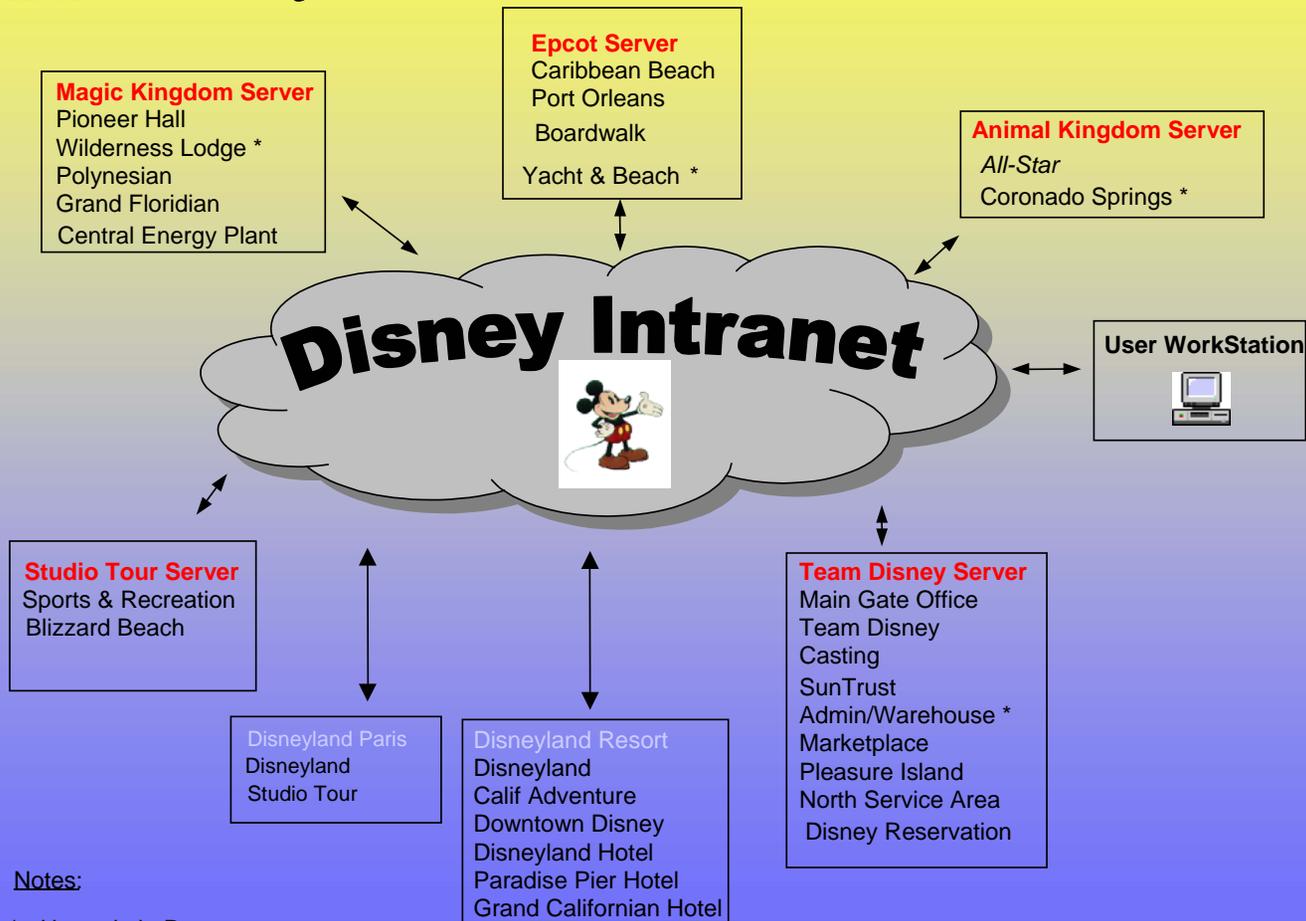
Carrier EMS Installations



DT-DISNEY	MARKETPLACE
DT-DISNEY	PLEASURE ISLAND
PARKS	ANIMAL KINGDOM
PARKS	EPCOT
PARKS	FEATURE ANIMATION
PARKS	MAGIC KINGDOM
PARKS	STUDIO
RESORTS	ALL-STAR
RESORTS	CARIBBEAN BEACH
RESORTS	FT. WILD. PIONEER HALL
RESORTS	GRAND FLA
RESORTS	POLYNESIAN
RESORTS	PORT ORLEANS
RESORTS	WILD LODGE
RESORTS	YACHT & BEACH
SPORTS/REC	BLIZZARD BEACH
SUPPORT	BVCC
SUPPORT	CASTING BLDG
SUPPORT	CENTRAL SHOPS
SUPPORT	DISNEY UNIVER
SUPPORT	FAM
SUPPORT	MAINGATE MALL
SUPPORT	RESORT ENTER
SUPPORT	RIDE & SHOW
SUPPORT	SUNBANK BLDG
SUPPORT	TEAM DISNEY
SUPPORT	WAREHOUSE-DC2
SUPPORT	WAREHOUSE-DC3
SUPPORT	WAREHOUSE-DC6
SUPPORT	WAREHOUSE-DCG
SUPPORT	WAREHOUSE-DG
SUPPORT	WAREHOUSE-MAS



Central Energy Management System

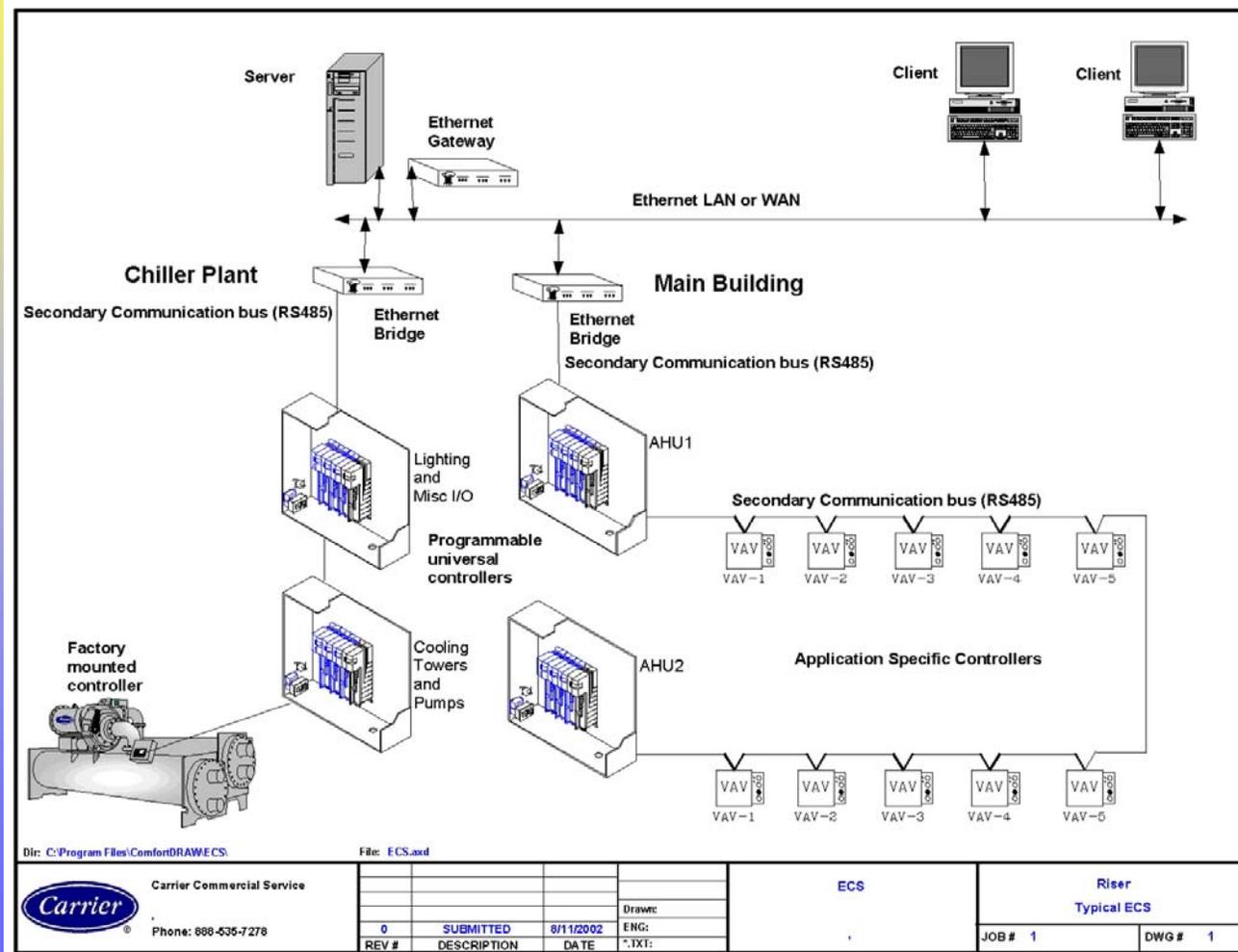


Notes:

* - Upgrade in Progress



Carrier EMS Network





Energy Management Field Panels



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Energy Management System (EMS) Reports

- **Creates Web Interface for Carrier Reports**
 - Alarm Summary Report
 - System Activity Report
- **Reports Updated Daily**
- [EMS Reports Demo](#)



Utility Reporting System (URS)

- **Intranet Database Program**
 - Use web browser to graph and report utility usage
- **Monthly Billing Data**
 - Utility bill data downloaded monthly from utility
- **Hourly Interval Data**
 - Power monitoring systems
 - Energy management systems
 - Other submetering systems
- [URS Demo](#)





Electric Sub-Meters



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2003 Energy Water Meters



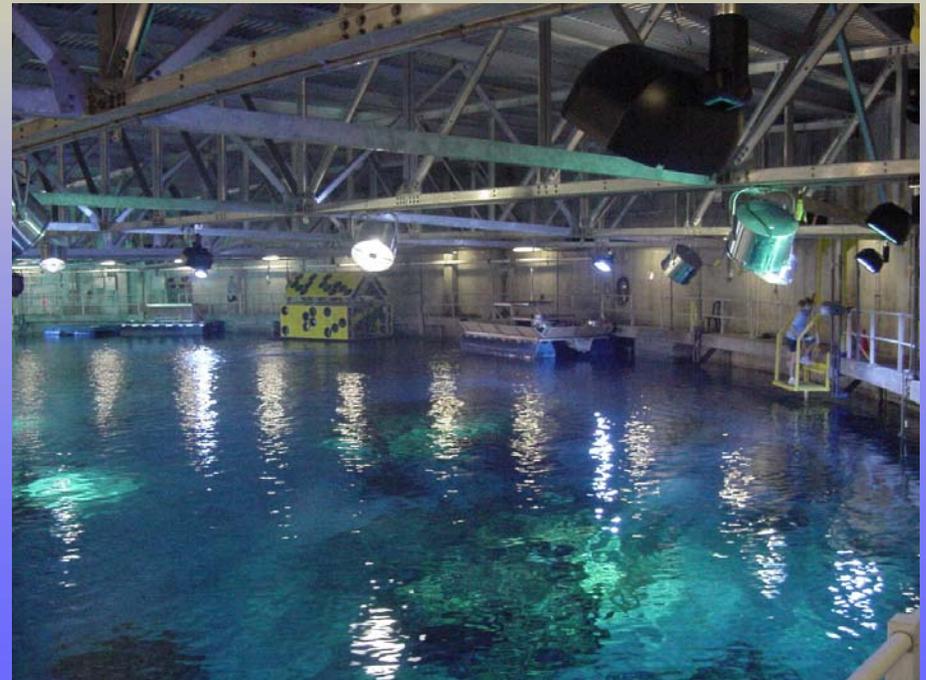


Living Seas Tank Lighting



Before - 1000W Fixtures

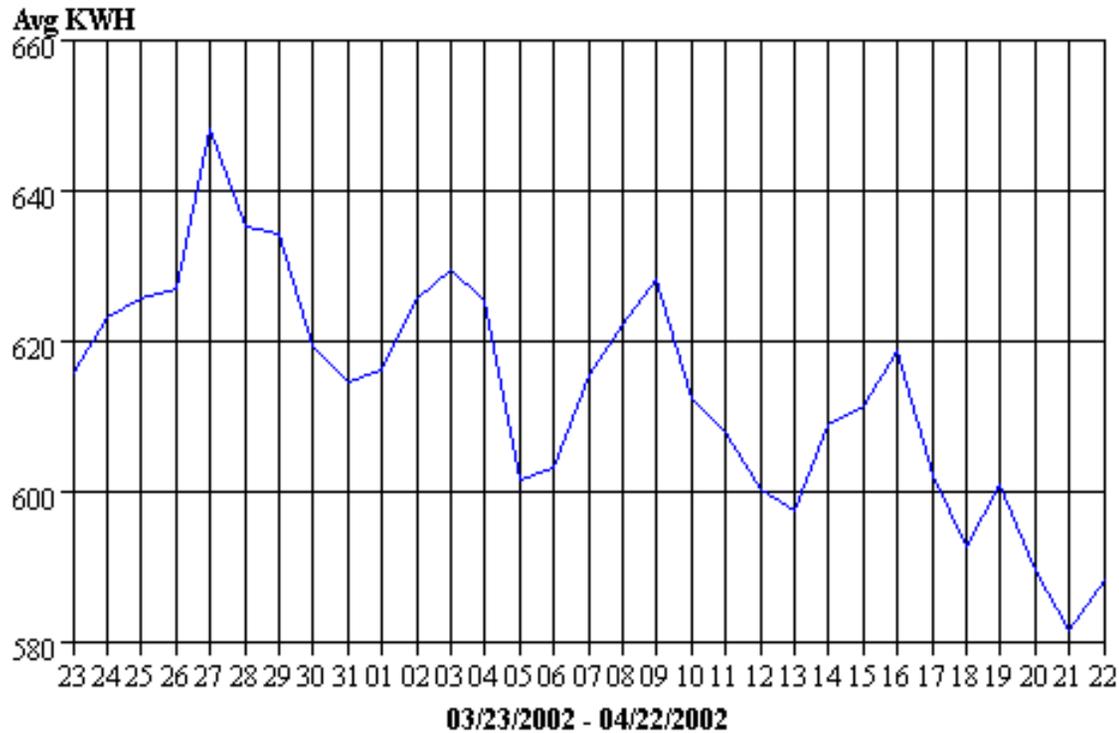
After - 250W & 400W Fixtures





Living Seas Tank Lighting

HOUR(S) 13-18 - Division = PARKS - Area = EPCOT
SUBAREA = SEAS



-50 KW

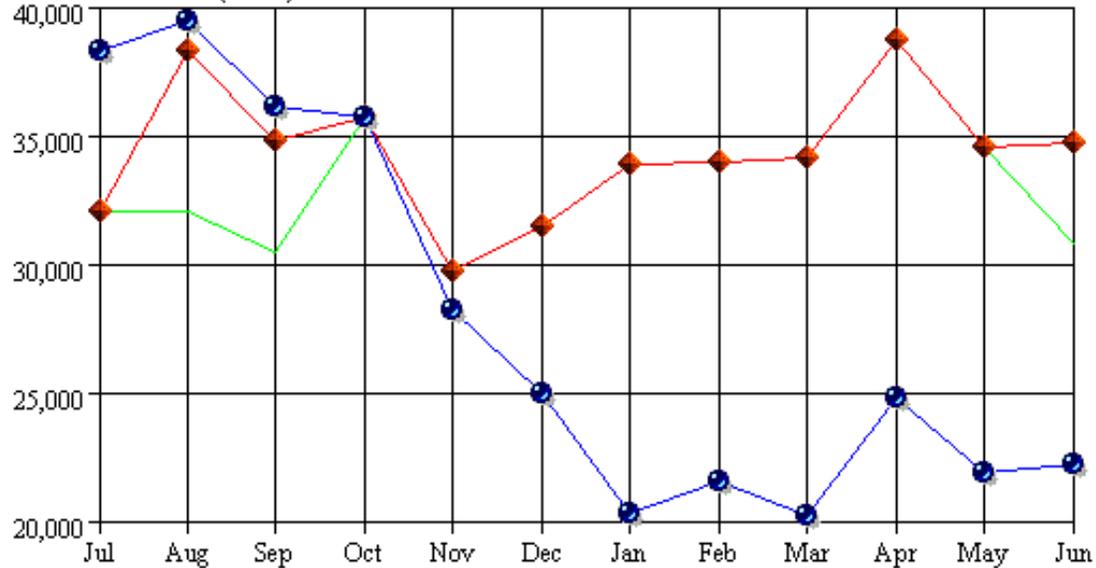
— ELECTRIC



Sports Complex Energy Saving Mods

WDW SPORTS AREA Cost, Consumption and Budget Comparison, Month Range Jul FY 1998 to Jun FY 1999

AVG ELECTRIC PER DAY (KWH)



-40%

● Current Period Use ◆ Prior Period Use — Current Period Budget

Installed VSD on HVAC Units, Optimized Control Algorithms, Used CO2 Sensors to Control Outside Air

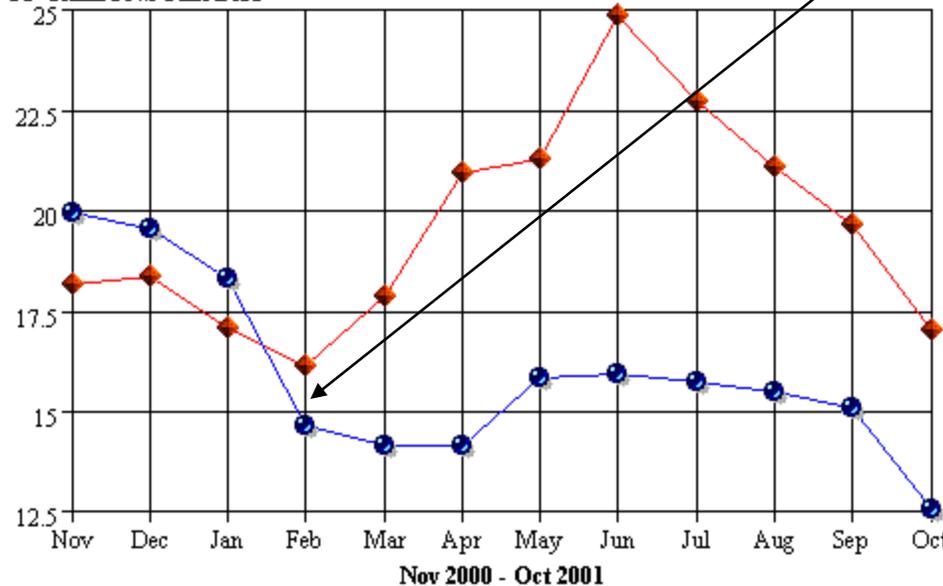


Daily Production Report

Water Savings Reductions

Monthly Profile for WDW, WATER, TOTAL CONSUMPTIVE USE - Avg.

MILLIONS OF GALLONS PER DAY



Start Water Restrictions

Water Savings:
- 2 Billion Gallons
- 28% Reduction

● Current Year ◆ Prior Year

Used Reclaim Water for Cooling Towers, Park Wash Down, Reduced Irrigation Frequency.



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Utility Reporting System



Visit <http://www.utilityreporting.com>

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