From:

John Butler Miki Crowell

To:
Date:
Subject:

6/2/2009 2:59 PM Fwd: Energy Efficiency and Conservation Block Grant

And Another....

DOCKET					
09-OII-1					
•					
JUL 23 2009					

>>> John Heinz <<u>johnh@energycap.com</u>> 5/28/2009 11:02 AM >>> Dear Energy Professional,

Management of energy data is foundational to energy efficiency. Therefore, an effective energy efficiency strategy for any community should include energy management software. EnergyCAP® Energy Efficiency Software and the GreenQuest™ personal energy information tool have a proven track record of helping organizations and individuals manage their energy information, leading to greater energy efficiency. Through the Energy Efficiency And Conservation Block Grant (EECBG), communities can purchase these vital technologies without using scarce budgeted funds.

www.energycap.com www.mygreenquest.com

As you may know, the American Recovery and Reinvestment Act of 2009 (ARRA) was signed into United States law on February 17, 2009 in order to stimulate the economy's growth and to create and maintain jobs. This Act, Public Law 111-5, provides funding to the Department of Energy (DOE) in order to appropriate monies to states (and US territories), cities and counties, and Indian tribes in accordance with the EECBG program.

We've prepared a special document that describes ARRA and EECBG in detail and demonstrates how the purchase, implementation, and support of EnergyCAP and GreenQuest can be completely funded by EECBG. Click here to read the document. <a href="http://www.energycap.com/support/download/using-the-energy-efficiency-and-conservation-block-grant-for-community-wide-energy-efficiency.pdf/">http://www.energycap.com/support/download/using-the-energy-efficiency-and-conservation-block-grant-for-community-wide-energy-efficiency.pdf/</a>

You can also visit <u>www.EnergyCAP.com/eecbg</u> to view this document and other resources related to ARRA and EECGB.

Current government-funded users of EnergyCAP and GreenQuest include:

- State Governments: Colorado, Georgia, Maryland, Montana, South Dakota, Tennessee
- City Governments: Baltimore, District of Columbia, Minneapolis, Newport News, Oklahoma City, Sacramento, San Francisco
- County Governments: Chesterfield VA, Fairfax VA, Hennepin MN, Loudoun VA, Orange CA, Riverside CA, Santa Barbara CA

Universities: All Univ. of California campuses, Colorado State, George Mason, Kansas, Penn State, Syracuse, UAB, UNLV, Yale

From:

John Butler Miki Crowell

To:
Date:

6/2/2009 2:55 PM Fwd:

Subject:
Attachments:

Introduction American Recovery and Reinvestment Act (ARRA) of 2009 - Flozon

e Technology Details-Attach1.pdf

And another... Thanks.

>>> "Corey B. James" <<u>ciames@flozone.com</u>> 5/19/2009 9:40 AM >>>

TO: John Butler, II -- Chief Deputy Director

FROM: Flozone Services, Inc.

SUBJ: re: American Recovery and Reinvestment Act (ARRA) of 2009 and the shovel-ready Flozone Services, Inc. Technologies and Services

Raymond,

With the initial positive response of our ARRA Stimulus email to many of our S.E. States, Flozone Services, Inc. would like to introduce you to our "shovel-ready" technology that provides energy and water conservation with the added benefit of being a sustainable "green-friendly" technology.

Beyond just being "shovel-ready" and in meeting all of the ARRA funding requirements, Flozone Services, Inc. technology can deliver the following now:

- . Produces savings of \$.40 per square foot per year in typical office building
  - Produces a Return on Investment (ROI) of 20+ %
- . Provides Utility Savings Electrical, Water & Sewage reductions of 20+%
- . Provides Cost Avoidance HVAC maintenance and chemical costs are reduced and premature and costly replacement of equipment can be mitigated or eliminated

The State of Tennessee continues to aggressively pursue the utilization of the ARRA funding to immediately install Flozone technology to lower utility costs and lower maintenance costs in the short and long term. The response from all other S.E. States has been encouraging in that many see the potential of saving both water and energy with our technologies.

Corey B. James

Director, Energy Performance & Conservation - Intelligent Building Systems

Flozone Services, Inc.

330 S Maple Street

Adamsville, TN 38310

Office: ( )

Cell: ( )

Fax: (731) 632-3223

http://www.flozone.com/>



#### Introduction for the American Recovery & Reinvestment Act 2009

Flozone Services, Inc. is a company with the products and services that make the implementation of the American Recovery and Reinvestment Act of 2009 easy. Flozone meets all the purposes, principles, and special terms & conditions and:

- Meets all Funding Requirements
- Produces Savings of \$.40 per square foot per year in typical office building
- Produces ROI of 20+ %
- Live monitoring and reporting via the Internet built into every system

Flozone Services, Inc. takes a full service approach to understanding and managing the entire HVAC heating and cooling systems as related to water and air quality. Flozone products are environmentally responsible with proven and reliable technologies, the best control systems and superior after-sales service. Our products and solutions for Building HVAC system management (Heat Transfer Solutions) are:

- **Shovel Ready** -Proprietary software driven solutions developed in 48 hours with minimum input and guaranteed results with live read verified results
- Utility Savings Electrical, Water & Sewage reductions of 20+%
- Cost Avoidance HVAC-- Maintenance Expense, Chemical Cost, and premature and costly replacement of equipment

Flozone Services, Inc. develops, designs and manufactures systems that are monitored, managed and serviced by trained and authorized Flozone personnel and experienced technicians. Our company is:

- Tennessee based minority owned company (Adamsville TN)
- In business 25+ years: over \$25 million spent in R & D and Product Development
- Partnered with major companies to offer solutions throughout the U.S. (Siemens, ESG, Trane, Regional Mechanical Contractors and others)

Flozone Services, Inc. HVAC Integrated Management System (IMS) is 24/7 monitored and managed for the life of the contract.

- Baseline of HVAC system operational parameters
- Clean up of HVAC existing heat transfer surfaces
- Ensure highest level of performance-95%+ efficiency of HVAC Systems
- Live read of results and verification via the Internet



Flozone Services, Inc. HVAC management offers green and sustainable solutions that provide:

- LEED and Energy Star points developed for building certification
- Elimination of On-Site Handling and Storage of Dangerous Chemicals
- Elimination of Chemicals in Cooling Tower bleed water (irrigation ready)
- Elimination of Legionella risk in cooling tower water
- Sustainable through ongoing monitoring and management for the life of the building

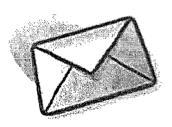
#### **Proven Results with Major Clients:**

State of Tennessee Harrah's Casinos

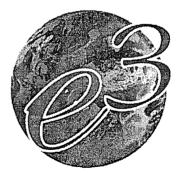
HCA Nashville Metro Water
CBL Developers Metro Nashville Schools
Highwood Property Management Nashville Electric Service

Tennessee Board of Regents Tennessee Department of Corrections

Contact Flozone Services, Inc. to see how easy (Hit the EASY Button) it is to qualify a facility for inclusion in the Recovery Act of 2009 and reap the many savings and benefits for years to come.



Request more information



Website

# energy | water | life

In today's world, these three words evoke the same thought, COST.

Rising utility and maintenance Costs coupled with a decaying environment are on the forefront of everyone's minds. How can companies have a sustainable future without causing further harm to our natural resources?

There is a way to reduce utility costs, maintenance costs, and improve the tenvironment. Our integrated Water, Energy, & Air Mahagement Program provides sustainable "green-friendly" solutions through technology.

Flozone Services takes a full service approach to understanding and managing the entire HVAC heating and cooling system as related to water and air quality. Flozone offers cost effective programs that are environmentally responsible with proven technology, the best control systems, and superior service.

In today's market climate, cost reductions and Return On Investments are Vital for any facility to thrive. Flozone Services can help your facility achieve its sustainable future with proven

Flozone, Services, Inc.



#### 24/7 Remote Monitoring

E3 SENTINEL 24/7 Monitoring & Management System utilizes our remote monitoring to provide your facility's HVAC system with better service and tighter controls. As part of our comprehensive service, the E3 Sentinel can provide the needed "real-time" monitoring and verification of the total system performance.

- Manage & provide verification (reducing maintenance costs)
- Maximize system performance (reducing utility costs)
- · Integrate with building controls



#### Integrated Management System

Cooling Towers are used to transfer heatfrom the coils of a Heat Exchanger/Chiller to the open condenser water, transferring heat from water to air. With two forms of heat transfer surfaces, these systems become fouled easily. IMS units are designed for each facility, with the QED "RF", ozone generators, mixing columns, and distribution systems fully customized.

- Improve heat transfer (reducing utility costs)
- Maintain clean system (reduce maintenance cost)
- Increase cycles of concentration (reduce water/energy consumption)
- Biological control (eliminate Legionella risk)
- Eliminate chemicals (condenser water) effluent suitable for irrigation



# Indoor Air Quality & Air Handler System

Air Handlers utilize coils to transfer heat to/from the closed loops as well as circulate air throughout the Facility. ZoneAir eliminates the biological contaminants that cling to the cooling coils and is also designed to control odors and microorganisms throughout the entire facility.

- Improve heat transfer (reduce energy cost)
- Maintain clean coils (reduce maintenance cost)
- Reduce odors, bacteria & stale air (IAQ improved)

# PFS

#### Filtration Systems

Closed loop systems transfer the heat between the Internal and External equipment to heat/cool the Facility. The PFS cleans these loops to maximize the efficiency of the system.

- Improve heat transfer (reduce energy cost)
- · Maintain clean loops (reduce maintenance cost)
- RF Enhanced system (scale control)
- Portable & Permanent applications



# **U.S.** Department of Energy

# American Recovery and Reinvestment Act of 2009

- Program (EECBG)

# **Energy Efficiency and Conservation Strategy**

Presented by:

Flozone Services, Inc.



## Flozone Services, Inc

### **Solutions with Technology**

**Proven Energy Savings** 

**Proven Water Savings** 

**Proven Cost Avoidance** 

**Green Technology** 

**Long Term Sustainability** 

15 Years Research & Development

**Designed & Manufactured in Tennessee** 

**Immediate & Long Term Employment** 

An Integrated HVAC Water, Energy & Air Management Company



#### **Table of Contents**

- I. HVAC Monitoring & Management System Overview
- II. Special Terms & Conditions Addressed
- III. EECBG Program Purpose Addressed
- IV. EECBG Program Principles Addressed
- V. Outline of Funding Priorities Addressed
- VI. Average Facility Savings & Benefits Profile
- VII. Examples of Flozone System Performance
  - R.S. Gass Facility IMS System only
  - T.B.I. Facility IMS System only
  - Highwoods Properties IMS & PFS Systems
  - MNPS − IMS & PFS Systems

# energy water life

LOZONE

I. HVAC Monitoring & Management System Overview



E3 SEMINEL 24// Monnoning & Manage 24/7 Remote Monitoring



Integrated Manag

Cooling Towers are used to transfer hea

hear between the internal and Clased loon systems translar th

hear to from the closest toops a h Air Handler System

Fittration Systems

inprove heat transfer (reduce ener of the system



#### II. Special Terms & Conditions Addressed

Be advised that special terms and conditions may apply to projects funded by the Act relating to:

I. Reporting, tracking and segregation of incurred costs;
All cost and related savings (by facility) can and will be reported live via
the internet

II. Reporting on job creation and preservation;

Any new orders as related to Flozone Systems will create new jobs in mfg & monitoring and the service side is somewhat of a swap as some HVAC Systems are serviced but not to the extent that is required to achieve the level of performance and savings that are provided by Flozone's management

III. Publication of information on the Internet;
All management and resulting performance and savings and benefits are produced live via the internet

IV. Access to records by Inspectors General and the Government Accountability Office;

All cost and results available via the internet

V. Prohibition on use of funds for gambling establishments, aquariums, zoos, golf courses or swimming pools;

HVAC System management on designated state facilities

VI. Ensuring that iron, steel and manufactured goods are produced in the United States;

All Systems are engineered and manufactured in Tennessee

VII. Ensuring wage rates are comparable to those prevailing on projects of a similar character;

Can be accomplished with payroll reporting via the internet

VIII. Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general; and N/A

IX. Certification and Registration.

N/A





#### III. EECBG Program Purpose Addressed

# The purpose of the EECBG Program is to assist eligible entities in creating and implementing strategies to:

 Reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities;

Flozone HVAC System Management provides the following:.

- Reduced electrical demand (most of TVA power is fossil fuel produced)
- Reduced electrical kwh consumption (most TVA power is fossil fuel produced)
- 27 Gallons of water is saved for each kwh of electricity saved
- Flozone's systems will provide on-going 24/7
  Monitoring/Management of HVAC Systems to insure maximum level of performance and savings and report results Live via the Internet
- Cooling Tower water consumption is reduced 20 %
- **❸** All cooling tower water treatment chemicals are eliminated:
  - > Reducing the fossil fuels needed to produce them
  - > No chemicals in cooling tower bleed water
    - o Water usable for Irrigation and other purposes
    - o No dangerous chemicals enter sewer and/or storm drains
    - o Fewer chemicals needed at sewer treatment facilities
    - o No handling and storage of dangerous chemicals on-site
- II. Reduce the total energy use of the eligible entities; and
  Flozone reduces the overall electrical demand and kwh consumption 20%
  of each facility and 24/7 monitors/manages to insure maintaining this
  efficiency level going forward and reports the actual efficiency levels and
  savings live via the internet
- III. Improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors.

Flozone addresses the building sector (see above)





#### IV. EECBG Program Principles Addressed

# DOE has developed the following core principles to guide entities during the program and project planning process:

- I. Prioritize energy efficiency and conservation first as the cheapest, cleanest, and fastest ways to meet energy demand.
  - All Flozone's HVAC Management Systems were developed and designed to improve utility efficiency in existing buildings with the #1 focus on energy improvement by cleaning "Heat Transfer Surfaces" and maintaining them in a clean state to insure maximum heat transfer and improved energy efficiency and resulting utility savings and reduced maintenance cost
- II. To maximize benefits over the longest possible terms, entities should look for ways to link their energy efficiency efforts to long-term priorities (especially community economic development, community stabilization and poverty reduction efforts).
  - All Flozone HVAC Management Systems are 24/7 Monitored/Managed to maximize the long term benefits and savings going forward and to report and verify the resulting performance and savings. Flozone systems are manufactured to 20 year life expectancy and are covered with a 100% warranty on all parts and labor for the life of the management contract. Flozone systems are not sold without an on-going Monitoring/Management and Warranty Agreement to ensure maximum performance of the Flozone equipment, the HVAC supported equipment and for reporting and verification of savings and benefits.
- III. Invest funds in programs and projects that create and/or retain jobs and stimulate the economy while meeting long term energy goals.
  Each system sold creates Tennessee jobs in manufacturing and monitoring and insures maximizing energy efficiency on every facility that it is installed on 24/7 reports and verifies the results
- IV. Target programs and projects that will provide substantial, sustainable and measurable energy savings, job creation and economic stimulus effects.

Flozone HVAC Management Systems provide:

- Substantial Energy Savings 20% reduction in kwh & kw demand
- Sustainable & Measurable energy savings
- 24/7 Monitoring/Management is available on all systems to insure maximum operational efficiency levels
- Reporting and Verification of savings and benefits
- Every new system sold and installed creates TN jobs in mfg/installation and monitoring





- V. Give priority to programs and projects that leverage federal funds with other public and private resources, including coordinated efforts involving other Federal programs targeting community development funded through the Recovery Act such as the Community Development Block Grant program, HOME, and job training programs.

  N/A
- VI. To the extent possible, develop programs and strategies that will continue beyond the funding period.

Flozone systems components are manufactured to 20 year life expectancy and are covered with a 100% warranty on all parts and labor for the life of the management contract. Flozone systems are not sold without an ongoing Monitoring/Management and Warranty Agreement to ensure maximum performance of the Flozone equipment, the HVAC supported equipment and for reporting and verification of savings and benefits.

VII. Ensure oversight, transparency, and accountability for all program activities.

Flozone provides 24/7 Monitoring and reporting of all performance levels and resulting benefits and savings via the internet for the life of the contract and it can be customized to the customer needs

VIII. Enact policies that transform markets, increase investments, and support program goals.

N/A

IX. Develop comprehensive plans that benchmark current performance and set aggressive goals.

All levels of current HVAC performance are base lined prior to start up of Flozone Systems:

- Cooling Tower capacity by measurement of condenser/chiller water delta T
- Chiller efficiency by kW/Ton VS design (when available) and/or for comparison to actual kW/Ton for kW/Ton improvement to compute improvement and \$ savings
- Air Handlers and/or Fan coils are base lined for efficiency loss due to poor closed loop water flow and heat transfer and poor air flow and heat transfer due dirty coils

All performance levels are monitored 24/7 and reported to insure performance and report actual levels of efficiency and dollar savings

Goals are set to maintain HVAC System Performance at 95+% of Original Design (95% Efficiency)



#### V. Outline of Funding Priorities Addressed

Preference given to projects that can be started & completed expeditiously

Work can begin on 22 facilities upon receipt of PO and all facilities completed within 18 months

Recovery Act Funds must be tracked and reported
Flozone 24/7 remote monitors all results VS before Flozone
baseline; live via the internet and all information is summarized
for all facilities and can be custom designed to meet RA and state
requirements for reporting

Prioritize energy efficiency and conservation first as is the cheapest, cleanest, and fastest way to **meet energy demand** (reduce demand) This is Flozone's primary focus; improving all "Heat Transfer Surfaces" on existing HVAC Systems to reduce electrical consumption and demand 20 %and maintaining these levels with 24/7 Monitoring/Management and reporting live the actual results

Period of performance funded **36 months** by RA funds (need to look at 36 months initial and 12 years afterwards)

Flozone's management systems can be installed in less than 30 days (typical facility) and resulting improvements and savings begin immediately and produce 20+ % ROI in short term (recouping equipment cost) and over the long term 35+ %

All funds must be committed in 18 months
All facilities committed to the Flozone System improvements can
be completed in 18 months





# VI. Average Facility Savings & Benefits Profile

# Flozone Water & Energy Management Service State of Tennessee

Nashville, Tennessee

Average Building

First Year Savings

Flozone Services, Inc.

Total Tonnage	78 S S S S C 1	ictomer Failli	oment Pro	file:	4 . 194		AGE Y	Date	3/	/25/2009
Average Hours of Operation per With Age of Cooling Tower Evaporation Credit (yes/no)		astorner::Equi	<i>-</i>		OLUMBACO (CO.					(\$150.00 to \$100.00 to
Average Hours of Operation per Wik Age of Cooling Tower Evaporation Credit (yes/no)   10					•					
Age of Cooling Tower   7						<u> </u>			5	
Evaporation Credit (yes/no)   S	Average Ho	•	· <del>     </del>							
Cost of Water/1000 Gals.   S   2.780   S   4.750   S   Cost of Sewer/1000 Gals.   S   Cost of Sewer/1000 Gals.   S   Cost of Sewer/1000 Gals.   S   S   Cost of Sewer/1000 Gals.   S   S   Cost of Sewer/1000 Gals.   S   S   S   S   S   S   S   S   S	E		· 1 <del>11</del>			~	_		2	
Summary.of.Benefits and Savings			· <del>                                     </del>							
Summary of Benefits and Savings   Summary of Operating Assumptions   Summary of Oper			1.0		FIO				-	
Water and Sewer Cost and Savings   State   19,500   State   15,721   Savings   15,721	•	COSE OF 36 W 617 100	0 Gais.	4.7.00					-	104,305
Evaporation Credit   \$ - \$ 9,233 \$ 9,233	Sı	ummary of Be	nefits and	Savings		ST. BY			t .	() (ATT COLUMN
Electrical Cost   KWh   \$ 79,834   \$ 59,405   \$ 20,429		Water and Sewe	r Cost and Sa	wings						Savings 3,779
Electrical Cost   KWDemand Charge   \$ 43,426   \$ 32,314   \$ 11,112		Evaporation Cre	dit		\$	-	\$	9,233	\$	9,233
Chem. WT Additional Cost (chiller CT cleaning \$ 1,509 \$ - \$ 1,509		Electrical Cost	kWh		\$	79,834	\$	59,405	\$	20,429
Chemical WT Annual Service and Chem. Cost		Electrical Cost	KWX	mand Charge	\$	43,426	\$	32,314	\$	11,112
Savings   Baseline   Kwh   Flozone   Kwh   Savings   Kwh   Baseline   Gallons   Flozone   Gallons   Savings   Gallon		Chem. WT Addit	tional Cost (c	hiller CT cleanin	g \$	1,509	\$	-	\$	1,509
Savings   Baseline Rwh   Flozone-kwh   Savings-kwh   Baseline-Gallons   Flozone-GallonsSavings-Gallon		Chemical WT Ar	nnual Service	and Chem. Cos	t \$	4,194	\$	-	\$	4,194
Jan		Annual Savings	with Flozone	for First Year					\$	50,256
Feb 57;511 42,795 14,717 104,703 84,411 20,291 Mar 79,078 58,843 20,235 143,966 116,066 27,900 April 112,147 83,450 28,698 204,170 164,602 39,568 May 150,968 112,336 38,631 274,844 221,580 53,264 June 195,539 145,502 50,037 355,989 286,999 68,990 July 218,543 162,620 55,923 397,870 320,763 77,107 Sept 146,654 109,127 37,528 266,992 215,249 51,743 Oct 100,645 74,891 25,754 183,230 147,720 35,510 Nov 63,263 17,074 16,188 115,173 92,853 22,320 Dec 38,820 28,886 9,934 70,674 56,978 13,697 1,420,633 1,057,030 363,602 2,586,155 2,084,962 501,193 Gallons of Chemicals	Samuel Carrier Carrier	and the state of t			, Basei		F1020	terror the second second	ssavii	
Mar         79,078         59,843         20,235         143,966         116,066         27,900           April         112,147         83,450         28,698         204,170         164,602         39,568           May         150,968         112,336         38,631         274,844         221,580         53,264           June         195,539         145,502         50,037         355,999         286,999         68,990           July         218,543         162,620         55,923         397,870         320,763         77,107           Aug         218,543         162,620         55,923         397,870         320,763         77,107           Sept         146,654         109,127         37,528         266,992         215,249         51,743           Oct         100,645         74,891         25,754         183,230         147,720         35,510           Nov         63,263         47,074         16,188         115,173         92,853         22,320           Dec         38,820         28,886         9,934         70,674         56,978         13,697           Levaluations of Chemicals         Chemical         Chemical         76,669         \$ 1,573	Jan	38 820	20.006							
April 112,147 83,450 28,698 204,170 164,602 39,568 May 150,966 112,336 36,631 274,844 221,580 53,264 June 195,539 145,502 50,037 355,989 286,999 68,990 July 218,543 162,620 55,923 397,870 320,763 77,107 Aug 218,543 162,620 55,923 397,870 320,763 77,107 Sept 146,654 109,127 37,528 266,992 215,249 51,743 Oct 100,645 74,891 25,754 183,230 147,720 35,510 Nov 63,263 47,074 16,188 115,173 92,853 22,320 Dec 38,820 28,886 9,934 70,674 56,978 13,697 1,420,533 1,057,030 363,502 2,586,155 2,684,962 501,193  Gallons of Water-trrigation NONE 476,669 \$ 1,573 Chemical WT Flozone Gallons of Chemicals 427,6 20,3 407,3  Summary Of Operating Assumptions chemical:  Chiller kW/Ton 0,848 0,737  Cycles of Concentration 2,92 5,50  Evaporation Rate 10,5 10,5  Gals. Evaporated Annually 1,678,413 1,678,413  Bleed Rate 5,5 2,3  Gals. Bled Annually 874,174 372,981  Drift Loss 33,568 33,568	e a la									
May		57;511	42,795	14,717		104,703		84,411		20,291
June         195,539         145,502         50,037         355,989         286,999         68,990           July         218,543         162,620         55,923         397,870         320,763         77,107           Aug         218,543         162,620         55,923         397,870         320,763         77,107           Sept         146,654         109,127         37,528         266,992         215,249         51,743           Oct         100,645         74,891         25,754         183,230         147,720         35,510           Nov         63,263         47,074         16,188         115,173         92,853         22,320           Dec         38,820         28,886         9,934         70,674         56,978         13,687           1,420,633         1,057,030         363,602         2,586,155         2,084,962         501,193           Gallons of Water-Irrigation         NONE         476,669         \$ 1,573           Chemical WT         Flozone           Chemical WT         Flozone           Chillier kW/Ton         0.848         0.737           Cycles of Concentration         2.92         5.50	Mar	57;511 79,078	42,795 58,843	14,717 20,235		104,703 143,966		84,411 116,066		20,291 27,900
July         218,543         162,620         55,923         397,870         320,763         77,107           Aug         218,543         162,620         55,923         397,870         320,763         77,107           Sept         146,654         109,127         31,528         266,992         215,249         51,743           Oct         100,645         74,891         25,754         183,230         147,720         35,510           Nov         63,263         47,074         16,188         115,173         92,853         22,320           Dec         38,820         28,986         9,934         70,674         56,978         13,697           1,420,653         1,057,030         363,602         2,586,155         2,084,962         501,193           Gallons of Water-Irrigation         NONE         476,669         \$ 1,573           Chemical WT Flozone           Chemical WT Flozone           Chemical WT Flozone           Chillier kW/Ton         0.848         0.737           Cycles of Concentration         2.92         5.50           Evaporation Rate         10.5         10.5           Gals. Evaporated Annually<	Mar April	57;511 79,078 112,147	42,795 58,843 83,450	14,717 20,235 .28,698		104,703 143,966 204,170		84,411 116,066 164,602		20,291 27,900 39,568
Sept         146,654         109,127         37,528         266,992         215,249         51,743           Oct         100,645         74,891         25,754         183,230         147,720         35,510           Nov         63,263         47,074         16,188         115,173         92,853         22,320           Dec         38,920         28,986         9,934         70,674         56,978         13,697           1,420,633         1,057,030         363,602         2,586,155         2,084,962         501,193           Gallons of Water-trrigation         NONE         476,669         \$ 1,573           Chemical WT Chemical WT Flozone	Mar April May	57;511 79,078 112,147 150;968	42,795 58,843 83,450 112,336	14,717 20,235 .28,698 38,631		104,703 143,966 204,170 274,844		84,411 116,066 164,602 221,580		20,291 27,900 39,568 53,264
Oct         100,645         74,891         25,754         183,230         147,720         35,510           Nov         63,263         47,074         16,188         115,173         92,853         22,320           Dec         38,820         28,886         9,934         70,674         56,978         13,692           1,420,653         1,657,030         363,502         2,686,185         2,684,962         \$01,183           Gallons of Water-Irrigation         NONE         476,669         \$1,573           Chemical WT Chemical WT Flozone Gallons of Chemicals         20.3         407.3           Summary of Operating Assumptions Chemicals         Flozone Flozone Chiller kW/Ton         0.848         0.737           Cycles of Concentration         2.92         5.50           Evaporation Rate         10.5         10.5           Gals. Evaporated Annually         1,678,413         1,678,413           Bleed Rate         5.5         2.3           Gals. Bled Annually         874,174         372,981           Drift Loss         33,568         33,568	Mar April May June	57;511 79,078 112,147 150;968 195;539	42,795 58,843 83,450 112,336 145,502	14,717 20,235 28,698 38,631 50,037	٠	104,703 143,966 204,170 274,844 355,989		84,411 116,066 164,602 221,580 286,999		20,291 27,900 39,568 53,264 68,990
Nov   63,263   47,074   16,188   115,173   92,853   22,320	Mar April May June July	57;511 79,078 112,147 150,968 195;539 218,543	42,795 58,843 83,450 112,336 145,502 162,620	14,717 20,235 .28,698 38,631 50,037 55,923		104,703 143,966 204,170 274,844 355,989 397,870		84,411 116,066 164,602 221,580 286,999 320,763		20,291 27,900 39,568 53,264 68,990 77,107
Dec   38,820   28,886   9,934   70,674   56,978   13,697   1,420,633   1,067,030   363,602   2,586,155   2,084,962   501,193     Gallons of Water-trrigation   NONE   476,669   \$ 1,573   Chemical WT   Flozone   427.6   20.3   407.3     Summary of Operating Assumptions   Chemical: Flozone   Chiller kW/Ton   0,848   0,737   Cycles of Concentration   2,92   5,50   Evaporation Rate   10.5   10.5   Gals. Evaporated Annually   1,678,413   1,678,413   Bleed Rate   5,5   2,3   Gals. Bled Annually   874,174   372,981   Drift Loss   33,568   33,568   33,568	Mar April May June July Aug Sept	57;511 79,078 112,147 150,968 195;539 218,543 218,543 146,654	42,795 58,843 83,450 112,336 145,502 162,620 162,620	14,717 20,235 .28,698 38,631 50,037 55,923 55,923	-	104,703. 143,966 204,170 274,844 355,989 397,870 397,870		84,411 116,066 164,602 221,580 286,999 320,763 320,763		20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743
Gallons of Water-Irrigation NONE Chemical WT Flozone Gallons of Chemicals Chemical WT Chemical WT Gallons of Chemicals Chemical WT Gallons Gallons of Chemicals Chemical WT Gallons	Mar April May June July Aug Sept Oct	57;511 79,078 112,147 150,968 195;539 218,543 218,543 146,654	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891	14,717 20,235 .28,698 39,631 50,037 55,923 55,923 37,528	-	104,703. 143,966 204,170 274;844 355,989 397,870 397,870 266,992		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720		20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510
Summary of Operating Assumptions   Chemical WT   Flozone   407.3   407.3	Mar April May June July Aug Sept Oct Nov	57:511 79,078 112,147 150:968 195:539 218:543 218:543 146:654 100:645 63:263	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891	14,717 20,235 .28,698 38,631 50,037 55,923 55,923 37,528 25,754 16,188	-	104,703. 143,966 204,170 274,844 355,989 397,870 397,870 266,992 183,230 115,173		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853		20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320
Chemical WT   Flozone   20.3   407.3	Mar April May June July Aug Sept Oct Nov	57:511 79:078 112:147 150:968 195:539 218:543 146:654 100:645 63:263 38:820	42,795 58,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,986	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934		104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978		20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697
Summary of Operating Assumptions   Summary of Operating Assumptions   Chemical   Flozone	Mar April May June July Aug Sept Oct Nov Dec	57:511 79:078 112:147 150:968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633	42,795 58,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934		104,703 143,966 204,170 274,844 355,989 397,870 397,870 266,992 183,230 115,173 70,674 2,586,155		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962		20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Chiller kW/Ton 0.848 0.737  Cycles of Concentration 2.92 5.50  Evaporation Rate 10.5 10.5  Gals. Evaporated Annually 1,678,413 1,678,413  Bleed Rate 5.5 2.3  Gals. Bled Annually 874,174 372,981  Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57:511 79:078 112:147 150:968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633	42,795 58,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934		104,703 143,966 204,170 274;844 355,989 397,870 397,870 266,922 183,230 115,173 70,674 2,586,155		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669	<u> </u>	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Chiller kW/Ton       0.848       0.737         Cycles of Concentration       2.92       5.50         Evaporation Rate       10.5       10.5         Gals. Evaporated Annually       1,678,413       1,678,413         Bleed Rate       5.5       2.3         Gals. Bled Annually       874,174       372,981         Drift Loss       33,568       33,568	Mar April May June July Aug Sept Oct Nov Dec	57;511 79,078 112,147 150,968 195;539 218,543 218,543 146,654 100,645 63,263 38,820 1,420,633	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934		104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone	s	20,291 27,900 39,568 53,264 68,990 77,107 51,743 35,510 22,320 13,697 501,193
Evaporation Rate 10.5 10.5  Gals. Evaporated Annually 1,678,413 1,678,413  Bleed Rate 5.5 2.3  Gals. Bled Annually 874,174 372,981  Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57:511 79,078 112,147 150,968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633  sallons of Water-Irri	42,795 58,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation	14,717 20,235 28,698 38,631 50,037 55,923 55,923 37,528 25,754 16,188 9,934 363,502	Che	104,703 143,966 204,170 274,844 355,989 397,870 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6		84,411 116,066 164,602 221,580 286,999 320,763 320,763 3215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20,3	s	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Gals. Evaporated Annually 1,678,413 1,678,413  Bleed Rate 5.5 2.3  Gals. Bled Annually 874,174 372,981  Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57:511 79,078 112,147 150,968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633  sallons of Water-Irri	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation micals	14,717 20,235 28,698 38,631 50,037 55,923 55,923 37,528 25,754 16,188 9,934 363,502	Che	104,703 143,966 204,170 274,844 355,989 397,870 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6	P	84,411 118,066 164,602 221,580 286,999 320,763 320,763 3215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3	\$	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Bleed Rate 5.5 2.3  Gals. Bled Annually 874,174 372,981  Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57:511 79,078 112,147 150,968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633  sallons of Water-Irri	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation	14,717 20,235 28,698 38,631 50,037 55,923 55,923 37,528 25,754 16,188 9,934 363,502	Che	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6	P	84,411 118,066 164,602 221,580 286,999 320,763 320,763 3215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3	\$	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Gals. Bled Annually 874,174 372,981 Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57:511 79,078 112,147 150,968 195:539 218:543 218:543 146:654 100:645 63:263 38:820 1,420:633  sallons of Water-Irri	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1.057,030 igation micals  Cycles of	14,717 20,235 28,698 38,631 50,037 55,923 55,923 37,528 25,754 16,188 9,934 363,502  SSUMPTIONS Chiller kW/Ton Concentration	Che Cl	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE emical WT 427.6	P	84,411 116,066 164,602 221,580 286,999 320,763 320,763 3215,249 147,720 92,853 55,978 2,084,962 476,669 Flozone 20.3	<b>\$</b>	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Drift Loss 33,568 33,568	Mar April May June July Aug Sept Oct Nov Dec	57,511 79,078 112,147 150,968 195,539 218,543 218,543 146,654 100,645 63,263 38,820 1,420,633  sallons of Water-Irri Gallons of Che	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1.057,030 igation micals  Cycles of Eva	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934 363,502  SSUMPTIONS Chiller kW/Ton Concentration poration Rate rated Annually	Che	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6 0.848 2.992		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3	\$	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
	Mar April May June July Aug Sept Oct Nov Dec	57,511 79,078 112,147 150,968 195,539 218,543 218,543 146,654 100,645 63,263 38,820 1,420,633  sallons of Water-Irri Gallons of Che	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation micals  Cycles of Eva Gals. Evapo	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934 363,502  SSUMPTIONS Chiller kW/Ton Concentration poration Rate rated Annually Bleed Rate	Che	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6 0.848 2.92 10.5 1,678,413 5.5		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3 1020ne 0.737 5.50 10.5 1,678,413 2.3	\$	20,291 27,900 39,568 53,264 68,990 77,107 77,107 51,743 35,510 22,320 13,697 501,193
Tot. Gals. Including Drift 2,586,155 2,084,962	Mar April May June July Aug Sept Oct Nov Dec	57,511 79,078 112,147 150,968 195,539 218,543 218,543 146,654 100,645 63,263 38,820 1,420,633  sallons of Water-Irri Gallons of Che	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation micals  Cycles of Eva Gals. Evapo	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934 363,502  SSUMPTIONS Chiller kW/Ton Concentration poration Rate rated Annually Bleed Rate	Che	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6 0.848 2.92 10.5 1,678,413 5.5		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3 1020ne 0.737 5.50 10.5 1,678,413 2.3	\$	20,291 27,900 39,568 53,264 68,990 77,107 51,743 35,510 22,320 13,697 501,193
	Mar April May June July Aug Sept Oct Nov Dec	57,511 79,078 112,147 150,968 195,539 218,543 218,543 146,654 100,645 63,263 38,820 1,420,633  sallons of Water-Irri Gallons of Che	42,795 59,843 83,450 112,336 145,502 162,620 162,620 109,127 74,891 47,074 28,886 1,057,030 igation micals  Cycles of Eva Gals. Evapo	14,717 20,235 28,698 38,631 50,037 55,923 37,528 25,754 16,188 9,934 363,502  SSUMPTIONS Chiller kW/Ton Concentration poration Rate rated Annually Bleed Rate Bled Annually	Che	104,703 143,966 204,170 274,844 355,989 397,870 266,992 183,230 115,173 70,674 2,586,155 NONE mical WT 427.6 0.848 2.92 10.5 1,678,413 5.5 874,174		84,411 116,066 164,602 221,580 286,999 320,763 320,763 215,249 147,720 92,853 56,978 2,084,962 476,669 Flozone 20.3 10zone 0.737 5.50 1,678,413 2.3 372,981	\$	20,291 27,900 39,568 53,264 68,990 77,107 51,743 35,510 22,320 13,697 501,193

Flozone Approved Verification of Savings-Novemb 0.765203



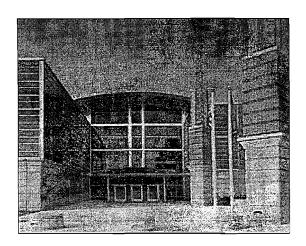
# VII. Examples of Flozone System Performance

# i. R.S. Gass Facility – IMS only



is a rotal Savings Since Janua	ry of 2003
Water Consumption Reduced	4,798,264 Gallons
Sewer Load Reduced	4,798,264 Gallons
kWH Consumption Reduced	2,138,218 kW
Demand Reduced	5,344 kW
Condenser Water Chemicals Reduced	3,356 Gallons
Labor/Extend Mech Life/Expenditures etc	\$60,702.00
Water/Sewer Expense Reduced	\$147,430.92
Energy Expense Reduction	\$160,826.90
Total Expense Reduction \$	368,959.82

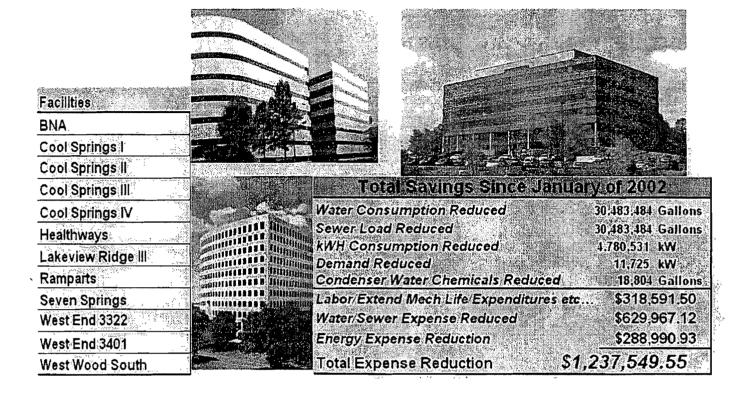
# ii. T.B.I. Facility – IMS only



Total Savings Since Ja	muary of 2004
Water Consumption Reduced	11,078,345 Gallons
Sewer Load Reduced	11,078,345 Gallons
kWH Consumption Reduced	462,830 kW
Demand Reduced	1,121 kW
Condenser Water Chemicals Reduce	ed5,716 Gallons
Labor/Extend Mech Life/Expenditure	s etc \$69,485.00 .
Water/Sewer Expense Reduced	\$161,485.67
Energy Expense Reduction	\$34,985.22
Total Expense Reduction	\$265,955.89



#### iii. Highwoods Properties - IMS & PFS Systems



#### iv. MNPS - IMS & PFS Systems











Again & Sheet and	All Sections	- with the control of	Avia (S)	The American	A Colonia Mark
Tot	al Savine	is Summ	iary Jar	1. POct. 2	008
Water/Sev	wer Expens	e Reduced	\$	12	7,999.57
Evaporati	ion Back Ci	edits	\$	26	2,600.81
Energy E	xpense Red	luction	\$	174	1,651.53
			\$	565,2	51.91

Flozone.