



# Modular Process Control, LLC

**“We Convert Cost To Profit!”**

**MPC**  
MODULAR PROCESS CONTROL



# Some of Our Clients



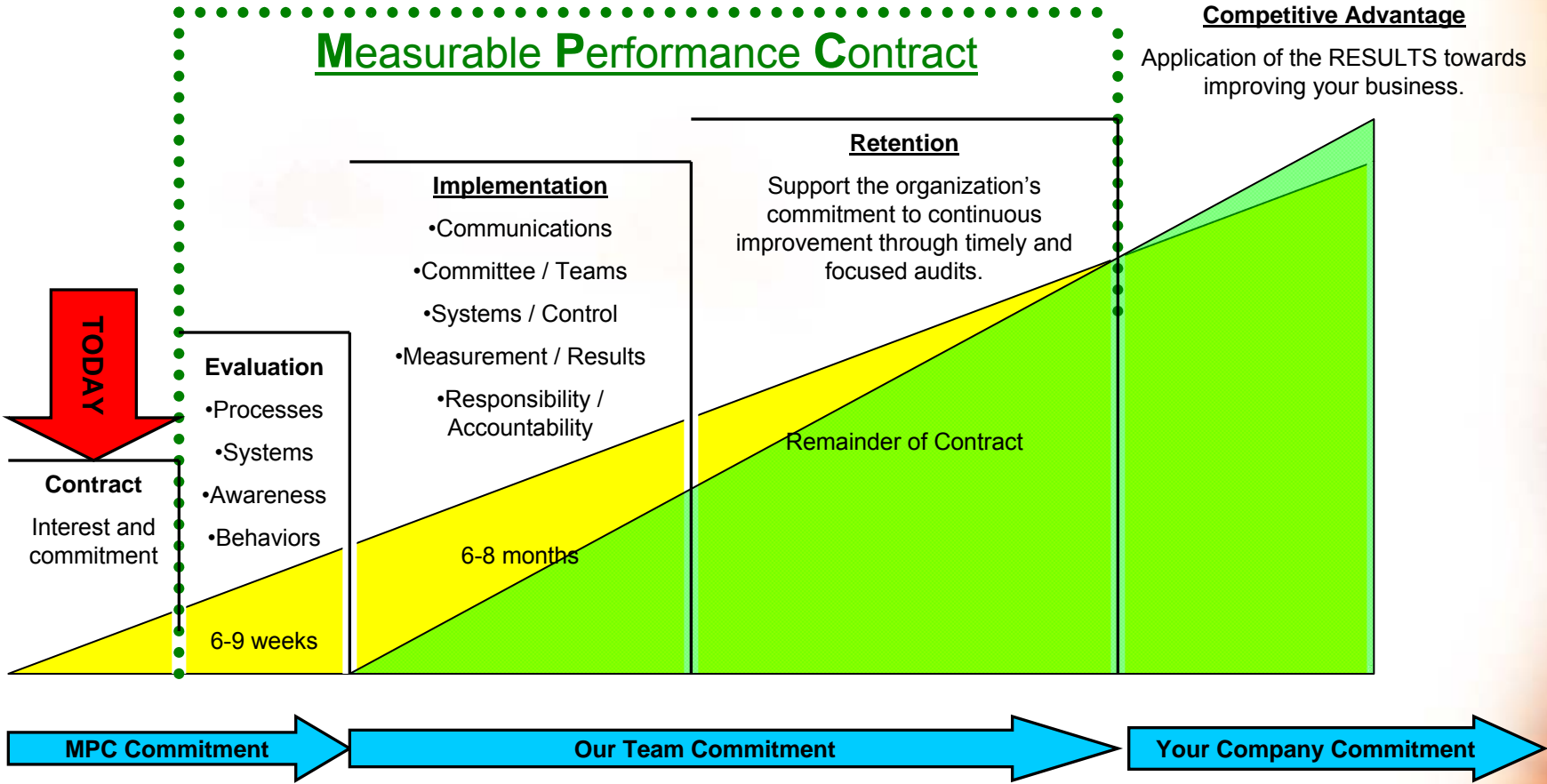
**MPC**  
MODULAR PROCESS CONTROL

*"We Convert Cost To Profit!"*

# How is MPC Different?

- We Install a Proprietary Energy Management System that:
  - Address operational, technical and behavioral factors
  - Engage organization and drive accountability down to operator level
  - Focused on reducing your Energy consumption & costs
  - *Close the gap between required and actual.*
- Results oriented-bottom line savings
- Average 10-15% consumption reductions
- Performance based business model
- Committed to perpetuate savings over time

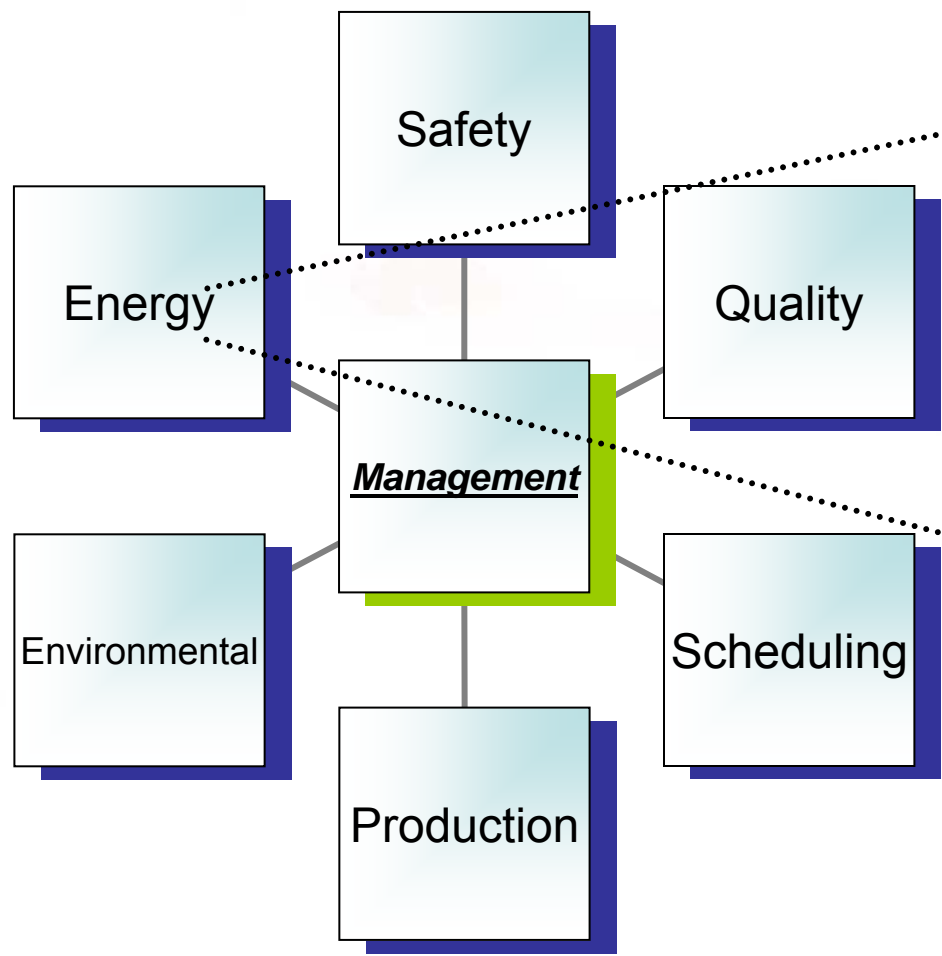
# The MPC Concept



# Key Events Schedule

PLAN ON SCHEDULE OFF SCHEDULE NO ACTIVITY	UPDATE WEEK		KEY EVENTS SCHEDULE																				UPDATE WEEK			
	ATTAINMENT (CUM)																						ATTAINMENT (CUM)			
	100%	100%	93%	108%	110%	111%	108%	107%	105%	103%	103%	105%	102%	105%	106%	108%	109%	110%	110%	111%	110%	111%	111%	8-Sep-06		
KEY EVENTS (Friday) W/E Dates	APRIL		MAY				JUNE				JULY				AUGUST				SEPTEMBER				RETENTION SERVICES 40 MONTH			
	4/7	4/14	4/21	4/28	5/5	5/12	5/19	5/26	6/2	6/9	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1		9/8	9/15	9/22
<b>COMMUNICATIONS</b>																										
Management	P																									
Roll Outs (Skip a LVL)	A																									
Update Mtgs (Top Mgmt / Ops Mgrs)	P																									
Progress Reviews	A																									
<b>INVOLVEMENT</b>																										
Energy Team Selection	P																									
Energy Team Meetings	A																									
Newsletter	P																									
Suggestion Program	A																									
<b>DATA COLLECTION</b>																										
Initial Site Energy Evaluation	P																									
Opportunity Identification	A																									
Equipment Listings	P																									
Process Flow Brown Paper	A																									
<b>MEASUREMENTS</b>																										
Energy Bills (Monthly)	P																									
Metering Identification	A																									
Current/Req'd/Installed	P																									
Production Data	A																									
Ratios (Develop/Track)	P																									
Minimum Theoretical Energy (Develop/Install)	A																									
Energy Monitoring System	P																									
Model (Develop/Test)	A																									
Savings Evaluation (Develop/Track)	P																									
Energy Budgeting (Develop/Install)	A																									
<b>DOCUMENTATION</b>																										
System White Papers	P																									
Procedure Manuals	A																									
Project Turnover	P																									
	A																									

# Evaluation: Understand the management systems that exist

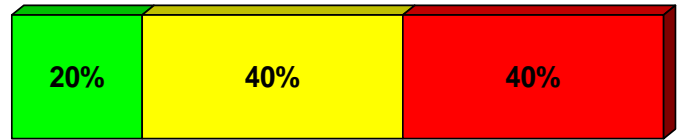


## SUMMARY OF ENEGY MANAGEMENT CONTROL

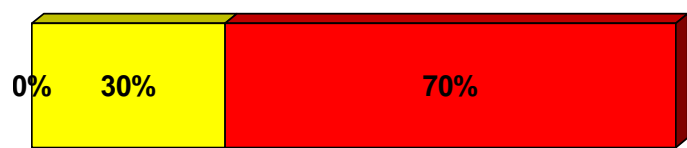
■ ELEMENT EXISTS EFFECTIVELY UTILIZED    
 ■ EXISTS - REQUIRES UPGRADE    
 ■ DOES NOT EXIST IS NOT UTILIZED

SYSTEM ELEMENT	OVERALL	
	EXIST	UTILIZ.
ENERGY TARGETS / STANDARDS		
ENERGY CONSUMPTION PLAN		
ENERGY CONSERVATION PROC		
MAINT. REPAIR PROCESS		
ACTION NEEDED PROCESS		
METER READING / TRACKING		
MANAGEMENT REPORTING		
EVALUATION PROCESS		
EQUIP CONDITION PROCESS		
AUDIT PROGRAM		

## SUMMARY OF ELEMENT EXISTENCE



## SUMMARY OF ELEMENT UTILIZATION



# Evaluation: What is our usage pattern for Electric?

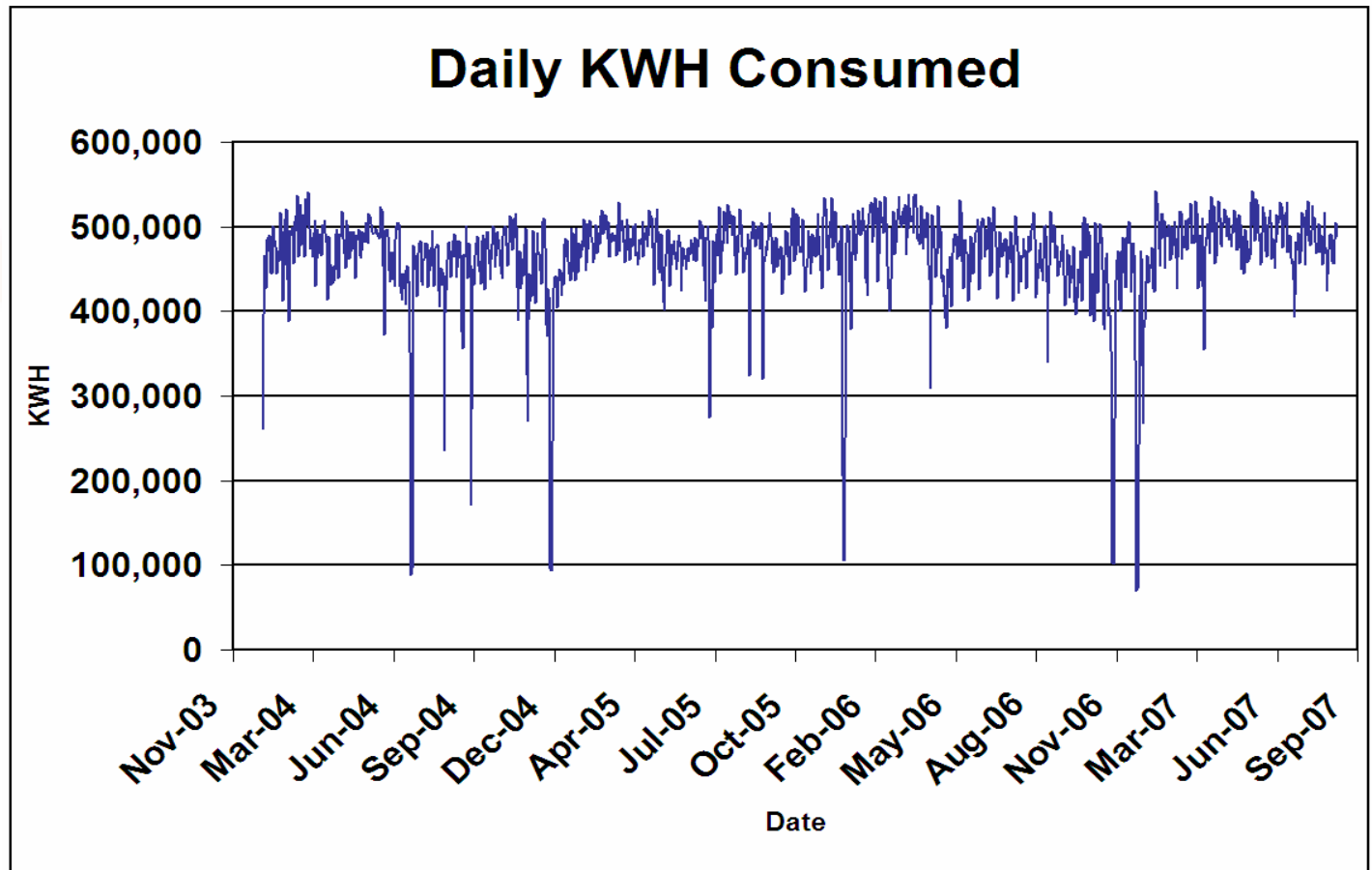
## Key Points

Daily usage varies widely over a 20% band ( $\approx 100,000$  KWH)

Ancillary equipment not turned off during frequent major equipment shutdowns

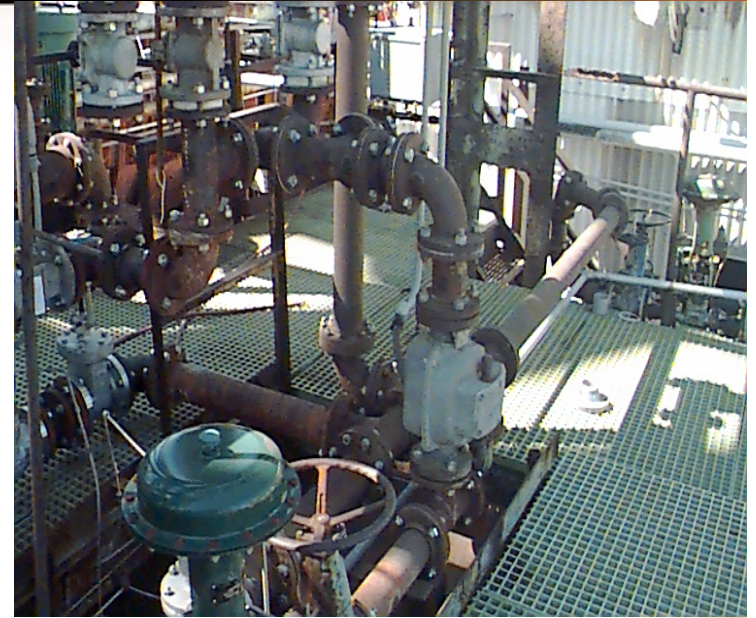
Idling equipment observed

Holiday Shutdowns use  $\frac{1}{4}$  to  $\frac{1}{10}$  of normal electricity



# Meter Verification

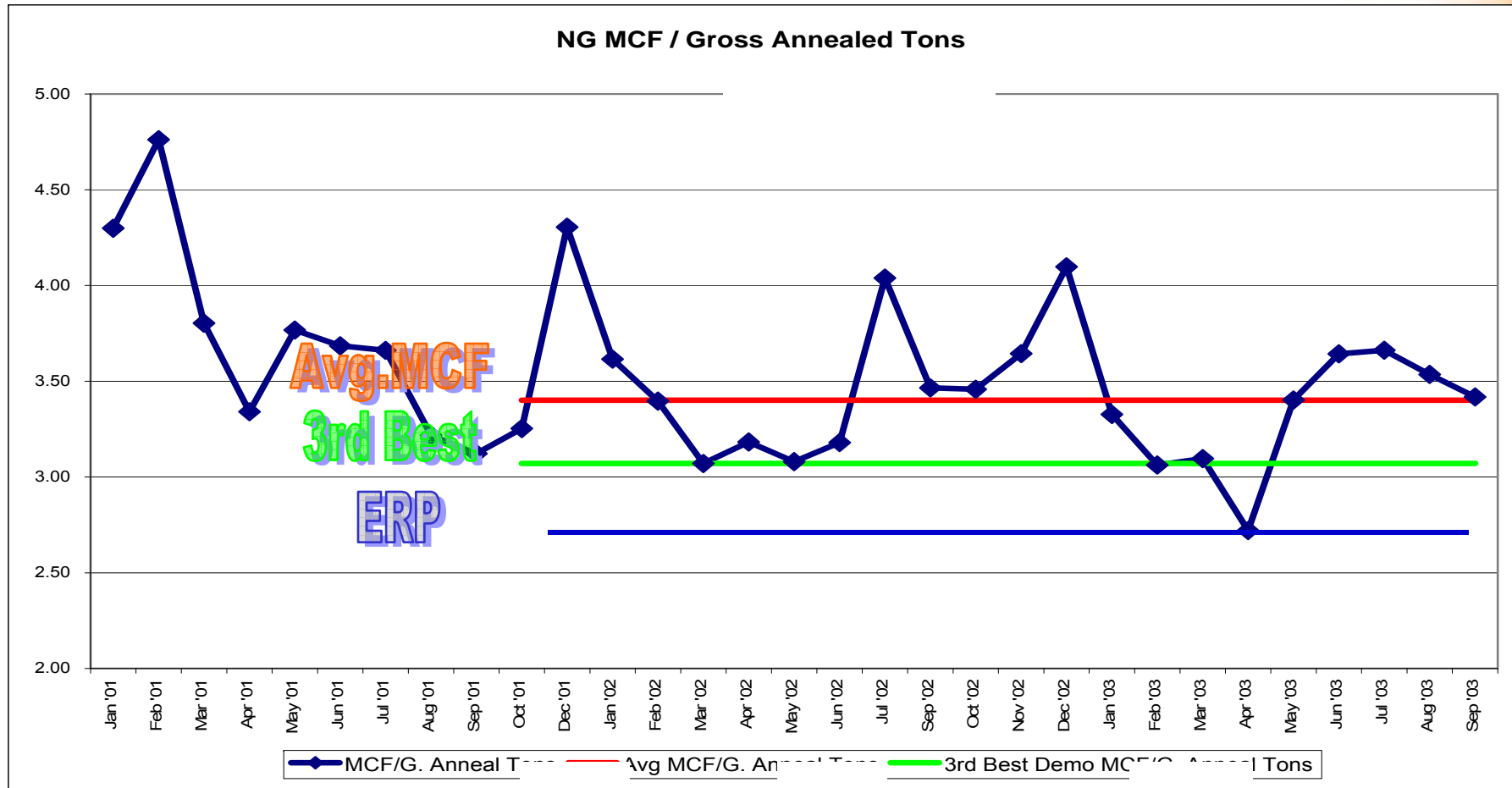
- Existing metering calibration?
- Existing metering functionality?
- Are meters manual or linked with a DCS system?
- How is data managed?
- Do plant energy deliveries balance with consumption?
- “The foundation for a good energy management system is a good measurement system!”





# Energy Performance Model

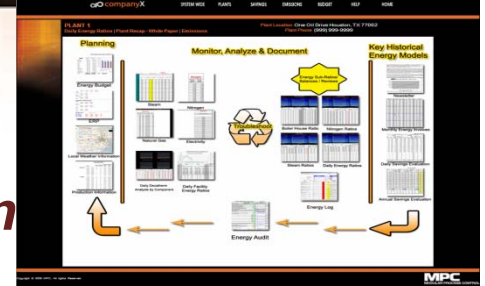
(Based on Invoice Data)



# What Are the EMS Deliverables?

It starts with:

- Energy Ratio System- *highlights variance between actual vs. expected performance*
- Energy Opportunity Log- *defines specific action items that generate savings*
- Key Volume Indicator Models- *tracks historical performance vs. actual for major utilities*
- Energy Requirements Plan- *determines theoretical amount of energy required to produce product(s)*
- Energy Budgeting Tool- *budget based on prior year improvements*
- Carbon Conversion Tool- *converts unit energy consumption reduction to carbon equivalent*



# Energy Ratios Report

companyX

SYSTEM WIDE

PLANTS

SAVINGS

EMISSIONS

BUDGET

HELP

HOME

## PLANT 1

Daily Energy Ratios | Savings | White Paper | Emissions

Plant Location: One Oil Drive Houston, TX 77002

Plant Phone (999) 999-9999



Natural Gas



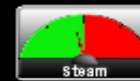
Electric



Hydrogen



Nitrogen



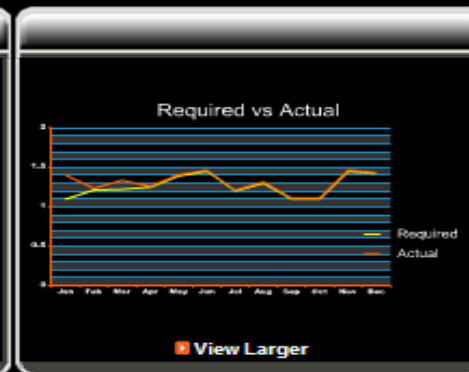
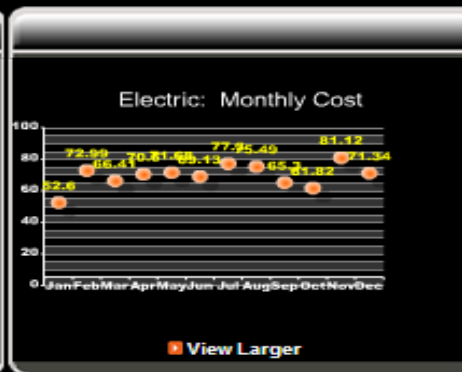
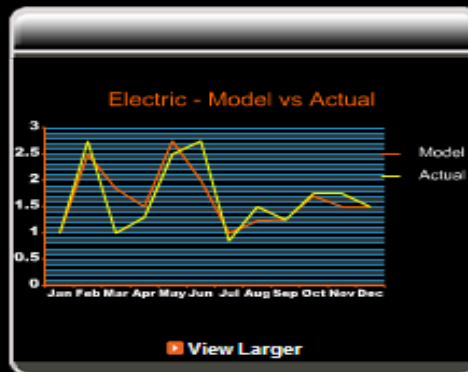
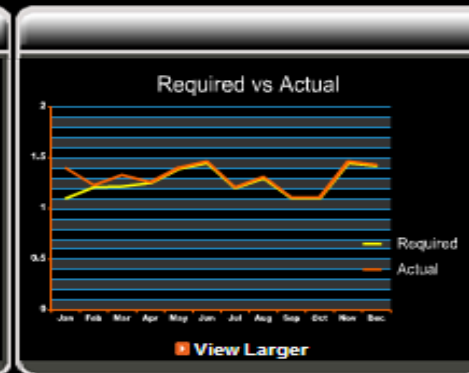
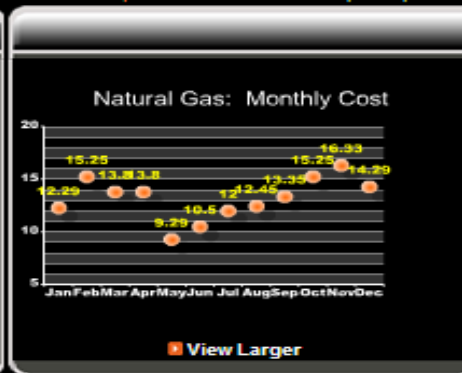
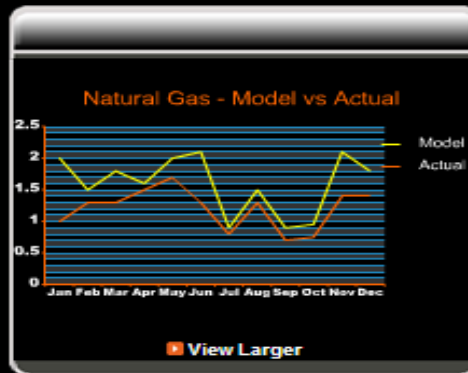
Steam



Fuel Gas

Meter Readings Represent the Current Required vs. Actual Variance Position

Select a Year to update Chart Values: 2006 | 2007 | 2008



**MPC**  
MODULAR PROCESS CONTROL

*"We Convert Cost To Profit!"*

# Energy Ratio System Report

companyX

SYSTEM WIDE

PLANTS

SAVINGS

EMISSIONS

BUDGET

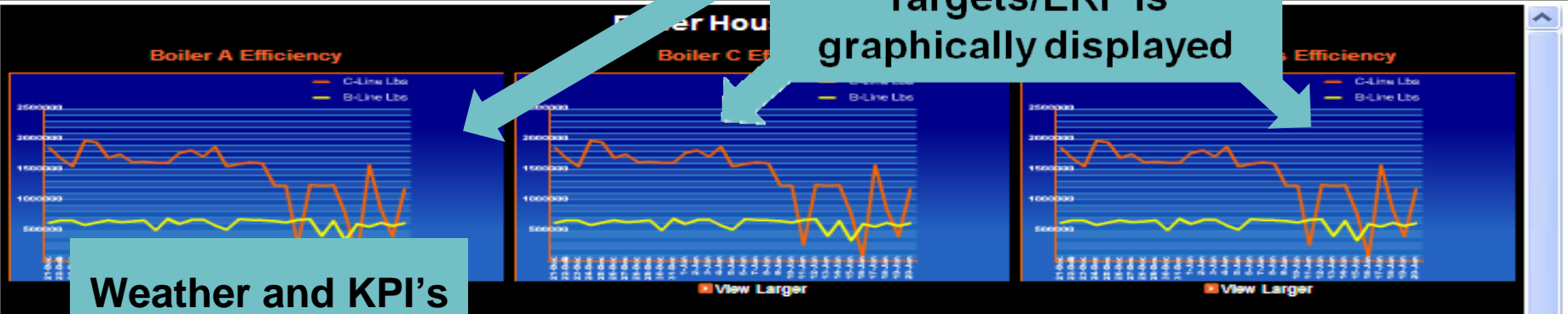
HELP

HOME

## PLANT 1

Daily Energy Ratios | Plant Recap - White Paper | Emissions

Energy Performance vs. Targets/ERP is graphically displayed



Weather and KPI's are also analyzed

Date	mmbtu/h	Net Gas mmbtu/h	Oil Gas mmbtu/h	C <sup>2</sup> %	B-W-M Libs	Steam M-Libs	mmbtu/h	Boiler C				All Boilers			
								Std	Target	Var from Target	Std Opp.	Std	Target	Var from Target	Std Opp.
22-Dec 29	0	0	0	0	0	0	0	1,851	1,850	1,207	1,180	-27	(5713)		
23-Dec 30	0	0	0	0	0	0	0	1,855	1,840	1,211	1,180	-29	(5719)		
24-Dec 31	0	0	0	0	0	0	0	1,926	1,862	1,240	1,180	-140	(5705)		
25-Dec 01	0	0	0	0	0	0	0	1,880	1,825	1,219	1,180	-105	(5805)		
26-Dec 02	0	0	0	0	0	0	0	1,922	1,855	1,219	1,180	-109	(5825)		
28-Dec 04	0	0	0	0	0	0	0	1,959	1,819	1,219	1,180	-297	(5743)		
27-Dec 03	0	0	0	0	0	0	0	1,159	1,817	1,225	1,180	-124	(5943)		
28-Dec 04	0	0	0	0	0	0	0	1,214	1,805	1,211	1,180	-95	(5783)		
29-Dec 05	0	0	0	0	0	0	0	1,105	1,825	1,219	1,180	-109	(5825)		
30-Dec 06	0	0	0	0	0	0	0	1,112	1,777	1,219	1,180	-95	(5749)		
31-Dec 07	0	0	0	0	0	0	0	1,122	1,775	1,211	1,180	-95	(5743)		
1-Jan 08	0	0	0	0	0	0	0	1,274	1,871	1,214	1,180	-107	(5719)		
2-Jan 09	0	0	0	0	0	0	0	1,245	1,745	1,217	1,180	-110	(5719)		
3-Jan 10	0	0	0	0	0	0	0	1,755	1,815	1,250	1,180	-172	(5619)		
4-Jan 11	0	0	0	0	0	0	0	1,540	1,800	1,259	1,180	-187	(5619)		
5-Jan 12	0	0	0	0	0	0	0	1,777	1,815	1,254	1,180	-187	(5619)		
6-Jan 13	0	0	0	0	0	0	0	1,901	1,849	1,211	1,180	-25	(5719)		
7-Jan 14	0	0	0	0	0	0	0	1,829	1,877	1,214	1,180	-107	(5719)		
8-Jan 15	0	0	0	0	0	0	0	1,850	1,815	1,217	1,180	-110	(5719)		
9-Jan 16	0	0	0	0	0	0	0	1,999	1,815	1,254	1,180	-187	(5619)		
10-Jan 17	0	0	0	0	0	0	0	2,015	1,800	1,258	1,180	-255	(5519)		
11-Jan 18	0	0	0	0	0	0	0	1,999	1,815	1,254	1,180	-187	(5619)		
12-Jan 19	0	0	0	0	0	0	0	1,901	1,849	1,211	1,180	-25	(5719)		
13-Jan 20	0	0	0	0	0	0	0	1,829	1,877	1,214	1,180	-107	(5719)		
14-Jan 21	0	0	0	0	0	0	0	1,850	1,815	1,217	1,180	-110	(5719)		
15-Jan 22	0	0	0	0	0	0	0	2,055	1,815	1,254	1,180	-255	(5519)		
16-Jan 23	0	0	0	0	0	0	0	2,017	1,815	1,254	1,180	-255	(5519)		
17-Jan 24	0	0	0	0	0	0	0	2,022	1,815	1,254	1,180	-255	(5519)		
18-Jan 25	0	0	0	0	0	0	0	1,944	1,815	1,254	1,180	-255	(5519)		

All energy and production sources are considered

Continuing opportunity is quantified

Copyright © 2008 MPC. All rights Reserved.

MPC MODULAR PROCESS CONTROL

MPC MODULAR PROCESS CONTROL

"We Convert Cost To Profit!"

# Energy Opportunity Log

companyX

SYSTEM WIDE

PLANTS

SAVINGS

EMISSIONS

BUDGET

HELP

HOME

## SYSTEM WIDE DATA:

Key Performance Indicators | Energy Prices | Budget | Savings | White Paper | Emissions

Alerts | Messages | Industry News

9/8/2008 1:38

		Sorting		Current Date		ENERGY LOG				Value by Categories		CATEGORIES	
		Un Sort		8-Sep-08		E	9	9	0	0	\$521,298	\$35,581	E - Electric
				Estimated \$\$ \$14,444,348		S	26	26	2	2	\$8,832,685	\$3,293,122	S - Steam
				Completed \$\$ \$6,033,857		G	25	25	1	0	\$2,772,746	\$1,221,854	G - Fuel / Natural Gas
				Total Assigned 67		N	3	3	0	0	\$1,945,193	\$1,455,544	N - Nitrogen
				Total Completed 2		H	1	1	0	0	\$46,260	\$27,756	H - Hydrogen
						W	3	3	0	0	\$326,166	\$0	W - Water
						A	0	0	0	0	\$0	\$0	A - Air
No.	Out	Brief Description of Assignment	Assigned To	Pr.	Cap/Exp/Opp	Area	Assn.	Due	Savings	Cost	Follow up or Completion Notes include System Requirements		
1	G	Enhance the existing tools and process in	J. Mooney	1	O	Plant	6-Nov-07	13-Jun-08					
			J. Lema		C	Crude	6-Nov						
			J. Lema	1	E	Crude	6-Nov-07	31-May-08					
			J. Lema		C	Crude	6-Nov						
			J. Lema		C	Crude	6-Nov-07	31-Dec-09	\$0	\$0	Controls Scheme - 4 Quarter 2009		
6	G	Wash both crude and TPA side of heat exchanger to minimize fouling. Work with J. Lema to incorporate in HE monitoring.	J. Limerode		E	Crude	6-Nov-07	30-Apr-08	\$134,554	\$0	End of April, 2008		
7	G	Hot Rndown to A-Unifiner	Carlos I						\$0		High Capital cost with low return makes project unlikely.		
8	G	Heat out of Gas Oil rundown should be put back into Crude Unit preheat through exchangers (HAGO P/A or Combined Gasoil vs Crude.	J. Limerode						\$0				
9	G	Replace 3rd stage vacuum ejector with liquid ring vacuum pump.	J. Limerode						\$0				
10	S	Vacuum heater coil steam - Increase lift from steam injector and reduce heater outlet temperature.	J. Limerode						\$0		Cancel		
11	G	Add hot DAO rundown to combined rundown.	J. Limerode						\$0				
12	E	Operate only one DAO separator pump and add controls to prevent SDA overpressure if pump fails.	J. Limerode						\$0		Shelve for later/ Cancel		
13	N	Identify N2 pressure control issues and repair.	Brent Hankins	1	E	Plant	6-Nov-07	1-Oct-08	\$1,787,040	\$1,340,280	Need to construct savings calculator. Calculator complete WE 3/21/08.		

Summary of quantifiable opportunities

A summary of the value of the savings, by energy type, is tracked and validated

Each is prioritized, quantified, assigned. The Energy Coordinator uses the tool for follow up and tracking

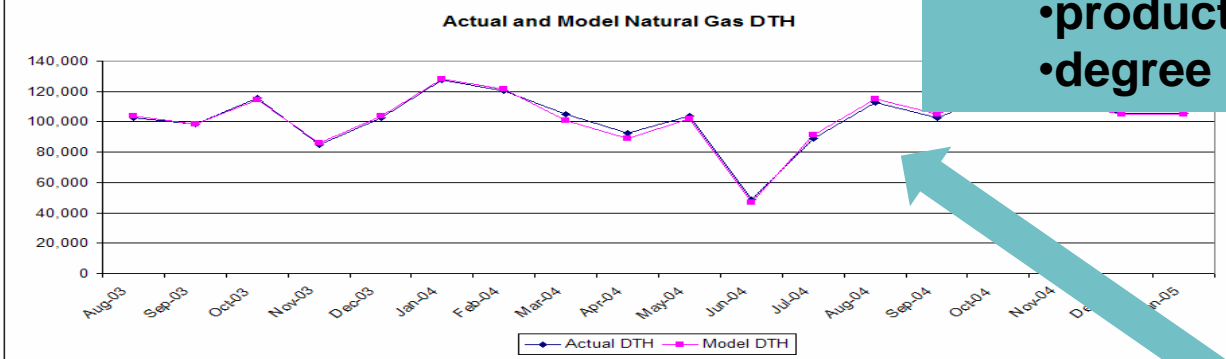
# Key Volume Indicator Models

Natural Gas Model Signoff Sheet

1.237	100.0	0.820	-970.0	1.0	1.0	1.0	0.8267	0.18	0.342	230.0	1.0	2.30	48.0	310.0	1.0	113.2
		NA	NA											NA		
		Adjustments		Areas Not Included			Spray Dryer		CC		CIBA	West Vaco		Base		
B Boiler FW Mlbs Less 2% Blow down 21F1012a (600Lb)	Triazine in Operation Days	Adjustment Boiler B Feed water from 20F1012A Bad Data	5 day Adjustment?	NG DTH to Multi Purpose Incinerator Tag 46F1055	NG DTH to HCN WGB Tag 30FIC1402	NG DTH to MPF Tag #32FIC0247	Spray Dryer Feed Mlbs FIC564	Sulfactant Free Mlbs (Spray Dryers)	CC Mlbs (Combuster)	CC Therm Oxidiz Op Da 60FIC00						
334,072	423	28,982	5	342,922	464,187	48,816	297,890	20,320	71,275							
The Drivers marked		NA	will not be used in the savings evaluation													

Model drivers including:

- production level
- product mix
- degree days



Actual vs. Model Correlation Line  
1% / 5%

Model Sign-Off Agreement

**Criteria:**  
 Correlation greater than .90  
 % variance during the entire base period  
 .0% variance annually  
 variance maximum in any month during the base period

**Actual:**  
 Correlation  
 Total base period variance  
 Nine Month Variance  
 Monthly variance range

represented by the above coefficients meets the criteria established for model accuracy for Natural Gas usage. We also agree that this model will be used to determine the determination of savings. Actual DTH will be determined by the daily reading of the monthly billed usage. Unit Pricing per DTH will be from the Prior Month's evaluation due to capital improvement, data abnormalities, significant process changes or product changes can be made by written agreement between Acme and MPC management.

Date \_\_\_\_\_

\_\_\_\_\_ Key Client 1 \_\_\_\_\_

\_\_\_\_\_ Key Client 2 \_\_\_\_\_

\_\_\_\_\_ MPC Modeling \_\_\_\_\_

\_\_\_\_\_ MPC Operations \_\_\_\_\_

# Energy Requirements Plan

## Measuring Historic Performance vs. Actual Requirement

### Model and ERP Steam MLB Distribution

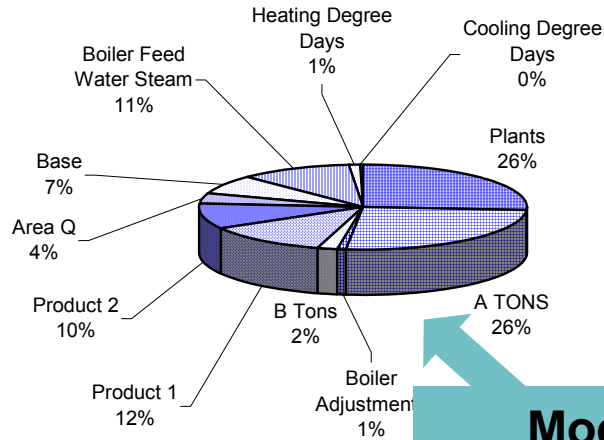
Modeled energy use vs. required energy by process area

	Model MLBs	ERP MLBs
Plants	646,410	537,095
A TONS	566,367	530,420
Boiler Adjustments	-16,765	-16,765
B Tons	70,127	39,374
Product 1	585,548	251,244
Product 2	339,371	200,502
Area Q	152,903	84,960
Base	150,075	145,000
Boiler Feed Water Steam	302,842	228,880
Heating Degree Days	27,061	27,061
Cooling Degree Days	-4,137	-4,137
<b>Totals</b>	<b>2,819,801</b>	<b>2,023,633</b>

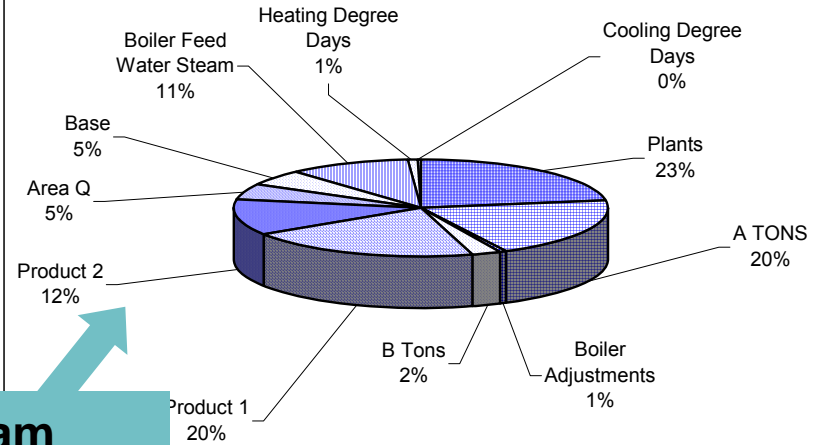
Savings Potential Model vs. ERP

**28.2% Savings Potential**

Model Steam MLB Distribution

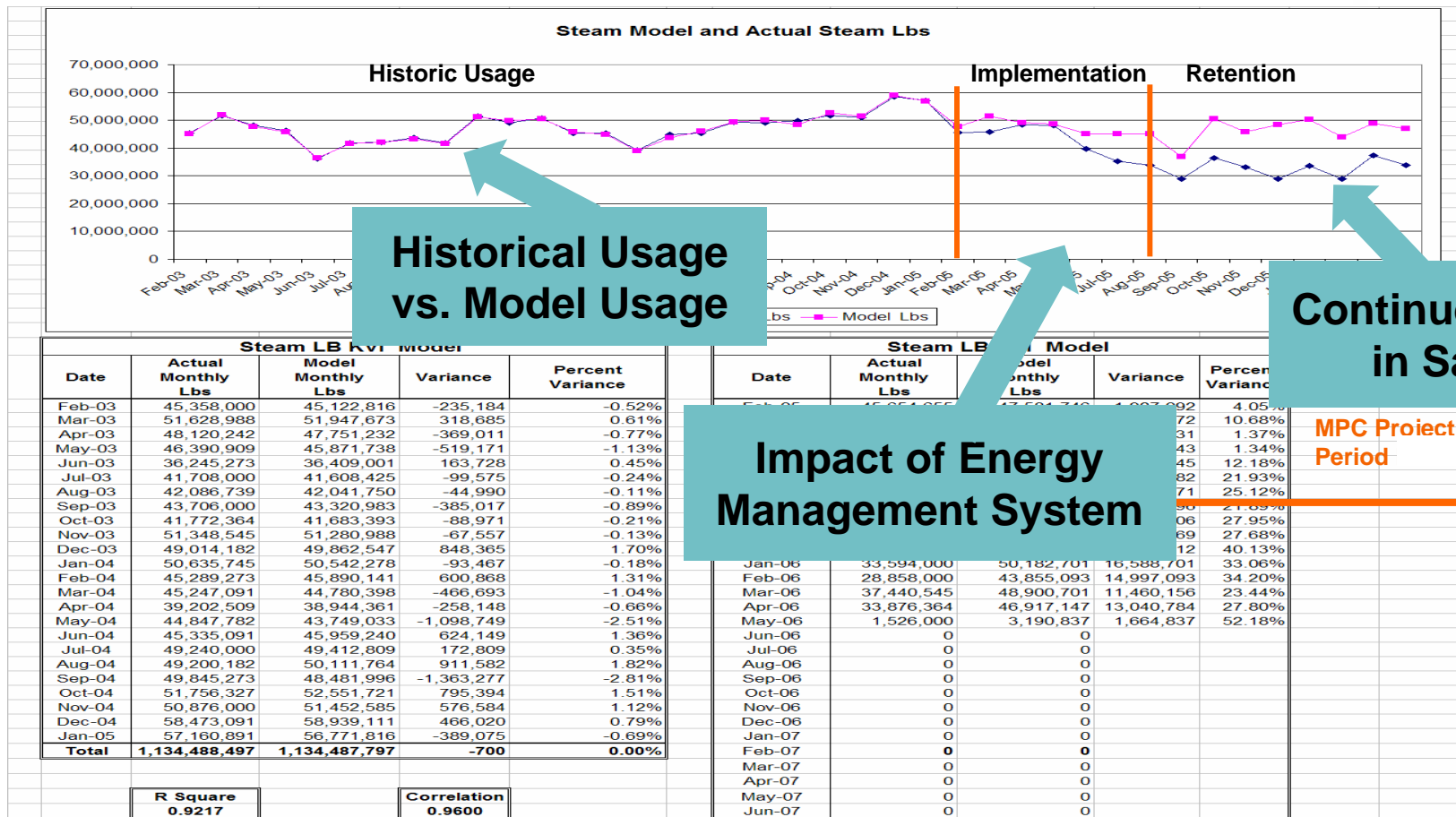


ERP Steam MLB Distribution



Model Steam Distribution vs. ERP Distribution

# Continued Growth in Savings





# Energy Budgeting Tool

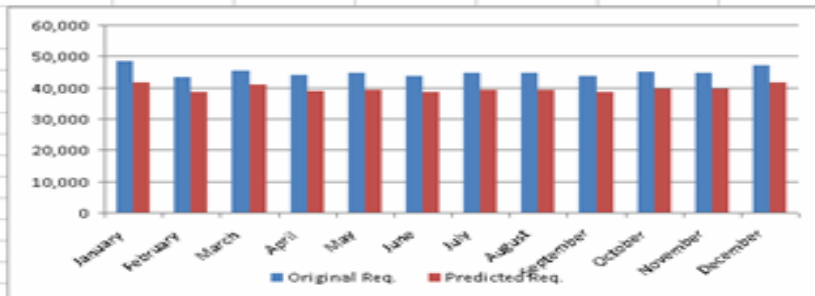
**SYSTEM WIDE DATA:**

Key Performance Indicators | Energy Prices | Budget | Savings | White Paper | Emissions

Alerts | Messages | Industry News

2008 Energy Budget (based on 2007 Energy Improvements)

2008	Original Req.	Predicted Req.
January	48,472	41,502
February	43,242	38,551
March	45,239	40,792
April	43,825	38,698
May	44,587	39,370
June	43,489	38,401
July	44,573	39,358
August	44,573	39,358
September	43,496	38,407
October	44,832	39,586
November	44,812	39,569
December	47,142	41,626
<b>Total</b>	<b>538,281</b>	<b>475,217</b>



**12% Reduction**

Energy budget based on prior year improvements

Energy budget calculations

2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Original	34	34	34	34	34	34	34	34	34	34	34	34	332
Improvement	4,909	4,434	4,743	4,750	4,909	4,909	4,909	4,909	4,909	4,909	4,751	4,909	57,642
Adjusted	45	40	45	43	45	45	45	45	45	45	43	45	521
Improvement	-	-	3,927	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	15,700
Adjusted	5,979	5,923	654	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	50,224
Improvement	-	-	-	-	-	-	-	-	-	-	-	-	0
Adjusted	6,041	6,079	6,841	6,620	6,841	6,620	6,841	6,841	6,841	6,620	6,841	6,841	80,544
Improvement	48	44	48	47	48	47	48	48	48	47	48	48	569
Adjusted	6,089	6,123	6,926	6,715	6,926	6,715	6,926	6,926	6,926	6,715	6,926	6,926	81,113
Improvement	-	-	-	-	-	-	-	-	-	-	-	-	0
Adjusted	6,089	6,123	6,926	6,715	6,926	6,715	6,926	6,926	6,926	6,715	6,926	6,926	81,113
Improvement	1,328	1,206	1,830	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	17,324
Adjusted	2,579	2,477	1,964	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	27,720
Improvement	2,009	1,213	2,026	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	20,998
Adjusted	2,410	2,380	2,410	2,325	2,410	2,325	2,410	2,410	2,325	2,410	2,325	2,410	28,412
Improvement	1,426	1,288	1,426	1,380	1,426	1,380	1,426	1,426	1,380	1,426	1,380	1,426	16,796
Adjusted	1,777	1,605	1,777	1,718	1,777	1,718	1,777	1,777	1,718	1,777	1,718	1,777	20,920
Improvement	5,547	5,600	5,547	5,368	5,547	5,368	5,547	5,547	5,368	5,547	5,368	5,547	65,306
Adjusted	3,297	2,978	3,297	3,191	3,297	3,191	3,297	3,297	3,191	3,297	3,191	3,297	38,825
Improvement	2,295	2,086	2,295	2,086	2,295	2,086	2,295	2,295	2,086	2,295	2,086	2,295	27,997
Adjusted	2,295	2,086	2,295	2,086	2,295	2,086	2,295	2,295	2,086	2,295	2,086	2,295	27,997
Improvement	-	-	-	-	-	-	-	-	-	-	-	-	0
Adjusted	-	-	-	-	-	-	-	-	-	-	-	-	0
Improvement	75	-	-	-	-	-	-	-	-	-	-	-	75
Adjusted	75	-	-	-	-	-	-	-	-	-	-	-	75
Improvement	2,889	2,086	1,092	326	14	-	-	-	7	259	1,323	2,569	10,675
Adjusted	2,889	2,086	1,092	326	14	-	-	-	7	259	1,323	2,569	10,675
Improvement	-	-	-	-	-	-	-	-	-	-	-	-	0
Adjusted	-	-	-	-	-	-	-	-	-	-	-	-	0
Improvement	235.0	7,295	4,580	7,368	7,050	7,295	7,050	7,295	7,050	7,295	7,050	7,295	85,650
Adjusted	235.0	7,295	4,580	7,368	7,050	7,295	7,050	7,295	7,050	7,295	7,050	7,295	85,650
Improvement	199.0	-	-	75	-	-	-	-	-	-	-	-	75
Adjusted	199.0	-	-	75	-	-	-	-	-	-	-	-	75
Improvement	7.00	2,889	2,086	1,092	326	14	-	-	7	259	1,323	2,569	10,675
Adjusted	7.00	2,889	2,086	1,092	326	14	-	-	7	259	1,323	2,569	10,675
Improvement	-	-	-	-	-	-	-	-	-	-	-	-	0
Adjusted	-	-	-	-	-	-	-	-	-	-	-	-	0
Improvement	48,472	43,242	45,239	43,825	44,587	43,489	44,573	44,573	43,496	44,832	44,812	47,142	538,281
Adjusted	48,472	43,242	45,239	43,825	44,587	43,489	44,573	44,573	43,496	44,832	44,812	47,142	538,281
Improvement	14,426	10,395	9,826	11,721	11,721	11,721	11,721	11,721	11,721	11,721	11,721	11,721	144,282
Adjusted	41,562	38,551	40,792	38,698	39,370	38,401	39,358	39,358	38,407	39,586	39,569	41,626	475,217
Improvement	\$14,290	\$11,230	\$11,120	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$142,800
Adjusted	\$14,290	\$11,230	\$11,120	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$12,230	\$142,800
Improvement	\$593,857	\$432,152	\$453,685	\$472,498	\$480,788	\$468,876	\$480,557	\$480,557	\$468,951	\$483,358	\$483,140	\$508,255	\$5,805,705

# Carbon Reduction Tracking/Verification

companyX

SYSTEM WIDE

PLANTS

SAVINGS

EMISSIONS

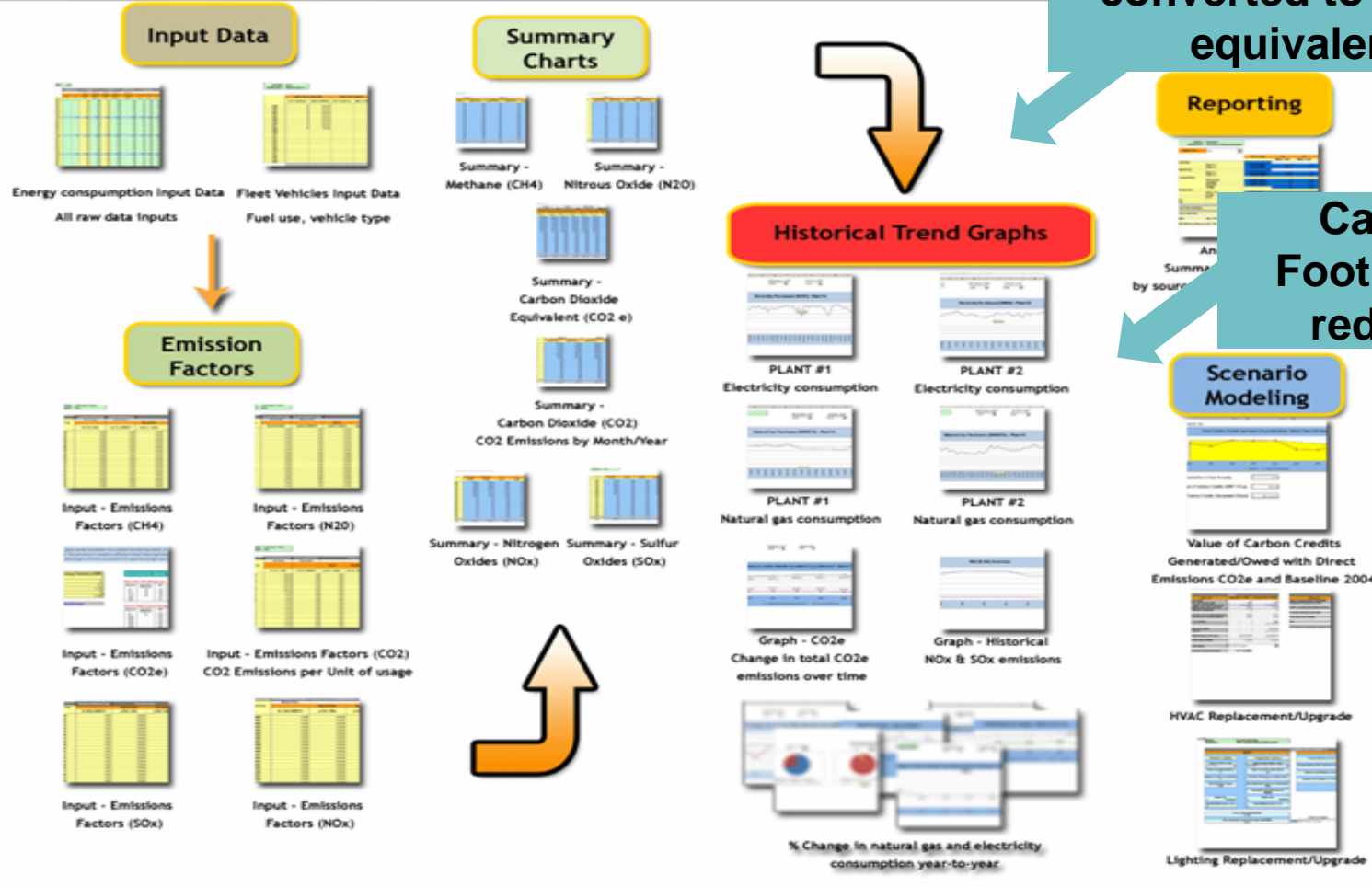
BUDGET

HELP

HOME

## SYSTEM WIDE DATA:

Key Performance Indicators | Energy Prices | Budget | Savings | White Paper | Emissions



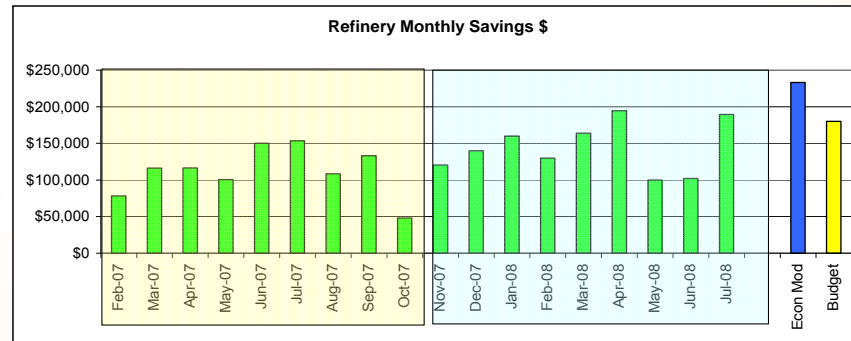
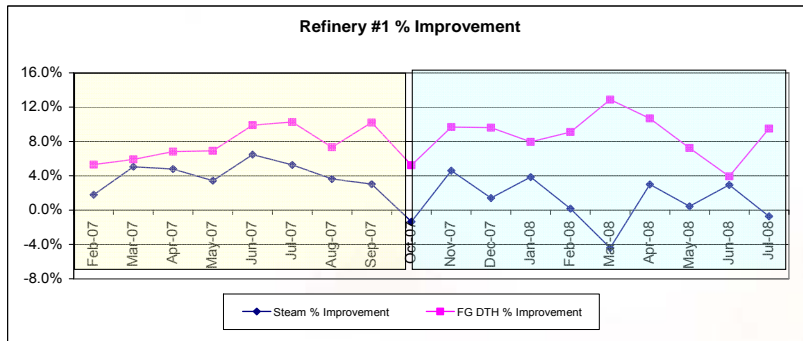
Unit energy reductions converted to carbon equivalents

Carbon Footprint is reduced

# MPC Retention

## Refinery #1

End of contract term: Oct-09



### Monthly Audit Compliance Score:

Sep-07	61%
Nov-07	37%
Dec-07	41%
Mar-08	51%
Jul-08	

### Comments:

Crude Unit Expansion occurred mid May, hampered results through June.  
Several visits by retention to client facility to file fix, revamp energy management system  
Savings improved in past month.

### Visits:

Last Visit: July 1-3 and 23 2008  
Next Visit: Aug 14 2008

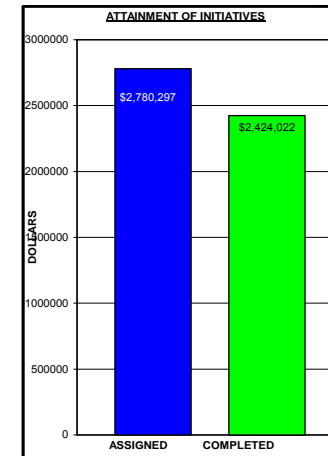
**Energy Performance is continually monitored**

### ACTION ITEM STATUS SUMMARY

Dept./ Area	Number of Items		Implementation Value		
	ESTIMATED	COMP	ESTIMATED	COMP	% COMP
KWH	6	0	\$21,404	\$0	0.0%
Nitrogen	0	0	\$0	\$0	0.0%
NG	33	26	\$1,945,600	\$1,912,200	98.3%
Steam	5	2	\$813,285	\$650,628	80.0%
Water	0	0	\$0	\$0	0.0%
Air	0	0	\$0	\$0	0.0%

<b>TOTALS</b>	<b>44</b>	<b>28</b>	<b>\$2,780,289</b>	<b>\$2,562,828</b>	<b>92.2%</b>
---------------	-----------	-----------	--------------------	--------------------	--------------

Assigned \$ vs Complete \$ = 92%



GOAL 2007 \$2,000,000

Complete vs Goal = 121%

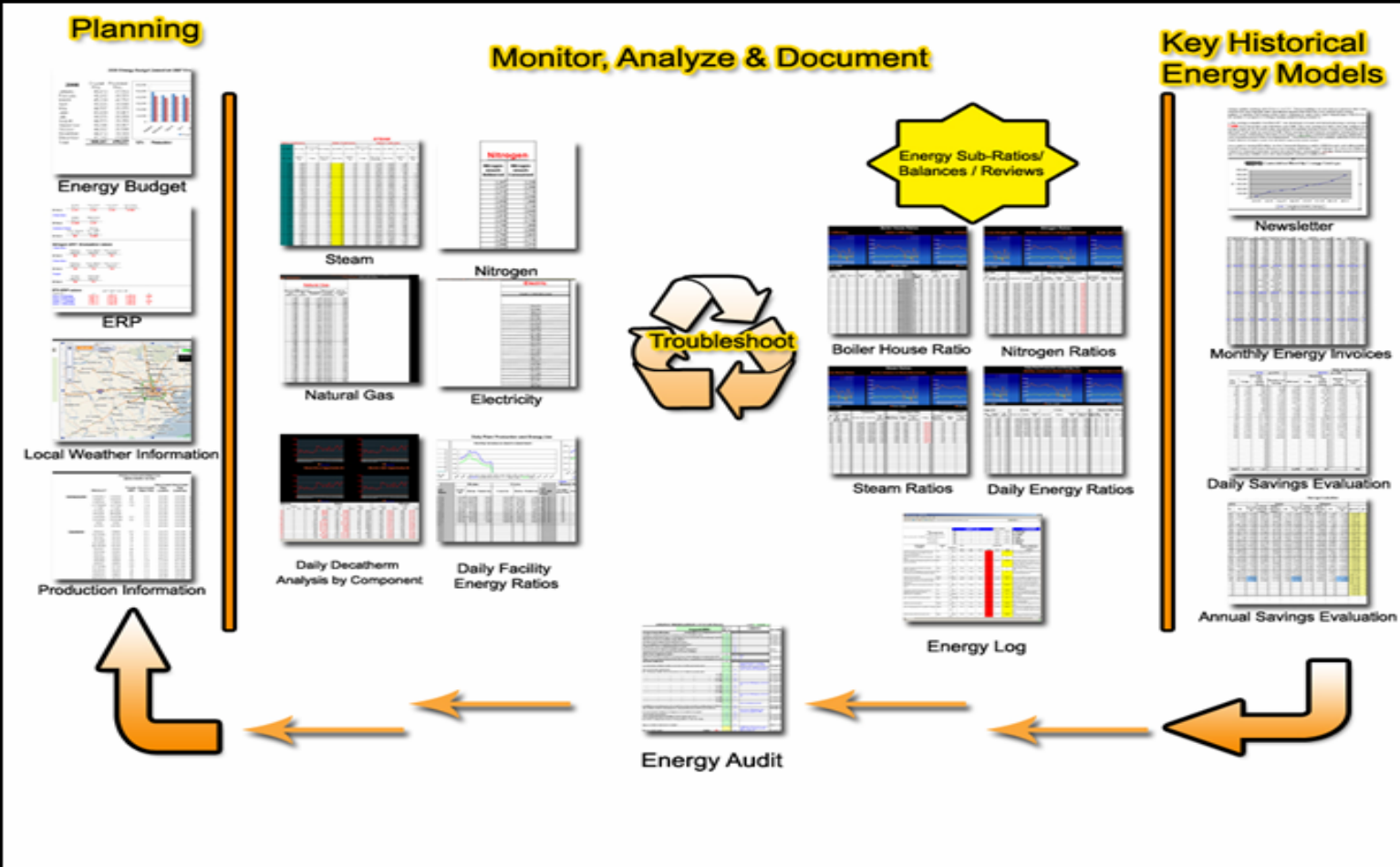
# Retention Services Audit

ENERGY MANAGEMENT SYSTEM		September			
DEPT	AUDIT ITEM				
Engineering/	Operations Reports & Daily Energy Review Meetings	Verification of			
Energy	Ratio Reports up to date & accurate? No missing data from previous month and month to date	Plans, Activity Notes, Comments) after the			
	Responsibilities being fulfilled?	data from previous months.			
	previous and present months?	daily (Monday to Sunday)?	n	0	
Production	Energy	Energy taken on explained negative energy uses?	n	0	
	Energy	Energy reviewed in the Production Meeting?	n	0	
	Energy	Energy	( Y / N )		
	Energy	Energy M-Lb / M-Lb Pdt vs. Target difference not greater than .50?	y	3	0.47
	Energy	Energy Electrical kWh / M-Lb Pdt vs. Target difference not greater than 4.0?	n	0	5.9
	Energy	Energy	( Y / N )		
Steam	10# Vent- No steam is venting, or has been		n	0	Future item- Capital, Scheduled IQ2008.
Savings	Soot Blowers- All Soot Blowers on all Boilers		n	0	3 boiler in TFA, significant project to repair sootblowers being examined
	Column Steam to Feed Ratios- Following		-101	n	0
			-111	y	1
			-203	n	0
			-205	n	0
			-206	n	0
			-301	n	0
			-303	y	1
			-305	n	0
			-306	n	0
			-307	n	0
			-308	n	0
			-309	n	0
			-310	n	0
			-311	n	0
			-312	n	0
			-313	n	0
			-314	n	0
			-315	n	0
			-316	n	0
			-317	n	0
			-318	n	0
			-319	n	0
			-320	n	0
			-321	n	0
			-322	n	0
			-323	n	0
			-324	n	0
			-325	n	0
			-326	n	0
			-327	n	0
			-328	n	0
			-329	n	0
			-330	n	0
			-331	n	0
			-332	n	0
			-333	n	0
			-334	n	0
			-335	n	0
			-336	n	0
			-337	n	0
			-338	n	0
			-339	n	0
			-340	n	0
			-341	n	0
			-342	n	0
			-343	n	0
			-344	n	0
			-345	n	0
			-346	n	0
			-347	n	0
			-348	n	0
			-349	n	0
			-350	n	0
			-351	n	0
			-352	n	0
			-353	n	0
			-354	n	0
			-355	n	0
			-356	n	0
			-357	n	0
			-358	n	0
			-359	n	0
			-360	n	0
			-361	n	0
			-362	n	0
			-363	n	0
			-364	n	0
			-365	n	0
			-366	n	0
			-367	n	0
			-368	n	0
			-369	n	0
			-370	n	0
			-371	n	0
			-372	n	0
			-373	n	0
			-374	n	0
			-375	n	0
			-376	n	0
			-377	n	0
			-378	n	0
			-379	n	0
			-380	n	0
			-381	n	0
			-382	n	0
			-383	n	0
			-384	n	0
			-385	n	0
			-386	n	0
			-387	n	0
			-388	n	0
			-389	n	0
			-390	n	0
			-391	n	0
			-392	n	0
			-393	n	0
			-394	n	0
			-395	n	0
			-396	n	0
			-397	n	0
			-398	n	0
			-399	n	0
			-400	n	0
			-401	n	0
			-402	n	0
			-403	n	0
			-404	n	0
			-405	n	0
			-406	n	0
			-407	n	0
			-408	n	0
			-409	n	0
			-410	n	0
			-411	n	0
			-412	n	0
			-413	n	0
			-414	n	0
			-415	n	0
			-416	n	0
			-417	n	0
			-418	n	0
			-419	n	0
			-420	n	0
			-421	n	0
			-422	n	0
			-423	n	0
			-424	n	0
			-425	n	0
			-426	n	0
			-427	n	0
			-428	n	0
			-429	n	0
			-430	n	0
			-431	n	0
			-432	n	0
			-433	n	0
			-434	n	0
			-435	n	0
			-436	n	0
			-437	n	0
			-438	n	0
			-439	n	0
			-440	n	0
			-441	n	0
			-442	n	0
			-443	n	0
			-444	n	0
			-445	n	0
			-446	n	0
			-447	n	0
			-448	n	0
			-449	n	0
			-450	n	0
			-451	n	0
			-452	n	0
			-453	n	0
			-454	n	0
			-455	n	0
			-456	n	0
			-457	n	0
			-458	n	0
			-459	n	0
			-460	n	0
			-461	n	0
			-462	n	0
			-463	n	0
			-464	n	0
			-465	n	0
			-466	n	0
			-467	n	0
			-468	n	0
			-469	n	0
			-470	n	0
			-471	n	0
			-472	n	0
			-473	n	0
			-474	n	0
			-475	n	0
			-476	n	0
			-477	n	0
			-478	n	0
			-479	n	0
			-480	n	0
			-481	n	0
			-482	n	0
			-483	n	0
			-484	n	0
			-485	n	0
			-486	n	0
			-487	n	0
			-488	n	0
			-489	n	0
			-490	n	0
			-491	n	0
			-492	n	0
			-493	n	0
			-494	n	0
			-495	n	0
			-496	n	0
			-497	n	0
			-498	n	0
			-499	n	0
			-500	n	0
			-501	n	0
			-502	n	0
			-503	n	0
			-504	n	0
			-505	n	0
			-506	n	0
			-507	n	0
			-508	n	0
			-509	n	0
			-510	n	0
			-511	n	0
			-512	n	0
			-513	n	0
			-514	n	0
			-515	n	0
			-516	n	0
			-517	n	0
			-518	n	0
			-519	n	0
			-520	n	0
			-521	n	0
			-522	n	0
			-523	n	0
			-524	n	0
			-525	n	0
			-526	n	0
			-527	n	0
			-528	n	0
			-529	n	0
			-530	n	0
			-531	n	0
			-532	n	0
			-533	n	0
			-534	n	0
			-535	n	0
			-536	n	0
			-537	n	0
			-538	n	0
			-539	n	0
			-540	n	0
			-541	n	0
			-542	n	0
			-543	n	0
			-544	n	0
			-545	n	0
			-546	n	0
			-547	n	0
			-548	n	0
			-549	n	0
			-550	n	0
			-551	n	0

# EMS Flow Chart

**PLANT 1**  
 Daily Energy Ratios | Plant Recap - White Paper | Emissions

Plant Location: One Oil Drive Houston, TX 77002  
 Plant Phone (999) 999-9999



# Corporate Energy Management System

companyX

SYSTEM WIDE

PLANTS

SAVINGS

EMISSIONS

BUDGET

HELP

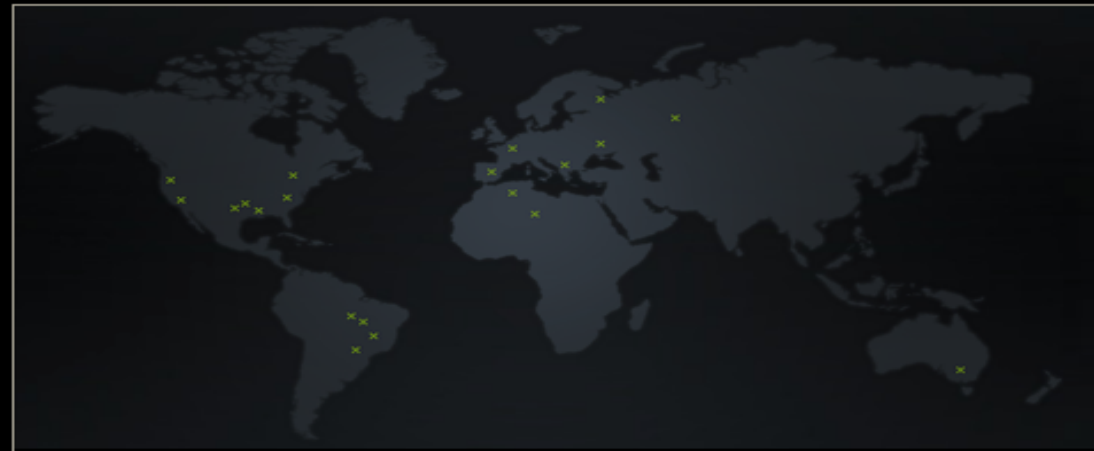
HOME

## SYSTEM WIDE DATA:

Key Performance Indicators | Energy Prices | Budget | Savings | White Paper | Emissions

Alerts | Messages | Industry News

Alert Center		
	Alerts	Messages
Plant 1	0	0
Plant 2	3	5
Plant 3	0	0
Plant 4	0	1
Plant 5	0	1
Plant 6	0	1
Plant 7	0	1
Plant 8	0	1
Plant 9	0	1
Plant 10	0	1
Plant 11	0	1
Plant 12	0	1
Plant 13	0	1
Plant 14	0	1
Plant 15	0	1
Plant 16	0	1
Plant 17	0	1
Plant 18	0	1
Plant 19	0	1
Plant 20	0	1



Industry News	
•	U SGS says Arctic holds rich oil and gas reserves.
•	McCain pushes for offshore drilling.
•	House approves bill allowing unprofitable companies capital investment tax credits.
•	Chrysler to cut 1,000 salaried jobs.

## Fiscal Year 2008 Budget

Energy	% of Budget	Budget	Actual to Date	Year End Forecast	Year End Variance
Natural Gas	16%	\$100,000,000	\$50,000,000	\$100,000,000	\$0
Electric	16%	\$100,000,000	\$100,000,000	\$200,000,000	(\$100,000,000)
Hydrogen	16%	\$100,000,000	\$50,000,000	\$100,000,000	\$0
Nitrogen	16%	\$100,000,000	\$50,000,000	\$100,000,000	\$0
Steam	16%	\$100,000,000	\$50,000,000	\$100,000,000	\$0
Fuel/Gas	16%	\$100,000,000	\$50,000,000	\$100,000,000	\$0
	-----	-----	-----	-----	-----
					(\$100,000,000)

Copyright ©2008 MPC. All rights Reserved.

**MPC**  
MODULAR PROCESS CONTROL

**MPC**  
MODULAR PROCESS CONTROL

*“We Convert Cost To Profit!”*



# Modular Process Control, LLC

## “We Convert Cost To Profit!”

**MPC**  
MODULAR PROCESS CONTROL

For More Information Please Contact:  
Nick Spates  
Senior Vice President  
404-307-4797  
[nspates@mpcenergyllc.com](mailto:nspates@mpcenergyllc.com)

