
Utility Billing and EnergyCAP

Presenters:

Marla Johnson, Financial Manager,
Utilities

George Paterson, Manager, Energy
Control Center, Utilities

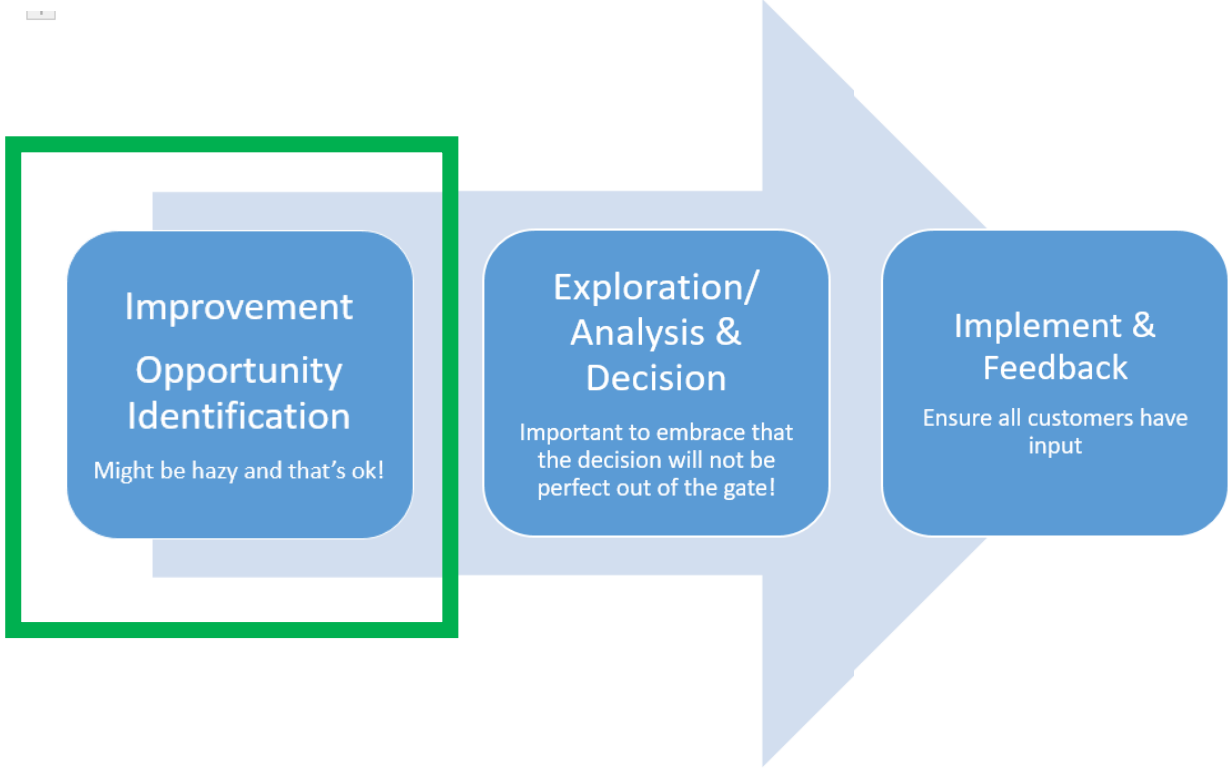
November 20, 2019



Strategies of Three Year Plan

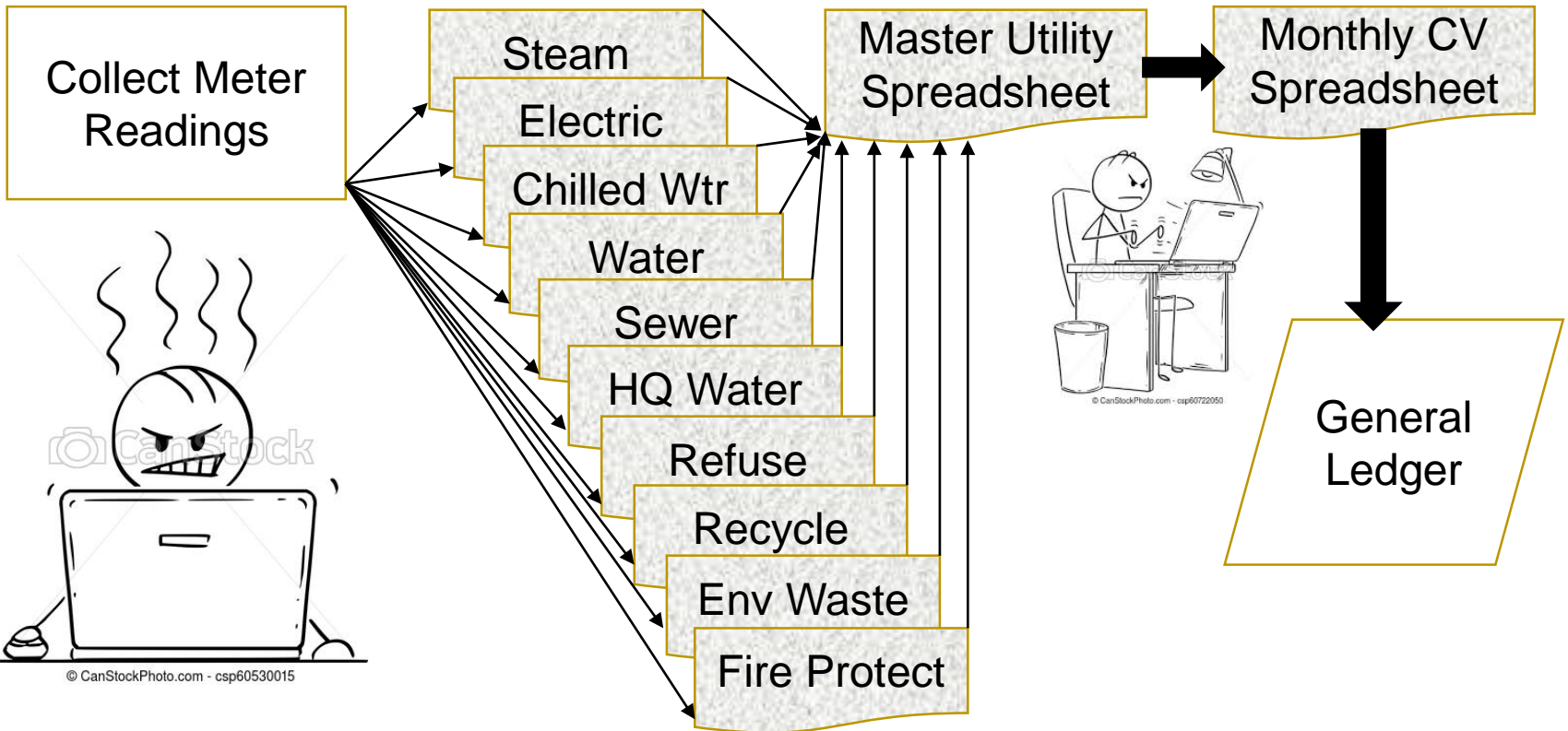
- Automate manual activities to reduce resourcing requirements
- Harness technology and data analytics to identify cost reduction opportunities

Operations Excellence Framework



Create Positive Working Relationships that allow our TEAMS to assume Positive Intent

Past Practice



Opportunities

- Reduce Manual Data Entry
 - Less Labor
 - Improved Accuracy
- Transition from Spreadsheets to Database System
 - Eliminate risk of spreadsheet corruption
 - Standardization across all commodities
 - Eliminate data 'silos'
 - Central Repository for Reporting and Analysis (One version of the truth)
- Direct Support for Energy Management
 - Industry Standard Analyses
 - EnergyStar Benchmarking
 - Normalized Data
 - Versioning



Reduce Manual Meter Readings

- Eliminate 130 manual chilled water meter readings monthly.
- In future will eliminate 470 manual water meter readings monthly.



Reduce Manual Data Entry

Building #	Building Name	Fund	Split by	June	July	August	September	October	November	December	January	February	March	April	May	current month
1	Old Capitol	General Fund		56,313	52,273	57,635	59,715	63,127	56,098	67,807	50,620	55,814	57,307	51,590	59,374	59,374
2	Schaeffer Hall	General Fund		58,838	55,565	60,081	50,942	53,780	46,699	49,833	50,275	49,823	54,058	57,754	52,539	52,539
3	Chemistry Building	General Fund	%	657,553	616,951	644,214	619,806	603,052	602,511	619,827	606,856	563,183	598,382	607,569	607,502	607,502
4	Jessup Hall	General Fund		55,106	53,617	59,385	50,991	46,386	39,325	38,854	42,595	43,311	46,796	44,960	41,546	41,546
5	Triangle Place	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
6	Pharmacy Building	General Fund		468,126	448,013	468,848	437,434	441,672	430,624	457,111	443,397	416,118	460,250	432,347	448,385	448,385
7	Calvin Hall	General Fund		20,136	19,192	20,480	17,932	19,107	17,249	16,826	19,518	18,325	19,255	21,578	17,495	17,495
8	Macbride Hall	General Fund		54,908	52,224	53,480	48,911	44,658	38,003	37,557	37,586	37,938	39,820	38,027	40,461	40,461
9	601 Melrose Ave	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
10	605 Melrose Ave	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
11	Seashore Hall	General Fund		56,458	66,237	69,623	62,434	57,608	45,558	47,462	46,343	41,713	47,556	49,838	48,826	48,826
13	Gerdin Athletic Learning Center	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
15	Halsey Hall	General Fund		22,565	21,669	23,555	20,839	18,611	15,301	13,883	15,187	15,543	16,062	19,849	16,325	16,325
16	Communications Center	General Fund		19,416	19,206	21,841	18,712	13,268	12,706	13,682	13,712	13,896	14,432	14,297	15,193	15,193
18	Biology Building	General Fund		318,896	302,714	305,540	283,519	292,205	293,659	308,417	305,009	283,775	307,438	288,424	291,026	291,026
19	Biological Sciences Library	General Fund		8,964	8,332	8,903	8,902	9,956	8,393	8,130	8,562	8,979	9,192	9,821	9,047	9,047
20	Stuit Hall	General Fund		8,551	8,139	9,123	8,497	8,434	7,538	7,773	7,883	7,265	7,731	7,730	7,872	7,872
21	Art Building	General Fund		18,000	30,960	23,820	19,320	10,020	7,260	2,460	5,700	5,400	5,580	10,860	14,940	14,940
22	Seamans Center for the Engineering Arts	General Fund		329,078	307,568	330,071	326,917	341,881	317,621	323,386	321,499	304,800	335,075	337,315	325,804	325,804
23	Maclean Hall	General Fund		64,545	62,896	73,612	74,215	71,963	67,196	67,254	72,917	69,837	67,110	63,653	66,643	66,643
24	Hydraulics Lab (320 Riverside Drive) - 80% Others	Others		50,604	49,398	53,612	44,603	38,652	34,409	34,426	35,513	32,884	34,685	35,490	40,742	40,742
24.1	Hydraulics Lab (320 Riverside Drive) - 20% GF	General Fund		12,651	12,350	13,403	11,151	9,663	8,602	8,607	8,878	8,221	8,671	8,873	10,185	10,185
25	Pappajohn Biomedical Discovery Bldg	General Fund		613,711	613,022	643,016	589,563	603,090	575,214	604,999	615,287	555,563	597,850	581,830	609,981	609,981
26	State Hygienic Lab - Oakdale	Oakdale		380,891	402,117	416,033	331,380	340,902	343,010	314,171	340,279	310,172	321,056	308,828	336,452	336,452
28	Medical Laboratories (25 Grand Ave)	General Fund		537,896	506,048	515,262	488,208	512,591	490,459	505,919	512,219	461,564	497,178	474,532	482,387	482,387
29	Trowbridge Hall	General Fund		51,961	47,381	50,647	48,685	49,951	48,158	49,569	49,384	47,771	49,960	51,302	47,802	47,802
31	General Hospital	Hospital		749,576	710,907	740,639	691,484	714,423	671,272	680,989	688,780	634,819	680,451	674,135	701,139	701,139
31.1	General Hospital (Fountain/Landscaping/Walkways)	Hospital		0	0	0	0	0	0	0	0	0	0	0	0	0
33	Westlawn - 100%	General Fund	%	106,313	101,072	104,887	89,627	89,281	81,841	86,680	104,197	81,376	85,364	83,957	85,389	85,389
33.1	Student Health Serv - WASTE ONLY	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
34	Medical Education Building	General Fund		85,157	80,661	84,250	76,020	73,980	67,762	72,908	74,660	68,285	73,180	71,013	75,195	75,195
35	North Hall	General Fund		37,744	35,936	40,740	39,897	38,419	32,967	31,850	30,855	31,317	32,538	36,619	33,233	33,233
36	609 Melrose Avenue	Others		0	0	0	0	0	0	0	0	0	0	0	0	0
37	Art Building West	General Fund		62,482	57,530	63,149	62,827	73,793	66,548	64,929	68,552	68,849	71,642	71,290	63,100	63,100
38	Gilmore Hall	General Fund		19,928	18,993	20,724	18,533	20,229	17,802	18,232	19,406	18,243	18,790	18,218	17,199	17,199
39	President's Residence	General Fund		0	0	0	0	0	0	0	0	0	0	0	0	0
40	Field House - GF 89%	General Fund	%	167,637	137,021	201,388	160,633	145,640	124,182	127,261	133,617	115,478	121,494	124,904	135,175	135,175
40.1	Field House - Others (Athletics) 11%	Others		20,719	16,935	24,891	19,854	18,000	15,348	15,729	16,514	14,273	15,016	15,438	16,707	16,707
42	Kinnick Stadium	Others	Meter	272,865	270,012	350,021	410,651	546,170	893,601	832,022	421,235	402,926	398,484	362,879	291,213	291,213
42.1	US Cellular	Others	Meter	3,741	3,603	3,746	3,618	3,730	3,556	3,779	3,723	3,362	3,721	3,707	3,809	3,809
42.2	Verizon Wireless	Others	Meter	5,510	5,150	5,308	5,250	5,309	5,046	5,274	5,161	4,658	5,178	5,161	3,970	3,970
42.3	AT&T	Others	Meter	2,841	2,367	2,326	2,346	2,335	2,326	2,245	2,159	1,671	1,850	1,819	1,888	1,888
42.4	Kinnick Stadium Press Box - CONST	Others	Meter	1,121	2,273	1,991	1,475	3,286	5,621	5,834	8,392	7,973	5,406	2,738	1,760	1,760
44	Curnier Hall	Residence Services	Meter	217,699	212,290	256,562	244,223	195,772	149,452	137,528	141,461	146,223	155,210	181,222	165,306	165,306
44.1	Curnier Steam Tunnel - CONST	Others	Meter	0	0	0	0	0	0	0	0	0	0	0	0	0
45	219 Melrose Court	Others		0	0	0	0	0	0	0	0	0	0	0	0	0

- Spreadsheet for each commodity was provided to accounting who manually entered usage into master spreadsheet where charges were calculated.

Reduce Manual Data Entry

Journal ID: 10370UTILY Effective Date: 06/20/2019 Description: JPARTIDA, FACILITIES MANAGEMEN 0.00 Grand Total summing all journal lines must = "0" (zero)

Unit	Ledger	Fund	Org Unit	Dept ID	Grant	I Acct	O Acct	D Acct	Function	Cost Center	SLID/SLAC	Amount debit/(credit)	Description (limit 30 characters)
UIOWA	ACTUALS	295	05	038000301	00000000	4400	000	00000	00	0001		(5575.22)	Electric Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00301	70	0001		5575.22	Electric Old Capitol
UIOWA	ACTUALS	295	05	038000302	00000000	4400	000	00000	00	0001		(2745.38)	Steam Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00302	70	0001		2745.38	Steam Old Capitol
UIOWA	ACTUALS	295	05	038000303	00000000	4400	000	00000	00	0001		(18.86)	Water Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00303	70	0001		18.86	Water Old Capitol
UIOWA	ACTUALS	295	05	038000305	00000000	4400	000	00000	00	0001		(19.47)	Sewer Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00305	70	0001		19.47	Sewer Old Capitol
UIOWA	ACTUALS	295	05	038000306	00000000	4400	000	00000	00	0001		(200.12)	Fire Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00306	70	0001		200.12	Fire Old Capitol
UIOWA	ACTUALS	295	05	038000304	00000000	4400	000	00000	00	0001		(7984.85)	CW Old Capitol
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00304	70	0001		7984.85	CW Old Capitol
UIOWA	ACTUALS	295	05	038000301	00000000	4400	000	00000	00	0002		(4933.41)	Electric Schaeffer Hall
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00301	70	0002		4933.41	Electric Schaeffer Hall
UIOWA	ACTUALS	295	05	038000302	00000000	4400	000	00000	00	0002		(7181.50)	Steam Schaeffer Hall
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00302	70	0002		7181.50	Steam Schaeffer Hall
UIOWA	ACTUALS	295	05	038000303	00000000	4400	000	00000	00	0002		(597.39)	Water Schaeffer Hall
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00303	70	0002		597.39	Water Schaeffer Hall
UIOWA	ACTUALS	295	05	038000305	00000000	4400	000	00000	00	0002		(618.06)	Sewer Schaeffer Hall
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00305	70	0002		618.06	Sewer Schaeffer Hall
UIOWA	ACTUALS	295	05	038000306	00000000	4400	000	00000	00	0002		(626.13)	Fire Schaeffer Hall
UIOWA	ACTUALS	050	05	037000170	00000000	6280	000	00306	70	0002		626.13	Fire Schaeffer Hall
UIOWA	ACTUALS	295	05	038000307	00000000	4400	000	00000	00	0002		(50.09)	Refuse Schaeffer Hall

- Charges were manually entered into spreadsheet for monthly CV.

Spreadsheet *H-!!*



I wonder
which
formula I
typed
over?



You break it
you own it!



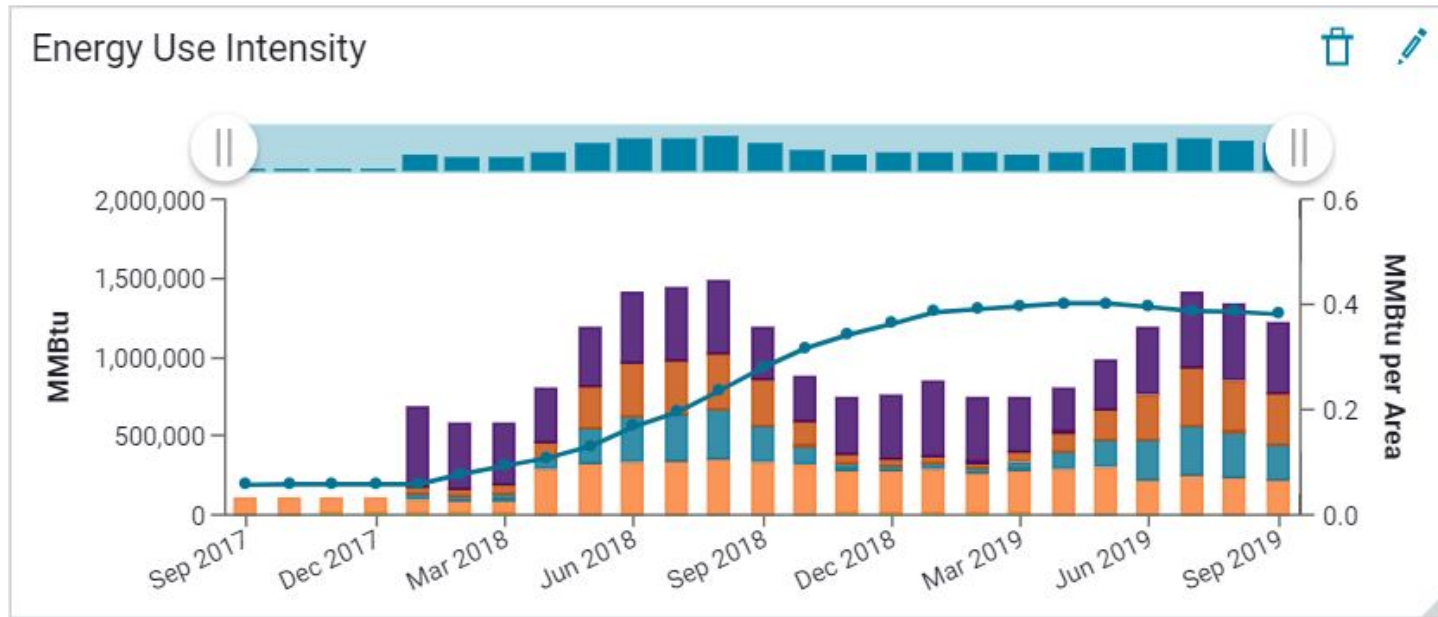
Standardization

- Previously, all eleven commodities were being tracked by different people in different ways.
- Back-tracking to find answer to questions or find a source of error could be time consuming and require multiple people.
- Standardization creates more transparency and makes it easier to cross-train individuals.

One Version of the Truth

- Using a database allows everyone to see exactly the same data.
- Reports and analyses can be shared amongst all users.
- Data silos are eliminated.
- Data integrity is easier to maintain than in spreadsheets.
- Increased continuity when there is personnel turnover.

Data is Used for More than Billing



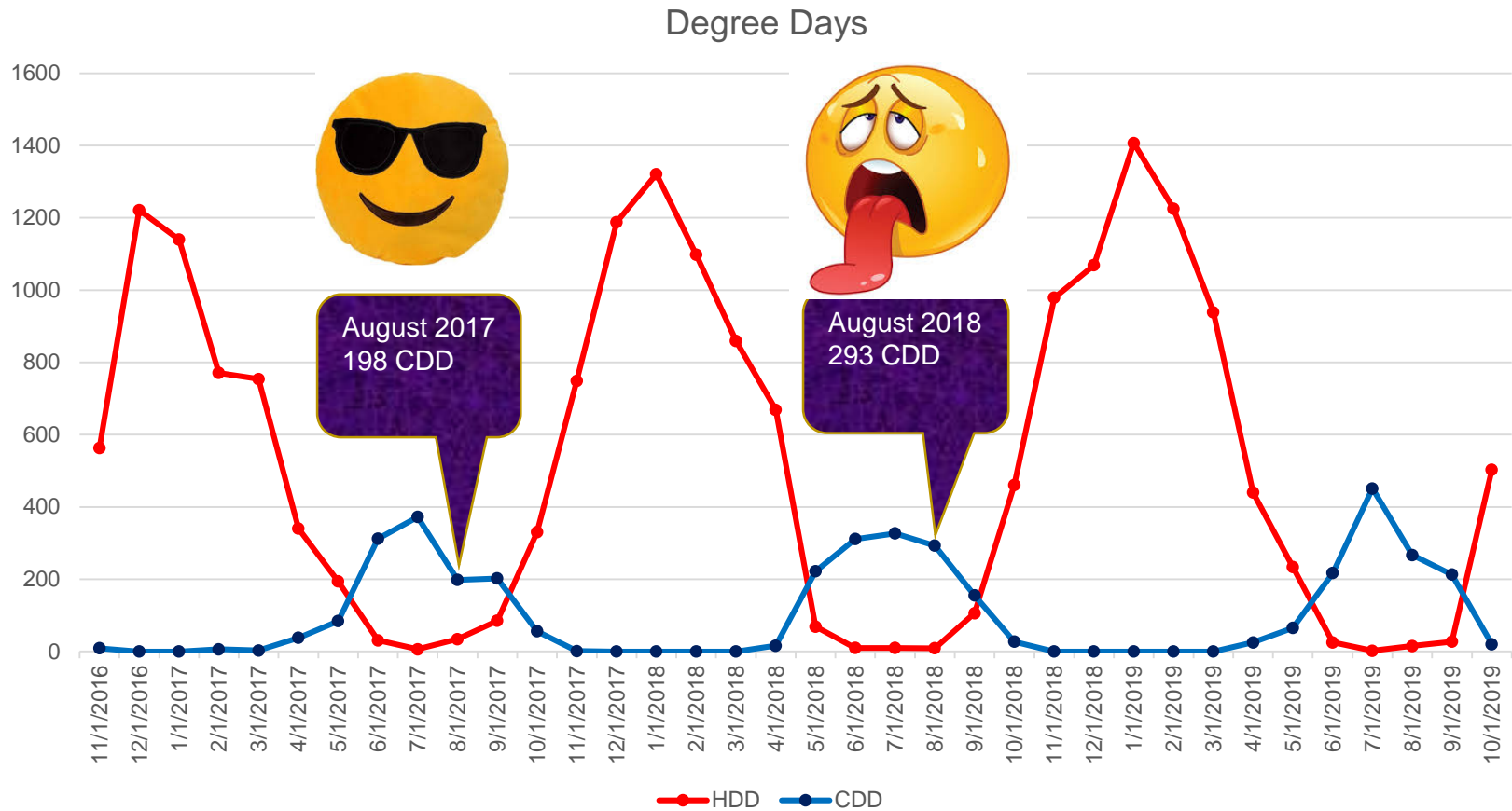
- Energy usage data is vital to energy management.



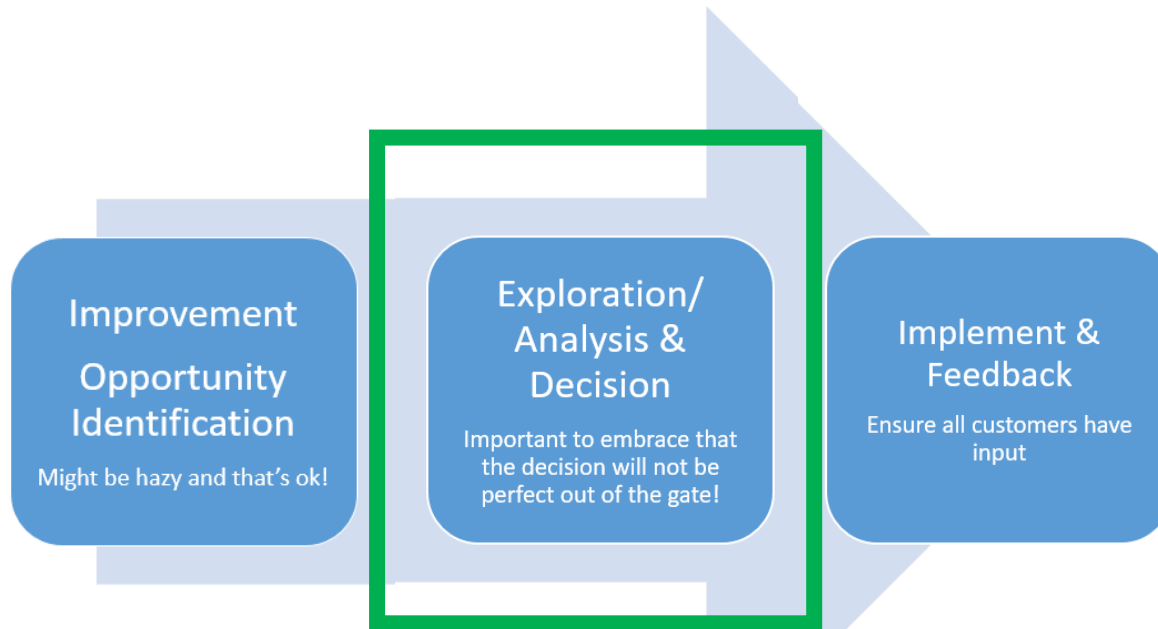
Improvements for Energy Management

- Automatically normalize data by weather and area (gsf)
- Versioning
- Industry Standard Analyses
- EnergyStar Benchmarking
- Measurement and Verification

Weather Normalization



Operations Excellence Framework



Create Positive Working Relationships that allow our TEAMS to assume Positive Intent

The Approach:



RFP



TEAM INPUT



SELECTED
ENERGY CAP



Project Manager-Ben Anderson
Utility Finance-Marla Johnson
Energy Control Center-George Paterson
FM IT-Steve Sawyer
BLS-Katie Rossman
Accounting-Jim Hackman, Jennifer Partida
Meters & Controls-John Paul

General Goals

- Automated workflow from meter to Billing Software
- Single review per commodity (eliminate multiple touch points to get data into system)
- Automated notification via auditing for abnormal/suspect meter readings
- Easy access and understanding of customer billing statement
- Simplification of Billing workflow with focus on meter data (phase 1)



Making Utility Bill Accounting & Energy Management...



easier.

EnergyCAP energy management and utility bill accounting software simplifies your work and frees you up for higher-level planning and analysis.

- ✓ Group and benchmark your buildings to quickly identify outliers.
- ✓ Analyze energy data for any time period or organization level.
- ✓ Save time by automating repetitive accounting & management tasks.



smarter.

The EnergyCAP information system is a smarter way to manage energy, present your data, or troubleshoot energy issues.

- ✓ Streamline your utility bill accounting workflow.
- ✓ Track progress toward energy reduction goals.
- ✓ Audit and approve bills before they are paid.

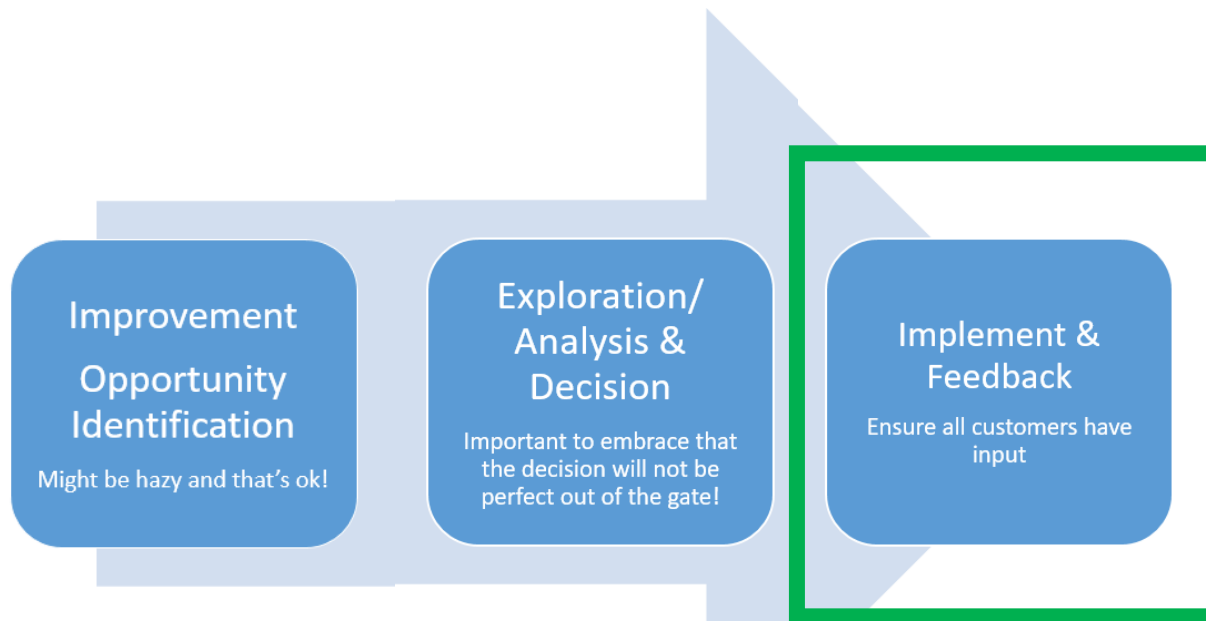


friendlier.

EnergyCAP's user-friendly energy management software tools provide the data you need to make wise decisions.

- ✓ Log in from any location or device.
- ✓ Customize, share, and embed energy dashboards.
- ✓ Share reports across the street or around the world.

Operations Excellence Framework



Create Positive Working Relationships that allow our TEAMS to assume Positive Intent

Implementation and Communication:



System Overview



New workflow process



How we generate a bill



Bills automatically fed into People Soft

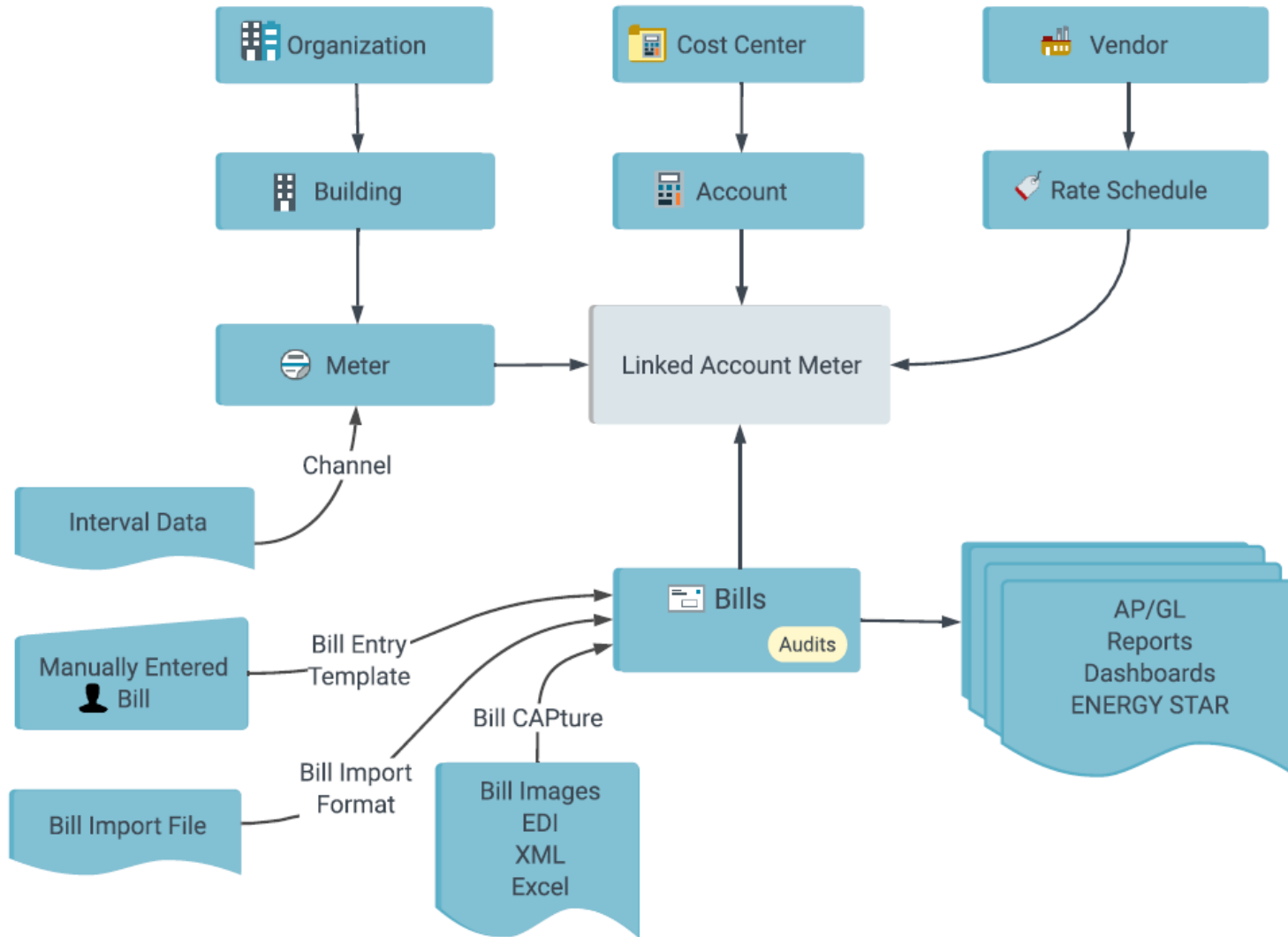


Energy Management



Dash Boards

System Overview

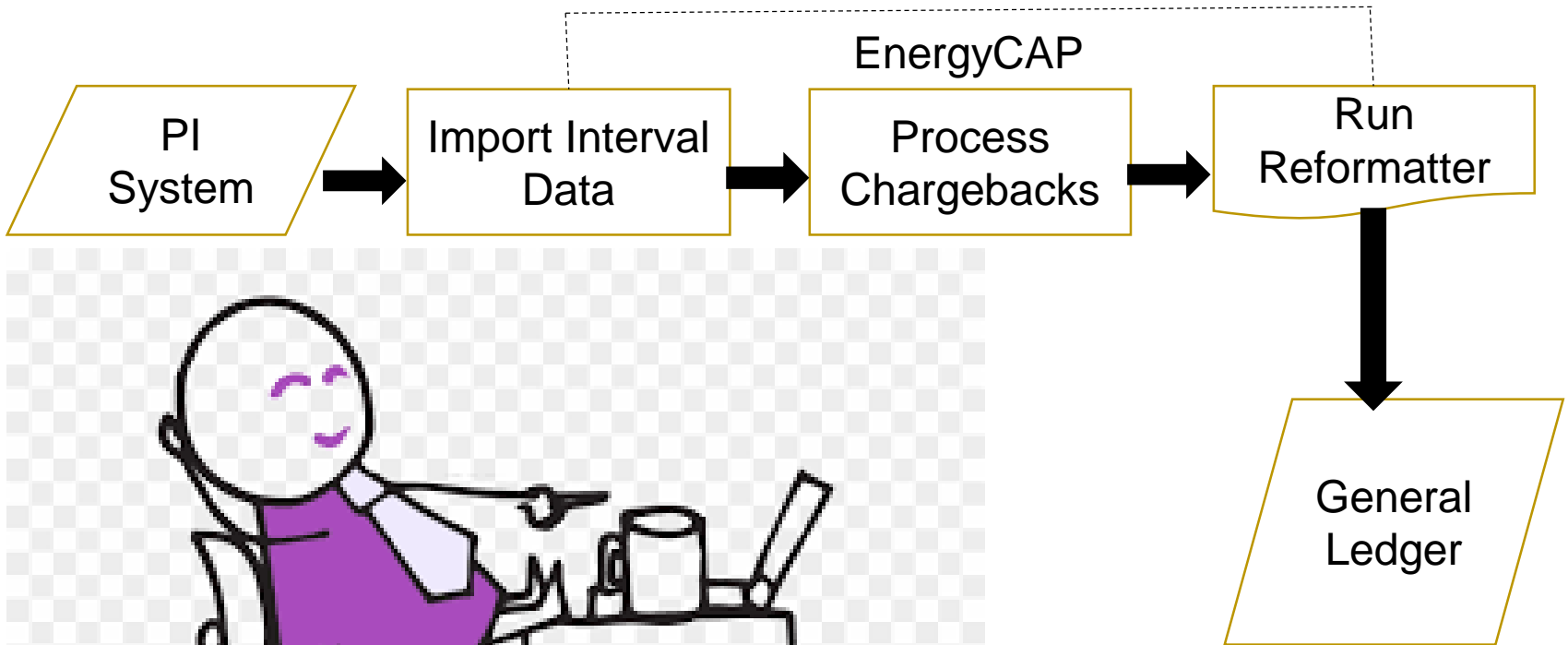


Organization

Buildings & Meters

- Root Node [ROOT]
 - University of Iowa [U_IOWA]
 - Main Campus [MAIN_CAMPUS]
 - Oakdale Campus [OAKDALE_CAMPUS]
 - 401 Westcor Drive [0484]
 - Biomedical Research Support Facility [0245]
 - BRSF-SUB-CW/A/-152 [BRSF-SUB-CW/A/-152]
 - BRSF-SUB-CW/A/-153-PROCESS [BRSF-SUB-CW/A/-153-PROCESS]
 - BRSF-SUB-CW/A/-CONSTN [BRSF-SUB-CW/A/-CONSTN]
 - BRSF-SUB-DW-CONSTN [BRSF-SUB-DW-CONSTN]
 - BRSF-SUB-DW-REV-OK16H [BRSF-SUB-DW-REV-OK16H]
 - BRSF-SUB-DW-REV-OK16L [BRSF-SUB-DW-REV-OK16L]
 - BRSF-SUB-EL-CONSTN [BRSF-SUB-EL-CONSTN]
 - BRSF-SUB-EW [BRSF-SUB-EW]
 - BRSF-SUB-FIRE [BRSF-SUB-FIRE]
 - BRSF-SUB-HW-154 [BRSF-SUB-HW-154]
 - BRSF-SUB-REF [BRSF-SUB-REF]
 - BRSF-SUB-ST-CONSTN [BRSF-SUB-ST-CONSTN]
 - BRSF-SUB-ST-HP-194 [BRSF-SUB-ST-HP-194]
 - BRSF-SUB-WST [BRSF-SUB-WST]
 - BRSF-SUB-WW-REV-OK16H [BRSF-SUB-WW-REV-OK16H]

How We Generate the Bill



Interval Data

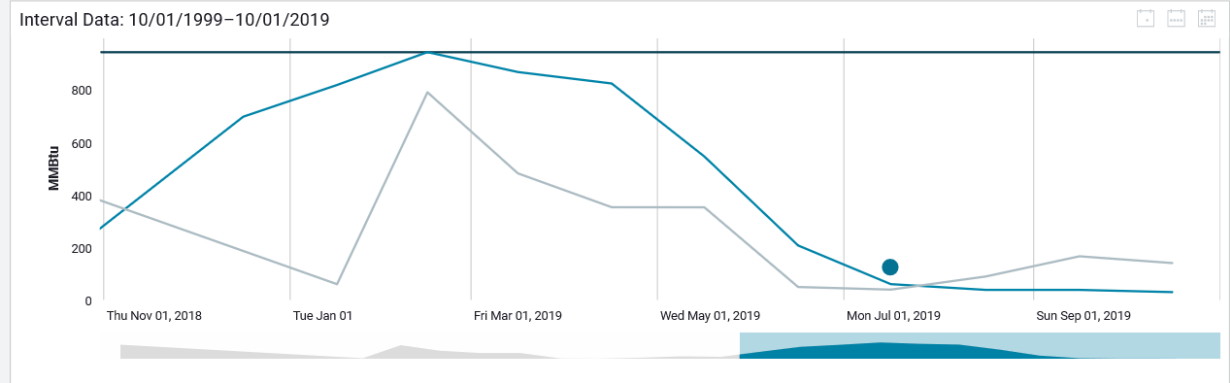
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 - BRSF-SUB-EL-CONSTN [BRSF-SUB-EL-CONSTN]
 - BRSF-SUB-EW [BRSF-SUB-EW]
 - BRSF-SUB-FIRE [BRSF-SUB-FIRE]
 - BRSF-SUB-HW-154 [BRSF-SUB-HW-154]
 - BRSF-SUB-REF [BRSF-SUB-REF]
 - BRSF-SUB-ST-CONSTN [BRSF-SUB-ST-CONSTN]
 - BRSF-SUB-ST-HP-194 [BRSF-SUB-ST-HP-194]**
 - BRSF-SUB-WST [BRSF-SUB-WST]
 - BRSF-SUB-WW-REV-OK16H [BRSF-SUB-WW-REV-OK16H]
 - BRSF-SUB-WW-REV-OK16L [BRSF-SUB-WW-REV-OK16L]
 - BRSF-SUM-EL [BRSF-SUM-EL]

... > Oakdale Campus > Biomedical Research Support Facility > BRSF-SUB-ST-HP-194 [BRSF-SUB-ST-HP-194]

Bills Actual Data Calendarized Data Normalized Data **Interval Data** Savings Properties Flags

Readings Channels

Current channel: Monthly Reading Use (Trip) Most recent reading to view: 10/1/2019



Reading	Reading value	Calculated value	Estimated	Note
10/01/2019 12:00:00 AM	30.43	30.43 MMBtu		
09/01/2019 12:00:00 AM	38.98	38.98 MMBtu		
08/01/2019 12:00:00 AM	39	39 MMBtu		
07/01/2019 12:00:00 AM	60.89	60.89 MMBtu		Reading DM June 19, 2019, WQ #10, 620650

Charge Back -Workflow

Steam

Done

Billing period

September 2019

1 2 3 4 5 6 7

1 ST Submeters

Process ST Channel Readings

Meter	This step	Sep 2019	Use	Sep 2018	Aug 2019	Unit Cost	Cost
AB-SUB-ST-HP-073	1 bill	1 bill		▼ 100 %	0 %		
ABW-SUB-ST-HP-135	1 bill	1 bill	4.60 MMBtu	▼ 75 %	▲ 203 %	\$ 16.739/MMBtu	\$ 77.00
AJB-SUB-ST-LP-130	1 bill	1 bill	293.81 MMBtu	▲ 8 %	▼ 13 %	\$ 16.740/MMBtu	\$ 4,918.41
B-SUB-ST-HP-062	1 bill	1 bill	178.37 MMBtu	▼ 50 %	▲ 17 %	\$ 16.740/MMBtu	\$ 2,985.93
B-SUB-ST-LP-059	1 bill	1 bill	491.01 MMBtu	▼ 8 %	▲ 193 %	\$ 16.740/MMBtu	\$ 8,219.56
B-SUB-ST-LP-063	1 bill	1 bill	405.50 MMBtu	▼ 22 %	▼ 20 %	\$ 16.740/MMBtu	\$ 6,788.11
BB-SUB-ST-HP-035	1 bill	1 bill	25.02 MMBtu	▼ 8 %	▲ 24 %	\$ 16.740/MMBtu	\$ 418.84
BB-SUB-ST-LP-034	1 bill	1 bill	12.47 MMBtu	▼ 60 %	▲ 67 %	\$ 16.740/MMBtu	\$ 208.75
BB-SUB-ST-LP-052	1 bill	1 bill	1.49 MMBtu	▼ 88 %	▲ 71 %	\$ 16.738/MMBtu	\$ 24.94
BBE-SUB-ST-HP-033	1 bill	1 bill	1.22 MMBtu	▼ 4 %	▼ 86 %	\$ 16.738/MMBtu	\$ 20.42
BBE-SUB-ST-LP-036	1 bill	1 bill	293.50 MMBtu	▼ 11 %	▲ 3 %	\$ 16.740/MMBtu	\$ 4,913.22
BCSB-SUB-ST-LP-012	1 bill	1 bill	113.68 MMBtu	▼ 13 %	▼ 3 %	\$ 16.740/MMBtu	\$ 1,903.01

20191021_030017_Calculation_grpaters 161 bills

2 ST Summary 1

Calculate ST Summation Meters

Meter	This step	Sep 2019	Use	Sep 2018	Aug 2019	Unit Cost	Cost
CPB-CONSTN-SUM-S	1 bill	1 bill	641.67 MMBtu		▲ 181 %	\$ 16.740/MMBtu	\$ 10,741.62

20191021_030259_Calculation_grpaters 5 bills

Year over Year report (bill audit)



University of Iowa

Repts

Building Name	Building Code	Use, Sep - Sep		Change over 2017-2018	
		Sep 2017 - Sep 2018	Sep 2018 - Sep 2019		
Adler Journalism and Mass Communication Building	0456	273	294	21	7.7 % ▲
Art Building	0021	118	0	-118	-100.0 % ▼
Art Building West	0037	18	5	-14	-75.1 % ▼
Becker Communication Studies Building	0376	131	114	-17	-13.2 % ▼
Blank Honors Center	0454	167	148	-20	-11.8 % ▼
Boyd Law Building	0377	221	177	-44	-20.0 % ▼
Boyd Tower	0343	1,295	1,166	-129	-9.9 % ▼
Calvin Hall	0007	163	138	-25	-15.5 % ▼
Carver-Hawkeye Arena	0374	964	909	-55	-5.7 % ▼
Catlett Residence Hall	0272	652	638	-14	-2.1 % ▼
Center for Disabilities and Development	0118	107	127	20	19.0 % ▲
Children's Hospital	0400	5,195	4,561	-634	-12.2 % ▼
Chilled Water Plant 1	0314	804	812	8	1.0 % ▲

Bills are automatically fed into People Soft

SA3 Report - Statement of Account accounting period 04, fiscal year 2020 OCTOBER, 2019

Rectangular Snip

Fund: 050 General Educational Fund Grant: 00000000 Not Assigned
Org: 05 VP Finance and Operations Function: 70 Operations and Maintenance
Dept: 0370 Facilities Management Gef BRF:
Sdept: 00170 Utility Billings

- I. [Free Balance Recap - Summary](#)
- II. [Free Balance Recap - Detail of Ending Balance](#)
- III. [Transaction Detail](#)
- IV. [Revenue Recap by Account Element](#)
- V. [Expenditure Recap by Account Element](#)
- VI. [Balance Sheet](#)
- VII. [Statement of Revenues and Expenditures](#)

Select a report section to receive as an excel spreadsheet:

[return to the SA3 input form containing your search criteria](#) [return to a blank SA3 input form](#)

* payroll encumbrances are included for all funds

I. Free Balance Recap - Summary

	BALANCE FORWARD	ALLOCATIONS	REVENUE	EXPENDITURES	ENCUMBRANCES	FREE BALANCE
BEGINNING BALANCE	0.00	45,454,426.00	0.00	12,582,067.13	722,384.52	32,149,974.35
MONTHLY TRANSACTIONS	0.00	0.00	0.00	4,093,774.76	668,225.95	
ENDING BALANCE	0.00	45,454,426.00	0.00	16,675,841.89	668,225.95	28,110,358.16

II. Free Balance Recap - Detail of Ending Balance

	BALANCE FORWARD	ALLOCATIONS	REVENUE	EXPENDITURES	ENCUMBRANCES	FREE BALANCE
BEGINNING BALANCE	0.00	0.00	0.00	0.00	0.00	0.00
GENERAL EXPENSE	0.00	45,454,426.00	0.00	16,675,841.89	668,225.95	28,110,358.16
IR & A	0.00	0.00	0.00	0.00	0.00	0.00
ENDING BALANCE	0.00	45,454,426.00	0.00	16,675,841.89	668,225.95	28,110,358.16

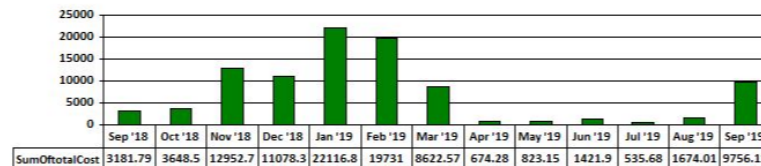
III. Transaction Detail [Financial Systems Tools](#)

GENERAL EXPENSE
INST ORG DEPT CCTR DESCRIPTION JOURNAL ID EFF DATE VOUCHR PO CHECK UNIV ID SUB-LEDGER AMOUNT

6280	000	00302	0115	SQ-SUB-ST-L	10370	UTILY		10	31	2019	351764	89.73
6280	000	00302	0120	HA-SUB-ST-H	10370	UTILY		10	31	2019	351644	9,756.13
6280	000	00302	0125	VOX-SUB-ST-	10370	UTILY		10	31	2019	351659	118.52
6280	000	00302	0132	LSC-SUB-ST-	10370	UTILY		10	31	2019	351683	4,733.60
6280	000	00302	0134	DH-SPLT-ST-	10370	UTILY		10	31	2019	351795	1,719.20

Information that will be in the General Ledger

Bill ID: 351644
 Account: HA-SUB-ST-HP-069
 Commodity: Steam
 Start: 9/1/2019 End: 10/1/2019
 Acct Month: 4
 Acct Year: 2020
 Estimated: Yes
 Void: No
 Cost: \$9,756.13
 Cost/Day: \$325.20 /Day
 Usage: 582.8 MMBtu



Notes: Meter was not operating for 1st 10 days of September



Account naming conventions

HA-SUB-ST-HP-069

- HA-Hancher first 2-3 alpha characters are the building
- SUB-submeter, SUM-Summation, SPLT-Split Meter
- ST-the commodity
 - EL-electric
 - ST-steam
 - DW- Domestic Water
 - CW-Chilled Water
 - WW-Waste Water
 - REF-Refuse
 - REC-Recycle
 - HQW-High Quality Water
 - WST-Waste
 - EW-Environmental Waste
- HP-high pressure, LP-Low Pressure
- 069-meter number



Utility Bill

CHEMISTRY BUILDING

251 North Capitol Street

Building Number: 0003

Building Abbreviation - CB

GSF - 258,789



Commodity Distribution August FY20



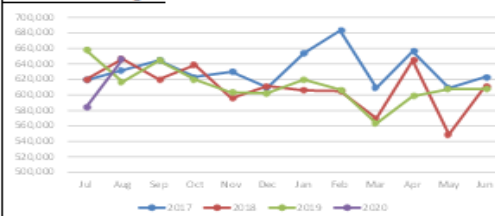
Summary of Utility Charges July 1 - July 31, 2019

Billing Period: August FY20

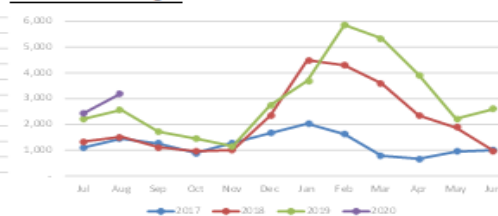
Summary of Current Charges

Commodity	Usage	Units	Dollars	YTD	Fiscal YTD	Prior Fiscal YTD	Diff	Diff%
Chilled Water	7,616	MMBTU	\$123,006.81	\$	31,5450.71	\$ 376,020.55	\$ (60,569.84)	-16%
Electric	645,825	KWH	\$54,861.78	\$	115,504.72	\$ 119,675.93	\$ (4,171.21)	-3%
Environmental Waste	684	KG	\$0.00	\$	5,724.23	\$ -	\$ 5,724.23	0%
Fire Protection	21,566	SQ FT	\$1,736.06	\$	3,472.12	\$ 3,472.13	\$ (0.01)	0%
Recycle	29	CU YD	\$214.97	\$	509.04	\$ 836.54	\$ (327.50)	-39%
Refuse	31	CU YD	\$285.53	\$	596.10	\$ 836.54	\$ (240.44)	-29%
Sewer	329	CCR	\$1,401.69	\$	3,003.57	\$ 3,645.08	\$ (641.51)	-18%
Steam	3,210	MMBTU	\$40,875.64	\$	94,611.36	\$ 85,696.00	\$ 8,915.36	10%
Waste	1,150	LB	\$309.00	\$	824.90	\$ 841.95	\$ (17.05)	-2%
Water	246	MGA1=800 GAL	\$1,354.76	\$	2,903.01	\$ 3,521.45	\$ (618.44)	-18%
Total	680,685.77		\$224,046.24	\$	542,599.76	\$ 594,546.17	\$ (51,946.41)	-9%

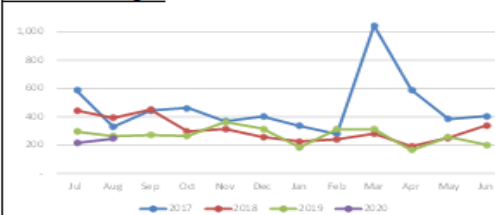
Electric KWH Usage



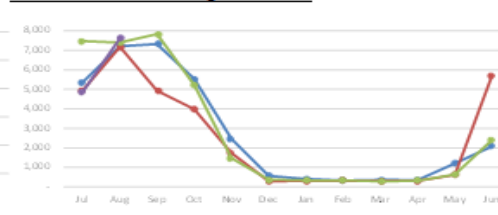
Steam MMBTU Usage



Water MGAL Usage



Chilled Water MMBTU Usage



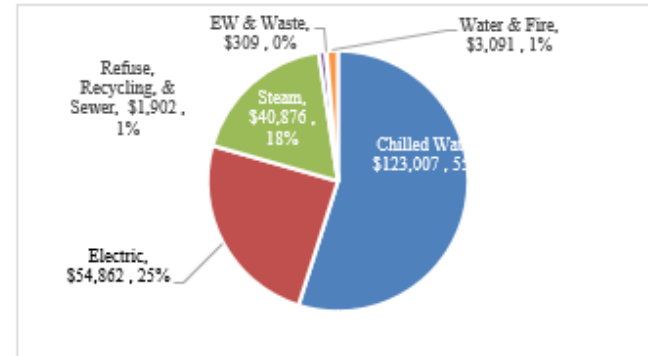
Commodity Distribution August FY20
CHEMISTRY BUILDING

251 North Capitol Street

Building Number: 0003

Building Abbreviation - CB

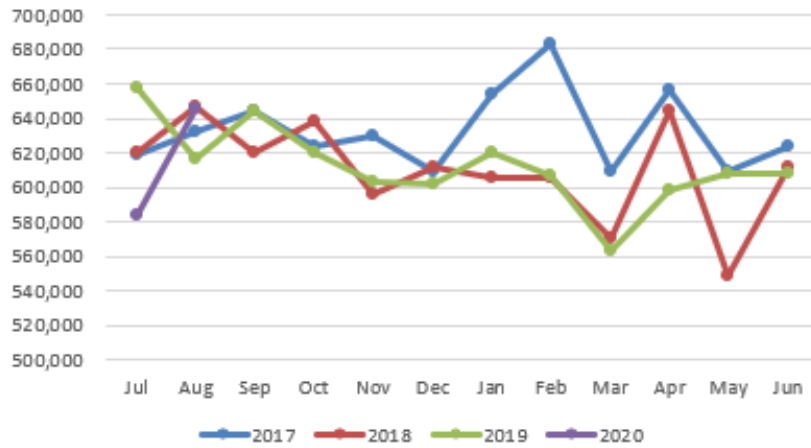
G&F - 258,789


Summary of Utility Charges July 1- July 31, 2019
Billing Period: August FY20
Summary of Current Charges

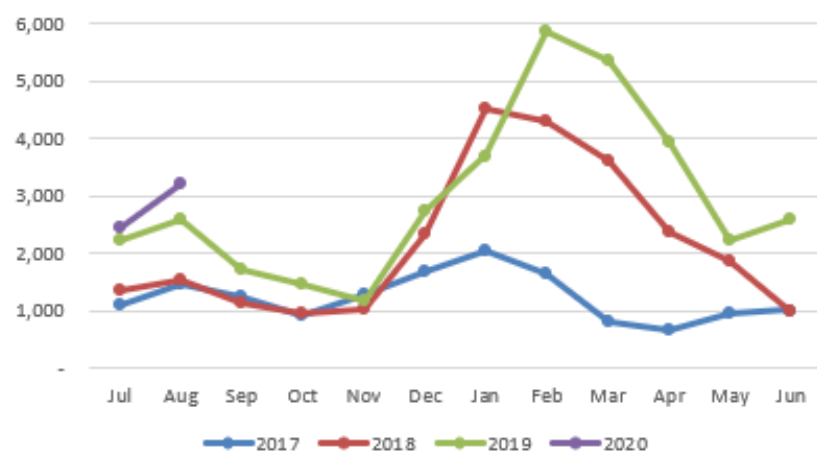
August FY20

Commodity	Usage	Units	Dollars	YTD		Diff	Diff %		
				Fiscal YTD	Prior Fiscal YTD				
Chilled Water	7,616	MMBTU	\$123,006.81	\$	315,450.71	\$ 376,020.55	\$ (60,569.84)	-16%	↓
Electric	645,825	KWH	\$54,861.78	\$	115,504.72	\$ 119,675.93	\$ (4,171.21)	-3%	↓
Environmental Waste	684	KG	\$0.00	\$	5,724.23	\$ -	\$ 5,724.23	0%	↔
Fire Protection	21,566	SQ FT	\$1,736.06	\$	3,472.12	\$ 3,472.13	\$ (0.01)	0%	↔
Recycle	29	CLB	\$214.97	\$	509.04	\$ 836.54	\$ (327.50)	-39%	↓
Refuse	31	CLB	\$285.53	\$	596.10	\$ 836.54	\$ (240.44)	-29%	↓
Sewer	329	CCF	\$1,401.69	\$	3,003.57	\$ 3,645.08	\$ (641.51)	-18%	↓
Steam	3,210	MMBTU	\$40,875.64	\$	94,611.36	\$ 85,696.00	\$ 8,915.36	10%	↑
Waste	1,150	LB	\$309.00	\$	824.90	\$ 841.95	\$ (17.05)	-2%	↓
Water	246	MGAL=KG/	\$1,354.76	\$	2,903.01	\$ 3,521.45	\$ (618.44)	-18%	↓
Total	680,685.77		\$224,046.24	\$	542,599.76	\$ 594,546.17	\$ (51,946.41)	-9%	↓

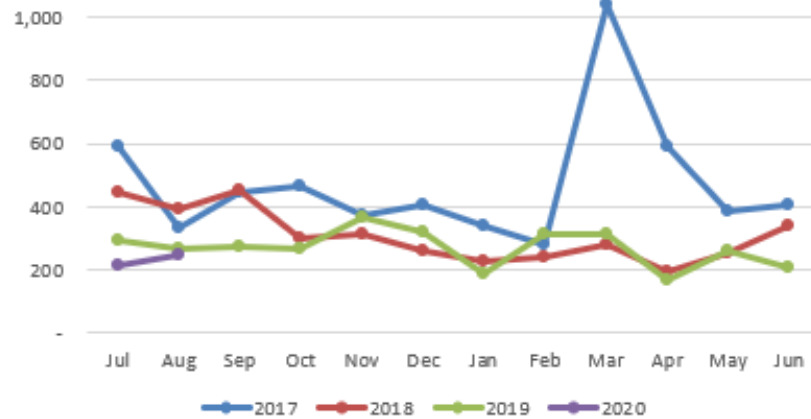
Electric KWH Usage



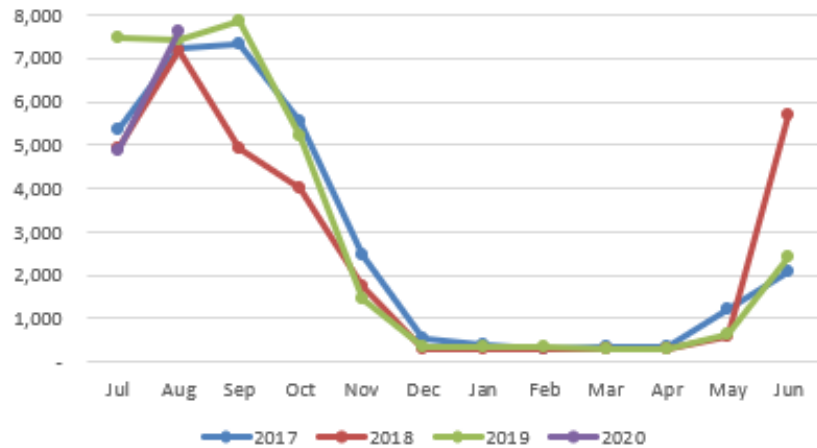
Steam MMBTU Usage



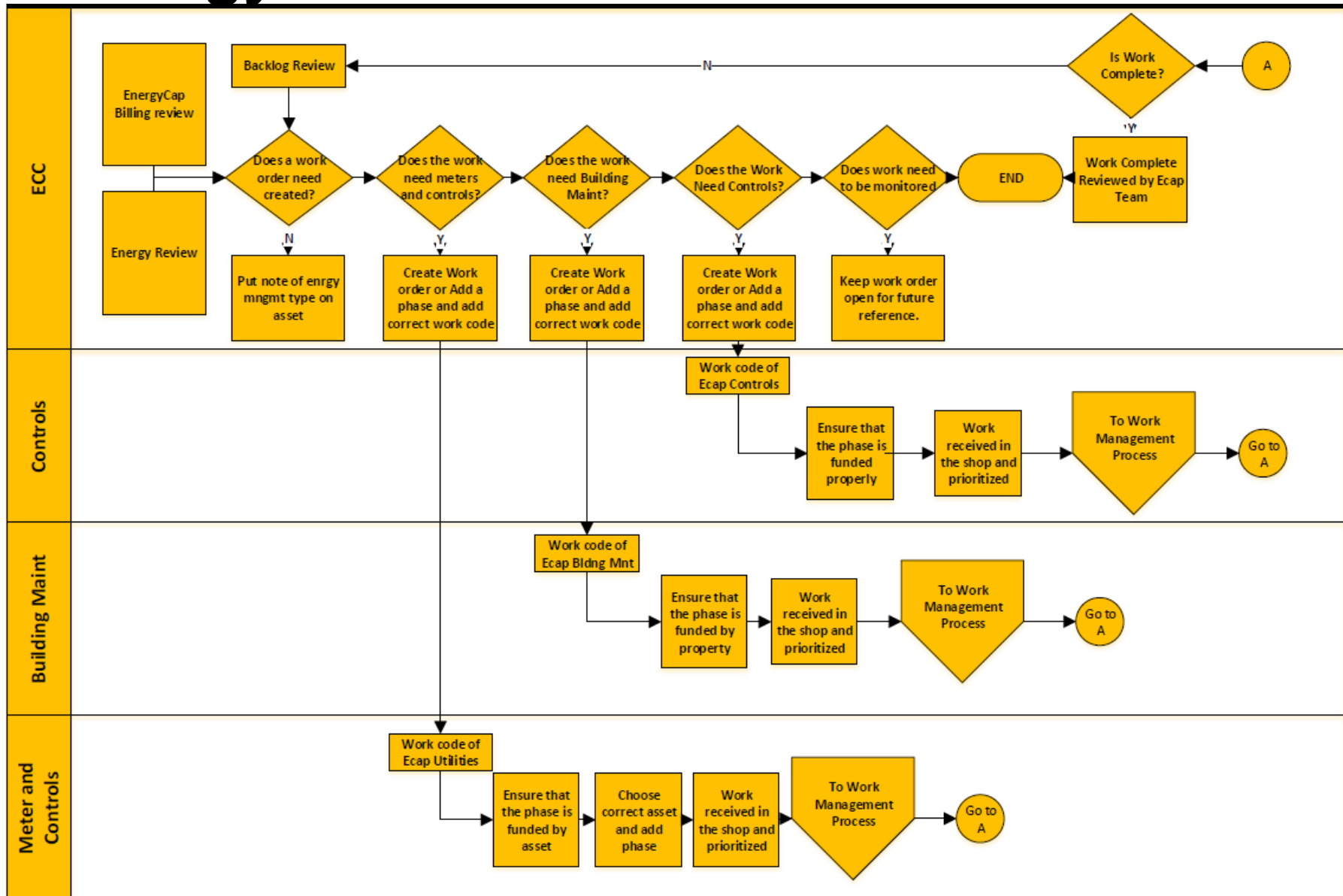
Water MGAL Usage



Chilled Water MMBTU Usage



Energy Review AIM Work-Flow



AIM Work-Order

AiM Phase GEORGE About Help Log

[Back](#) [Edit](#)

Action

- [ViewFinder](#)
- [Timecard](#)
- [Purchase Request](#)
- [Shopping Cart](#)
- [Work Planner](#)
- [Work Scheduler](#)
- [Daily Assignment Browse](#)
- [Email](#)
- [Print](#)

View

- [Extra Description](#)
- [Account Setup](#)
- Shop Stock
- Checkpoint Measurements

001 Created By CHRISTOPHER HANSEN On 07/10/2019 10:42 AM
Last Edited by BRADLY BEINHART On 09/04/2019 10:09 AM

June low pressure steam usage at MacBride Hall is extremely high compared to last year. 280 vs 35 MMBTU. Meters and Controls reports this is not a metering issue. Is something in the operation of the building causing this? Please investigate.

Status: [WORK COMPLETE](#)

Work Order: [20-626632](#)

Budget: 50.00

Location:

Shop: [00201](#)

EAST CAMPUS MAINTENANCE AREA 1

Estimated Start: Jul 10, 2019 10:43 AM

Estimated End: Jul 19, 2019 10:43 AM

Actual Start:

Actual End:

Percent Complete:

Funding Method: Property

Work Code Group:

Work Code: [ECAP - BLDG MAINT](#)

Request Method: CM FROM ECC

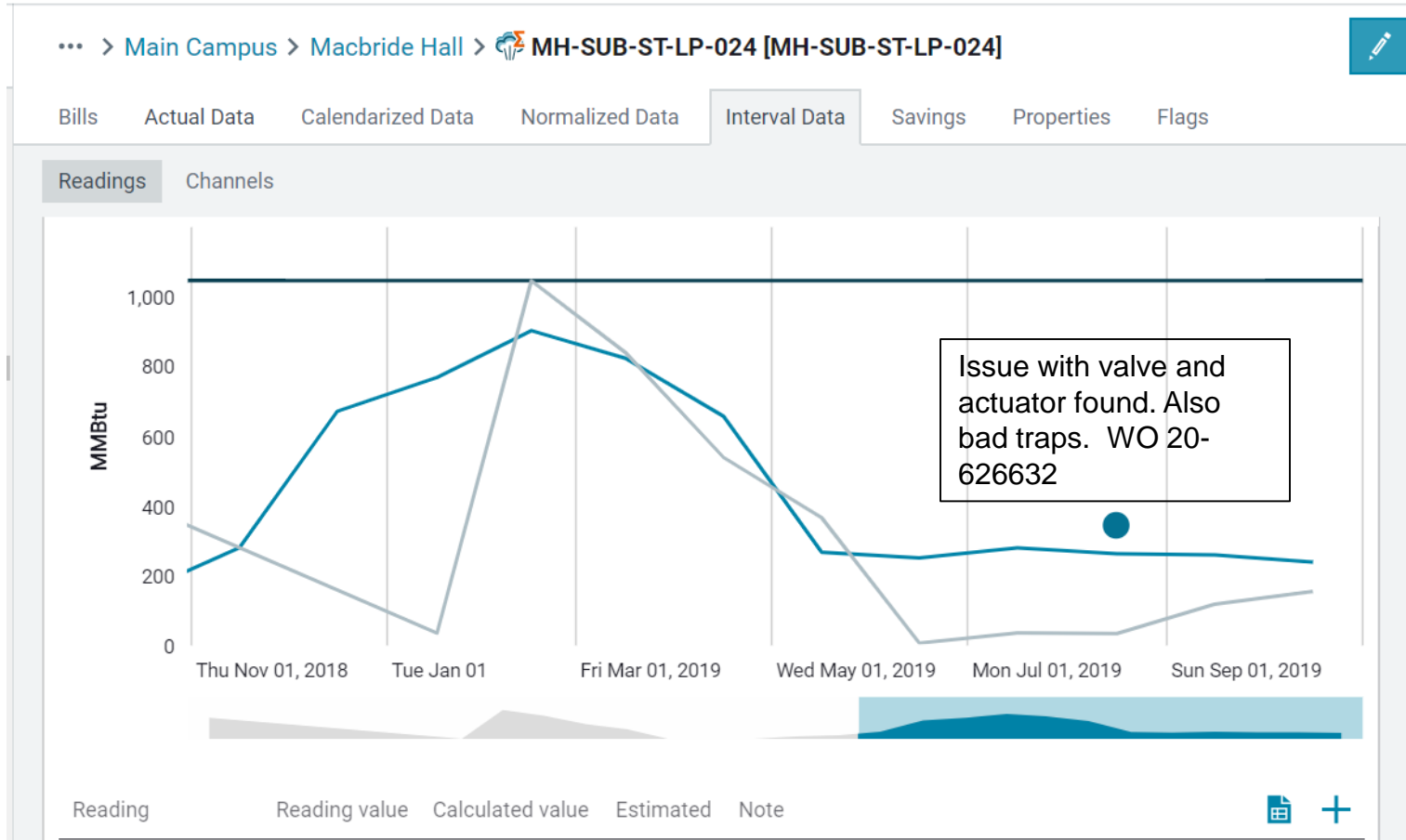
EnergyCap - Building Maintenance work.

Corrective work originating from EnergyCAP or

Primary Person:

Priority: ROUTINE

Interval Data used for Energy Management





Next Steps



**Billing and
Accounting
Audits**



**Internal Energy
Management**



**Groups and
Benchmarks**



**Central
University BI**



**External-
Website**

Sample Dashboard

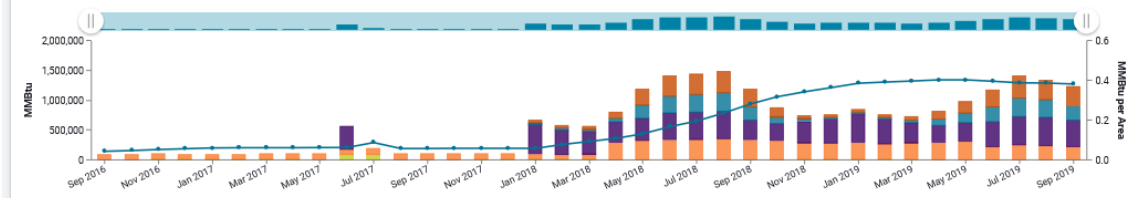
SAMPLE: Building Energy Summary

Rolling 12-Month Performance

Commodity	Cost	Use	Unit Cost
Total	\$ 160,510,163 ▲ 468%	▲ 314%	
Steam	\$ 50,291,164 ▲ 661%	▲ 652%	\$ 17.269 /MMBtu ▲ 1%
Electric	\$ 44,497,743 ▲ 149%	▲ 84%	\$ 0.077 /kWh ▲ 35%
CW_DELTA-T_ADJ	\$ 30,998,891 0%	0%	\$ 32.008 /MMBtu 0%
Chilled Water	\$ 30,957,466 0%	0%	\$ 25.703 /MMBtu 0%
Fire Protection	\$ 1,545,214 ▲ 3%	▲ 3%	\$ 0.080 /GSF 0%
High Quality Water	\$ 865,461 ▼ 5%	▼ 39%	\$ 0.083 /Gal ▲ 55%

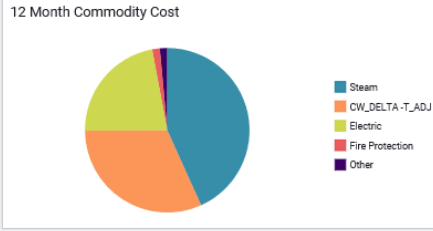
■ August 2016-July 2017 ■ August 2017-July 2018

Energy Use Intensity

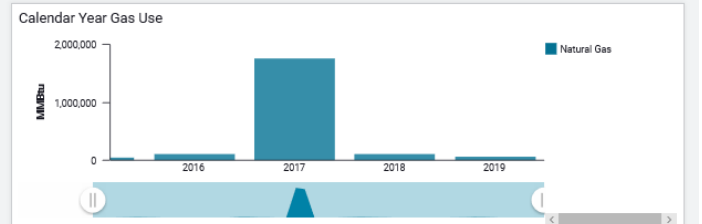
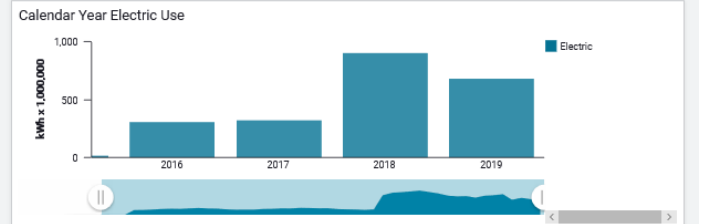
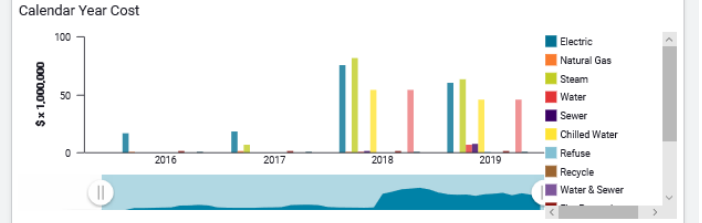


ENERGY STAR

Building name	Current size	Current rating	Rating date
0 S Capitol St. [0_S_CAPITOL_ST]	0 ft²	N/A	N/A
0 S Clinton St. [0_S_CLINTON_ST]	0 ft²	N/A	N/A
1 Melrose Place [1_MELROSE_PLAC]	0 ft²	N/A	N/A
10 - 11 Melrose Place [0096]	2782 ft²	-	-
103 Grove Street [0388]	2935 ft²	-	-
107 Grove St [0336]	1521 ft²	-	-



Filter by building or building group



Calendar Year Carbon Footprint

No data is available

Energy Management

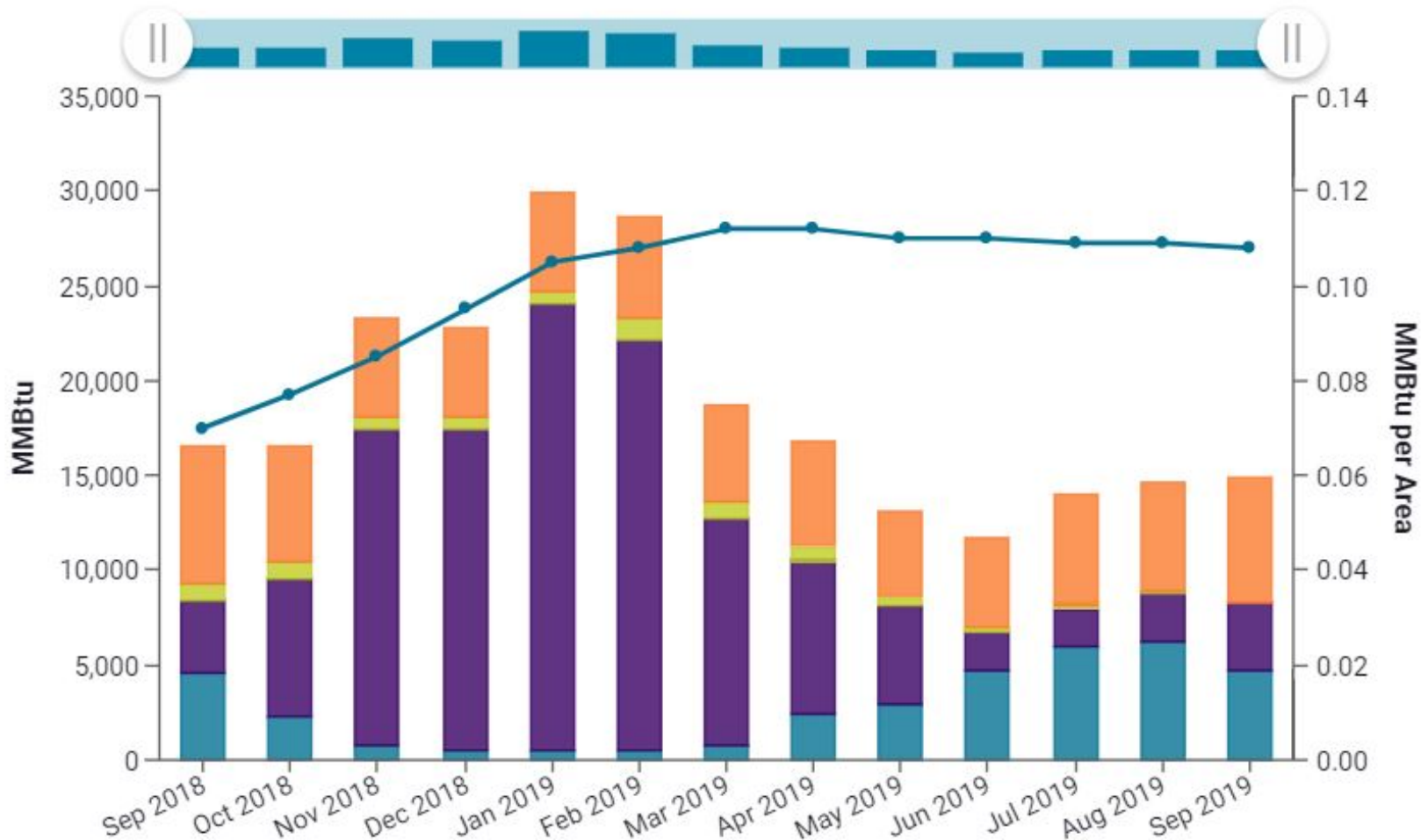
Housing and Dining Building Use/Area: FYTD



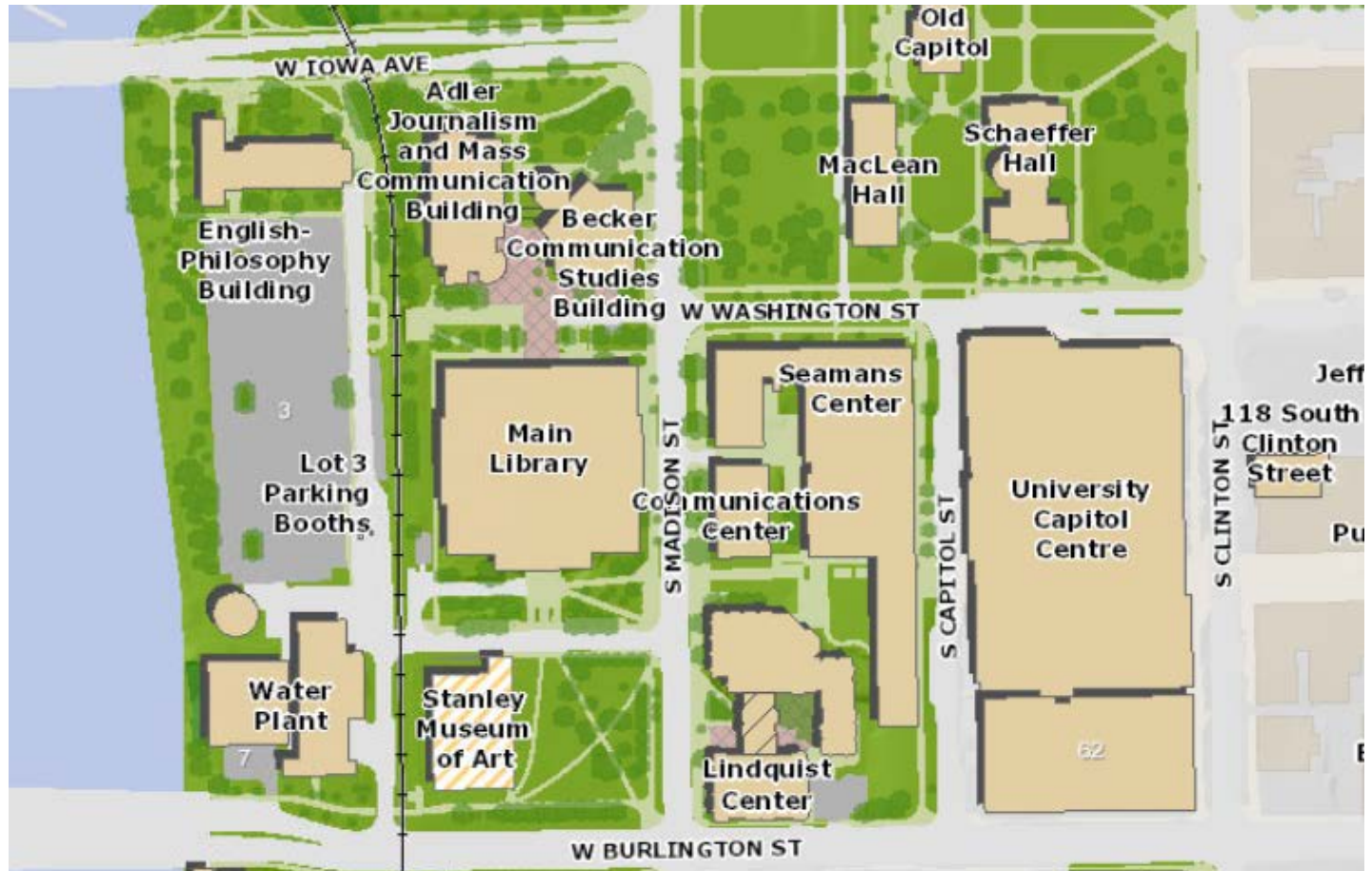
Burge Hall	0.060 MMBtu/SqFt
Catlett Residence Hall	0.052 MMBtu/SqFt
Petersen Residence Hall	0.048 MMBtu/SqFt
Hillcrest Hall	0.038 MMBtu/SqFt
Daum Hall	0.033 MMBtu/SqFt
Currier Hall	0.026 MMBtu/SqFt
Slater Hall	0.026 MMBtu/SqFt
Rienow Hall	0.021 MMBtu/SqFt
Stanley Hall	0.015 MMBtu/SqFt
Mayflower Hall	0.004 MMBtu/SqFt
Parklawn Hall	0.001 MMBtu/SqFt
Hawkeye Drive Apartments	0.000 MMBtu/SqFt
Housing Services Complex	0.000 MMBtu/SqFt

Energy Management Continued

Housing and Dining Energy Use Intensity



Facilities Services-Maps



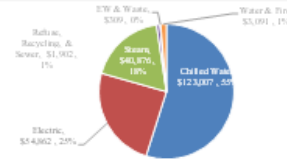
Questions ?

CHEMISTRY BUILDING

251 North Capital Street
 Building Number: 0003
 Building Abbreviation - CH
 GSP - 258,789



Commodity Distribution August FY20

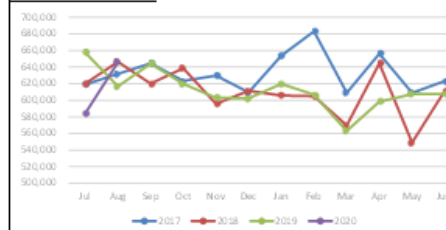


Summary of Utility Charges July 1- July 31, 2019 Billing Period: August FY20

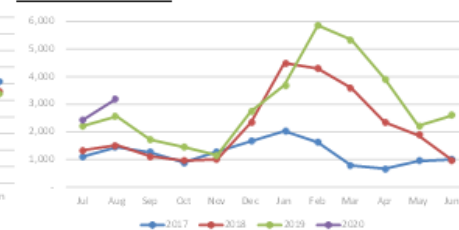
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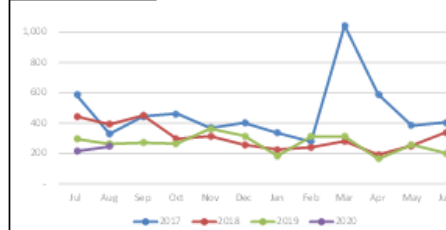
Electric KWH Usage



Steam MMBTU Usage



Water MGAL Usage



Chilled Water MMBTU Usage

