

# FACILITY ACTION PLAN

FACILITY University Center		SITE ID UC	DATE 6/30/10
CURRENT ENERGY USE INDEX (EUI) 328.79394 kBtu/Sq Ft 19.75 kWh/Sq Ft Note: The boilers that heat this building also heat Eastvold, Mortvedt, Ramstad, Xavier and Harstad	TARGET EUI 275 kBtu/Sq Ft 17 kWh/Sq Ft	AVERAGE EUI (BENCHMARK) FOR THE FACILITY TYPE 167.19* kBtu/Sq Ft 28.54 kWh/Sq Ft	
FACILITY LIASON(S) Wendy Robins - Dining Manager	FACILITY RCM TEAM MEMBERS (NAME AND POSITION) 1. Christine Cooley – Sustainability Coordinator		

POTENTIAL CONSERVATION MEASURES, OPERATIONAL IMPROVEMENTS, OR MODIFICATIONS	
MEASURE SUMMARY (LIST HIGH PRIORITY MEASURES FIRST)	FOLLOW UP BY (PERSON AND DATE)
1. Temperature Set Point Policy	Sean Lynn – August 1 <sup>st</sup>
2. Turn off lights in the Dining area when not in use.	Wendy Robins – December 1 <sup>st</sup> , 2010
3. Test the water flow rate for espresso spoon drip	Bruce Broussard – September 1 <sup>st</sup> , 2010
4. Install an aerator on the dish room hose	Bruce Broussard – August 1 <sup>st</sup> , 2010
5. Patch the hole in the AHU vent	Bruce Broussard – July 10 <sup>th</sup> , 2010
6. Replace key lock switch in the entrance of the Cave	Bruce Broussard – July 10 <sup>th</sup> , 2010
7. Replace the fluorescent lights in the fridges	Wendy Robins – December 1 <sup>st</sup> , 2010
8. Enclose the open fridge space at OMM	Wendy Robins – December 1 <sup>st</sup> , 2010
9. Provide a supply duct CO2 sensors	Lyle Kendal – August 13 <sup>th</sup> , 2010
10. Install natural gas submeter	Dave Kohler – January 30 <sup>th</sup> , 2011
11. Replace the food lines' display lights with LED	Wendy Robins – October 1 <sup>st</sup> , 2010
12. Remove the dish accumulator	Wendy Robins – January 31 <sup>st</sup> , 2011
13. Install rain barrel in the courtyard	Bruce Broussard - May 30 <sup>th</sup> , 2011
14.. Replace the existing condensate pump package	Dave Kohler – March 10 <sup>th</sup> , 2011
15. Perform retro-commissioning	Dave Kohler – January 20 <sup>th</sup> , 2011
16. Replace existing AHU fan motors with premium efficiency motors and add VFDs and modulate	Dave Kohler – January 20 <sup>th</sup> , 2013
17. Replace both boilers with (2) 2000 MBH high efficiency condensing boilers and review the distribution	Dave Kohler – January 20 <sup>th</sup> , 2013

Notes: Package 9, 10, 14 and 16 together for final project

\*Taken from "Commercial Building Energy Use Statistics" Dormitories with Fossil Fuel pre-1985

**DETAILED MEASURE DESCRIPTIONS / NEEDS (OPTIONAL)**

**DESCRIPTION**

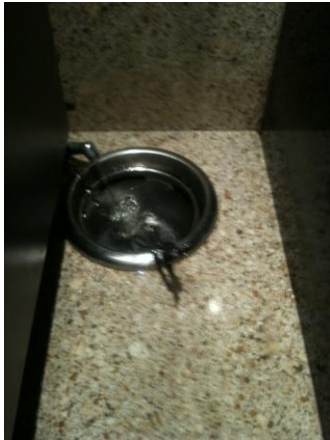
1. PLU's Temperature Set Point Policy will affect this building by mandating a temperature range of 68 to 76 degrees Fahrenheit during occupied hours and 55 to 80 in unoccupied hours.

**RESOURCES REQUIRED**  
 This building has controls in place.  
**ACCOUNTABLE PARTY**  
 Bruce Broussard, Maintenance Manager  
**SUPPORT STAFF**  
 Sean Lynn, Controls Technician  
**SCHEDULE FOR COMPLETION**  
 August 30<sup>th</sup>, 2010

2. Turn off lights in the Dining area when not in use. 18 26 w fixtures and 16 13 w fixtures could be manually controlled during the times between meals.

**RESOURCES REQUIRED**  
 Colaboration with Dining Services  
**ACCOUNTABLE PARTY**  
 Wendy Robins, Dining Manager  
**SCHEDULE FOR COMPLETION**  
 December 15<sup>th</sup>, 2010

3. Test the water flow rate for espresso spoon drip wells in the Old Main Market If these 2 wells are flowing above the Health Code's set flow rate, adjust accordingly.



**RESOURCES REQUIRED**  
 Time from the Campus Plumber  
**ACCOUNTABLE PARTY**  
 Bruce Broussard, Maintenance Manager  
**SUPPORT STAFF**  
 Ross Winters, Campus Plumber  
**SCHEDULE FOR COMPLETION**  
 September 15<sup>th</sup>, 2010

4. Install an aerator on the dish room hose to lower the flow rate while increasing the pressure.



**RESOURCES REQUIRED**  
 Time from the Campus Plumber  
**ACCOUNTABLE PARTY**  
 Bruce Broussard, Maintenance Manager  
**SUPPORT STAFF**  
 Ross Winters, Campus Plumber  
**SCHEDULE FOR COMPLETION**  
 August 1<sup>st</sup>, 2010

5. Patch the whole in the AHU vent closest to the door in west penthouse.



**RESOURCES REQUIRED**

Time from the Campus Engineer

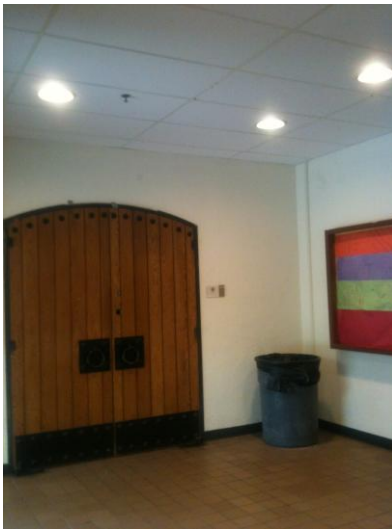
**ACCOUNTABLE PARTY**

Bruce Brouard, Maintenance Manager

**SCHEDULE FOR COMPLETION**

July 15<sup>th</sup>, 2010

6. Replace key lock light switch to flipping switch at the Cave entrance. This allows the 6 CFL's to be turned off during unnecessary hours.



**RESOURCES REQUIRED**

Time from the Campus Electrician

**ACCOUNTABLE PARTY**

Bruce Brouard, Maintenance Manager

**SCHEDULE FOR COMPLETION**

July 15<sup>th</sup>, 2010

7. Replace the fluorescent lights in the Old Main Market fridges with converter kits. (14)



**RESOURCES REQUIRED**

Time from the Campus Electrician

Need to obtain a quote

**ACCOUNTABLE PARTY**

Wendy Robins, Dining Manager

**SCHEDULE FOR COMPLETION**

December 30<sup>th</sup>, 2010

8. Enclose the open fridge space at the Old Main Market. Currently the cooled air flows directly into the market.



**RESOURCES REQUIRED**

Time from the Maintenance staff  
Need to obtain a quote  
**ACCOUNTABLE PARTY**  
Wendy Robins, Dining Manager  
**SCHEDULE FOR COMPLETION**  
December 30<sup>th</sup>, 2010

9. Provide a supply duct CO2 sensor for main AHU's - this sensor will detect "unused" return air and modulate the outside air damper accordingly. Total of 7 supply air CO2 sensor kits in the CK auditorium, main lobby and dining areas. In a 2009 estimate, McKinstry predicted this would save 4,854 therms and 9,728 kWh. At the time, that would save \$5,847 annually.



**RESOURCES REQUIRED**

\$33,600  
**ACCOUNTABLE PARTY**  
Lyle Kendal, Project Coordinator  
**SUPPORT STAFF**  
Contracted party  
**SCHEDULE FOR COMPLETION**  
September 1<sup>st</sup>, 2010

10. Install submeter to assist data collection and energy use monitoring for natural gas

**RESOURCES REQUIRED**

Need to obtain a quote  
**ACCOUNTABLE PARTY**  
Dave Kohler, Facilities Director  
**SCHEDULE FOR COMPLETION**  
December 30<sup>th</sup>, 2015

11. Replace the food lines' display lights. There are currently 17 T5 lights that can be replaced with LED.

**RESOURCES REQUIRED**

Need to obtain a quote  
**ACCOUNTABLE PARTY**  
Wendy Robins, Dining Manager  
**SUPPORT STAFF**  
Contracted party  
**SCHEDULE FOR COMPLETION**



December 30<sup>th</sup>, 2010

12. Remove the dish accumulator. Doing so will eliminate the need for electricity to have it turn, and the water to have it constantly rinsing. Instead, stationary shelves would take their place.

**RESOURCES REQUIRED**

Need to obtain a quote  
Collaboration with Dining Services

**ACCOUNTABLE PARTY**

Wendy Robins, Dining Manager

**SUPPORT STAFF**

Contracted party

**SCHEDULE FOR COMPLETION**

May 30<sup>th</sup>, 2011

13. Install rain barrel in the courtyard to supply water to the potted plants.



**RESOURCES REQUIRED**

Time from Campus Plumber

**ACCOUNTABLE PARTY**

Sara Paz, Grounds Manager

Bruce Broussard, Maintenance Manager

**SCHEDULE FOR COMPLETION**

May 30<sup>th</sup>, 2011

14. Replace the existing condensate pump package. (1) duplex condensate pump package with 10 horsepower each. McKinstry only estimates a 608 therms savings, as well as the 54 CCF water savings.

**RESOURCES REQUIRED**

\$18,843 - NEEDS TO BE PLACE ON 2011 CAPITAL PROJECTS LIST

**ACCOUNTABLE PARTY**

Dave Kohler, Facilities Director

**SCHEDULE FOR COMPLETION**

	January 31 <sup>st</sup> , 2014
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<p>15. Perform retro-commissioning on the major mechanical systems. The scope includes performing P2P and Functional Performance Tests on major mechanical equipment. McKinstry estimated a savings of 7,271 therms and 141,904 kWh.</p>	<p><b>RESOURCES REQUIRED</b>  Determine scope and costs. McKinstry rough quote was \$52,673.  <b>ACCOUNTABLE PARTY</b>  Dave Kohler, Facilities Management Director  <b>SCHEDULE FOR COMPLETION</b>  As funding allows</p>
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<p>16. Replace existing AHU fan motors with premium efficiency motors and add VFDs and modulate the fan speeds based on space temperature or return temperature. Note: Careful attention to building pressurization will be required in the development of this FIM. (1) 25hp, (2) 20hp, (2) 15hp, (2) 5hp, (2) 3hp, (2) 2hp and (3) 1hp. There are a total of 12 fans in the UC. McKinstry estimated a savings of 9,695 therms annually</p>	<p><b>RESOURCES REQUIRED</b>  297,741  <b>GET LISTED ON CAMPITAL PROJECTS LIST</b>  <b>ACCOUNTABLE PARTY</b>  Dave Kohler, Facilities Management Director  <b>SCHEDULE FOR COMPLETION</b>  As funding allows</p>
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<p>17. Replace both boilers with (2) 2000 MBH high efficiency condensing boilers and review the distribution. McKinstry estimated a savings of 23,083 therms annually.</p>	<p><b>RESOURCES REQUIRED</b>  <b>CAPITAL FUNDING - \$299,417</b>  <b>ACCOUNTABLE PARTY</b>  Dave Kohler, Facilities Management Director  <b>SCHEDULE FOR COMPLETION</b>  As funding allows</p>
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