

**BRIDGE Group Meeting**  
**Date: 02.16.10**

**Agenda**

- 1. U Construction Update**
- 2. Heating to Cooling Season Transition**

**1. U Construction Update**

Mike welcomed everyone to the meeting and due to a number of new attendees had everyone briefly introduce themselves. He then talked about the history of how small projects have been addressed at the U. Mike said U Construction is being reformulated in order to scale project management/project delivery to match a project's complexity and requirements. U Construction will be another avenue to complete projects, complimenting the services of both CPPM and FM Districts.

Mike then walked BRIDGE members through a swim-lane document which presented how a project of any size will be handled from when a customer initiates either a Capital Project Request (CPR) or a Work Request. The request will be routed through FM's Call Center and then sent to the appropriate FM Project Coordinator (FMPC). The FMPC will then assign the project based on CPR information and discussions with the customer. The Call Center will inform and record which group (CPPM, U Construction, District) is assigned to manage the work. The group managing the work will then look at the project needs, timeframe and available resources, and make a decision to use University labor, district labor or external labor to complete the project.

Next, Mike explained the decision matrix the FMPC will be using to assign which University organization will manage the work. The FMPC will ask if the project requires a complex design, if the work is maintenance or construction work, how much project management is required and if significant or specialty resources are needed. Based on the answers the work will either be deemed a maintenance or construction project. If it is maintenance it will be assigned to the FM District. If it is construction work then a second decision matrix will be used.

The questions asked in the second decision matrix help determine if a project is either new/exterior construction, if it will require external licensed architectural or engineering services, the amount of coordination required and overall project costs. Based on the answers the project will be routed to either U Construction or CPPM.

The vision for U Construction is to act as an internal general contractor who can capitalize on the institutional knowledge of our trades workforce. The new structure will use construction management best practices in the areas of project scoping, estimating, scheduling and on-site supervision to improve communication and offer a streamlined delivery process for targeted projects.

Mike then introduced Dean Spratt, a consultant from PCL, who explained the process and findings that Vice President O'Brien will be considering. Dean said his group has been working since October interviewing a range of 113 people made up of College representatives, Department Managers, Trades workers, CPPM staff, Purchasing, Codes, Union leadership and District personnel. This information has been synthesized into a report. The report finds that to be successful the new U Construction will need to improve:

- Communication
- Estimates and scheduling
- Project delivery consistency
- Accountability

Dean proposes that U Construction use a number of metrics to ensure that improvements are made in the aforementioned areas. Pending Vice President O'Brien's approval, U Construction will be using estimating software that provides a detailed cost printout and work scope letter for each project. This will be reviewed with the customer before a job is started. Projects will be scheduled using another package that provides enough detail for customers to see critical path milestones, items that have long lead times, start and completion dates as well as work flow relationships.

As each project is completed it will be entered into a database. The database will track productivity as measured by total project cost versus estimates, unit price productivity and success in meeting project schedules. This will help U Construction monitor and share progress with customers and staff as well as provide data for improved estimates. At the conclusion of each project U Construction will meet with customers to identify successes and areas for improvement. Surveys will also be conducted.

Dean said that customers will be critical to U Construction's success. They will be asked to:

- Follow the established process
- Identify a single point of contact to represent their project
- List time, schedule and budget constraints accurately
- Communicate a clear project description and scope

## Q&A

Are we going to be using the FCA database and if so who is updating it?

Merwyn Larson convened a meeting of EHS, Codes, FM, Accessibility, Energy Management and others to review this. Bill Paulus will be charting a group to formalize our process for updating FCA. We're trying to strike a balance between reviewing each building every three years (usually not many changes and fairly expensive to do) and leveraging information that we're already gathering. For example, we need to plug in data we find when conducting our recommissioning efforts. I would anticipate the group being up and running sometime this summer.

So has someone captured the replaced plumbing in Comstock?

We don't have that information in FCA.

If FCA isn't up to date, how should we be doing project estimates?

Well large projects should be in FCA. For smaller projects, U Construction will create some templates for you to use that give you a sense of costs. In addition, U Construction will have an estimator.

Will I know when I request work if it triggers larger issues?

Yes, it's part of our job when we're preparing an estimate to inform you that a particular job would trigger something larger like sprinkling a building before you start the project.

## **2. Heating to Cooling Transition**

Brad then walked BRIDGE members through the results of an FM Kaizen event. He explained that FM spends approximately a million dollars annually transitioning buildings from heating to cooling and cooling to heating season. He explained that Kaizen is a short 1 day to 1 week event which brings together all the people in a process and charges them to fix it. Instead of convening a committee that meets for months and then may or may not implement an action a Kaizen team meets, researches an issue, creates a plan and then carries it out. Brad said the team was comprised of supervisors and line staff from each district and Energy Management. Their goal was to reduce cycle time by 50% and improve customer satisfaction.

During the Kaizen group's discovery phase they learned several key points.

- In the field there was some uncertainty about when to start a transition for fear of breaking a coil which causes some teams to delay starting the process.
- Analyzing past weather data found there was no "average" time to start the transition. FM's stated goal of completing the transition by May 15 or October 15 didn't necessarily correlate to outside temperatures. A more flexible approach was needed.
- Transition planning was conducted at a District level and not coordinated centrally.
- Glycol (an antifreeze used in cooling coils) is expensive, requires a great deal of labor to use and presents issues related to environment and safety.

The group came up with three solutions to reduce cycle time by 50% and improve customer satisfaction.

1. Select a unified starting time that reflects weather conditions.
2. Post transition schedule on FM website and update daily.
3. Limit the use of glycol.

### **S.T.A.R.T. Time**

FM's Energy Management group monitors the weather to inform energy purchases. These long term forecasts could also be used to predict when the transition process should be begin. A Statistical Temperatures Analysis Ramp-up Time or S.T.A.R.T team

**BRIDGE Summary Minutes**

**02.16.10**

**3**

will issue a memo to District Directors and Associate Directors on when to begin the process. This will provide the “air cover” needed for some Team Managers so they don’t delay the process. The sooner the process begins, the less likely customers will be exposed to temperature extremes.

#### Posting Transition Schedule

FM receives complaints during every transition in part because students, faculty and staff do not know when their building will be converted. To prevent this each District will develop a schedule which will be posted on FM’s website and updated daily. Customers will be able to check on building status (tracking both central cooling units and window mounted air conditioners). BRIDGE members and building contacts will be able to direct colleagues to the site for updates. FM will communicate the web location and provide a link via Brief and in an e-mail to BRIDGE members and building contacts.

#### Limiting Glycol

The Kaizen team identified the greatest savings through limiting the use of glycol on campus. There are a number of older coils which are obstructed enough that they require glycol. However the team recommended switching 514 coils to either an air dry or load pump model. The air dry model means adding two vents to a coil and draining water by opening the vents and in some cases forcing air through them. The load pump model means attaching a small electric pump to a coil to keep water circulating to prevent freezing. Due to a larger upfront cost and the energy costs associated with running the load pump the Kaizen team recommended the majority of coils be converted to the air dry model.

The estimated investment needed to convert the remaining 514 coils to the air dry model was approximately \$1.5 million dollars and generates an annual labor and materials savings of \$305,000. The return on investment would be 5 years. The numbers were generated by looking at actual costs incurred by the Health Sciences District when they converted to air dry. In the current resource environment, FM does not have the funds needed to complete the remaining three districts. Rather than doing some of the coils in three districts, FM has decided to complete the East Bank and then move to the other districts.

By limiting the use of glycol, FM can shorten the overall conversion cycle by two weeks. This means that the window in which customers are exposed to uncomfortable conditions is greatly reduced. When combined with starting the process a week earlier via the S.T.A.R.T. memo the Kaizen team shortened the overall cycle time from six to three weeks.

#### Q&A

Will FM use the Kaizen approach on other topics?

Yes. We have been impressed with the process. If your organizations are interested in using it, there are University Resources available through the Office of Service and Continuous Improvement, <http://www1.umn.edu/osci/>.