# POWER SUPPLY TASK FORCE MEETING MINUTES
# WATER AND LIGHT ADMINSTRATION BUILDING

A meeting of the Power Supply Task Force was held August 27, 2008 at 5:30 p.m. at the Water and Light Administration Building in the Energy Management Conference Room. Attending the meeting were:

Task Force:
John Conway, Chair
Tom Baumgardner, Vice Chair
Bob Roper, Member
Tom O'Connor, Member
Dick Malon, Member
Dick Parker, Member
Hank Ottinger, Member
Dave Wollersheim, Member
Ernie Gaeth, Member – Absent

Columbia Water and Light Staff:
J. Kraig Kahler, Director
Jim Windsor, Manager of Rates and Fiscal Planning
Mike Schmitz, Engineering Manager
Tad Johnsen, Power Production Superintendent
Dan Stokes, Transmission and Distribution Manager
Tina Worley, Utility Services Manager
Marilyn Thorpe, Administrative Support Supervisor
Stephanie Brown, Administrative Support Assistant

John Glascock, Public Works Director
Kiah Harris, Burns and McDonnell
Matthew Lind, Burns and McDonnell
Gene Sandner, S & S Seed Farms
Deanne Hackman, Missouri Bioenergy, LLC
Brad McConnell, Citizen

John Conway opened the meeting at 5:45 p.m. He welcomed Kraig Kahler as the new Director of Water and Light.

Approval of the June 11, 2008 Minutes – Tom Baumgardner motioned to approve the minutes and Tom O'Connor made a second motion. The minutes were approved.

Discussion of the Draft Integrated Resource Plan – Kiah Harris said he would go through the additions and results of the integration phase of the Integrated Resource Plan (IRP). He said the first step in the integration analysis was to perform an optimization run using only the supply side resources to establish a benchmark net present value of production costs that can then be compared to a run that uses both supply and demand side options. He mentioned that he also ran a sensitivity analysis that included a carbon cap based on the Lieberman-Warner Bill strategy. Mr. Harris said

the $30 carbon tax was not continually used throughout the entire analysis but was adjusted to account for inflation.

Mr. Harris then discussed the supply side conclusions. He said given the existing load forecast, capacity deficits will occur in 2012. He said when Iatan II and Prairie State power plants come on line around 2012 the utility will be in an approximate energy balance between its peak, intermediate and base load resources.

Dick Parker pointed out that the IRP reported higher levels of CO2 coming from Prairie State compared to other CO2 plants. Mr. Harris said he will check the figures. He also explained that CO2 emissions will increase when Prairie State comes on line, because it will replace the market and gas resources, which has less CO2 emissions. He also commented that one thing that must be considered is the rising costs. He reminded the task force that the IRP is a measuring tool that can be used as a benchmark for other options that may arise in the future and it is also based on commercially available products that are acquirable now. He also said that the utility will have about five years before another critical decision will need to be made about resources and another study should be conducted at that time.

Mr. Harris said there is an advantage with the utility being in MISO where the renewable energy and carbon reduction projects are good. Within MISO the utility does not have to be concerned with transmission issues only costs.

Mr. Harris said the biomass repowering option was available as a 73.5 MW project starting in 2015. He did not recommend this option currently because the 73.5 MW is currently too much for the utility to handle. Responding to Mr. Parker's question of the difference between a 100% biomass plant and a 50/50% biomass plant, Mr. Harris said there is not a significant difference in the costs and outcomes.

Mr. Harris said there isn't a real option right now for nuclear power; however, there may be an option presented later which can be evaluated against the IRP.

Mr. Kahler asked how the numbers for pumped hydro were developed. Mr. Harris said he first created a bay with water cycled back and forth. He then looked at the size and did an estimate of the excavation. He also contacted manufacturers for cost estimates. Mr. Harris said the cost estimates are located in Appendix A. He said Chapter 3 contains the operating capital costs and emissions for the supply side.

Mr. Harris said for the Demand Side Management (DSM) side he had to create avoided costs. He examined coal with and without demand side options. He said there is a significant amount of work that can be implemented on the demand side that will drop the numbers down to the desired range. He said the main goal is to move away from the utility having to continually entice customers to be more energy efficient. He felt that the building codes need to be addressed to break that cycle. John Glascock said changing the building codes is a political process and is considered every three years with the next report coming out in March 2009. Mr. Harris also mentioned that the Energy Policy Act of 2007 mandates certain efficiencies. He said the DSM has about a ten year timeframe to work through.

Mr. Harris said the Load Management price structure needs to be reviewed because of costs. Hank Ottinger asked what the secondary controls are if the Load Management switch is the primary control. Mr. Harris said there are other devices for water heaters. Mr. Harris, responding to Dick Malon's question regarding interruptible services, said that these services are mainly used by the industrial sector.

Mr. Harris believed time of use pricing is a significant option right now. Time of use pricing bases the cost of energy used on the time of day the energy is used. He said the price per kilowatt-hour would be higher during on peak hours and lower during off peak hours. Mr. Ottinger asked if the time is broken down hour by hour. Mr. Harris said it is and customers could have access through the internet. Dave Wollersheim said the program could be on a voluntary basis. Mr. Malon felt that it could be overwhelming to the residential customers.

Mr. O'Connor inquired about Smart Grid. Mr. Harris said the Blackout of 2003 caused a need for a better way of communication on the transmission systems, especially in the distribution and consumer level. Smart Grid moves the intelligence down through the system. If a problem occurs the system would automatically begin to repair itself.

Mr. Harris said given the conclusions of the report, Burns and McDonnell recommends that the utility pursue the option with the regulated carbon future with DSM. The cost for this option is not significantly different than the option without carbon legislation in the first few years. As mentioned earlier, he highly recommended improving the city's building codes for commercial and residential structures that have a minimum energy consumption goal. With this point Bob Roper asked if other communities have successfully implemented more energy efficient building codes. Mr. Harris said the minimums would be so that it is not impossible to attain them. He said he would provide a list of cities that have done this. He also mentioned the recommendation of implementing the demand side management programs as outlined in Appendix E of the IRP. He said additional staff may be needed to pursue this option. A pilot for measuring the effect of controlling the dual compressor air conditioners and for time of use pricing was recommended by Burns and McDonnell. Mr. Harris said to keep in mind that the IRP contains assumptions and the options may need adjustments as new information is available. Mr. Harris said to continue to monitor the market for the biomass repowering project as there may be more interest in this in the future. Mr. O'Connor asked if the 73.5 MW could be separated into smaller increments. Mr. Harris replied that 73.5 MW is already the lowest. Mr. Harris recommended acquiring additional wind energy equivalent to the quantities shown in the regulated carbon future with DSM and pursuing the transmission projects with Associated Electric Cooperative, Inc (AECI). He said it will be necessary to update the IRP in 2012. That will allow sufficient time to determine the success of the demand side programs and gain more knowledge of other energy options.

Mr. Conway opened the floor to entertain a motion from the task force to approve the IRP and recommend that it be presented to the City Council. He also proposed that he would draft a letter to the City Council for implementation of the IRP by Water and Light staff. Several task force members believed that the City Council may need to have a work session on the IRP before being considered and then proceed with a public hearing.

Mr. Kahler commented that he has worked with Mr. Harris before and that the IRP is a good report and a road map for the utility to continually update as information is made available.

Mr. Parker felt that the rebate level of the DSM programs should be tied to the benefit to the utility instead of tied to 50% of the rebate costs. Mr. Harris said the amount of staff and budget available to the utility was unknown to him and there will be a reduction in the benefit because of costs. He said staff will need to determine the benefit. Mr. Glascock said the benefit should be to the city and not just the utility because some areas pertain to other departments of the city.

Mr. Parker made a motion that the task force recommend to the City Council that Demand Side Management rebates be structured to speed the adoption of the best energy efficient conservation measures by setting rebates based upon the utility benefit. Mr. Ottinger made a second motion and the motion was approved by voice vote.

Mr. Malon made a motion for the task force to approve the IRP as the final draft to be submitted to the City Council for their approval and referring it to Water and Light staff for implementation allowing staff some flexibility in the implementation of the IRP recommendations. Tom Baumgardner made a second motion. The motion was approved by voice vote.

Mr. Harris said he will incorporate some edits from Water and Light staff and submit the final draft to them. Mr. Kahler said the IRP will be scheduled to go before the City Council at the October 6 and October 20 City Council meetings.

Mr. Harris will need to attend two more meetings. Mike Schmitz said he will make a change order to compensate for Mr. Harris' time because the meetings were not included in the scope of services.

Mr. Conway thanked Mr. Glascock for participating in this process. Mr. Roper thanked Mr. Harris and his team.

The meeting adjourned at 7:50 p.m.

Prepared by: Stephanie Brown, ASA II