ELECTRIC ADVISORY COMMITTEE
05/12/2009

The regular meeting of the Electric Advisory Committee was called to order at 6:00pm by Chairman, Ron Beauchamp, in Room 102 of City Hall.

Present: Larry Arkens, Pete Baker, Ron Beauchamp, Ann Bissell, Glendon Brown, John Mellinger, Tim Wilson

Absent: None

Also Present: Mike Furmanski-Electric Superintendent, Jerry Pirkola-Power Plant Superintendent, Gil Cheves-Council Liaison

Approval/Corrections to the Minutes:

Pete Baker made a *Motion to accept the minutes of the 04/08/2009 regular meeting and the 04/15/2009 and 04/28/2009 Town Hall meetings as presented. Motion was seconded by Arkens and CARRIED UNANIMIOUSLY.*

Baker said he would like to comment that the minutes taken were outstanding and he would like to acknowledge Carol DeShambo on the job she does in taking them.

Approval/Adjustments to the Agenda:

Tim Wilson made a *Motion approve tonights agenda as presented. The motion was seconded by Arkens and CARRIED UNANIMOUSLY.*

Conflict of Interest Declarations:

None

OLD BUSINESS:

Power Purchase History

Furmanski went over handouts that were presented to committee members at the April meeting regarding the summary of power purchases, comparison of KWH production to sales, and the history of KWH purchases and sales. Handouts are **ATTACHMENT A** to minutes-4 pages.

NEW BUSINESS:

Update-Electric Department

Furmanski offered the following departmental update to the Electrical Advisory Committee.

1. New Development. The following work has been started and/or completed:
    a. New meter tester
    b. Removed temporary service at U.P. State Bank
    c. Temporary service at Taco Bell

2. Distribution System Upgrades/Maintenance. The following upgrades or maintenance needs have been completed on the electrical distribution system:
    a. Tree Trimming
    b. Pole changeouts

Furmanski also went over the NYMEX Look-Alike index for coal prices which members received in their packets. Prices are down considerably from a year ago at this time, but recently there has been a little bit of an increase. Brown commented that an article he had just recently read pointed out that China is now the world's largest consumer of coal, accounting for approximately 1/3 of the amount of coal used.

Update-Power Plant

Jerry Pirkola present the following report to committee members:

The Unit 2 major overhaul is continuing through May. Upon discovery of the additional stack repairs, reassembly of the turbine is being done on straight time. It is estimated the overhaul will be complete by the end of May. Turbine rotor is in place and generator rotor was received today and will completed this week.

Unit 2 Stack update: The stack was UT tested after the old gunite was removed and sandblasting completed. There is significant metal loss from the 70 foot level to the top (150 foot level). The structural engineering report recommends replacing or repairing the upper 80 feet of the stack. Bid requests were solicited and are due today.

We continued to purchase peak time power through April in the MISO Day Ahead market. The Day Ahead purchases averaged $41.64/MWhr and the Real Time purchases averaged $24.34/MWhr.

2550 tons of coal were burned in April leaving approximately 29,000 tons of compacted West Ridge coal on the dock. Since Unit 2 will most likely be down through June, the West Ridge coal will last through September. The first 2009 coal cargo was received on April 16 totaling 19,700 tons. The second coal cargo is due next week. As of today, there is approximately 48,000 tons of coal on the dock.

Operating and Maintenance costs for March are close to that estimated. Fuel costs continue to be lower than expected because we purchased more economical power than the estimate. The year to date Plant overall operating costs are below budget mainly due to lower A&G costs and lower fuel costs.

The Combustion Turbine has not operated yet in 2009, last operated in December 2008 for emissions testing.

Baker requested a clarification of energy purchased and cost/Mwh with the March numbers as well as the production costs.

Baker then asked if the plant kept a daily record of the purchases. Pirkola said a spreadsheet was kept of the purchases on both the scheduled and unscheduled power and the prices that averaged on the previous hour on the real time market. It is updated every 5 minutes and averaged for the previous hour.

Bissell questioned why the large difference on production costs going from $61 back in July of 2008 to $120 now in March. Pirkola said production costs in March are higher due to the maintenance outage and also because of less Mw produced.

Brown suggested that we have been using this report for some time now and maybe Jerry could look at how this report could be modified some to reflect the fact that we are now purchasing more power than we are producing.

Brown questioned that with Unit 2 down at this time, where are we at in our environmental reporting. Pirkola said that we are continuing to do the reports. With the opacity we are continuing to do the reporting but we are reporting the down time on the unit, and nothing has changed with the water permits.

Brown commented that he has talked with a past EAC member, Sonja Skerbeck, who has done work with permitting, and she commented that we need to be sure we do the proper reporting so that the regulatory people look at it as being temporarily down or when the time comes to start it up again they may make us look at filing new permits. She also commented that we need to use the right language such as temporarily off line not shut down or mothballed because with the proper language, it indicates to the regulatory people that we will be bringing it back up again.

Brown asked what was being done for maintenance with the steam turbine or some of the major fans such as hand rotations to preventing sagging. Pirkola responded that as far as the turbine goes, the rotor was installed late last week, and during down time, they have the unit on turning gear. He was unsure if the fans have been rotated, however this would be done on a monthly basis, not weekly. He said the fans are also not overly large as in larger plants so they are not as susceptible to warping a shaft. Pirkola said he would check into this with the maintenance people. Brown requested that he do further checking into it as he said there are people in the UPPCO organization with the expertise in this matter from the time they operated the Warden Station and with the down time now at

this plant, we want to make sure we aren't damaging anything by not hand rotating the fans.

Brown commented that he had seen some of the April data from the plant and wanted to compliment Pirkola and the operators. He said City load averaged 15.3MW and that the average generation at the plant has been about 5.4MW. This means that we have purchased 9.9MW on the average which means 65% of the City load was purchased. This shows that they have taken great care in purchasing low cost power for the City.

Baker commented that we are now looking at March data and we are into the month of May. He questioned if it would be possible with the meeting being the 2nd Wednesday of the month that the April data would be available, thus making it a little more current. Pirkola responded that he has some data available by the meeting time, however not all would be available. He said he could compile the information when it becomes available and forward it on. Baker felt it would be helpful so everyone is aware of the important information such as Glendon has just passed on.

Brown asked if the daily log was a spreadsheet and then commented that there are software tools out there and available that would possibly help in the decision making process for the operator and provide them a spreadsheet of how things are moving along hour by hour.

Bissell asked if there had been an issue yet with the landfill in receiving less ash due to a unit being down. Pirkola said he has not heard anything as of yet from them, however it may become an issue.

Brown requested Furmanski or Pirkola to let the group know where we are at with the coal and what we are committed to. Furmanski reported that we now have 49,000 tons on the dock with 20,000 more coming next week for a total of 69,000 tons. The 2009 coal obligation is 60,000 tons for a total then of 129,000 tons. This amount would be good through next summer and into the fall.

Baker questioned if there wasn't any reason that we shouldn't maybe execute a 2010 coal contract with the prices the way they are and start the bidding process right now. He commented when the economy starts to come back up, so will coal prices rise. Furmanski reported that a concern he would have is a problem with storage, however he said we could talk with C. Reiss about more storage space. Another possible concern is with bids out this early, they may add an amount on to possibly cover themselves should there be a rise in price. Baker said he was just interested in possibly putting the bid but not taking delivery until 2010. Brown commented that he felt it really costs us nothing to check into the price through the bidding process.

Energy Option Discussion-Path Forward

Furmanski presented a white paper of **Escanaba Energy Supply Plan Update** which is **ATTACHMENT B** to the minutes.

Beauchamp asked Furmanski if his immediate recommendation was to run the plant as is with 1 unit down. Furmanski said at this time yes, because taking both units would be leaving ourselves wide open with possibly one month's savings being lost in a day. With one unit, we can still buy some in the Real Time Market. Pirkola commented on the vulnerability also and said with even 1 unit on line and only generating at 5.4 megawatts that makes us vulnerable if a storm should come through and we lose transmission, the City would most likely go black. He commented with both units on line and a storm comes throught, the operators can balance City load and if you lose transmission, we would not even notice, the plant would take over. Brown asked how long it would take to get the peaking unit online and Pirkola responded it would be about 10-15 minutes. Pirkola said he thought it could, but was unsure, if the plant could be started up with the peaking unit. Furmanski said that was the plan at one time, but was unsure if it was ever actually tested.

Baker commented on the great job Furmanski had done on the white paper presentation and wondered about the possibility of both units being mothballed and having a wholesale purchase agreement for 5-7MW. He said we still have the the peaking unit should it be needed as well as still being able to purchase in the Day Ahead market and Real Time market. Brown agreed with what Baker was referring to by going out and getting the information on cost to get a wholesale purchase agreement in place for the 5-7MW at which the 1 unit running now is at and then mothballing that unit also. He felt it would be good to get that information and then make a decision.

Mellinger commented on the job Furmanski had done also and asked what he exactly meant by a "state of readiness?" Furmanski said that this meant it could be brought on line in less than 24 hours.

Brown commended the job Furmanski put forth also and said while we explore Baker's request for a wholesale agreement for 5-7MW of power, with the options available at this time, it is clear what we will be doing at least through July. He said with information received then, we can look at it further on a month to month basis. Brown also commented that he would like to know a little more information on if we declare more load to ATC, how does it affect our transmission costs. He also felt we should look more into the network transmission arrangement with ATC and find out costs on this matter. One thing we would have to look at also, he said, is what kind of peak are we going to declare.

Beauchamp questioned if we are going to be looking at the costs on a month to month basis if it is possible to re-evaluate the rates maybe quarterly. City Attorney Peterson said that the City charter provides for the rates to be set only 1 time per year.

Wilson asked if any of the fixed costs are affected by mothballing both units. Furmanski reported that the costs are there no matter what. Brown questioned maintenance costs and Pirkola responded if the units are not running, you will have less maintenance costs.

Furmanski then went over a graph, **ATTACHMENT C**, prepared by member Brown showing the decrease in City load over the last 4 years, and most notably the 10% drop in the first 4 months of 2009 as comparted to the first 4 months of 2008. Baker questioned what contributed to the drop in City load. Dewar advised he would drill a little deeper into the information and provide Furmanski further information that could help answer some questions.

Discussion-Ballot Language-August 4, 2009, Special Election

O'Toole commented that at last week's City Council meeting, Council had directed Administration to come up with ballot language for the August 4, 2009 Special Election and have it ready for the May 21 Council meeting for approval and then filed with the County Clerk by May 26th.

The proposed ballot language reads:

"Shall the Escanaba City Council have the authority to sell the electric utility plant, equipment, and assets including up to 40 acres of real property where said assets are located to another entity for continued plant operations."

Baker made a *Motion to accept the proposed ballot language as recommended and move forward. The motion was seconded by Brown.*

Beauchamp asked if there was any discussion on the matter. Bissell wanted to comment that from the last election, she had heard comments from people that the ballot language was a problem for them. She questioned O'Toole if this language had been shown to any passerbys to get their opinion. O'Toole said yes they had, and there were probably a couple here this evening that could attest to this. She commented that she liked the simplicity of it but was just curious how others had viewed it. O'Toole felt it was clear and concise. Beauchamp asked if anyone would like to hear from the public. Bissell said she would. Baker said he took exception to that as there is a motion on the table and it had been seconded. If the public wanted to comment to the language, they could do so in the public comment portion of the meeting. Beauchamp asked if Bissell would like to make a motion to hear public comment on the issue before we vote. Baker said the original motion is already on the table and seconded to accept the language as recommended. This motion needs to be voted on before another motion can be made. Beauchamp said the committee would go forward with the Motion.

Motion to accept the proposed ballot language as recommended and move forward was made by Baker. Motion seconded by Brown.

Ayes: Baker, Brown Wilson, Mellinger, Beauchamp, Arkens

Nayes: Bissell

Motion Carried

Public Comment

Don Racicot, power plant employee and spokesperson for the Save Your Power Plant Committee came to the podium and said he and others were involved in the wording of the ballot language for the August 4th election. He said the language is endorsed whole heartedly and addresses almost all the aspects opposed to in the language from the May 5th election.

John Anthony, representative of the Energize Escanaba committee, came to the podium and said they represent the move to find reliable and low cost power and felt a 20% increase would be an economic hardship for many. He expressed that he felt the current ballot language is positive and lets us move forward.

Brad Mantela, vote yes committee member and business owner, thanked the EAC for moving forward on the matter. He questioned Manager O'Toole that once the rates were set for July, could anything be done to adjust those rates later in how they were billed or charged, if power should become less like with a short term agreement. O'Toole commented that between now and June1st, Administration would be coming up with a strategy and be looking at those issues.

Brian Hart, plant employee, came to the podium and asked if you mothball the plant, can Mr. Anthony and his business or any other business people, needing reliable power, can they afford the amount of time, 15-20 minutes, it takes for the peaking unit to come back on line.

Don Racicot said he was under the impression that in order to purchase in the day ahead and real time purchaser, you had to be a power producer at the time.

Racicot commented that the CT is MISO dispatched. He asked if a review has been done of the MISO agreement that this board approved 4-5 years ago. At that time, the CT could run only if MISO dispatched. He wondered if things had changed where it could be taken out of MISO and run when needed for the City.

Racicot also commented on Furmanski's comments of running 1 unit and said for reliability that UPPCO's current practice during severe weather either summer or winter has been to run within 4-5MW of City load should a problem occur on the transmission system. These things need to be considered.

Brown commented that we should not overplay the reliability issue. There are several cities in the area served by transmission and what businesses are affected by most is the cost of power, not reliability.

Mellinger commented that he sent a memo around last week concerning his position of the City taking on the responsibility of signing the DEQ reports.

O'Toole said they are looking into the situation. The state law says the responsibility is to the owner of the plant. He said we are checking to see if that can be transferred on to someone else, ie-plant operator.

Baker requested Furmanski look into the matter of purchasing power even if we are not producing power. Aren'nt we still a power producer even though we may be mothballing it for a time. He commented that we would not want to do anything that would jeopardize our businesses or citizens.

Announcements-Committee Members/Administration

Bissell wanted to comment that she wanted to clarify that her no vote was not because of her disapproval of the ballot language, but that she was unhappy that public comment was not allowed before voting on it.

O'Toole announced a joint EAC/City Council meeting on Monday, May 18th at City Hall at 6:00pm for a round table discussion of these issues

Meeting adjourned: 7:30pm

APPROVED:

RON BEAUCHAMP, CHAIRMAN

MIKE FURMANSKI, ELEC. SUPT.

ATT A

CITY OF ESCANABA

Comparison of KWH Production to Sales

2006/07	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL	
Production-Plant	13,471,150	12,436,420	12,848,250	12,690,840	12,391,940	12,117,228	13,961,260	13,204,820	8,072,920	12,172,720	8,146,870	5,855,760	137,570,178	
Production-CT	719,671	195,551	544,909	1,983	(38,584)	93,174	(25,979)	93,664	64,740	167,619	866,461	106,598	2,789,807	
Purchases	1,530,200	1,229,586	984,220	902,200	896,900	1,520,700	1,186,900	457,500	5,350,300	453,300	4,314,300	6,893,400	25,719,506	15.57%
Total Available	15,721,021	13,861,557	14,377,379	13,795,023	13,250,256	13,731,102	15,122,181	13,755,984	13,487,960	12,793,639	13,327,631	12,855,758	166,079,491	
Utility Sales	13,185,131	14,016,479	14,087,823	12,900,847	12,183,388	12,878,103	13,568,470	14,170,619	12,566,221	12,954,068	11,165,318	11,460,953	155,137,420	
Dusk to Dawn													551,206	
Economy Sales	938,350	267,300	610,000	333,300	326,600	266,810	90,300	389,250	172,100	373,500	993,550	114,100	4,875,160	
Total Sold	14,123,481	14,283,779	14,697,823	13,234,147	12,509,988	13,144,913	13,658,770	14,559,869	12,738,321	13,327,568	12,158,868	11,575,053	160,563,786	
Overage(Shortage)	(1,597,540)	422,222	320,444	(560,876)	(740,268)	(586,189)	(1,463,411)	803,885	(749,639)	533,929	(1,168,763)	(1,280,705)	(5,515,705)	
CUMULATIVE	(1,597,540)	(1,175,318)	(854,874)	(1,415,750)	(2,156,018)	(2,742,207)	(4,205,618)	(3,401,733)	(4,151,372)	(3,617,443)	(4,786,206)	(6,066,911)		
2007/08														
Production-Plant	6,300,950	8,833,970	11,095,820	13,515,550	12,105,870	12,749,670	15,606,200	13,461,570	9,051,530	11,685,720	11,269,050	11,936,480	137,612,380	
Production-CT	654,414	688,292	23,912	33,642	81,478	131,475	196,090	38,763	123,725	47,498	580,978	319,987	2,920,254	
Purchases	7,388,100	5,551,600	1,039,300	732,700	815,200	731,100	510,400	680,000	3,856,917	1,151,700	1,134,000	1,426,100	25,017,117	15.17%
Total Available	14,343,464	15,073,862	12,159,032	14,281,892	13,002,548	13,612,245	16,312,690	14,180,333	13,032,172	12,884,918	12,984,028	13,682,567	165,549,751	
Utility Sales	12,290,750	13,577,369	12,928,646	12,556,281	12,590,135	12,602,048	13,617,945	13,584,338	12,853,634	11,835,607	12,037,182	11,873,417	152,347,352	
Dusk to Dawn													537,120	
Economy Sales	660,300	738,250	160,500	580,700	439,800	725,900	883,900	639,500	162,300	126,000	1,127,900	331,400	6,556,450	
Total Sold	12,951,050	14,315,619	13,089,146	13,136,981	13,029,935	13,327,948	14,481,845	14,223,838	13,015,934	11,961,607	13,165,082	12,204,817	159,440,922	
Overage(Shortage)	(1,392,414)	(758,243)	930,114	(1,144,911)	27,387	(284,297)	(1,830,845)	43,505	(16,238)	(923,311)	181,054	(1,477,750)	(6,108,829)	
CUMULATIVE	(1,392,414)	(2,150,657)	(1,220,543)	(2,365,454)	(2,338,067)	(2,622,364)	(4,453,209)	(4,409,704)	(4,425,942)	(5,349,253)	(5,168,199)	(6,645,949)		
2008/09														
Production-Plant	12,686,590	11,929,230	11,995,480	11,209,800	9,746,770	11,890,200	10,960,550	9,024,710	0	0	0	0	89,443,330	
Production-CT	335,475	343,216	3,608	(8,233)	53,627	475,664	(55,294)	(40,150)	0	0	0	0	1,108,113	
Purchases	1,699,400	1,742,300	1,582,500	1,548,100	2,118,200	2,645,520	2,891,000	2,982,220	0	0	0	0	17,209,240	16.1%
Total Available	14,721,465	14,014,746	13,581,588	12,749,667	11,918,597	15,011,584	13,796,256	11,966,780	0	0	0	0	107,760,683	
Utility Sales	11,977,540	13,251,649	12,331,390	13,015,770	10,319,808	13,220,256	14,496,282	11,826,814	0	0	0	0	100,439,509	
Dusk to Dawn													0	
Economy Sales	628,900	439,500	95,600	64,300	89,500	544,420	9,700	300	0	0	0	0	1,872,220	
Total Sold	12,606,440	13,691,149	12,426,990	13,080,070	10,409,308	13,764,676	14,505,982	11,827,114	0	0	0	0	102,311,729	
Overage(Shortage)	(2,115,025)	(323,597)	(1,154,598)	330,403	(1,509,289)	(1,246,908)	709,726	(139,666)	0	0	0	0	(5,448,954)	
CUMULATIVE	(2,115,025)	(2,438,622)	(3,593,220)	(3,262,817)	(4,772,106)	(6,019,014)	(5,309,288)	(5,448,954)	(5,448,954)	(5,448,954)	(5,448,954)	(5,448,954)		

Does not include March.

CITY OF ESCANABA

Detailed Summary of Power Purchases

July, 2006 to June, 2009

U:\123R3\ELECTRIC\PowerCosts\200809\CostOfPurchasedKWh

		KWh	Power Cost	Capacity Charge	True-Up	Customer Charge	Transmission Charge	Ancillary Charge	Total Cost	Power Cost per KWH	NET Cost per KWH
2007/08											
July	Negotiated	7,388,100	$621,128.13	$36,000.00	($14,904.91)				$642,223.22	0.084071	0.086927
August	Negotiated	4,349,500	377,268.64	31,292.90	0.00				408,561.54	0.086738	0.093933
September		1,202,100	72,451.99		(5,045.69)	1,000.00			68,406.30	0.060271	0.056906
October		1,039,300	30,302.25		7,402.49	1,000.00			38,704.74	0.029156	0.037241
November		732,700	21,074.83		(4,120.18)	1,000.00	3,793.90		21,748.55	0.028763	0.029683
December		815,200	21,272.28		(10,256.62)	1,000.00			12,015.66	0.026095	0.014740
January		731,100	27,379.83		(3,519.62)	1,000.00			24,860.21	0.037450	0.034004
February		510,400	19,451.56		5,656.12	1,000.00	1,415.20	51.42	27,574.30	0.038110	0.054025
March		680,000	26,736.20		(282.26)	1,000.00		7,114.53	34,568.47	0.039318	0.050836
April		3,856,917	281,374.11			1,000.00		7,199.54	289,573.65	0.072953	0.075079
May		1,151,700	43,936.19		(194.92)	1,000.00	1,193.70	7,456.50	53,391.47	0.038149	0.046359
June		1,134,000	39,370.32		(122.35)	1,000.00	3,957.00	7,085.34	51,290.31	0.034718	0.045230
		1,426,100	26,217.40		(108.13)	1,000.00		6,216.97	33,326.24	0.018384	0.023369
Year To Date		25,017,117	$1,607,963.73	$67,292.90	($25,496.07)	$11,000.00	$10,359.80	$35,124.30	$1,706,244.66	0.064275	0.068203
2008/09											
July		1,699,400	$65,835.21		($857.06)	$1,000.00	$1,468.80	$7,069.94	$74,516.89	0.038740	0.043849
August		1,742,300	64,965.06		(138.60)	1,000.00	13,387.50	7,703.50	86,917.46	0.037287	0.049887
September		1,582,500	44,067.85		(1.02)	1,000.00	13,447.00	8,633.14	67,146.97	0.027847	0.042431
October		1,548,100	45,476.81		(280.08)	1,000.00	14,459.00	5,716.21	66,371.94	0.029376	0.042873
November		2,118,200	62,658.66		(362.61)	1,000.00	0.00	5,868.26	69,164.31	0.029581	0.032652
December		2,645,520	121,896.02		(476.92)	1,000.00	0.00	6,978.19	129,397.29	0.046076	0.048912
January		2,891,000	102,651.55		(843.68)	1,000.00	80,911.80	8,076.48	191,796.15	0.035507	0.066342
February		2,982,220	73,601.28		(45.31)	1,000.00	8,962.80	1,618.70	85,137.47	0.024680	0.028548
March		0	0.00		0.00	0.00		0.00	0.00	ERR	ERR
April		0	0.00		0.00	0.00		0.00	0.00	ERR	ERR
May		0	0.00		0.00	0.00		0.00	0.00	ERR	ERR
June		0	0.00		0.00	0.00		0.00	0.00	ERR	ERR
Year To Date		17,209,240	$581,152.44	$0.00	($3,005.28)	$8,000.00	$132,636.90	$51,664.42	$770,448.48	0.033770	0.044769

Escanaba Generating Station Actual versus Budget 2008& 2009

OPERATION		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	YTD Total	TOTAL	YTD Diff
					2008					2009						
City Load	Prev.	13,548	14,134	11,749	13,404	12,268	12,425	15,077	13,029	13,053	12,265	11,574	12,461	118,688	154,987	
(mwhrs)	Est.	13,800	13,800	12,200	12,700	12,700	13,300	14,600	13,100	13,400	12,500	12,500	13,600	119,600	158,200	
	Actual	13,565	12,887	12,994	12,028	11,032	14,078	12,974	11,461	12,590	0	0	0	113,609	113,609	-5,991
Net Generation Stm	Prev.	6,301	8,834	11,096	13,516	12,106	12,750	15,606	13,462	9,052	11,686	11,269	11,936	102,721	137,612	
(mwhrs)	Est.	12,325	12,325	11,125	11,625	11,625	12,225	13,525	12,025	8,525	11,425	11,425	12,125	105,325	140,300	
	Actual	12,687	11,929	11,995	11,210	9,747	11,890	10,961	9,025	6,116	0	0	0	95,559	95,559	-9,766
Energy - Purch $$		64,978	64,826	44,067	45,197	62,296	121,419	102,485	73,486	201,113				779,867		
MwHrs		1,699	1,742	1,583	1,548	2,118	2,646	2,891	2,982	6,536				23,746		
Cost $/MWhr		38.24	37.21	27.85	29.19	29.41	45.90	35.45	24.64	30.77				32.84		
Energy - Sales $$ STM		28394	7896	5974	3276	794	584	431	16	2067				49432		
MwHrs		286	90	85	64	14	10	10	0	59				618		
Cost $/MWhr		99.25	88.23	70.53	50.95	55.92	59.86	44.41	53.13	34.98				80.03		
Production Costs $/MWhr		61.61	65.63	71.17	85.72	94.73	86.47	79.51	96.94	120.80				81.79		
Total Cost in $/MWhr		60.32	65.17	68.64	83.37	89.27	81.61	75.03	82.75	74.49				75.22		

(+) = above budget
(-) = below budget

ATTB

Escanaba Energy Supply Plan Update – May 12, 2009

Michael Furmanski
City of Escanaba
Electric Department Superintendent

Table of Contents

Acknowledgments

All of the information contained in this document related to market pricing, engineering costs, fuel costs and other outsourced services or estimates were solicited from electric industry experts, other utilities, and vendors and suppliers of the Escanaba Electric Department. All the information in this document is presented as the best available information at the time of development of this document.

STATEMENT: The City of Escanaba has been evaluating various power supply options for many years. Concerns about dramatically increasing coal costs have put the issue of power supply options in center stage. The City strives to supply its electrical customers with competitive, economical, reliable power. A ballot referendum which would have granted the Escanaba City Council the authority to sell, lease, and/or dispose of the Escanaba generating station failed recently. The City now needs to consider and evaluate all immediate, short term, and long term options available to meet the electric power needs of the City. This paper will attempt to outline some of the various options available today and in the future.

BACKGROUND: The City purchases power on a daily basis, though it is not through a long term agreement but rather through the Short Term Agreement the City has with UPPCo. This energy is normally purchased under 3 different scenarios:

1) When it is cheaper to buy off the Midwest Independent System Operator (MISO) Real Time (RT) market than to generate power ourselves,

2) Off the MISO Day Ahead (DA) market when we are in a scheduled maintenance shutdown as we typically do each spring, or to control and lock in purchase prices during peak demand periods of the day,

3) When City load exceeds the output capacity of the steam plant, which is 25MW.

All 3 of these scenarios are for energy only, with no capacity attached to it. This is significant as we would be paying more if there was capacity tied to it. The capacity is required by regulatory reporting agencies and is a measure that an electric provider has adequate electricity generation capability. Energy is sold in the wholesale market without capacity, and this is energy that is from another entity that has its own electric capability. This is not a major concern in the current 2009 regional electric market, but is explained here for clarification. A long term full service electric supply contract includes both energy and the capacity guarantees.

HISTORY: Unit #1 was taken down on March 9th, 2009 for its annual maintenance outage. Since that time, we have had 1 or both of the generators down at the plant. The #2 generator was taken down for a major overhaul on March 20th and is still down today. During the time that the plant has been operating 1 generator, we have been able to purchase energy from the MISO market at very reasonable prices.

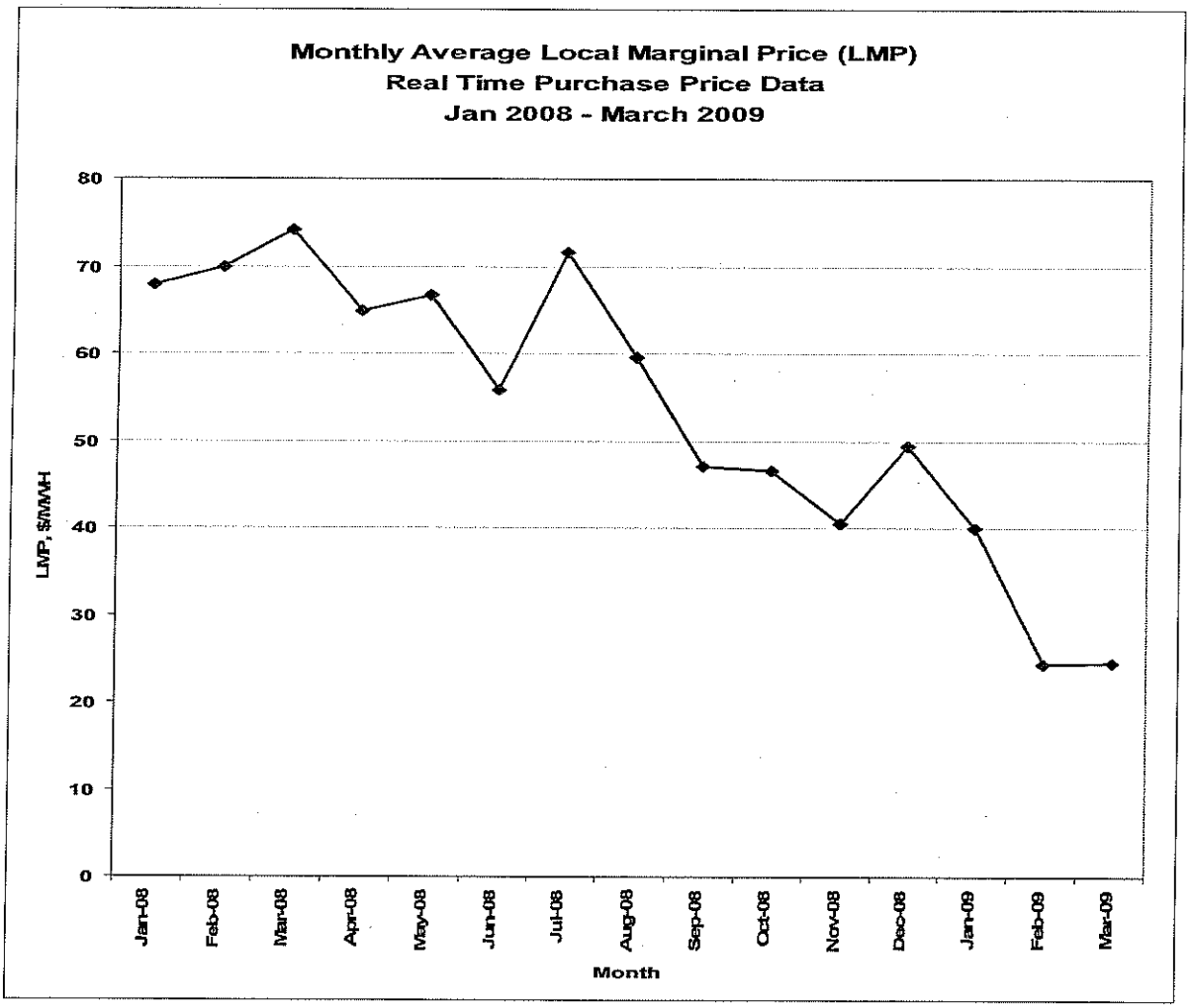
March data:

- Real Time = 4,114.22 MWh for $100,661.21 = $24.47/MWh
- Day Ahead = 2,422 MWh for $101,964.51 = $42.10/MWh
- Total power purchased = 6,536.22 MWh for $202,625.72 = $31.00/MWh
- Transmission charge (peak March 3rd at 17:00, Escanaba load was 4.9MW) = $21,364.70 over 6,536.22 MWh = $3.27/MWh

April data:

- Real Time = 3,773.80 MWh for $91,862.97 = $24.34/MWh
- Day Ahead = 3,388 MWh for $141,092.41 = $41.64
- Total power purchased = 7161.80 MWh for $232,955.38 = $32.53/MWh
- Transmission charge = unknown at this time, estimated to be $60,000 = $8.38/MWh

The following chart shows the average Local Marginal Price (LMP) for energy at the Escanaba Combustion Turbine (CT) node. The prices experienced in February and March 2009 are much lower than the same time period of 2008. They are also much lower than the 15 month average.



The energy prices have trended downward recently due to a variety of factors. Some of the reasons for these historic lows may include:

- Reduced usage at the Cliff's iron mines. The 2 mines have a peak load of approximately 300 MW, while the U.P. as a whole has a peak load of approximately 1100 MW. The reduction in energy consumption at these mines has a large impact on the entire U.P.

- The economic slowdown in the area. Many large manufacturers have slowed their production down, which has reduced the demand for electrical energy, which makes more economical power available more often.
- Increased supply. Wisconsin Public Service brought their Weston 4 power plant on line in 2008. This added 500 MW to the local system.
- Transmission system upgrades. As ATC continues with their Northern Umbrella Plan, we are seeing reduced prices as a result of these system improvements.

IMMEDIATE OPTIONS:

1) Continue to dispatch the plant as we have done through March and April, with 1 unit online. We have been buying in the Day Ahead market on weekdays during peak demand periods starting with 5 MW at 7:00, ramping up to 10 MW for the mid-day period, and ramping back down to 4 MW at 23:00. From 23:00 to 7:00 overnight on weekdays we have been buying from the Real Time market. We have also been buying from the Real Time market over the weekend. The recent historic lows may or may not continue in the future. However, we have the ability to adjust our DA numbers on a daily basis with 1 or 2 day's notice.

2) Take both units off line to maximize our purchasing opportunities. While this would maximize our purchasing opportunities, it also leaves us more exposed to sudden market price increases. With 1 unit online, we are able to vary our generation from 5 to 12.5 MW. This range allows us to lessen our exposure to sudden price increases, while still allowing us to take advantage of opportunity purchases.

To illustrate this operating strategy with 1 unit online, the City electric load averaged 15.3 MW in April. The generation with 1 unit averaged 5.4 MW – near the minimum production rate. On average, 9.9 MW's were purchased, which was 65% of City load.

For both of these options, purchasing more power will increase our ATC transmission costs. These costs are determined by how much power the City is importing at the time of the American Transmission Company's (ATC's) monthly system peak. The system peak is the single hour of each month with the greatest energy usage for that month on the ATC system. The City could pay a large fee for importing a large amount of energy for a short time, if that short time period included the system peak for the month. Conversely, the City could pay little to no transmission fee in a month where a large amount of energy was purchased, but was importing little to no energy at the time of the system peak.

Under these options, the annual plant fixed costs would remain at $4,895,278. The transmission charges would increase substantially. Assume that City load averages 25MW/mo at the time of the ATC system peak and we are generating 5 MW. This would leave us with a transmission charge based on 20MW/mo. Transmission charges on a $/kW/mo basis vary each month based on the total load at the time of the ATC system peak. For the months of January, February, and March, the transmission fee averaged $4.22/kW/mo. This figure will be used for the following calculations. This results in annual transmission charges to the City of approximately $1,012,800 (20,000 kW x

$4.22/kW/mo x 12months). This estimate is probably a worst case scenario. This transmission charge could be reduced by generating more power from the plant at the time of the system peak. In fact, it is quite likely that this figure would be reduced because at the time of the system peak, power is likely to be higher in price, which would result in less energy being imported. In order to reduce transmission charges, it is required to predict when the monthly peak will occur. Predicting this peak is difficult during the summer and winter months, because it is not possible to know the warmest summer day or the coldest winter day as the month is unfolding. It is even more difficult to predict the time and day of the peak for spring and fall months. The strategy for reducing the transmission charges can be based on the likely time of day for all months, and focus on extreme temperature days for summer and winter days. Nevertheless, our transmission charge will increase by generating less and purchasing more energy from the outside market.

For #1 above, we will assume that the 1 generator produces 5 MW at all times. Adding the transmission charge to the fixed costs totals $5,908,078. Our power production costs in the 2009/2010 budget total $13,964,544. Generating 5MW continuously throughout the year would cost $2,962,632 (i.e., $67.64 per MWh). To stay within budget, we would have to purchase 111,200 MWh for a cost equal to or less than $5,093,834 or $45.81/MWh (assuming the worst case for transmission charges).

For #2 above, transmission charges would be $1,266,000. Fixed costs would be $6,161,278. To stay within budget, we would have to purchase 155,000 MWh for a cost equal to or less than $7,803,266, or $50.34/MWh.

A more detailed explanation of plant costs can be found on page 8.

SHORT TERM OPTIONS:

1) Keep the #2 generator offline; continue as is for a longer period. The #2 generator will remain offline until the stack is repaired. The stack repair should be completed in July. When #2 is available, we will make a determination based on current and expected market prices whether to bring the unit back online or not. The transmission cost estimates described above would continue under this option.

2) Seek a short-term power purchase agreement. With the recent low market prices, it may be possible to arrange for a short-term power purchase agreement that could lower our overall energy costs. There is some time lag with this option as requests for proposals would have to be written and sent to perspective bidders, the bids would have to be evaluated, and the agreement would have to be approved and executed. Transmission cost estimates would have to be factored into the cost analysis. These costs would be dependent on the amount of energy purchased and energy purchased at the time of the system peak.

LONG TERM OPTIONS:

1) Sign a long term power purchase agreement and idle the plant down to 1 boiler producing 5 MW.

The 2009/2010 plant budget contains the following line items with their associated budgeted amounts:

Description	$	Type of cost
Plant Operations	1,666,002	fixed
Plant Maintenance	1,032,924	fixed
Plant Admin costs	1,140,000	fixed
Monthly Customer Charge	12,000	fixed
Management Fees to UPPCo	46,524	fixed
Dispatching Fees to UPPCo	37,950	fixed
Clean Air Act Payment	24,878	fixed
Plant Insurance Coverage	75,000	fixed
Plant Depreciation	860,000	fixed
Fuel Costs	7,284,785	variable
Economy Power Purchases	1,512,934	variable
Transmission Charge	48,000	variable
Plant Ash landfill costs	223,547	variable

Subtotal: $13,964,544 -- $4,895,278 fixed and $9,069,266 variable

Fixed costs are those costs that are present regardless of how much power the plant generates. Variable costs are those costs that are directly proportional to the amount of energy produced.

On a cost per kWh basis, fixed costs go down as the amount of energy produced goes up. Essentially, as the fixed costs are spread out over a greater number of kWh, the fixed cost portion of each kWh is lowered. The variable costs are approximately the same value for each kWh of energy produced, with small variations due to changes in plant efficiencies at various outputs.

The transmission charge would be directly related to the amount of energy imported at the time of the system peak each month. The long term wholesale full service proposals that were evaluated by PSE included transmission costs.

Under this option, the annual plant fixed costs would remain at $4,895,278.

For this scenario, we will assume that 1 generator produces 5 MW at all times. The long term power purchase proposals received by the City in December show the potential to save $3M per year. Under the scenario of keeping 1 boiler running at 5MW, we would purchase 111,200MWh per year, or 72% of our power. 72% of $3M = $2.16M. So we could potentially save $2.16M, but still have plant costs of $4.9M, which would increase overall energy costs for the City by $2.74M.

2) Sign a long term power purchase agreement for full requirements energy and keep the plant in a state of readiness.

Under this option, the plant fixed costs would remain at $4,895,278. The long term power purchase proposals received by the City in December show the potential to save $3M per year. The transmission costs are included in the evaluations performed by Power System Engineering. The net result would be an increase in costs to the City of $1.9M.

This $1.9M figure assumes that the marginal congestion component (MCC) and the marginal loss component (MLC) values remain similar to what they have historically been. The MCC and MLC are costs the City would have to pay to deliver the energy from the supplier to the City. It is expected that these costs would increase if the plant was not generating power, adding to the increased costs to the City.

3) Purchase full requirements energy through a long term purchase agreement and sell the plant. There is a referendum scheduled for August 4, 2009. The outcome of this referendum may result in the City Council having the authority to sell the power plant to an entity that would continue to operate the plant. Two private entities have expressed an interest in purchasing the plant to convert it to biomass. PSE's evaluation shows the potential for savings of approximately $3M annually. If the City sells the plant, the fixed costs associated with plant ownership are paid by the new owner. Also, with the plant continuing to be operated by the new owner, the congestion and loss values should remain consistent with past values. Therefore, the City could realize the full savings available through a long term wholesale purchase agreement.

CONCLUSIONS/POSSIBLE COURSES OF ACTION:

The plan going forward at this time is to continue the repairs to the #2 stack, while monitoring the MISO prices. When #2 is commercially available, the decision to begin production will be made. If MISO market prices are low and are expected to stay low, #2 will not be brought on line. If MISO market prices are high or expected to go high, #2 will be brought on line.

Talk to PSE to see if they feel if it would be possible to secure a short term purchase agreement with prices that are below our variable costs of self generation. If the savings are found to be large enough, it may be worth making changes to how the plant is dispatched.

If the August 4th referendum grants the City Council the authority to sell the plant, the City should further investigate and verify what was offered in the power purchase proposals and the plant purchase proposals. Thorough investigation will reveal if a deal can be reached that is in the best interest to the City and its customers.

OTHER CONCERNS:

At this time, the City does not have a new operating agreement with UPPCo. UPPCo has stated that if a new agreement is not reached by June, 2009, they will discontinue negotiations, but would continue to operate the plant until June, 2011. We have been in talks with UPPCO and other potential plant operators, but there is no operating agreement pending at this time.

Market prices during the current economy have not been experienced for summer months, and the economics of purchasing short-term MISO energy compared to self generation are not known. If prices push up above the break-even prices shown earlier, there will not be any alternatives in the short-term to reduce power costs.

The City does not have a network transmission arrangement with ATC, but pays transmission charges based on the amount of energy purchased at the time of the ATC system peak. It is unclear if there is a requirement to purchase network transmission at this time, but it would be required in the case of purchasing all-requirements energy and capacity from another entity. Net savings calculations for this case assumed the costs of network transmission. Purchasing network transmission will remove the issue of needing to "chase" the ATC peak by seeking to increase generation and reduce purchases during the ATC peak, and will make transmission cost a fixed amount based on the City load during the time of the ATC peak.

Att C

Escanaba Electric Loads, MWH

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	% Changes from Previous Year
2000	12,441	11,309	10,773	11,600	11,065	11,435	11,688	12,753	11,467	9,160	10,627	14,171	138,489	
2001	14,279	10,965	11,395	11,009	11,029	10,740	12,625	13,728	10,550	12,262	11,017	12,094	141,693	2.3%
2002	12,248	10,860	10,807	11,798	11,168	10,573	14,415	13,092	12,573	11,812	10,457	14,184	143,987	1.6%
2003	13,552	12,269	12,745	11,777	11,193	12,004	13,025	13,181	12,487	12,165	10,497	14,688	149,583	3.9%
2004	13,661	12,351	14,149	12,324	11,610	13,336	12,863	14,074	13,495	12,256	13,561	14,617	158,297	5.8%
2005	14,688	12,693	13,939	12,071	12,836	13,817	13,746	15,498	13,329	14,256	12,672	13,792	163,337	3.2%
2006	14,050	12,772	13,725	12,324	12,784	13,283	15,022	14,020	13,008	13,369	12,701	13,206	160,264	-1.9%
2007	14,863	13,068	12,978	12,218	11,761	12,273	13,548	14,134	11,749	13,404	12,268	12,425	154,689	-3.5%
2008	15,077	13,029	13,053	12,265	11,574	12,461	13,565	12,887	12,994	12,028	11,032	14,078	154,043	-0.4%
2009	12,974	11,461	12,590	11,059									48,084	-10.0% YTD