

Menasha Utilities
DRAFT Steam Plant Work Out Plan Evaluation

Prepared for
Menasha Utilities

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The logo for Sargent & Lundy LLC features a stylized, grey, curved shape resembling a drop or a swoosh, positioned to the left of the company name. The name "Sargent & Lundy" is written in a bold, blue, sans-serif font, with "LLC" in a smaller font size to the right. Below the company name, the words "Global Energy Consulting" are written in a smaller, blue, sans-serif font.

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STEAM PLANT WORK OUT PLAN EVALUATION

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EXECUTIVE SUMMARY

Sargent & Lundy was asked to evaluate several issues related to the overall performance of the Menasha Utilities (MU) steam plant project. Summaries of these evaluations are provided in the table below:

Issue	Description	Evaluation
Steam Sales Assumptions	The Business Model overestimated the volume of steam sales. Approximately 15% less steam is sold on an annual basis than expected in the Business Plan.	Plant personnel reported that steam sales were based on purchasers' actual historical production of steam. However, such production also included steam that was ultimately vented to the atmosphere and not used. Thus actual demand once MU had taken over as steam supplier was not as high as expected. This issue can be used as part of Menasha's justification for renegotiation of existing contracts. The extra capacity also indicates the possibility of obtaining a new client to increase the rate of utilization of MU's existing capacity.
Electricity Sales Assumptions.	Sales revenues into the MISO market were also overestimated due to overestimation of sell prices.	MISO market sales come from the condensing turbines 3 and 4. MISO pricing at all times has not been as high as expected, but the minimum load requirements of MU's boilers have required generation from turbines 3 and 4 during periods when revenues do not cover variable costs, resulting in financial losses. Financial performance would be improved by reducing equipment minimum load requirements and by banking boilers during low load periods, so as to reduce the amount of operating losses incurred.
Cost Overruns	Additional capital was spent to resolve unexpected issues and resulted in startup delays including desuperheater problems, RO system startup, backpressure turbine startup, and ID fan repairs.	Capital expenditures for start-up and unforeseen issues cannot be mitigated at this point in construction and are now sunk costs.
Coal Building Design Issues.	Excessive vibration from a vibratory coal feeder exists.	A Benetech draft report issued in April 2007 indicates that the vibrating screener is not necessary. Sargent & Lundy agrees with that assessment. Nevertheless, observations made during Sargent & Lundy's walkdown indicate that a detailed structural evaluation of the coal handling building in which this vibrating screener is located should be performed.
Spare Parts.	Capital and spare parts are insufficient.	While the plant either possesses or has means for obtaining parts for its control and electrical systems, there is no master list of spare parts with stocked and required quantities. A plant that is required to operate reliably over the long-term must have such a list. The construction of such a list requires a knowledge of the criticality of each part (for example, the impact of unavailability of the part on the capacity of the plant), the lead time for

Issue	Description	Evaluation
Fuel Contracts and Quality	The coal contract requires an extension from the June 1, 2007, 100K ton limit, presently by C. Reisse Coal. Coal quality issues existed November 2006 to January 2007—high moisture and low heating value—increasing costs and lowering revenue.	obtaining the part, and an evaluation of the proper full stock and re-order quantities of each part. The plant has changed to DTE Coal Services, Inc., a subsidiary of DTE Corp., the holding company of Detroit Edison, as fuel supplier. DTE is a significant shipper of Powder River Basin coal. This change has resulted in a significant reduction in fuel prices. Problems in fuel quality of the previous supplier, C. Reisse, is believed by plant personnel to be attributable to the selections made by the C. Reisse from its stockpiles in Green Bay for shipment to the plant. We agree with MU's decision to switch fuel suppliers.
Backpressure Turbine	There were delays in revenue from the backpressure turbine due to its delayed startup, and it still has commissioning issues that must be resolved.	The low pressure admission valves of the new backpressure turbine do not function properly and are not in service. Plant personnel indicated that the manufacturer, Dresser Rand, has promised verbally to supply equipment adequate for the service required. However, no written scope of work, schedule, or guarantee has been provided. While it may be difficult to make Dresser solve the problem in a timely fashion, it is important, when a solution concept is developed, that Dresser provide a written scope of work and schedule that MU can review and accept it or not. It is also important that Dresser provide some guarantee that the solution will work and that there be some remedy if it does not.
Plant Efficiency	Plant in-plant steam loads are higher than expected.	Design heat balance diagrams indicated an auxiliary steam flow of 20,000 lb/hr. Operating experience has shown a level of 50,000 lb/hr. No guaranteed heat balance was provided. In utility applications, a guaranteed steam turbine heat balance is often provided by the steam turbine supplier, or an overall plant efficiency guarantee is made by the engineering, procurement, and construction (EPC) contractor. MU plans to install another level of feedwater heating, using plant boiler blowdown steam, in order to reduce auxiliary steam usage. It appears that this element of the plant modification program had been part of the original scope of supply but was omitted during construction.
Steam Contracts – Existing and New	Steam contracts will require renegotiation. The present steam sale prices are based on selling 200,000 lb/hr. A flow of 140,000 lb/hr is the actual sales peak.	The discrepancy between forecasted and actual steam sales requires that MU renegotiate existing contracts, and it also indicates value in the possibility of obtaining a new steam sales customer. Any new or renegotiated contract should contain some provision for “minimum take,” a minimum amount of steam that the customer will take from MU, for which payment will be made whether or not the steam is actually used by the customer. The

Issue	Description	Evaluation
		associated “take-or-pay” payments should be sized to cover all fixed costs of the plant, including principal and interest payments, and the contract should separately provide for recovery of all variable costs associated with the take-or-pay volumes. This will significantly reduce the risk that the plant will not be able to meet its debt service obligations.

Specific points highlighted in MU’s request for proposal to S&L are summarized as follows:

- Debt Coverage:** We project that if the general obligation debt rollover scheduled for 9/1/2007 is completed as planned, and also subject to the assumptions discussed in the report for the scenario we are considering as the base case, the steam utility will have adequate cash to meet debt service obligations for 2007-2009. A cash shortfall for debt service is projected for 2010 under the base case assumptions, however, resulting in a coverage ratio of only 0.71. Assuming a shortfall in 2010 would preclude completion of the debt rollover MU projects for 2011, cash generation would be inadequate to cover debt requirements in all remaining years of the analysis. Typically the shortfall is about 30% in the early years (i.e., typically about 70% of debt service coverage).
- Financial and Technical Analysis of Why Current Business Plan is Not Working:** The principal problem with the business plan is that the tariff structure and project costs do not generate enough free cash to cover debt obligations. The mismatch probably can be reduced somewhat by improvements to operations, such as reduction in plant auxiliary steam requirements, but it will not be possible to cover debt cash requirements without renegotiating the steam sales tariffs upward.
- Specific Recommendations to Improve the Current Cash Flow Situation or Sell the Steam Utility:** Two measures are required: (1) Reduce costs by undertaking operational improvements such as reducing auxiliary steam requirements and (2) increase revenues by renegotiating steam sell prices. Regarding possible sales of the utility, without renegotiation of steam sell prices it will not be possible to sell the utility for a price high enough to retire its debt. Our estimate of the range of price for sale of the utility, if sold debt-free, is \$13 million to \$17 million, an amount which is less than half the utility’s debt of \$39.2 million projected for the end of 2007.
- Examine Adding New Customers:** The only prospective new customer which could make a significant difference in MU’s cash situation is SCA. SCA could absorb all of MU’s existing spare capacity if it

elected to become a customer. Adding SCA under the current tariff structure would not eliminate the cash shortfall, because MU would be just increasing its volume of sales it makes at inadequate prices. Adding SCA at current tariffs would modestly reduce cash shortfalls, but not enough. Higher prices for all steam sales will be needed to achieve adequate coverage of debt. Adding SCA would reduce somewhat the magnitude of the price increase the other customers would have to face to restore the utility's financial health.

- **Steam Pricing:** To meet debt requirements at a 1.0 coverage level plus provide some savings to customers relative to self-generation cost—10% savings for example—under MU's existing cost structure, with some allowance considered for plant capital spending, sell prices for steam would have to increase by about 15% to 20% by the 2010-2012 time frame, and that increase perhaps could be phased in although we have not investigated a phase-in scenario in any detail. If some margin above exactly meeting debt requirements is to be achieved, correspondingly higher steam sell prices would be required. Also if the Poyry report's relationship between coal use and plant production does not reflect actual operations, the percentage change could be different because these calculations rely on the Poyry figures regarding coal consumption.
- **Sale of the Utility:** The value of the utility, based on its net cash generation and discounted at our estimate of the cost of capital for a private buyer which pays income tax, is estimated to be in the range of \$13 million to \$17 million under our Base Case assumptions. This is considerably less than the utility's debt, which is projected to be \$39.2 million at the end of 2007. Achieving a valuation that would enable sale of the utility for an amount adequate to cover existing debt would require higher net cash generation (revenues less expenses), and the largest part of that would have to come from higher steam sales prices.

1 INTRODUCTION

Sargent & Lundy (S&L) was asked by Menasha Utilities (MU) to evaluate options for resolution of problems with meeting debt obligations associated with renovations to its steam plant. The MU Business Plan associated with the project made assumptions that have since proved incorrect, and projected revenues are insufficient to meet projected long term debt service.

Sargent & Lundy was asked to evaluate several issues, including:

- **Steam Sales Assumptions.** The Business Plan overestimated steam sales. Approximately 15% less steam, by volume, is sold on an annual basis than was expected in the Business Plan.
- **Electricity Sales Assumptions.** Revenues from sales of electricity into the MISO market also were overestimated due to an overestimate of MISO pricing. Lower than expected steam sales contributed to the electricity revenue shortfall, because some electricity revenue is a byproduct of steam sales.
- **Cost Overruns.** Additional capital was spent and schedule extensions were required to resolve unexpected technical issues, including desuperheater problems, RO system startup, backpressure turbine startup, and ID fan repairs.
- **Coal Building Design Issues.** Excessive vibration from a vibratory coal feeder exists.
- **Spare Parts.** Capital and spare parts are insufficient.
- **Fuel Contracts and Quality.** Coal supply commitments require an extension from the June 1, 2007, 100K ton limit. Supplies presently are from C. Reisse Coal, but DTE has been added as a supplier and will eventually become sold supplier. Coal quality issues existed from November 2006 to January 2007 (high moisture and low heating value), increasing costs and lowering revenue.
- **Backpressure Turbine.** There were delays in revenue from the backpressure turbine due to startup delays for that equipment, and commissioning issues remain that must be resolved.
- **Plant Efficiency.** Plant in-plant steam loads are higher than expected.
- **Steam Contracts – Existing and New.** Steam contracts require renegotiation. Present steam sales prices are based on selling 200K pph. The actual sales peak experienced has been at 140K pph. Review potential new customers.

Sargent & Lundy conducted a site visit and had discussions with plant personnel on May 8, 2007 in Menasha, Wisconsin.

2 CURRENT SITUATION

2.1 FACILITY DESCRIPTION AND OPERATING HISTORY

The Menasha Steam Plant consists of two steam boilers and three steam turbines. The two boilers are stoker-fired, burning Powder River Basin (PRB) coal, and are denoted Boilers 3 and 4, respectively. There are two condensing turbines, denoted Turbines 3 and 4, respectively, and a third turbine of the backpressure variety, denoted Turbine 5.

Boiler 3 has a maximum continuous rated capacity of 90,000 pph of steam at 620 psig and 835 deg. F. A Riley Power report provided by MU indicates that the boiler also is rated for 100,000 pph under peak load conditions for period of up to four hours at a time. Furthermore, it indicates that the boiler design pressure is 725 psig, but it is not clear if this pertains to the boiler's drum pressure or its superheated steam outlet pressure.

Boiler 4 has a maximum continuous rated capacity of 100,000 pph at 875 psig and 905 deg. F.

Boilers 3 and 4 supply steam to turbines 3, 4, and 5. Steam turbine 5's exhaust is delivered to steam customers. Supply to customers also can be made through a desuperheater and pressure-reducing valve arrangement.

2.2 FINANCIAL PERFORMANCE SINCE CONVERSION

The table below details the plant's financial performance since the conversion of the plant to fire PRB coal.

Table 2-1 Financial Performance of MU Plant Since PRB Conversion

	Units	2006 Actual	Q1 2007 Actual	Q1 2007 Poyry Report
Steam Production	Klbm		233,603	282,344
Electrical Generation				
	MISO Day-Ahead	MWh	2,899,152	0
	MISO Spot	MWh	3,878,107	9,414,000
	<u>MISO Total</u>	<u>MWh</u>	<u>6,777,259</u>	<u>9,414,000</u>
	WPPI Wholesale	MWh	6,194,905	9,370,000
Electric Prices				
	MISO Day-Ahead	\$/MWh	50.20	N/A
	MISO Spot	\$/MWh	44.23	63.33
	<u>MISO Average</u>	<u>\$/MWh</u>	<u>\$46.78</u>	<u>\$63.33</u>
	WPPI Wholesale	\$/MWh	\$50.69	\$58.50

Revenue

	Units	2006 Actual	Q1 2007 Actual	Q1 2007 Poyry Report
Sales to Industrial and Other Customers		\$2,565,775	\$2,265,562	\$2,728,435
Sales for Resale		\$1,291,865	\$718,764	\$1,307,699
Direct Expenses				
Fuel		\$2,803,951	\$1,701,067	\$2,201,745
Other Operating Expenses		\$1,730,906	\$586,081	\$644,046
Transmission and Distribution Costs		\$8,999	\$36,954	\$34,706
Administrative and General Expenses				
Salaries		\$25,333	\$11,454	\$20,830
Property Insurance		\$31,037	\$8,320	\$10,016
Employee Pension and Benefits		\$204,559	\$81,708	\$104,739
Other Admin. and General Expenses		\$97,041	\$18,202	\$24,337
Lease Expense			\$87,498	\$87,498
Earnings before Interest, Taxes, Depreciation, & Amortization		(\$1,044,186)	\$453,041	\$908,218
Interest Expenses		\$1,238,087	\$515,883	\$440,943
Taxes		\$62,642	\$22,149	\$20,703
Income Before Principal Payments		(\$2,344,915)	(\$84,991)	\$446,572

The column to the right denoted “Q1 2007 Poyry Report” represents values that MU takes as its first quarter 2007 budget for the plant. No such values were provided for comparison of the 2006 actual values.

It was not possible from the data provided to determine the amounts of principal payments directly related to conversion of the plant to fire PRB coal. However, actual income calculated before principal payments for 2006 and the first quarter of 2007 indicated that not enough funds were available to make required interest payments. Thus the financial performance of the plant since conversion is not sustainable over the long term.

2.3 NEAR-TERM ADDITIONAL SPENDING REQUIREMENTS

2.3.1 Acquire Adequate Spares

The plant indicated that there is no database, computerized or otherwise, of available spare parts inventory and stocking records. Discussions with plant personnel indicated that only in the area of control system electronic cards does the plant believe that adequate spares exist. These discussions also revealed that electrical spares—in particular for the variable frequency drives used in the plant—are available locally with minimal lead time.

It is important for future reliability for the plant to develop a database of essential spare parts and to determine whether to stock such items, the quantity to be stocked, and, if a particular part is not to be stocked, what the associated lead time for delivery of such a part would be. The plant reported that it has operated in the past as a peaking plant with a low service factor. Under the new regime of operation required by the steam supply agreements, service has increased significantly. Previous methods of stocking parts is not likely to be sufficient to enable essentially continuous service of the plant. The availability and reliability requirements set out by existing or future steam supply agreements require that essential spare parts be available in a timely fashion in order to reduce the exposure to potential costs associated with non-compliance with supply commitments and lost availability. The plant therefore needs to develop a list of essential spare parts, a procedure for keeping track of the quantity of such spare parts, and a procedure for reordering such parts to maintain requisite stock levels. It must then develop a plan to acquire and stock the required spare parts. This is of the highest priority.

2.3.2 Resolve Coal Building Vibration Problems

The recent report provided by Benetech reviewing the coal handling systems at the plant indicates that one of the primary sources of the vibration problems, the vibrating screener, is not a necessary item in the coal handling system. Sargent & Lundy believes this assessment is a correct one. The removal of the screener will significantly reduce the vibration occurring in the crusher building. This building's structural system should be reviewed by a structural engineer to determine whether any reinforcement of the structure is required. Such a review should assume that the vibrating screener has been removed from service. Before removing the screener the plant should test its ability to operate with the screener taken out of service. If all coal bunkers can be supplied with the crusher in service but the screener out of service, the plant should consider operating in this mode until a permanent coal flow design is implemented. This will allow the plant to delay the additional expenditure until financial conditions improve.

2.3.3 Resolution of Steam Turbine Commissioning Issues

Discussion with the plant indicated that Turbine 5 commissioning is not complete. Specifically, its low pressure turbine steam admission valves do not function. Discussions with plant personnel indicated that the associated actuators are too small for the service and that the valve trim supplied is incorrect. The supplier, Dresser-Rand, has indicated that it will supply and install equipment adequate for the service required.

2.4 FUEL SUPPLIES

Currently fuel is currently supplied through C. Reiss Coal Company, a subsidiary of Koch Carbon, in Green Bay, Wisconsin. MU personnel indicated that supply arrangements through C. Reiss are coming to an end and that DTE Coal Services will be the supplier in the future, shipping fuel through the Fox River Dock in Green Bay. This results in a reduction in coal prices once the commitment to C. Reiss is worked off, which is estimated to be by sometime in August 2007.

3 COMMENTS ON CURRENT BUSINESS MODEL

3.1 STEAM SUPPLY CONTRACTS

The current business model relies on three steam supply contracts with three clients:

- Sonoco – U.S. Mills, Inc.
- George A. Whiting Paper Company
- Pechiney Plastic Packaging, Inc. (Alcan).

The Sonoco contract requires the largest commitment of capacity, with projected annual average sales of about 97,400 pph, according to the MU Business Plan and a peak requirement of up to 140,000 pph. Sales under the Whiting and Alcan contracts are projected in the Business Plan to involve typical sales of about 7,700 pph, and those contract identify no peak demand supply rate obligation.

The contracts are similar to one another, and all have the following disadvantages:

- **Minimum-Take Provisions.** The contracts require the purchaser to nominate his minimum amount of steam for the following year, but no requirement to take all or part of this quantity is stipulated by the contract. Thus, the contracts do not have minimum-take provisions committing the purchaser to take a minimum number of pounds of steam during any time period.
- **Price Adjustments for Fuel Costs.** Steam pricing is such that steam charges for fuel in a given year are adjusted by the ratio of a “new coal price” and the fuel price in force during the previous year. The exact language in each contract is different and is less precise in some cases than others, but it follows the method just described. This method of indexation means that any negotiated reductions in fuel prices are simply passed through in full to the purchasers. Thus the results of the indexation are not simply due to market supply and demand, but can also be the result of MU’s negotiation of coal prices.
- **Fuel Cost Recovery Mismatch Relative To Fuel Cost Incurred:** Beyond the fact that any savings in the unit cost of fuel is passed through to the steam customers without any benefit accruing to MU if MU is able to achieve lower fuel costs, another possible problem is a mismatch between the fuel quantity requirement on which the steam tariffs are based and the fuel required to produce steam, as well as \$/MBtu unit fuel cost. We understand from MU staff that boiler performance has not been as favorable as predicted, meaning that more fuel may be being consumed than predicted for a given level of output. Higher than expected consumption of auxiliary steam also contributes to higher than

expected coal use. Aggravating this further is that the \$/mmBtu figures on which the steam tariff has been established were based on a higher heating value of 8,800 Btu/lb for the coal. We understand from MU that excess moisture in the coal has caused the as-delivered fuel to run in the range of 8,000 to 8,400 Btu/lb, meaning that MU is paying 5% to 10% more for each unit of heat input to the process than is recovered in the tariff. It is possible that the recent change from Reisse to DTE as fuel supplier will alleviate or eliminate this moisture problem. In summary, there has been both a quantity variance and a price variance in the fuel component of the steam tariff compared with the fuel costs actually experienced by MU.

- **Condensate Return.** The Sonoco contract stipulates that 75% of the mass flow of steam delivered to Sonoco be returned as liquid condensate. However, it appears that no provision for any kind of penalty is in place if Sonoco does not return this amount over any particular period of time. Therefore the contract does not force Sonoco to do so. The Alcan contract contains language that implies that all steam that is condensed will be returned. This appears to allow that facility to vent steam. The Whiting contract provides for a return of 70% of the steam flow delivered, but once again no penalties for non-performance are present.

Steam not returned to the plant as condensate must be made up using city water. The plant realizes a cost for this make-up water. Furthermore, since the water must be processed through the water treatment system, a greater mass of water is required than was lost as non-returned condensate. This is because water treatment systems inherently cannot provide a full unit of treated water for each unit of raw water provided to them.

3.2 ELECTRICITY SALES

The electrical output from Turbines 3 and 4 is treated differently than the electrical output from Turbine 5. Turbine 5 is considered to be behind the meter, and its electrical output offsets the current electrical generation demand of MU from Wisconsin Public Power System, Inc. (WPPI). Revenues associated with this energy are equal to the avoided cost of WPPI energy that would have been sold to MU. The output from Units 3 and 4 is sold by WPPI to the MISO market, and MU receives 90% of the hourly LMP price at the Menasha node.

A small amount of revenue also is derived from sale of spinning reserve capacity to WPPI.

Because Turbine 5 is a backpressure turbine, steam is not condensed after passing through it. Rather all steam passing through it is sent to MU's steam customers. The amount of power generated by Turbine 5 at a given time depends on the steam demand of MU's customers.

A major disadvantage of this arrangement is the need to maintain certain minimum levels of steam flow through the boilers during periods of low steam and electricity demand. This results in more flow being passed through the condensing turbines 3 and 4. If electricity pricing is not favorable at these times, the plant loses money on each MWh generated.

4 PERFORMANCE IMPROVEMENT OPPORTUNITIES

4.1 INCREASE REVENUES

4.1.1 Renegotiation of Steam Contracts

4.1.1.1 Terms and Conditions

As related above, the current steam sales contracts contain several disadvantages. Renegotiation of the steam contracts should focus on:

- **Fuel Price Adjustment.** The current contracts fully adjust for actual fuel prices. This protects MU from unforeseen increases in fuel prices. MU has recently changed its fuel supply strategy and obtained a new supplier. This has resulted in significant reductions in fuel pricing. Under current provisions, these reductions are completely passed on to the purchasers, and MU obtains no benefit from making the effort to obtain fuel cost reductions. MU should renegotiate the steam pricing in order to retain some of the associated savings. This will result in a significant improvement in financial performance. In order to open negotiations, it is likely that some of the reduction will have to be shared with the purchasers in order to obtain their agreement to renegotiate.

Pricing of the steam in respect to fuel costs should not make any optimistic assumptions as to the efficiency of the plant, but rather should be based on actual historical performance to date. Efficiency improvements will then provide further contribution margin to plant financial performance.

- **Minimum Take Provisions (“Take-or-Pay”).** The contracts should specify some nominal steam volume that each customer must take and pay for during each year of the term of the contract. Furthermore, the purchaser’s annual nomination should, at least as a first bargaining position, be subject to take-or-pay provisions.

There would be two tiers of take-or-pay provisions. One would be an absolute minimum value that the purchaser must take in each year over a long period, such as the full term of the contract. The other would be the annual nominated quantity (or some fraction therefore, not below the long-term take-or-pay quantity) that would become a take-or-pay amount once nominated. This commits the purchaser to make a good estimate of minimum steam requirements and facilitates planning for MU. A maximum possible take-or-pay quantity would have to also be specified so that MU’s capabilities were not exceeded.

In return, MU could provide availability guarantees that would be commensurate with the level of take-or-pay provisions to which the purchaser was willing to agree.

- **Condensate Return.** Since steam not returned to the plant as condensate must be made up using city water, some liquidated damage commensurate with the increased cost of water drawn from the city water system should be in place in each contract in order to limit MU's make-up water charges. This charge needs to be greater than the unit cost of water from the city, because water treatment systems require more than one unit of raw water to replace each unit of condensate not returned.

4.1.1.2 Pricing: Minimum Prices Acceptable to MU

Sargent & Lundy performed financial analyses to determine the range of steam sales prices that potentially could be acceptable to both MU and the mills. Pricing acceptable to MU will be high enough to support continued operation of the plant and cover debt service requirements. Appendix 1 contains projected average sell prices for steam under the existing tariff arrangement compared with minimum average pricing to cover debt service at both a 1.00 and 1.25 level.

Minimum prices are discussed further in Section 6.2.1.

4.1.1.3 Pricing: Maximum Prices Acceptable to Paper Mills

The paper mills cannot be expected to accept pricing that exceeds self-generation of steam using package boilers fired by natural gas, and in fact these customers may require some savings from their self-generation prices to compensate for the loss of control involved in reliance on an outside supplier rather than on self-supply. Our analyses in this report assume, for estimating maximum prices that MU could charge, that customers would be willing to continue with MU even if MU supply would be a breakeven relative to self-supply. As sensitivity studies we consider discount cases as well.

Our estimate of the average cost of self-supply using gas-fired package boilers for MU's existing customers is shown in Appendix 2.

4.1.2 Addition of New Steam Customers

MU has one prospective customer nearby with a significant steam requirement. This client, Svenska Cellulosa Aktiebolaget, or SCA, has a steam demand that is relatively constant and that totals approximately 80,000 pph. A significant increase in revenue could be obtained by signing a contract with SCA. However, MU must obtain

acceptable pricing, terms, and conditions. These terms include those mentioned in the previous sections. Pricing must be within the ranges described above as well.

Furthermore, plant personnel mentioned that previous discussions with SCA indicated that SCA's main concern was that its supply of steam be firm. Sargent & Lundy suggests that, rather than contract for firm supply of all of the requirements of SCA, MU should contract a firm supply of a lesser quantity, with contract language enabling provision of greater quantities when available. This will allow MU to put a larger amount of its capacity under contract without placing itself under undue risk of inability to comply with contract terms. SCA will benefit by being able to purchase steam generated from coal rather than natural gas, thereby reducing cost and the volatility of fuel cost variations.

Pricing of the SCA contract should be within the same range as for the Sonoco and other existing clients.

4.1.3 Modifications to Power Purchase Agreement With WPPI

We expect that the power purchase agreement with WPPI will not be a source of increased revenues or decreased costs.

4.1.4 Green Credit Opportunities

We do not believe that green credit opportunities exist. Our past experience in this part of the country evaluating use of biomass, as a strategy for generating power that meets renewable portfolio standards, has always indicated considerable increases in fuel cost relative to using coal.

4.2 REDUCE COSTS

Cost reduction at the plant might be realized by the following:

- **Boiler Turndown.** The requirement to maintain certain minimum boiler output during periods of low steam demand means that a certain amount of the output of boilers 3 and 4 must be run through the condensing turbines 3 and 4, rather than the backpressure turbine 5. This is because the demand for steam is too low to accept the flow through turbine 5. In those circumstances rather than using the purchasers' processes as its main condenser, the plant must condense the steam itself, and no benefit is obtained for any party from that condensation. This means that any profit for the plant must be obtained from spot sales of electricity. However, periods of low steam demand also generally correspond with periods of low electrical demand and therefore to periods of low spot market electricity prices. It is thus difficult to make a profit from spot electricity sales. The plant should

embark on a program of determining the lowest safe levels at which the boilers may be operated. The plant also should develop a program of banking a boiler at opportune times in order to reduce steam output. Discussions with plant personnel indicated that boiler startup firing is an almost entirely manual operation due to the boiler's stoker design. Therefore, it would be difficult to bank a boiler each night without increasing staff. However, the possibility of banking a boiler during weekends is a significant opportunity to reduce losses associated with boiler minimum load operating periods. Another consideration in pursuit of this strategy is personnel safety; procedures must be established that allow these curtailments to be implemented safely.

- **Plant Steam Requirements.** Plant personnel indicated that auxiliary steam usage for preheating condensate to the boilers is approximately 50,000 pph and that the usage that had been foreseen was 20,000 pph. This increase in auxiliary steam usage reduces the salable steam capacity of the plant by the same amount. The plant intends to install a condensate heating system that will use boiler blowdown to add additional heat to the condensate. This will require additional capital investment, however. The plant should investigate the feasibility of heating the condensate with only 20,000 pph of steam and accepting the resulting less favorable condensate temperature. If the proper base price for steam can be incorporated into the steam supply contracts, then the additional costs of the new design currently contemplated will not need to be incurred.

5 MARKET VALUE ESTIMATE FOR EXISTING PLANT

Appraisers typically rely on three indicators of value as a basis for estimating the market value of a production facility such as the MU plant. The most important of those for this situation is the facility's value as an income-earning investment, which is determined by means of a discounted cash flow calculation. That is the principal criterion a buyer would consider in this situation in establishing an offer price.

Other appraisal methodology indicators of value are replacement cost and comparable transactions. Replacement cost is useful primarily in regulatory proceedings but is not helpful for this valuation exercise. We are not aware of transactions involving sales of a facility such as this that could be used as a comparable, so that indicator of value is not available in this instance.

5.1 FINANCIAL MODELS

We developed two financial models of the MU plant. One is similar to the MU business plan model and uses most of the same input assumptions. The second is a cost model that estimates costs faced by MU's existing customers for self-supply of steam. Both these models are part of a single Excel file which is provided on a CDROM that accompanies this report.

5.1.1 Financial Model Based on MU Business Plan

S&L's version of the MU business plan financial model contains the following worksheets:

Cases Worksheet: This worksheet defines analysis cases (scenarios) and provides a mechanism for switching back and forth between them. Scenarios for different amounts of steam sales, steam sell price, capex required for the MU plant, and adding a customer are represented on this page. The analyst can switch between cases by changing the case selection number. The chart of debt service coverage ratio at the top of the page changes to correspond to the selected case.

Inputs Worksheet: This worksheet lists most of the inputs driving the analysis, with comments as to the source of those assumptions. Some variables are piped in from the Case worksheet described above. Blue font on green background is the convention for input constants. Black font on plain background represents text or calculated values.

Most cost variables are as defined in the MU business plan financial model provided by MU staff. However the Poyry report dated November 20, 2006 indicates different assumptions regarding steam sales. Our model includes a toggle to switch back and forth between these two sets of assumptions, and the toggle also can be used to set MU sell prices equal to customer self-supply prices, possibly adjusted by a discount from full costs of self-supply. We are using the Poyry steam sales assumptions as the basis for our analysis, but adjusted downward by 15% to reflect the fact that MU's customers have not been taking the amounts of steam projected either by MU or Poyry.

Our projections assume higher costs for ash disposal than in the MU and Poyry analyses. Ash content in our calculations is assumed to be 5.5%, as in the DTE agreement, which is higher than the 5% assumed in the MU model. Also the MU model assumed \$12/ton for disposal cost. Our review of MU's agreement with Veolia, plus other information from MU, indicates disposal will cost somewhat over \$18/ton. The combination of these differences causes the projection of ash disposal cost in our model to exceed that of the MU and Poyry analyses by somewhat over \$50,000 per year.

The debt projections in the S&L analysis differ from those in the MU model because they are based on the debt service projections produced by RBC Capital Markets following MU's debt issuance in December 2007 (i.e., are more up to date than in the Business Plan).

The final area where the S&L model differs from MU's model is with respect to escalation. We are using the same escalation assumptions as MU for coal cost, city water and sanitary, PILOT, and taxes. We are using different figures for other escalation, as follows:

- MU's model projects that city labor costs associated with the steam plant will rise at 5%/year and that non-labor cost indexation for the OMC revenue portion of the steam sales agreements, which are indexed to a local Consumer Price Index which excludes energy, will rise at 3.6%/year. Although the national CPI was rising at a 3.5% to 4% pace in early 2006, its year-on-year rise during the first five months of 2007 has averaged only 2.5% per year, and the analogous national index which excludes food and energy also has been rising at only 2.5%/year. The specific index cited in the MU contracts (all urban consumers, Midwest size Class D, all items less energy, not seasonally adjusted) has increased at 2.5%/year over the last two years and has risen only 2.2% by May 2007 relative to its year-earlier value. Overall inflation in the US economy, as measured by the implicit price deflator for gross domestic product, has averaged only 2.2% per year for the last ten years. Our base cases therefore are based on long-term escalation of the CPI and MU labor costs at 2.5%/year.

- MU's model uses 4%/year for escalation in both retail costs of power (the offset revenue of sales from #5 steam turbine) and for MISO sales. However the WPPI calculation in the addendum to MU's business plan actually uses 4% escalation between 2007 and 2008. Further, the US Department of Energy's Energy Information Administration Annual Energy Outlook 2007 forecast issued in February 2007 includes a forecast of electricity prices for the census district that includes Menasha. That forecast indicates a decline in real, constant-dollar electricity costs over the period 2007-2020. DOE/EIA shows constant-dollar rates rising just under 2% through 2009 and then declining in constant dollar prices each year through 2027. The 4%/year figure in MU's forecast therefore seems out of line on the high side. Our base case uses 3%/year electricity cost escalation, as in the short-term WPPI forecast, which is higher than the DOE/EIA projection but which is closer to the 4% figure that Poyry found reasonable after discussions with WPPI.

We have included in our base case some representative figures for future capital expenditures ("capex") on the plant, such as for the issues discussed in Section 2.3. These numbers are just allowances, however, and do not reflect costing of the specific issues from Section 2.3 (spares, coal building and handling system, and steam turbine commissioning) or any other type of budgeting process. They are representative figures that in our judgment are of the right general magnitude as ongoing capex for the plant in the absence of initiation of a major modification project. The figures selected are \$150,000 per year for 2008-2010 and \$100,000 per year in later years, expressed in 2007 dollars and escalated to time of spending. The early figures are higher than later to allow for catch-up on deferred maintenance.

Note that our Base Case relies on the relationship between coal consumption and plant production which is in the Poyry report. We have heard concerns from MU that coal consumption may be higher than the Poyry report basis, but we have at this point not received details on coal burn vs. production actuals since the plant has been in service. We might modify these conclusions somewhat following analysis of actual coal consumption figures.

Revenues Worksheet: The Revenues worksheet calculates steam and electricity revenues. The framework for the steam revenues is as in the three existing steam contracts. Blanks are provided for up to two additional customers, for sensitivity studies. The model is set up to do a 20 year study. In rows where a formula differs across a row, cells with different formulas are highlighted by pale yellow background. Further comments on the revenues worksheet appear in Appendix 3.

Expenses Worksheet: Expenses are projected according to the values in the Inputs worksheet.

Debt Service: This worksheet details interest and principal obligations of MU as documented in the RBC Capital Markets worksheets in the September 2006 addendum to MU's business plan, which was supplemented by some additional RBC tables provided to us by MU staff. When a financing facility is paid off and refinanced, there typically is a small difference in the amount paid to bondholders and the amount raised in the new financing, and this model recognizes that difference, assuming that cash realized by MU will be equal to 98.5% of the size of the bond issue. The difference is equal to reoffering discount and underwriting discount.

Summary Financials: This worksheet combines the results of the previous worksheets to create a comparison of net cashflow available for debt service and projected debt service. For the base case, which uses the Poyry steam take projection less 15%, MU will have adequate cash to cover debt service for 2007, provided that the \$12.575 million general obligation flotation planned for 9/1/2007 is implemented as planned. Adequate cash also would be available in 2008 and 2009 under these assumptions. However beginning in 2010 the utility is projected to have a coverage ratio of less than 1.0 in all years except 2011 (when a new financing is projected) through 2025. Increased revenues will be required to achieve debt service coverage if the utility is to continue operation, and the debt rollover scheduled for 2011 probably will not occur if debt coverage is not achieved in 2010.

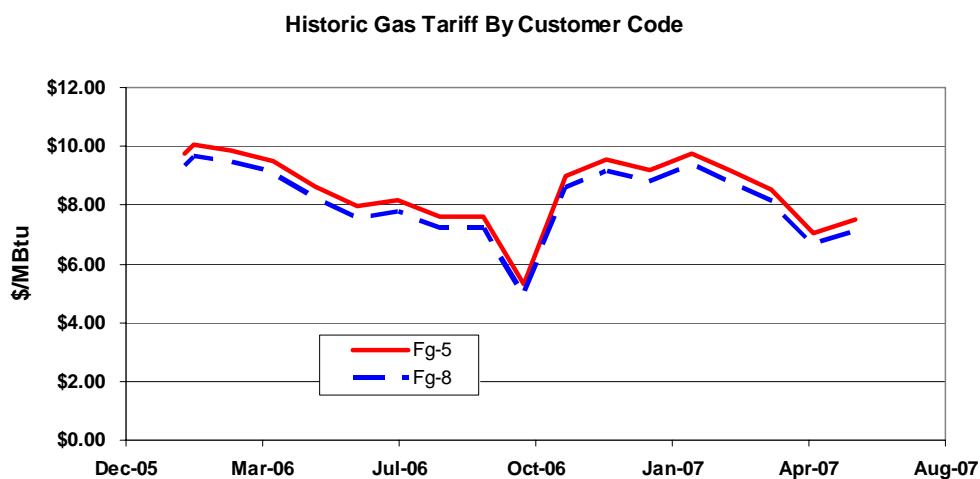
5.1.2 Financial Model for Customer Self-Supply

The next three worksheets of the model are a cost model that estimates costs of self-supply by Sonoco, Alcan, and Whiting if they were to install gas-fired package boilers instead of buying steam from MU. The overall costs estimated by this model represent a ceiling for revenues to MU from these customers, because customers likely will not be willing to pay MU a higher cost for steam supply than what they could achieve themselves.

Competitive Steam Inputs Worksheet: This worksheet shows the inputs to this cost calculation. The financial framework is our judgment of what paper mills would use as an evaluation basis in deciding whether to undertake a self-supply project or not. The capital cost estimates for boilers needed by these three customers is scaled from recent estimates prepared by S&L for similar steam supply situations using gas-fired boilers. We have assumed the mills would have no addition operating costs compared with their current situation where they purchase steam from MU. Maintenance is estimated at 2% of investment cost, following a guideline published by EPRI. Condensate return and boiler efficiency assumptions are typical for gas-fired boilers in this type of application.

The critical input assumption for self-supply analysis is fuel cost, as indicated by the analysis results where fuel cost is shown to represent more than 80% of the net present value of cost over the 15 year analysis period assumed for this study. The Competitive Steam Inputs worksheet shows current We Energies business rates for natural gas supplied under its various customer codes. We calculate that Sonoco would fall into class Fg-8 and the other two customers in Fg-5. Over the last 12 months such customers have been paying We Energies \$7.80/mmBtu and \$8.21/mmBtu, respectively, for natural gas. There is considerable variation in We Energies' month to month pricing, as indicated in Figure 5-1.

Figure 5-1 Recent We Energies Gas Prices



Prices have generally been in the range of \$8/mmBtu to \$10/mmBtu since the beginning of 2006.

For this study we have assumed that Sonoco, Alcan, and Whiting would pay in 2007 the average price that has prevailed over the latest 12 months for Fg-5 and Fg-8 customers, which is \$8.21/mmBtu and \$7.80/mmBtu respectively. To estimate escalation in future years we turned to the recent DOE/EIA AEO 2007 forecast mentioned earlier, referring to their constant-dollar natural gas costs for industrial customers in the East North Central census area (their Supplementary Table 13), which is expressed in constant 2005 dollars. We projected inflation over the period 2007-2032 and then inflated the DOE/EIA gas prices to current dollar values for this cost calculation. The resulting year 2007 cost is reasonably close to the two prices averaged from recent We Energies data. The DOE/EIA year 2007 current dollar price is 2% higher than the Fg-5 cost to which Alcan and Whiting would be subject and is 8% higher than the current Fg-8 cost, to which Sonoco would be subject. For the Fg-5 and Fg-8 customers we assumed that escalation would proceed from current We Energies rates

according to the constant dollar escalation rates we calculated from the DOE/EIA table, adjusted using an assumption of 2.5% inflation to convert constant dollars to current dollars.

Competitive Steam Costs Worksheet: This worksheet combines the cost inputs just discussed to generate year-by-year estimates of MU's ceiling price based on the mills' costs of self-supply. Investment is assumed recovered uniformly over a fifteen-year analysis period beginning in 2008.

Results are summarized in Appendix 4, assuming the three existing steam customers take the steam amounts estimated in the Poyry report (11/20/2006) less 15%.

The Sonoco cost is lowest primarily because the We Energies natural gas price is lower at the gas volumes required by Sonoco, but also due to the fact that no package boiler capital spending would be required by Sonoco because it already has a gas-fired package boiler (i.e., the costs for Sonoco in Appendix 4 include just fuel and maintenance cost). The Whiting rate is slightly worst than that of Alcan because the assumption regarding Alcan's average to peak demand results in a somewhat higher capacity factor for Alcan, spreading capital out over more steam.

5.2 VALUATION ESTIMATES

As an indicator of value we totaled the present value of net cash flow the MU facility is projected to generate under existing revenue and expense assumptions. This evaluation is based on a 9% discount rate, which in our experience is what customers in the paper business (the most likely type of purchaser) would consider as a weighted average cost of capital. Assuming ten and fifteen year time horizons, which is what we believe such firms would use as evaluation horizons, the net present value of the MU facilities, exclusive of any debt considerations, is estimated to be in the range of \$13M to \$17M. This is calculated as the net present value of free cash flow, less capex spending, and adjusted for federal/state corporate income tax (composite rate of 40% in Wisconsin) and the depreciation tax shield the purchaser would realize. The steam utility's debt during this period, as shown in the RBC Capital Markets documents, is about \$39 million, so the estimated value of the facilities, when evaluated using existing steam sales tariffs to estimate projected revenues, is less than half the outstanding debt. Higher revenues relative to cost would be necessary to achieve a valuation exceeding projected outstanding debt.

6 ASSESSMENT OF AVAILABLE OPTIONS

6.1 CRITERIA AND CONSTRAINTS FOR ACCEPTABLE SOLUTIONS

Criteria and constraints for an acceptable solution include:

- **Fuel Cost Savings Retention.** An important contribution to an acceptable solution would be to allow MU to retain a large part of the reduced fuel costs obtained through the use of DTE Coal Services as a supplier of fuel.
- **Matching of Tariff Basis and Plant Fuel Consumption:** Renegotiated tariffs should be based on mmBtu of heat input per Klb of steam production which is achievable by the existing plant.
- **Minimum Take Requirements of Renegotiated and New Major Contracts.** It is important to place a significant amount of the plant's capacity under a "take-or-pay" regime. While it will not be possible to place 100% of such capacity under such terms, having a large percentage, for example 50%, eliminates a great deal of risk and gives the purchasers an incentive to use steam supplied by the plant. The need for "take-or-pay" terms must be balanced against a realistic view of the likely availability of the plant. On the other hand, an obligation by MU to operate existing steam generation equipment of the purchasers' under the same contract, similar to existing provisions of the Sonoco contract, actually provides back-up capacity without capital outlay. While the eventuality of operating a purchaser's equipment because of lack of availability of MU's own equipment would be relatively costly, it is significantly cheaper than MU installing back-up capacity of its own. This, therefore, would allow MU to be relatively aggressive in pursuing higher take-or-pay amounts in its major contracts.
- **Financial Constraints.** An important constraint that must be satisfied in any acceptable solution is that the plant be able to continue to cover all operating costs as well as principal and interest of associated financing over the life of the financing. Ensuring this to a high probability will require that it be reasonable to forecast significant margin above these costs in a financial model of the project. The margin is required because unforeseen circumstances may arise and the project will need to be able to absorb the consequences of those.

It is important to note that, optimization of revenues and costs, obtaining a new customer, as well as renegotiating of existing contracts, may facilitate the restructuring of the associated financing to further reduce costs. The extent to which risks of loss can be eliminated or reduced will serve to increase that likelihood that

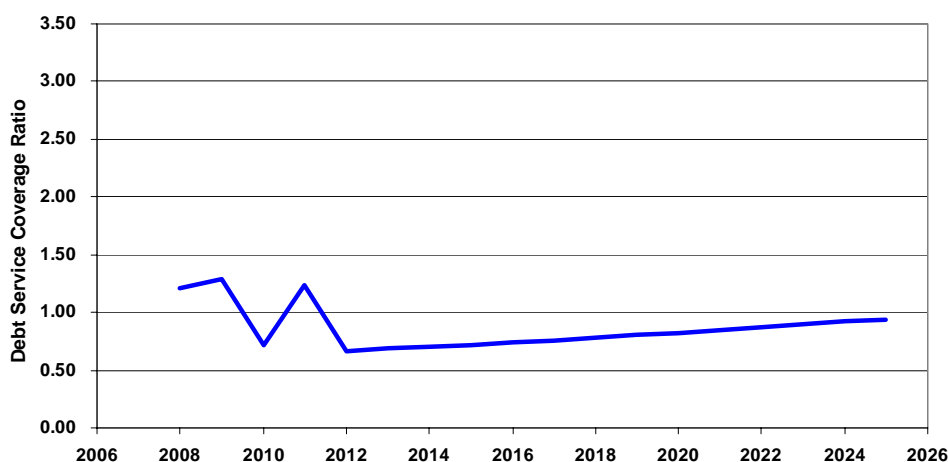
favorable financing terms can be obtained. Pricing used for contract negotiations cannot assume such favorable financing, obtaining of such financing will provide further margin to protect against unforeseen circumstances.

6.2 EVALUATION OF WORKOUT OPTIONS

6.2.1 Continued Steam & Electric Operations

Continuing to operate the steam plant will require increases in revenues from operations to eliminate the inadequate debt service coverage associated with the base case projection, plotted in Figure 6-1 for the Base Case.

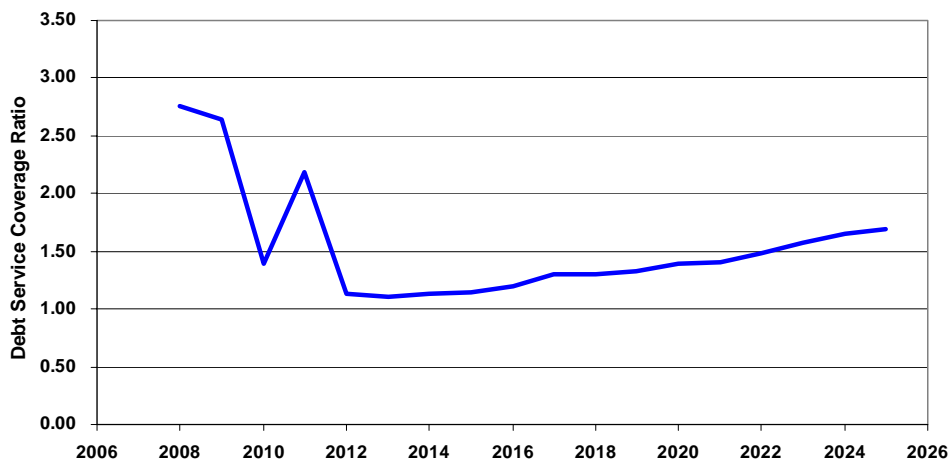
Figure 6-1 Base Case Debt Service Coverage Ratios



Revenue increases are needed because expenses cannot be reduced enough to free enough cash to cover debt. We ran sensitivity studies to consider the magnitude of revenue increase needed to make the plant viable. Some of the sensitivity cases assume that MU could negotiate higher prices with its existing three customers. An additional sensitivity study included the possibility of adding SCA as an additional customer, assuming it would take an average of 40,000 pph of steam. All the sensitivity studies assume that \$150K/year in capex will be required for years 2008-2010 and \$100K/year in capex for subsequent years, and all consider that steam take by the three existing customers will be 15% short of the consumption projections in the Poyry report.

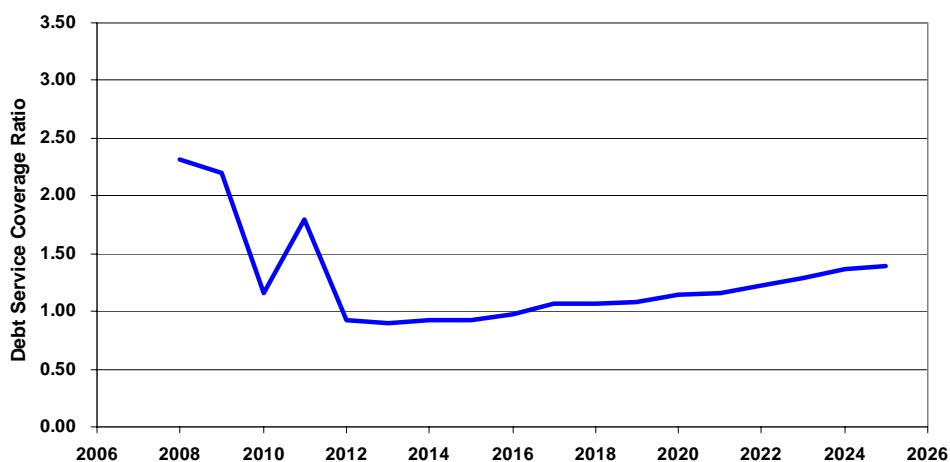
If MU stays with its existing customers and can sell them steam at what we estimate to be those customers' cost of self-supply using gas-fired package boilers, with no margin for savings below the cost of self-supply, the debt service coverage situation improves as shown in Figure 6-2.

Figure 6-2 Coverage Ratios For Sales at Customers' Full Avoided Cost



If the mills would require a 10% discount relative to self-generation cost to continue using MU as a supplier, coverage falls to less than 1.0 in some years, as indicated in Figure 6-3.

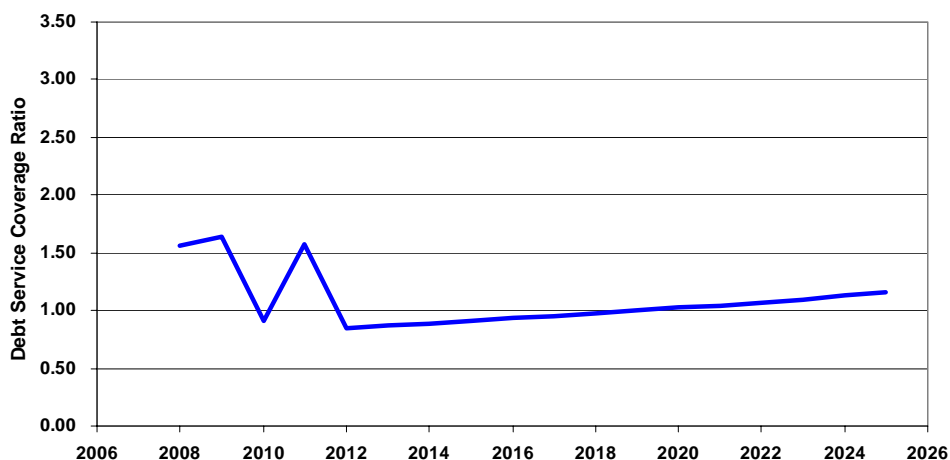
Figure 6-3 Coverage Ratios For Sales at 90% of Customers' Full Avoided Cost



As another sensitivity we added a fourth customer at 40,000 pph average consumption, using existing pricing, results. This slightly improved coverage ratios, but the result still was not acceptable, as shown in Figure 6-1. Increasing volume of steam sales helps little when the contribution margin per lb of steam sold is small, as is the case with the existing steam contract tariffs. Also, this analysis does not take into consideration any cost for

interconnecting with a fourth customer. We understand from MU that connecting SCA, the most promising additional customer, would require expenditures in the neighborhood of \$2.5 million to \$3 million, which would significantly cut into or perhaps eliminate the benefits of adding this customer, even if higher sell prices could be negotiated compared with the existing steam sales tariffs.

Figure 6-4 Result from Adding New Customer at 40,000 pph, No Tariff Change



Revenues must provide more margin relative to variable cost in order for enough money to be left over for fixed cost coverage. The key to recovery is higher rates per unit of steam sold.

6.2.2 Close Steam Plant

If higher sell prices cannot be negotiated, one option would be to shut down the facility. However since the plant does generate some margin above cost, shutdown would result in loss of a long-term cash stream of about \$3M per year (revenues less costs). This is less than the steam utility's long-term debt service obligation, which is projected to exceed \$4M beginning in 2012, but it does represent partial fulfillment of that requirement and might be able to support a revised debt service stream if funds can be raised from other sources to supplement what the steam plant generates. Scrapping the plant and selling the equipment and property would not raise enough funds to make a significant contribution to payoff of the steam utility's debt. The assets have more value as an in-place producer of income than as salvage material.

6.2.3 Facility Sale

As described in Section 5.2, we estimate the value of the steam utility facility to be in the range of \$13M to \$17M, without taking into account possible capex above currently-projected O&M for the facility. Since the steam utility's debt is in the neighborhood of \$39 million, sale at our estimate of market value would not be sufficient to redeem the utility's debt.

7 RECOMMENDED WORKOUT PLAN

We believe the utility cannot continue production over the long term without obtaining an increase in revenues from steam sales, so the principal task of the workout will be to improve the revenue situation. Our calculations indicate there are prices which will be beneficial to customers, in that they'll be lower than the customers' own cost of projection from a gas-fired package boiler, and will be beneficial to MU in enabling it to continue as supplier to those customers. In addition to cost savings relative to self-production, continuing to rely on MU also will provide MU's existing customers, and potentially new customers, advantages in reduction of risk from spikes in the price of natural gas. Natural gas prices historically have been more volatile than coal prices.

A second element of the workout plan will be to implement improvements to operations that can reduce cost, such as improvement in auxiliary steam consumption and modification to operations to avoid consumption of fuel during periods when associated revenues do not cover marginal costs of production.

Thirdly, the workout plan needs to recognize the importance of supply reliability to its customers and assure that its spare parts program is consistent with a high level of reliability.