Millar Western Pulp Ltd: Building Sustainable Development on an Open Shop Basis

The Context:

Developing neutral resources lies at the very heart of Canada's economy. Related industries provide jobs and payrolls vital for sustaining the high standard of living Canadians have grown to expect. However, the reality is that natural resources cannot be developed without some environmental impact. Recognizing this paradox, the call for "sustainable development" emerged as a public policy issue during the 1980s.

Considering how fundamental the issue is to mankind, it's understandable why the debate frequently evokes stratospheric heights of passion. Perhaps nowhere is this passion more evident than in the dialogue concerning Canada's forests. From the way trees are harvested, to the waste that pulp and paper mills produce, forestry resource development is closely scrutinized, regulated and vigorously discussed.

It was in this setting in 1988, that Edmonton based Millar Western Pulp Ltd. introduced cutting edge, environmentally conscious, pulp technology to the world. Today, the company's pulp mills in Whitecourt, Alberta and Meadow Lake, Saskatchewan serve as models for achieving the goal of sustainable development.

Coincidentally, both mills were built when the landscape of western Canada's construction industry was also undergoing great changes especially in industrial relations. Both projects validated this change. Moreover, the positive contribution open shop contractors made during construction of these mills serve as testaments to how this sector is maturing and emerging as a force capable of building large technologically complex manufacturing facilities.

The Challenge: Build the world's first viable, zero liquid effluent pulp mill

In 1988, Millar Western Pulp Ltd. opened the world's first mill at Whitecourt to commercially apply Scott Paper Co.'s bleaching system for producing chemi-thermo mechanical pulp (CTMP). Millar Western's CTMP process is more cost-efficient and is environmentally superior to traditional kraft pulping methods. Because up to 90 tonnes of pulp can be processed from 100 tonnes of wood, yields can be between 70-100% higher. The process is also totally chlorine free, meaning no organochlorines, dioxins, or furans are produced.

Armed with proven technology at Whitecourt, Millar Western approached the Saskatchewan Government in 1989 to take similar advantage of abundant supplies of fibre sources around Meadow Lake. Recognizing the potential, the Saskatchewan Government acquired a 49% equity position and Millar Western Pulp (Meadow Lake) Ltd. was born.

Millar Western began its $350 million project after satisfying a complex regulatory and public review process which required full assessments of both environmental and socio-economic impacts. As H. MacKenzie Millar, President and CEO of Millar Western Pulp Ltd. put it: "I don't think you could attempt to build a pulp mill anywhere and

not expect people to raise concerns about impacts."

Millar Western's original development application proposed initially operating its Meadow Lake mill with the release of treated effluent, for up to two years, until the zero liquid effluent technology being developed could be fully implemented. To allay environmental concerns, it was decided that the zero liquid effluent technology would be in place from day one of operations.

Consequently, engineering plans for the mill were altered to incorporate a revolutionary closed loop design for evaporating the liquid effluent. This design also called for recirculating distilled water back into the system for continued pulp processing. Successfully introducing the proposed technology therefore meant that no liquid effluent would be discharged into the Churchill River system. It also promised reducing water needs to 1,800 cubic meters per day - a virtual thimble full compared to kraft pulp processes requiring up to 75,000 cubic meters per day.

While Millar Western and engineering consultants NLK Consultants Inc. were confident their technology would work, proceeding was nonetheless a gamble. Up to when site clearing began, the process was only theoretically possible through pilot tests in controlled settings. According to Jim Hatton, Millar Western's Meadow Lake project manager, "no one was really sure that zero effluent technology would work at this scale." And as Millar Western Industries Ltd. construction vice-president Brent Wiltzen indicated, incorporating the effluent free treatment design at this time made constructing the mill a very challenging and dynamic process. Accelerating the implementation of advanced water treatment processing meant managing an evolving project within the overall construction project.

Adding to the challenge was the fact that almost $3.4 billion of industrial construction was scheduled to begin in Saskatchewan in 1990. One such project was the $1.6 billion Bi-Provincial Upgrader project, the largest single construction project in Saskatchewan's history. Because this project was only 120 kilometres away from Meadow Lake and would consume 13 million hours during construction, Millar Western's building schedule had to be fast-tracked and precisely maintained.

The Decision: Establish an Open Site Construction Tendering Project

While open shop contractors now dominate western Canada's commercial and institutional construction markets, barriers in accessing large industrial projects persist. This is partly due to labour laws and policies which sanction union-only site agreements and passively condone activities which prevent qualified open shop contractors from working.

Manpower requirement projections, frequently based on work rule or jurisdictional assignments established by building trades unions, have also tended to inflate manpower estimates for large projects. This has resulted in tendering packages within reach of only the largest construction firms and international building trades unions. Recognizing the competitive construction realities of the 90s, Millar Western was prepared to acknowledge the combined potential of both unionized and open shop sectors and established an open site labour relations policy for building its Meadow Lake mill.

Millar Western's primary objectives were to have its project built for the lowest possible cost without compromising either quality or its intense twenty-three month construction schedule. According to Mr. Wiltzen, establishing the open site policy meant gaining access to a broader range of contractors to fulfill its construction requirements. Greater competition also resulted in more competitive pricing structures. Jack Joys, Millar Western's Director of Purchasing agrees. From his perspective, effective purchasing and procurement strategies rely on maximizing the range of potential contractors. Limiting a purchaser's ability to obtain quotes from all qualified sources because a potential supplier's employees were not unionized would therefore be counter-productive for an owner.

Millar Western's confidence in establishing an open site construction policy for its $350 million Meadow Lake complex, was partly due to the company's favourable experience with open shop contractors at the Whitecourt mill. This $200 million project was built on an open site basis using both open shop and unionized contractors.

According to Mr. Millar, "The positive experience we had at Whitecourt gave us the belief that we could run a site like (Meadow Lake) efficiently and happily." And, while Mr. Millar is reluctant to discuss union vs. open shop issues, when asked whether he had any reservations that open shop contractors could respond to the challenges of building the Meadow Lake mill, his response was: "Not a bit. We knew they could do a good job." And was he concerned about mixing unionized and open shop employees at one project? "Not at all."

An additional consideration favouring an open site policy is found in Millar Western's sense of responsibility to the people in areas they build in and operate from. Major projects are often " sold" with promises that jobs will come to the local and regional economy during construction. The reality at "closed" sites is all too frequently different. Hiring hall provisions contained in most building trade union collective agreements typically restrict local labour from participating. Establishing the open site policy therefore helped Millar Western honour its commitment to source as much as possible from the local and regional economy. The open site policy was also consistent with Millar Western's confidence in small to medium-sized businesses.

While revenues for the Millar Western family of companies exceed $250 million annually, ties to small business span three generations to the founding of the family business at North Battleford, Saskatchewan in 1906. As Jack Joys stresses, "We're a private, family owned company with an appreciation for small business values. It's important to us to give opportunities to all qualified contractors. I guess you could say it's our modus operandi."

This "modus operandi" was evident in tender package design and "bid list" preparation. Owing to its expertise with the technology, Millar Western selected NLK Consultants Inc. to provide construction management throughout the project. With the assistance of Saskatchewan's economic development department, tendering packages were "broken down" and then broadly publicized to permit a maximum number of contractors to compete for work.

For Peter Olson, NLK's on-site construction manager, the open site policy and smaller tender packages enabled Millar Western and their agents to manage the project more effectively. Initial on-site performance was monitored and was a determinant in

evaluating the contractor's suitability for future tendering opportunities. According to Mr. Millar, in taking a hands-on role during construction, the owner also benefits from dealing directly with contractors when flexibility and responsiveness to changing requirements are necessary. In this regard, Mr. Wiltzen noted how well contractors responded to the challenges which arose during construction, alluding to their willingness to exchange ideas and "jump in with both feet" when problems arose. This was particularly important because evolving design work dictated teamwork throughout construction.

Critical to maintaining this team-work, was Millar Western's policy of holding contractors and employees responsible for managing labour relations issues. All contractors were advised they would be held accountable for both performance and behaviour. According to Mr. Hatton: "We took the position that if you caused any labour problems whatsoever, your contract could be terminated." For all contractors, this meant complying with minimum compensation standards and being held responsible for work disruptions or interfering with another contractor's employees. And for employees, maintaining acceptable behavioural standards meant continued access to the site and camp.

The Result: Ahead of Schedule and on Budget

According to Mr. Olson, the mill was built on budget and slightly ahead of schedule.

The liquid effluent free design was proven to be viable and fully operational. In fact, its installation was so successful that design production was achieved within six months and the zero liquid effluent discharge system was successful from the first day of operation.

Although many more contractors were involved as sub-contractors on site, $112 million in formal erection and installation contracts were let to 50 contracting firms. Excluding subcontracts, the average contract value was $1.0 million. Approximately 82% of the contractors awarded major contracts and roughly 70% of on-site labour was supplied by open shop construction firms. The workforce peaked at approximately 650 personnel. Saskatchewan content reached approximately 80% and 31% of those employed during construction were drawn from the meadow Lake area.

According to both owners and consultants, there were no discernible differences in skills between unionized and open shop employees. Nor was there are evidence to suggest that open shop firms experienced any difficulty attracting and retaining competent employees.

No recorded time was lost due to labour related work stoppages.

The Project: From an Open Shop Perspective

A.V. Carlson Constructors Corp. was the largest contractor on site providing over 10% of the 1,650 million person hours required to build the mill. According to Saskatchewan Branch Manager, David Lockyer, had material supply been under Carlson's management, the total value of his portion of the civil work, would have

exceeded $17.0 million.

While Saskatchewan's Carlson Branch had handled concrete before, this was the first time the branch laid foundations and poured slabs in the order of 16,000 meters. Completing the general civil package including foundations, the mill block slab package, the main structural concrete package and civil work on the environmental control plant, required a workforce averaging 80-90 tradespeople peaking at approximately 140.

Like many others involved in Western Canada's construction industry, Mr. Lockyer and Mr. Olson have experienced both unionized and open shop construction sites and are able to contrast differences between approaches. Both agree that the open shop sector's greatest advantage on a project this size lies in its flexibility for selecting, assigning and compensating manpower.

According to Mr. Olson, compensation rates and benefits are competitive between the two sectors. Consequently, he feels the greatest advantage favouring open shop contractors lies in their flexibility to match appropriate trade personnel to specific work assignments. Determining which tasks should be assigned to which trade skill is critical. Whether work should be completed by qualified journeymen, or apprentices and semi-skilled helpers under supervised conditions are also key factors. Hence, while open shop employees don't necessarily receive less compensation, they are less costly to deploy.

Because Carlson's subcontractors operated on an open shop basis they had this flexibility. They were also able to set wage rates according to merit.

Consequently, all experienced employees were paid competitive wage rates exceeding the standards established by the owners for the project. All employees were also provided Merit's group health and RRSP plans. As a result, no difficulties were experienced attracting competent employees to work under open shop conditions.

Comparing this approach to the one established at a nearby large, "closed site" industrial construction project, illustrates how stark the differences between the regions can be. Employees at the closed site, operating under a rigid project agreement, generally worked four day weeks at 10 hours per day with virtually no overtime. To meet the owner's scheduling requirements, employees under Carlson's contracts at the Meadow Lake project typically worked a five day week comprising 10 hours per day. Even with overtime for work exceeding 40 hours, merit based pay scales and lower contributions for industry sponsored benefit and RSP plans resulted in basic payroll costs approximately 21% lower than the unionized site. Consequently, almost 25% more productivity was achieved by open shop employees for only about 4% more in payroll costs. This enabled Carlson to meet and periodically surpass the owners schedule. Employees also benefited because they took home more pay and received comparable benefits working union free for Carlson's subcontractors at Meadow Lake than had they worked at the other site.

In keeping with the other project objectives, a second advantage Carlson had operating open shop was its ability to maximize hiring local labour. Without the hiring restrictions imposed by a collective agreement, Carlson's subcontractors were able to make full use of Millar Western's employment inquiry office in Meadow Lake

and the local Canada Employment Centre. They also sponsored Merit's construction skills training program to acquaint willing, but inexperienced local labour, with skills necessary for working at the site. Consequently, according to Saskatchewan Economic Development Department estimates, about 44% of initial manpower requirements was met from within 50 kilometres of Meadow Lake. And while statistics on native employees weren't kept, a large percentage of Carlson's workforce was drawn from the regions aboriginal community.

Maximizing local hiring also proved economical for Millar Western. Recognizing that is project would compete with other major projects for capable tradespeople, they insisted that those not from the immediate vicinity were provided with first class accommodation and meal facilities at an on-site camp. Hiring locally therefore reduced living and travel allowances. This also enabled contractors such as Carlson to more readily expand or reduce work crews to meet scheduling changes without having to charge the owner travel and accommodation premiums.

After recently concluding a project at a union only site in Alberta, Mr. Lockyer noted how significant the differences in combined efficiencies can be as a direct consequence of taking an open site approach: "Had our portion of the project been done using only a unionized workforce, it would likely have cost at least 25% more. This is assuming the unionized labour force was able to achieve similar productivity rates. However, had the project been done union only, there's no way it would have been done in the same time frame."

This is echoed by Triad Power's Douglas Dibb. Reflecting Millar Western's desire to maximize the range of service suppliers, Triad contributed 32,000 hours to the project installing lighting and power for the main mill block and controls for the chemical distribution centre and wood room. In Mr. Dibb's estimation, his labour costs were reduced by up to 50% by taking an open shop approach.

And what about safety - an issue sometimes used to exclude open shop contractors from participating on industrial construction projects. Both A.V. Carlson and Triad were particularly proud of their safety records at Meadow Lake completing almost 200,000 hours without a lost time accident.

While civil construction has recently become the principal domain of open shop contractors, fulfilling mechanical installation requirements for large industrial projects is sometimes questioned. As Pan West Canada Constructors Ltd. proved, there can now be no further doubt.

Pan West is an open shop contractor specializing in industrial mechanical fabrication and installation. With over 40 years experience in unionized and open shop mechanical contracting, Walter Botting is particularly proud of Meadow Lake's success. Smiling, he points to a letter from NLK thanking Pan West's con-site personnel for their performance. Included is the acknowledgement that "because of their efforts, we were able to start-up ahead of schedule and complete the work under budget."

This was no small feat considering that Pan West was responsible for installing the sophisticated piping and process equipment for the zero effluent water treatment plant. Additional mechanical assignments for the pulping process and finishing line and boiler room also resulted in contracts exceeding $6.0 million being completed.

Over a 5 month period, Pan West maintained an average crew of 70 welders, pipefitters, operators and millwrights with a peak labour force of 125 tradesmen. A total of 82,000 hours was put into the project.

According to Mr. Botting, the open site approach was an unqualified success because Millar Western and NLK made it clear from the outset they would hold both contractors and employees accountable for performance and behaviour. This was evident in the camp "which was extremely well run with clear expectations of behaviour communicated to all concerned." Consequently, both unionized and open shop mechanical tradesmen worked without incident. Because Pan West's open shop employees were not interfered with, they were able to easily discharge their assignments. Not being bound by rigid work and trade assignment rules which typically govern mechanical trades at unionized projects also resulted in substantially lower labour costs for his portion of the work.

It is clear contributions from companies such as Carlson, Triad, Pan West and no less than 37 other open shop contractors helped make the Meadows Lake project a success. It's also clear that Millar Western's decision to proceed with an open site also helped open shop contractors prove that, when given the chance, they can perform the necessary complex installation procedures to fulfill requirements for all construction purchasers.

The Bottom Line:

In competitive service industries, we feel it is appropriate to leave the last word to consumers. Accordingly, we asked both the owner and consultants whether they would, based on the Meadow Lake mill experience, use an open site approach to build their next project.

Answering affirmatively, Mr. Millar, indicated Millar Western was "very happy with the open site approach" because it helped ensure they "got the best qualified contractors, doing the right job at the right price. Both union and non-union contractors worked well together." Messrs. Wiltzen and Hatton also concurred.

From the consultants' perspective, Mr. Olson indicated that open shop contractors "executed their assignments as required" and their ability to react "quickly, efficiently and with flexibility" to the evolving construction requirements was "fundamentally important to maintaining the critical path for the project."

The Meadow Lake project is a testament to Mr. Millar's conviction that achieving sustainable development is "not at all elusive." So long as innovative companies like his continue with open site construction policies, open shop contractors will continue to play a role in helping to make the goal a reality.