STRATEGIC ANALYSIS OF AN ORGANISATION'S SKILLED TRADES WORKFORCE

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PROJECT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

In the
Faculty
of
Business Administration

Executive MBA

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SIMON FRASER UNIVERSITY

Summer 2005

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ABSTRACT

KW is an aluminum manufacturing plant, which is owned and operated by A___. The firm competes on a global basis in a commodity market. A____ has implemented aggressive targets to reduce costs because its competitors have improved their technology and productivity and/or are implementing cost reduction initiatives.

The largest cost KW has is labour costs due to high wages and the number of people employed. The local management team must choose a strategic option to (1) force a strike with the union to eventually force them to accept a reduced workforce (2) resist senior management's workforce reduction targets, or (3) perform a gradual shutdown of operations to balance senior management's targets and continue operating. Upon choosing an option, the organisation must develop a strategy to staff its maintenance organisation appropriately for the future because they require a specialised set of skills and are difficult to attain.

The goal of this project is to: (1) analyse the rationale for the organisation's workforce reduction targets (2) evaluate and recommend strategic options for the organisation's total workforce, and develop specific strategies related to the organisation's skilled trades' workforce.

*For confidentiality reasons, the names of the company have been left out of the title and the abstract

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1 INTRODUCTION

1.1 Overview

Alcan Inc. is a publicly owned Canadian company that is a top producer of aluminum, alumina and packaging and its head office is located in Montreal, Quebec. The objective of this project is to develop and evaluate strategic workforce planning alternatives for the Kitimat, British Columbia smelter. The alternatives result from an analysis of the primary aluminum industry's competitive environment, changes in the labour market, the industry's driving forces and a situational analysis of the organisation and will focus specifically on the skilled labour force. The recommended strategy will be linked to the organisation's strategic vision and will incorporate the uncertainty and challenges that Alcan currently faces and anticipates. The proposed strategy will integrate the need for flexibility and embrace other goals the organisation has including strengthening relationships with stakeholders and capitalising on flexibility.

1.2 History

In 1901, Canada's first aluminum smelter was built in Shawinigan, Quebec and one year later the Canadian subsidiary of Alcoa was chartered as the Northern Aluminum Company Ltd. Between 1928 and 1950, Alcoa divested its interest and the Aluminum Company of Canada (Alcan) was formed. Rapid expansion of smelting, hydroelectric and fabricating facilities occurred at that time.

In 1950, Alcan began construction of its Kitimat smelter and power facility in Kemano at a cost then of approximately $500 million which was the largest privately-funded construction

project ever undertaken in Canada. Between 1960 and 1980, Alcan expanded its fabricated products capacity and invested in smelting and bauxite/alumina operations around the world. In the 1990s, Alcan pursued a strategy of divesting non-core assets and announced large corporate restructuring efforts.

In 2000, Alcan merged with Alusuisse Group Ltd. and the company was named Alcan Inc. in 2001 from its previous name Alcan Aluminum Ltd. At the same time, it announced to the shareholders its "Maximising Value" strategy as its governing objective. At the time, CEO Travis Engen told shareholders that Alcan would double their share value every five years by generating a 15% return per year to shareholders. This set the tone for making operating decisions at each of its sites and larger strategic decisions. In 2003, Alcan acquired Pechiney, a French-owned competitor with leading technologies in aluminum production and a solid packaging division. In order to meet the anti-trust legislation surrounding the Pechiney acquisition, Alcan spun-off its Rolled Products division to create an independent company Novelis.

Alcan remains a world-leader in bauxite and alumina, retains the world's largest share of low-cost aluminum production, has a strong and growing engineered products business and is a world-leading packaging business, with approximately 70,000 employees in 55 countries and an estimated $25 billion in revenues annually.

1.3 Products/Divisions

1.3.1 Bauxite, Alumina and Specialty Chemicals

Alcan's position has been to invest in low-cost bauxite and alumina assets in Australia to remain competitive. Between four (4) and five (5) tonnes of bauxite is required to produce two (2) tonnes of alumina, this results in the ability to produce one (1) tonne of aluminum. This

division is key to the global aluminum market. They are the second largest alumina producer in the world with an annual capacity of 4.1 million tonnes and employ 5,000 people in 12 countries.

1.3.2 Engineered Products

This group produces engineered or aluminum products for a broad range of applications. They have expanded from extruded, cast and rolled aluminum products to include products such as balsa-based structural materials. They have approximately 12,000 employees in 36 countries.

1.3.3 Packaging

Alcan has strived to be a strong competitor in global packaging and now has only 26% of its division in aluminum packaging with 59% attributing to plastics packaging. The markets in this division consist of food, pharmaceutical and medical, beauty and personal care, and tobacco packaging. They have approximately 34,000 people employed in 26 countries.

1.3.4 Primary Metal

This division will remain the focus of the project and will be reviewed more in-depth. Alcan has the smelting capacity to produce 3.5 million tonnes of primary aluminum annually. The products include sheet ingot, extrusion billet, wire, bar, rod, foundry and remelt. In this division there are approximately 20,000 employees in 15 countries.

Business conditions over the past two years have remained challenging due to the weakening US dollar, upward pressure on costs for pensions, fuel and recycled metal. There have been some positive trends, which include higher London Metal Exchange (LME) prices, benefits from ongoing cost reduction initiatives at each location and profits from the newly acquired businesses. Competing aluminum producers have suffered through the increased power prices

although Alcan has had less concern because it owns 45% of power supplied to their smelters and has low-cost energy production.

Although Alcan's locations have low-cost power, the competing firms continue to reduce their costs by investing in low-cost labour countries such as China and the Middle East. Alcan has recently agreed on joint ventures in China and Oman, as well as a state of the art facility in Alouette, Quebec. Alcan is concerned for its older facilities because they must remain competitive with the new technologies and efficient by reducing their costs significantly.

1.3.5 Kitimat Works

Currently, there are 1600 people employed at the Northern British Columbia smelter, approximately 300 of whom are staff and 1300 of whom are part of the local 2301 CAW union. Of those, approximately 1000 are in production areas and the remainder of the employees makes up the maintenance organisation that is represented by a separate Skilled Trades Council.

This smelter is known as Kitimat Works and has an annual capacity of 272,000 metric tonnes but is currently producing 245,000 due to a partial production shutdown in 2001. The decision to reduce total production was made because the company did not have enough water in its privately owned reservoir to meet the power needs of its long-term energy agreement and run the smelter at full production capacity. Alcan operates its own hydroelectric power generating station in Kemano, 75 kilometres south of the smelter, which is fed the water from the reservoir mentioned previously. The shutdown in 2001 has been controversial with the community and the local union because there has been a reduction in the total number of people employed at the smelter. Alcan has never fully restarted this production because of a variety of factors, the most significant being the lack of demand for aluminum.

The economic impact of Alcan in the region is significant because Alcan contributes over $8 million per year in property taxes, of which $6.5 million stays in the Northwest BC region. The total payroll and benefits compensation for employees is $128 million annually and, in Kitimat, Alcan accounts for 32 percent of all direct employment.

The Kitimat smelter produces three types of aluminum product: billet, sheet and remelt. Due to the location of Kitimat and its access to the Pacific Rim, the aluminum is supplied to the United States (by rail) and to China, Japan and Korea (all by boat). Their customers are extruders, rolling mills and remelt facilities. "End uses of primary aluminum by consumers include building and construction (18%), transportation (30%), consumer durables (6%), machinery & equipment (8%), electrical (9%), cans (12%), other packaging (6%), other (12%)."[1]

1.4 Issues and Challenges

Kitimat Works faces many strategic issues that are a result of internal and external pressures that have developed over time. From an internal perspective, the corporate management team is driving the need for change in the organisation. The corporate group is more aware of the need to change in order to remain competitive. They have completed all of the benchmarking and analyses related to costs and are putting pressure on their older plants to be in the top quartile of the lowest cost aluminum producers with the same type of technology. They have specifically chosen to benchmark the number of employees per metric tonne of aluminum produced in order to measure productivity. In an effort to act quickly with the cost reduction efforts to appease the shareholder's expectations, corporate Senior Management has determined targets for the plants and is forcing them to meet these by initiating a hiring freeze so the plants can not increase their number of employees.

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[1] *China's Aluminum Industry: Setting the Record Straight, 2005.* www.Alcan.com

In addition to the pressure from the top, the Kitimat Management team receives pressure from the staff in the organisation, the employees and a large amount of pressure from their union executive. The staff receives pressure from the employees and the union and pushes that pressure to the Management team by constantly trying to demonstrate why there is a need for more employees in the organisation. The union is very concerned about the decrease in the size of their membership over the last ten years and continually seeks ways to increase the number of employees in the organisation.

As well, there have been numerous studies completed on the viability of a newer smelter in Kitimat using some of the existing technology and infrastructure, which is referred to as a "rebuild". This means that the number of jobs that may be required in the future may be different, particularly the skilled labour positions because there would be a need for more electricians and instrument mechanics and less of a need for soft trades such as painters and carpenters. Also, there will be less need for project work because newer technology will require less maintenance because the equipment and machinery will be new. With a hiring freeze, it is difficult for local management to fill current skilled trades' vacancies to maintain the existing operations and plan for future needs. Since there has been no decision made regarding the potential rebuild the plant remains uncertain and it is difficult to plan long-term.

Externally, there is pressure from the community and the local city council. Since Alcan is the largest employer in the region, they are putting pressure on Alcan to increase the number of jobs they currently have and are suing Alcan to try to prevent any future power sales from the hydroelectricity that is being produced. The community members have seen a decline in the price of their houses in recent years and are concerned about their community and their livelihoods. They are not happy with Alcan's downsizing but are not sure how to deal with it. Therefore, some have actively sided with the city council and others continue to ask questions in order to

clarify the uncertainties associated with the future of the community as a result of Alcan's decisions.

In order for the Kitimat Management team to meet the expectations of Head office, they will need to develop a local strategy to reduce the current number of employees. There will be significant resistance to the elimination of jobs and the strategy will need to be based on an analysis and plan to minimise the impact to all employees, the union executive and the community. However, due to the possibility of a modernisation project and the uncertainty that surrounds the future of the Kitimat smelter, the plan must meet the short-term needs while taking into account a number of possible future situations.

2 EXTERNAL AND INDUSTRY ANALYSIS

2.1 Industry Supply Chain

The aluminum production process requires inputs; the largest in terms of cost are power and alumina. Other materials are shown below in figure 2-1 representing the supply chain. The bulk of the supplies are required for the first part of the process where the alumina is reduced into pure aluminum.

Figure 2-1 Aluminum Industry Supply Chain

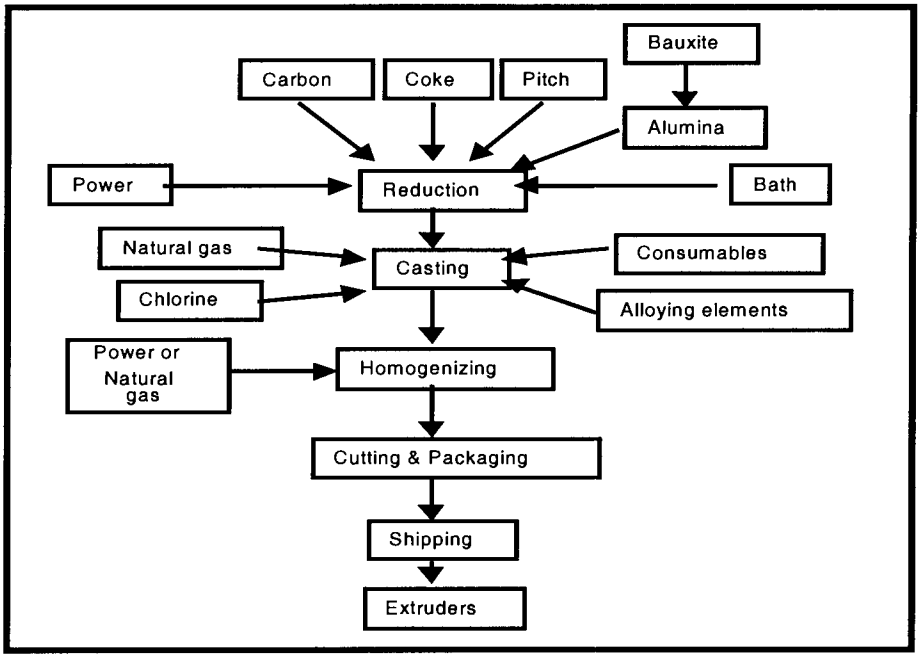


Figure created by the Author; Data Source: Industry Analysis of North American Extrusion Billet (2002).

The aluminum industry is in the mature stage of the industry life cycle with profits declining slightly and a stable sales growth rate. The number of firms is declining due to the mergers and acquisitions that have taken place with the largest producers. Other indicators of the mature stage include the slow amount of innovation and the highly structured organisational control that results from the size and age of the firms that have remained.

Figure 2-2 Aluminum Industry Life Cycle

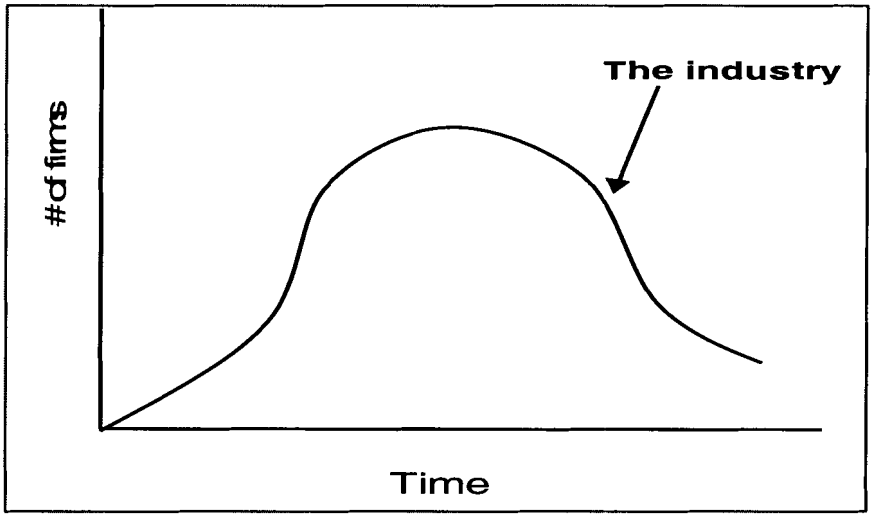


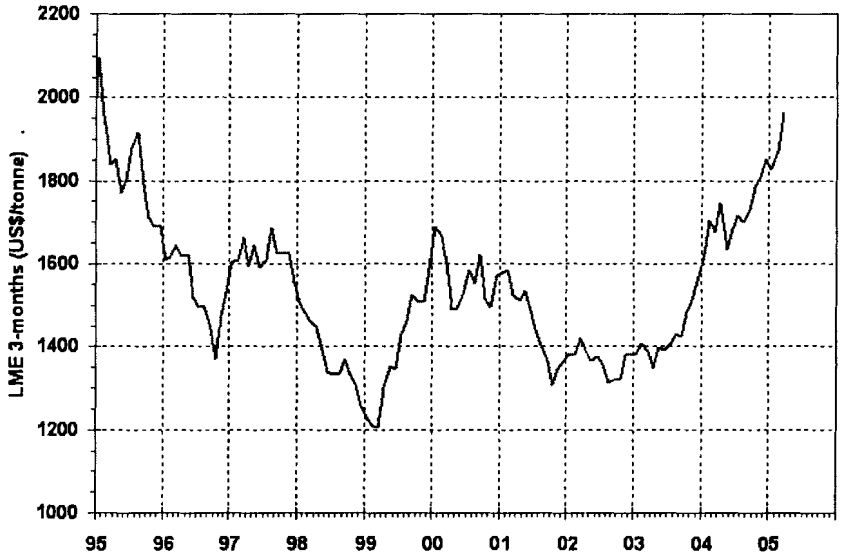
Figure created by the Author; Data Source: Industry Analysis of North American Extrusion Billet (2002).

2.2 Industry Overview

Alcan, along with other firms in the aluminum industry should have a vision and clear strategy in order to remain competitive. The industry has evolved in the last ten years and firms must reduce their costs to stay ahead of the competition. For most of the smelters at Alcan, their labour costs are high so they need to focus on a strategy to reduce the workforce and improve their level of employee productivity.

Figure 2-3 Three-month Aluminum LME Price History

Source: http://www.Alcan.com/web/publishing.nsf/AttachmentsByTitle/Investors-



OtherPublications/$file/Broch_Chine_AN_v8a.pdf[2]

Due to the low degree of differentiation in aluminum production, it is a commodity and is priced on the London Metal Exchange (LME). Commodity prices tend to be cyclical (see Figure 2-3 for aluminum price history) and aluminum producers, such as Alcan, must be prepared for the "good times" and the "bad times" when the prices are higher and lower, respectively. Firm's strategies must revolve around their commodity cycle and the fluctuating prices of their product. Since all of the firms are facing the same challenges, they are not able to pass the cost of the price variation onto their customers, otherwise their customers will continue switching to the firm that offers the lowest price and the price of the product will continue to decrease.

Not only are the firms in this industry competing with each other, they also compete with substitute products. "Aluminum demand is more responsive to price fluctuations, given customers are offered an increasing number of alternatives such as secondary aluminum, suitable materials and metals, imports into domestic markets. This increase in price-elasticity of demand

that the dominant firms are facing has modified their pricing policies, and the industry has moved from list prices to market prices as determined on the LME."[3]

Given that firms cannot compete with price, they must try to differentiate their product as much as possible or they must compete by decreasing their costs in order to improve their returns. The first option is limited because firms are restricted in the amount of variation they can offer to their products. Firms may be able to produce premium products if they have the technical expertise, assuming their customers are willing to pay for that. Decreasing costs has greater opportunity to improve a firm's balance sheet. This requires the investment in greenfield projects (new smelters) with new technology, or modernisation of existing smelters to improve energy, environmental or labour costs. Both of these options require significant financial commitment.

2.3 Description of Market Structure

The aluminum industry has changed its structure rapidly over the last fifteen to twenty years. "In the 1960's, more than 80% of industry was dominated by Alcoa, Alcan, Kaiser, Pechiney, Alusuisse, Reynolds. Presently (*sic*), those six firms have a little more than 60% of the world alumina and 40-45% of the world's bauxite and aluminum capacity."[4] Although there are many firms of unequal size with identical products, the majority of the firms make up an oligopoly. The firms compete on location, quality, and most significantly on cost, and their profits vary considerably.

It remains fairly difficult to enter the industry because the capital requirement to build a new smelter is $1 to $2 billion dollars. It is becoming increasingly difficult for firms to find locations close to affordable power and alumina producers. There is risk of overcapacity in the

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[2] Prices tracked every three months during the year
[3] *The Cost and Technological Structure of Aluminum Smelters Worldwide,* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chicester. Jul/Aug 2000, Vol. 15, Iss. 4; p. 417.
[4] *Aluminum's Predicament.*Corinna C. Petry. Metal Center News. Radnor: Jan 2005. Vol.45. Iss. 1; pg. 22.

industry if a firm wants to increase its market share. Thus, since 1999, there have been many mergers and acquisitions taking place between the leaders in the industry. Alcoa merged with Reynolds and Alcan merged with Alusuisse and Pechiney to create two giant firms in North America. Although the industry is unattractive for potential new entrants, the demand for aluminum continues to increase and the industry continues to change. "Today, China is the world's largest producer with volume more than 6 million tonnes, 4 million in Russia and 3 million in Canada."[5] As the industry changes, the firms must change as well.

2.4 Competitor Analysis

With the changing industry dynamics, the firms must consider how their competitors are responding to or will respond to change in the external environment or their own strategy. Alcan must know who and what their competition is. "Currently, there are more than 130 aluminum smelters in more than 30 countries."[6] Some of those are independent producers and others belong to larger firms that have the ability to take advantage of firm-level economies of scale.

2.4.1 Alcoa

Alcoa is the world's leading producer of primary aluminum, fabricated aluminum, and alumina. They employ 131,000 people in 43 countries and their vision is to be the best company in the world.

Alcoa has gone from 40% international in the late 1990's to a target of becoming 60% international to get closer to their customers. They were the first firm to enter China by taking an 8% share of Chalco, a state-owned enterprise that operates the 6 largest aluminum smelters in the

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[5] *Alcoa to Ship 70 IT Jobs to India.* Jaikumar Vijayan. Computerworld. Framingham: June 7, 2004. Volume 38, Iss: 23; pg. 13.
[6] *The Cost and Technological Structure of Aluminum Smelters Worldwide.* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chichester. Jul/Aug 2000. Vol.15, Iss. 4; pg. 417.

country. In addition to this, Alcoa has a seat on the board and they have the right of first refusal on any Chalco venture with a foreign partner.

Alcoa now has a strong presence in Iceland. "Alcoa offered to spend $1 billion provided the Reykjavik government moved with $2 billion hydropower project with Alcoa as their sole customer. Alcoa will be free from restrictions on greenhouse gases."[7] This alleviates the energy and environmental concerns that the other firms are facing.

They are also moving to locations with low energy and labour costs such as Trinidad, where they invested $1 billion to construct a new smelter and reached an agreement to have energy costs at 65% of the cost in the United States. "As US electricity prices increase, Alcoa was shuttering more and more of its North American capacity."[8] In an effort to reduce costs even further, Alcoa will attempt to move some of their US-based jobs overseas. They recently announced that they plan to outsource 130 jobs, 70 of which are IT, to a firm in India. Their CEO made this statement "we have the leverage to get concessions – lower costs and tax savings in several countries."[9]

2.4.2 Rusal

Rusal is the world's third largest aluminum producer, contributing to 10% of the world's aluminum production, with over 60,000 employees. "It produces 2.6 million tonnes annual and in 2003, only 8% of its product was sold in Russia – 36% went to Europe, 34% to Asia and 22% to North America."[10]

Rusal is demonstrating progress on its main strategic objectives, which include growth, an increase in production of premium alloys and improved productivity. "It owns the world's

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[7] *The Cosmopolitan Touch,* Phyllis Berman. Forbes. New York: Jun 21, 2004, Vol.173, Iss. 13.
[8] *The Cosmopolitan Touch,* Phyllis Berman. Forbes. New York: Jun 21, 2004, Vol.173, Iss. 13
[9] *The Cosmopolitan Touch,* Phyllis Berman. Forbes. New York: Jun 21, 2004, Vol.173, Iss. 13

largest smelter – Bratsk – with 950,000 tonnes and employs 6553 people. Of those, the majority are outsourced services – there are 4400 people in contracts."[11] Reducing labour costs is one of their strategies to improve productivity and modernising is another. "At their Sayanogorsk smelter they have 500,000 tonne capacity and employ 3680 people. They have increased capacity by adding cells and increased electrical current – their productivity is 135 tonnes per person."[12] This is very low compared to the newest smelters, which now have labour productivity ratios greater than 550 tonnes per employee.

The remainder of the competition includes smaller, independent firms because the "big six" no longer exist. In the figure depicted below, the graph shows the aluminum smelters measuring labour productivity by metric tonnes per number of employees.

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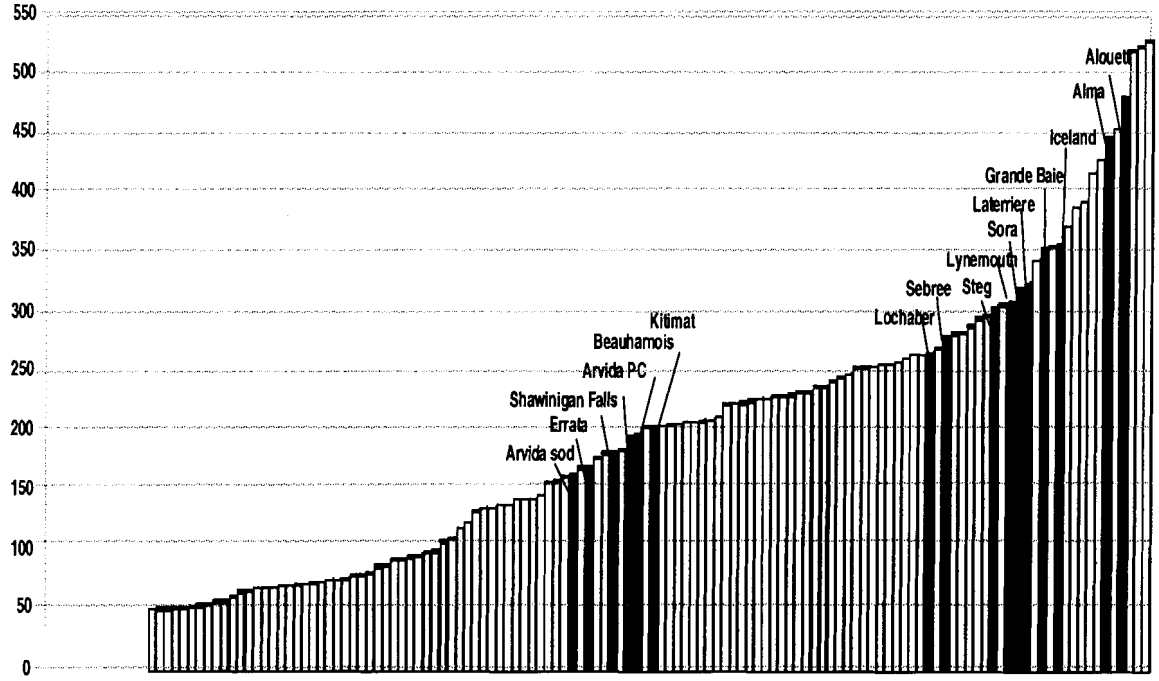
[10] *Siberian Giant,* Jane Werniuk. Canadian Mining Journal. Don Mills: Aug/Sep 2004. Vol. 125, Iss. 4.
[11] *Siberian Giant,* Jane Werniuk. Canadian Mining Journal. Don Mills: Aug/Sep 2004. Vol. 125, Iss. 4.
[12] *Siberian Giant,* Jane Werniuk. Canadian Mining Journal. Don Mills: Aug/Sep 2004. Vol. 125, Iss. 4.

Figure 2-4 2002 Smelter Total Labour Productivity Metric Tonnes/Employee



Source: Kitimat Works Benchmarking Presentation, 2004. Alcan internal document.

2.5 Industry

2.5.1 Supplier Power

"In 1994, full operating costs of producing aluminum in the 130 smelters world-wide varied between US$790 and US $1877 per tonne. 60% of variability in aluminum costs is linked to energy costs. The full operating costs that each firm must face include: power 24-26%; alumina 30-33%; labour 9-11%; other – bath, anodes, pot relining, casthouse expenses and overhead."[13]

[13] *The Cost and Technological Structure of Aluminum Smelters Worldwide.* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chichester. Jul/Aug 2000. Vol.15, Iss. 4; pg. 417.

Since the energy costs can vary by 60%, this can give one firm a huge advantage over another. It is important for the firms to produce their own power or secure low price contracts. If they are not able to, this can force a smelter out of business. Energy firms have significant market power because they are typically large, concentrated firms. They generally have rights to water resources that are not available to other firms. Kitimat Works is fortunate to have its own water rights and does not have the same concerns regarding access to energy or the price fluctuations of energy.

These two issues have forced aluminum smelters out of business. North American smelters such as the Goldendale, the Dalles and Columbia Falls shut down most of their aluminum production in 2003 due to the high power prices in the US. "Mac Seyhanli, Operations Manager at Goldendale said at the time, 'for the smelter to restart production it needs a good metal price and a steady, reliable energy source.'"[14] This demonstrates how much the fluctuating price of power can affect a firm in the industry.

Another concern rises from the availability of bauxite and alumina because aluminum production requires four (4) tonnes of bauxite to produce two (2) tonnes of alumina for a resulting one tonne of aluminum. Alumina production is high cost, difficult and bauxite can only be found in certain tropical areas. Again, the suppliers have a stronghold on the aluminum producers because of this reliance. Alcan produces its own alumina but other firms must either secure long-term contracts or face unacceptable levels of risk.

The remaining supplies are critical to the operations and important in terms of cost and need for quality; however they do not account for the same percentage of the firm's costs.

[14] US Northwest Power Price Surge Forces More Smelter Cuts, Platt's Metals Week. New York: March 31, 2003. Vol.74. Iss. 13; p. 2.

2.5.2 Buyer Power

End products in the industry include mass transportation (interior fittings for rail vehicles and buses); automotive (design and manufacturing of vehicle components and modules); food packaging (aluminum foil and foil products); cables (aluminum cable, rod and strip products); composites (structural products); pharmaceutical and personal care packaging; and aerospace firms (metallurgy, plate, alloy and casting). The customers of the firms are extrusion companies, rolling mills and remelt facilities that purchase aluminum ingots and sell them to their customers to produce the different consumer or industrial products listed above.

Since aluminum is a commodity, product differentiation for the firms is difficult and with over 130 smelters, switching costs for the buyers are not high. Only location, which affects delivered price and delivery times, provides a dependable competitive advantage. As a result of the mergers, Alcoa and Alcan have been able to position themselves in locations closer to their customers and they have been able to decrease the power of their customers.

2.5.3 Substitutes

Depending on the end use of the aluminum products, there are a large number of substitute products that can be used in its place. These include glass, plastics, paper, steel, copper, titanium, and magnesium. The biggest risk for industrial and structural applications is steel because it is a widely used alternative.

2.6 Industry and Competitive Dynamics

2.6.1 Political Environment

The firms in the industry must work closely with the local governments in order to secure power agreements. Also, there is concern in areas with older smelters because comparatively larger amounts of fluoride and other emissions are released when compared to modern smelters.

As the North American firms move into more international locations, they must work with the local governments in order to secure agreements in their respective countries. Both Alcoa and Alcan are engaging in joint ventures overseas. These partnerships are often with state owned enterprises, which require in-depth studies of the countries and the culture, a lot of relationship building and the development of contracts.

2.6.2 Economic Environment

"In the 60's, aluminum consumption in most industrialised nations showed a higher growth rate (9 -10%) than that of the GDP (5%). Today, the two rates are evolving more closely."[15] The global economy has meant a change in consumer needs and an increase in the number of substitute products available. Having said that, "aluminum demand is expected to grow at a10% annual rate in the next decade."[16] This means that firms must produce enough aluminum to meet the demands at the same time as managing unpredictable costs and competing in countries in which they lack extensive experience.

A key driver of recent increase in demand is growth in the Chinese economy. "Chinese demand for aluminum is growing and the country is limited in its ability to produce metal

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[15] *The Cost and Technological Structure of Aluminum Smelters Worldwide,* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chichester: Jul/Aug 2000. Vol.15, Iss.4

[16] *Aluminum's Predicament,* Corinna C. Petry. Metal Center News. Radnor: Jan 2005. Vol.45, Iss.1

including lacking the vast amounts of cheap power needed to fuel more smelters."[17] Currently, China has about 137 aluminum smelters but some are very small and inefficient, so they are likely to be phased out. "Analysts predict they will need to add about 40 large smelters by 2014, but will have difficulty given the shortage of electrical power at an affordable price in the country."[18]

2.6.3 Social Environment

As firms invest in countries outside North America in an effort to reduce costs, there continues to be social pressure in Canada and the United States. Also, there is increasing pressure on Alcan to invest in communities in British Columbia and Quebec, where they have existing facilities. People in the communities believe that because Alcan has power agreements with the governments, Alcan must invest in those regions because the agreements were dependent on job creation in the area.

2.6.4 Technological Environment

The smelter technologies continue to improve with new developments and as firms become more advanced in their operations. The type of technology of smelters is defined as "technical vintage." There are five different types of technical vintages – Horizontal Stud Soderberg (HSS), Vertical Stud Soderberg (VSS), Point-break feeder (PFBF), Centre Work Pre-Baked (CWPB), and Side Work Pre-Baked (SWPB). With advances in technology, the sizes of the pots have increased and the result has been a decrease in the average variable costs per tonne for the firms. "(Average) Variable costs by different technologies: PFBF - $755.10; SWPB -

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[17] *China Boom Boosts Aluminum Makers; Country's Demand Surges AmidAmid Tight Global Supplies, Lifting Alcoa, Alcan Profits*, Paul Glader. Wall Street Journal. New York, N.Y.: Aug 11, 2004.
[18] *China Boom Boosts Aluminum Makers; Country's Demand Surges AmidAmid Tight Global Supplies, Lifting Alcoa, Alcan Profits*, Paul Glader. Wall Street Journal. New York, N.Y.: Aug 11, 2004.

$844; CWPB - $876; VSS - $907; HSS - $911."[19] The study by Nappi and Gagne (2000) shows that the decreasing costs are not related to the size of the smelter or the region that is located, but specifically to the type of technology that is used. There is significant concern for smelters with older technology because it is necessary to continue decreasing costs in order to compete in this commodity market.

Kitimat Works has vertical stud technology, which means that newer smelters have a strong cost advantage. The new "pre-bake" smelters are much more affordable to operate. Since the early 1990's, Alcan has been investigating the possibility of modernising the smelter in Kitimat. The investment required for a modernized plant is between $1 and $2 billion. Therefore, careful analysis with different scenarios continues to be conducted. Expansion or retrofitting the existing plant, without changing the basic technology, is an option to reduce costs in the future. However, since no decision has been made whether or not to rebuild, the organisation must continue to find other ways to reduce its existing costs. The internal analysis will further establish the context for the challenges the organisation faces in preparing its workforce strategy for the future.

The industry and corporate contexts presented in this chapter and the previous chapter present the rationale for change at Alcan's operating facilities. The analysis highlighted the changes in the aluminum industry due to improvements in technology, shifting strategies by the industry's larger firms, and entry into the market by Chinese producers. All of these will result in a tougher competitive environment and will require firms to decrease their costs. The focus of the remaining portion of the paper will be the Kitimat Works site.

[19] *The Cost and Technological Structure of Aluminum Smelters Worldwide,* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chichester: Jul/Aug 2000. Vol.15, Iss.4

3 INTERNAL ANALYSIS

3.1 Internal Characteristics Analysis

In order to respond to the challenges in the industry, an analysis of Kitimat Works must include the current labour situation, an analysis of the stakeholders that are impacted by workforce decisions, and the workforce's sources of competitive advantage and disadvantage. This internal analysis will be used to determine the current situation, establish a realistic workforce target and to determine the gaps that will be used as the foundation for recommendations and an action plan for a sustainable and efficient workforce.

3.1.1 Competitive Advantages and Disadvantages

3.1.1.1 Location

The Kitimat smelter is somewhat isolated because it is located on the north coast of British Columbia. This location is advantageous due to the port access to the Pacific Rim and its customers in Japan and Korea.

Unfortunately, the location can pose problems for the plant management in terms of workforce planning. The first is the difficulty in attracting skilled labour to the area. Since Kitimat is not a desirable community to live in compared to some in the interior or southern parts of British Columbia, it has been difficult to attract potential employees to the area. The second issue is related to the distance from the other Alcan facilities in Canada, all of which are in Quebec. The Quebec smelters have the advantage of sharing services and facilities such as a

wharf, hydroelectric facilities and some maintenance services. Thus, Kitimat Works requires a more diverse workforce than the other Alcan smelters and requires more specialised skills. This must be taken into consideration when comparing the workforce requirements of the Kitimat site with those of other smelters.

3.1.1.2 Hydroelectricity Production

As mentioned, Kitimat Works has the ability to generate its own power using privately owned facilities. Figure 3-1 showed that Kitimat's power costs are much lower than that of the competition and give them a significant advantage.

The ability to produce its own power gives the Kitimat smelter the option to sell power on the "grid" for a profit or use it for aluminum production. This requires more flexibility with its workforce and more extensive strategic planning because the organisation switches between two very different products. The potrooms must be shutdown carefully to minimise the costs and problems with starting up production in the future, if necessary. As indicated, Alcan reduced production in 2001 because of the low water it had in its reservoir; it has chosen not to start all of the production back up again. The costs to start up the remaining production are in the $50 million range, so the organisation must take into consideration economic factors such as the forecast aluminum price, the US dollar (because Alcan sells its product in this currency) and the forecast aluminum demand. The workforce strategy must be linked with overall strategic decisions, keeping in mind external factors that are beyond management's control, such as those listed above.

3.1.1.3 Aluminum Products

Alcan must have a workforce that can deliver on its reputation for aluminum products requiring different product specifications, including alloys, and specialised shapes and sizes as indicated in Chapter 1.3.

3.1.1.4 Labour

Figure 3-1 Kitimat Works Cost Breakdown versus Average Cost Breakdown

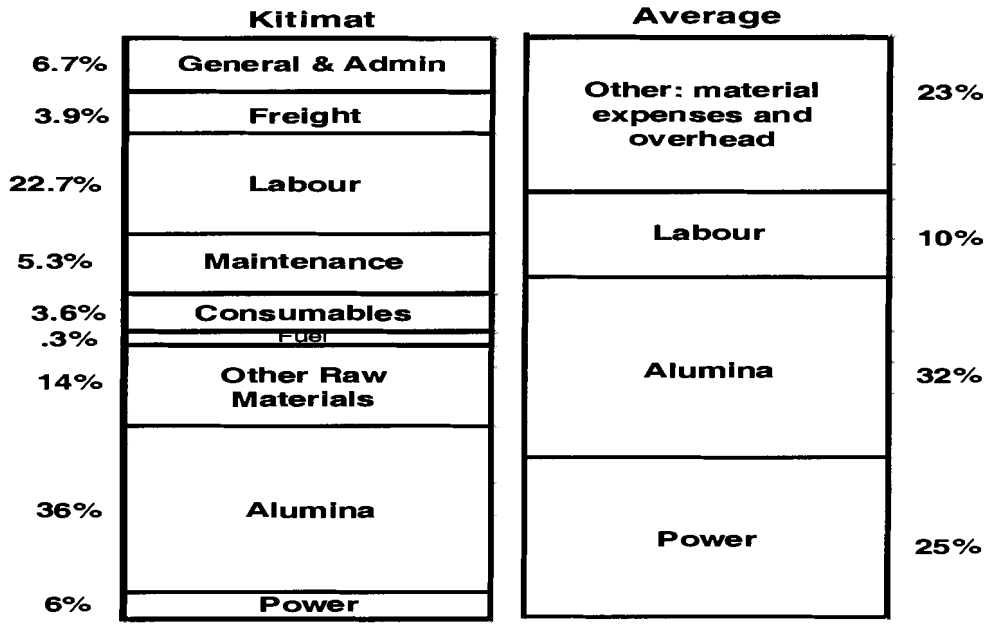

Figure Created by the Author; Data source: Internal Analysis Kitimat Works and Gagne and Nappi[20]

Figure 3-2 above shows that the average labour costs for an aluminum smelter are approximately 10% of a firm's full operating costs and Kitimat far surpasses that with a 22% portion. Since there is such a large variation between Kitimat and the average, this is a huge

[20] *The Cost and Technological Structure of Aluminum Smelters Worldwide,* Robert Gagne, Carmine Nappi. Journal of Applied Econometrics. Chichester: Jul/Aug 2000. Vol.15, Iss.4

disadvantage for the smelter. Since this is a fundamental component of the current workforce situation, the labour costs should be examined further.

3.1.1.5 Wages

The labour cost can be attributed to the dollar value of the wages and the total number of employees in the organisation. Local CAW 2301 union, upon expiration of the Collective Labour Agreement, negotiates the wages. Figure 3-2 below compares Kitimat's wages to BC industries, an Alcan smelter in Quebec (Arvida) and Suncor (oil and gas but represents a Northern community). Alcan's wages are very competitive in the province and Canada. There is limited information on wages at aluminum smelters around the world but one can assume that the wages at smelters in China and other less developed countries are significantly less. This can explain part of the difference between Kitimat's labour costs and the other smelters.

Table 1 2004 Wage Comparison Chart

2004 Wage Comparison			
	Wages	Compared to KW	Comments
Kitimat (KW)	$ 24.01	100%	
Teck Cominco	$ 19.62	82%	BC Metal Mining
BC Pulp	$ 23.51	98%	In Kitimat
Suncor	$ 28.45	118%	Northern community
Arvida	$ 25.89	108%	Alcan smelter

Table created by the Author; Data source: Internal Analysis Kitimat Works

The CAW has negotiated competitive wages and benefits and continues to ask for more at the time of contract expiration. CAW has a reputation for no concessions under any circumstances and will not allow the company to reduce costs by rolling back wages.

3.1.1.6 Number of Employees

Alcan and other aluminum firms often measure productivity by the number of employees per tonne of aluminum produced. Figure 2-4 compares Kitimat Works with some of the more productive Alcan smelters in the world (in black) and all of the world's other smelters (in white). Kitimat Works is in the mid-range at approximately 182 tonnes per employee.

Although Kitimat is in the middle, the firms ahead of it, with newer technology, continue to become more efficient and some of the firms behind it are closing down operations because they are not able to compete. Two of Alcan's Quebec operations, Shawinigan and Beauharnois, are older than Kitimat but have jumped ahead since 2002 due to significant workforce reductions. Both are nearing 200 tonnes per employee and are close to discontinuing operations due to environmental concerns, which prohibit them from remaining open after 2015. In an effort to continue operations until 2015, the employees and the unions at these plants have participated in strategies to reduce the workforce. In 2005, the Shawinigan plant and the union signed an agreement to hire contractors instead of employees in order to secure the employment of the existing employees. The Kitimat plant has been asked by the corporate group to make the same or better gains as these two plants have made.

3.1.1.7 Uniqueness

Kitimat is unique compared to the Alcan smelters in Quebec because it must provide services that the other plants are fortunate enough to share. Kitimat Works must employ people to operate and maintain hydroelectric facilities, a wharf/railway and a facility to produce its own carbon. These activities account for an additional 225 people with 100 allocated to the hydroelectric (power operations), 75 to the wharf facilities and 48 employees at the carbon plant. Hence, 14% of the workforce is employed in areas that would be considered regional services to other smelters (whether they are internal to the organisation or outsourced). Removing these

groups of employees from Kitimat's labour costs would decrease the labour costs as a percentage of total costs from 22.7% to 19.5%.

3.1.1.8 Lack of efficiencies

The higher labour costs can also be attributed to a lack of productivity at Kitimat works. The older technology requires a greater number of people to operate the plant because the 50-year old layout is not as well designed as new plants, leading to reduced flexibility in the workforce design. More people are required to cover a larger area and it is more difficult to group jobs together.

Other inefficiencies are a result of a high overtime rate, a fairly high absenteeism rate and a large number of employees that are accommodated to particular jobs because of physical restrictions. Figure 3-3 below shows Kitimat Works overtime in 2004 averaged approximately 9% and the absenteeism (sick and injury) was approximately 5.75%, compared to management targets of 6.5% and 5.2% respectively.

Figure 3-2 Kitimat Works 2004 Overtime & Absenteeism

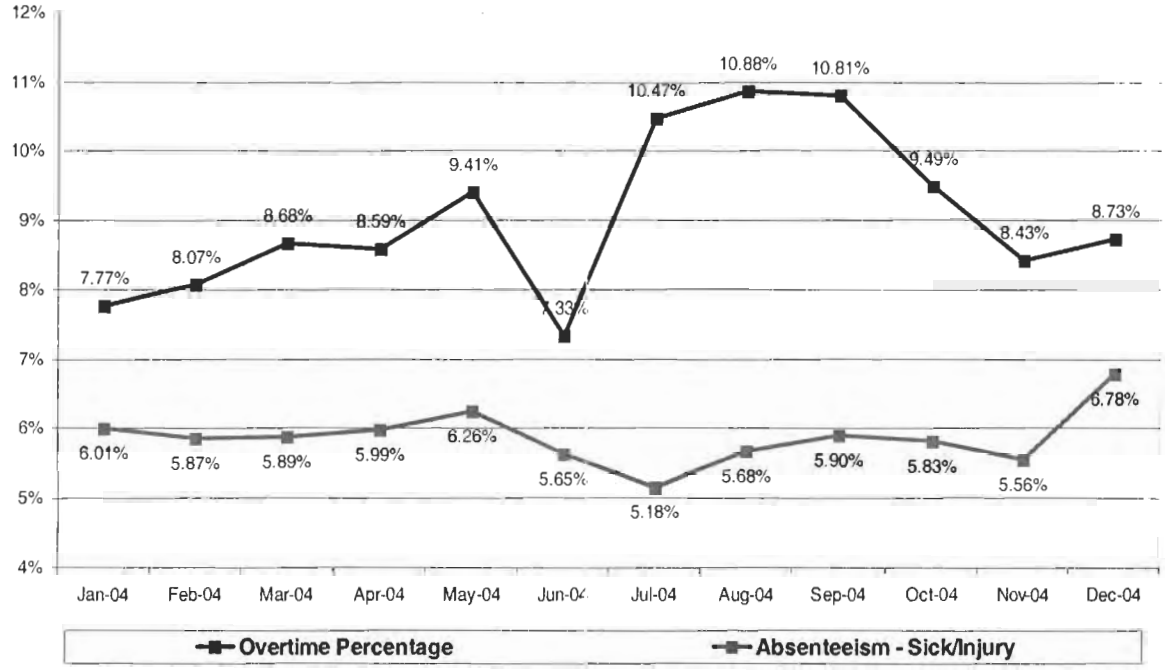

Figure created by author; Data source: Alcan internal report (2005)

The overtime has been very high since the corporate office initiated a "hiring freeze" in 2002. At the time, the plants were told that they would not be able to hire under any circumstances. The overtime climbed and Kitimat was given permission to hire 25 new employees in 2004 in an effort to reduce costs, but were asked to reduce their overtime to 6.5%. Unfortunately, there was attrition of approximately 40 employees and it was difficult to keep up with the skills training that would have allowed them to reduce the overtime. There are many different positions in the core operating areas of the plant; this requires the employees in the area to undertake a lot of training. Due to strong resistance from the union, including work stoppages and overtime bans, it has been difficult to reorganise the jobs. If the jobs were changed, the level of flexibility would increase, giving more skills to the operators. With more skills, the employees would be able to perform more tasks and the supervisor would not have to rely on only one individual on the crew who has been trained to perform those tasks.

Another issue is the high level of absenteeism and the large number of employees with physical restrictions. The average age of the workforce is 45 years old, therefore the employees continue to age and many of them are not able to do the physical jobs that they once performed. These employees must be accommodated into other jobs and replaced. Since the organisation has successfully reduced approximately 500 jobs in the past 10 years, the positions that are not value-added or part of the core operations have been eliminated. This makes it difficult for the organisation to place accommodated employees into jobs that add value to the organisation, but legally and contractually (with the CAW), Alcan has a duty to accommodate these employees. When the overtime is not under control, the absenteeism rate increases because people can afford to miss work.

These issues all contribute to high labour costs because overtime is paid at one and one-half times and double the wage rate. As well, there are approximately 95 unionised employees at any given time that have permanent or temporary medical or physical restrictions, which is 7.3% of the workforce. This number is likely to increase as the employees get older, which means even more of them will have to be replaced. The cost of employing one full-time individual at Kitimat Works is approximately $125,000, including salary and fringe benefits (health, dental, pension, life insurance, WCB, etc). Therefore, these 95 additional employees translate into $11.9 million in additional costs annually.

3.1.1.9 Labour Overview

Since the unique regional services are an integral part of Kitimat's operations and the Company has been unsuccessful in gaining concessions from the union, the company has few choices to reduce its labour costs. The organisation must focus its efforts on decreasing the number of employees and on improving the productivity of the current workforce. This will

require a strategy that maintains the current operations and stabilises production processes and consider the relationships they have and would like to have with the organisation's stakeholders.

3.1.2 Stakeholder Analysis

3.1.2.1 Suppliers

The procurement strategy has been very cost focussed and less relationship oriented, which has led to severed agreements with local suppliers in the past five years. Since businesses have left and moved away, there are limited available suppliers locally. This must be considered when identifying strategies to reduce employees and seek contracting out opportunities.

3.1.2.2 CAW Local 123

Given that Alcan has publicly stated a few times that it will be investigating the possibility of an expansion or upgrade, but never committed to it, the CAW has not trusted Alcan for the last four or five years. They are very concerned about the decreasing number of employees working in the smelter and the uncertainty of the future. They do not want any further reduction in the number of employees and their strategic mandate is to pressure Alcan into hiring more employees.

The union has filed 350 grievances in the last two years on contracting out activities. As well, they have put pressure on the company to enter into contracts that guarantee a minimum number of employees in specific departments to prevent Alcan from further reducing in the future. The company and the union are currently in contract negotiations to extend the Collective Labour Agreement (CLA) until 2008. Job security and contracting out of KW activities are strike issues for the union. They have told the company that they will participate in a transition committee to revise their CLA if there is a formal announcement of a plant expansion or rebuild.

They would like to see this occur in order to secure a future for its membership but would like to protect as many jobs as possible. Until this happens, they believe that Kitimat Works does not currently have enough employees to maintain its existing operations. Their primary evidence is the high overtime rate, which averages approximately 9% per month.

In April 2004, the employees instituted informal overtime bans and work stoppages when the company attempted to reorganise the positions in the potroom part of the operation. At the time, the company entered into a letter of understanding with the union to involve them in the process and any future reorganisations. The company has not been successful in implementing this change and the union will oppose any further workforce reductions as they see their membership numbers drop.

3.1.2.3 Community

Since Alcan reduced production in 2001 and has only partially restarted that production, there has been a significant amount of pressure from the District of Kitimat (Mayor and Council) to stop selling power and start up the idle aluminum production capacity in order to increase the number of employees. There has been a drop in the housing prices and the District feels that taking on a legal battle with Alcan will prevent them from decreasing the number of jobs any further. Alcan will continue to reduce the size of its workforce to maximise value and they continue to spend time and money to refute the district's negative publicity. Employees are becoming confused and uncertain as to which information to believe and have expressed this in the local media.

3.1.2.4 Haisla Nations

The relationship between Alcan and the Haisla Nations on the Northcoast of BC is good for the most part. The Haisla are interested in securing employment opportunities for their people

at Alcan. They believe that there should be more Haisla working for Alcan and they have concerns about potential cultural bias of Alcan's selection process, however, they are implementing programs in order to build the capacity of their people in the hopes of securing them future employment opportunities with the company. Alcan prefers to hire local candidates that are likely to remain in the community, so the Haisla should be considered as part of the workforce strategy..

3.1.3 Strategic Objectives

3.1.3.1 Functional Strategy

The Alcan Primary Metal business group developed a strategy in 2004 to meet its governing objective to maximise value and reduce labour costs. The strategy was to develop a tool to benchmark all of its operating facilities against world leaders in aluminum production and other firms. Data specific to Alcan smelters was collected from various sources.

The first was the McKinsey Metal Mining Studies, a report produced by a leading global management consulting firm that surveyed employees at over 50 global metals and mining companies in 2003.

The second was a database by the CRU group, an independent business analysis and consultancy firm on mining and metals that has a large team to focus specifically on the aluminum industry.

The final source came from site visits to other aluminum smelters by Alcan employees. Functional ratios benchmark targets for functional groups such as Finance and Human Resources (HR) were determined from studies completed by Gunn Partners, an independent consulting firm that is now owned by Deloitte Consulting and the Gardner Consulting firm. These studies

provided enough data for Alcan to determine global workforce targets and functional targets to establish ratios (i.e. 1.0% HR for all employees) in the form of an intelligence database.

A thorough review of all smelters formed Primary Metal's competitive intelligence database, which is used to compare Alcan's sites to the others and to establish targets that will be used for site-specific action plans. The corporate division has since presented each plant with their productivity ratios (total employees per metric tonne) and the benchmarking information that highlighted the top quartile results from the studies listed. The target for the entire Primary Metal division is to reduce the number of employees by 10% over the next four to five years (2,000 employees). This will require a decrease in Kitimat by approximately 160 employees (in order to contribute to the 10% reduction).

3.1.3.2 Operating Strategy

The Primary Metal division strategy is communicated to the individual smelters and they are asked to create site-specific strategies and action plans. Appendix I refers to Primary Metal's Value Maximisation strategy through business process, labour, and asset productivity. The Kitimat smelter will propose a five-year plan based on this and develop its annual operating and capital budgets based on the five-year plan. The 2005 plan consists of technological improvements, such as the Kitimat High Amperage Low Energy (KHALE) project that will allow the operation to produce more aluminum using the same number of employees and fewer inputs (power and raw materials). The plans and the strategy must be linked to the value maximisation strategy and improvements in efficiencies or they will be rejected. The smelters are adapting to the continuous improvement approach and strive to find gains and low-cost alternatives.

Each organisation within the smelter (reduction, casting, maintenance, power operations) is asked to present Asset Optimisation Strategies (AOS) on an annual basis. These strategies are reviewed and form the annual operating budget and plan. The AOS targets result in a reduction

in costs using the technology improvements, organisational redesign or business process reengineering, and/or developing employees. It has become increasingly difficult to develop AOS initiatives in the core operating areas such as casting and reduction where the aluminum is produced. Recent reductions to the number of employees and maintenance of the assets have led to process problems, which have led to a decrease in aluminum production. It is very likely that at least some of these problems result from dissatisfied employees, determined to "prove" that the work cannot be done with fewer employees. This phenomenon has become apparent in the past few years because the organisation has completed time studies to evaluate the exact time that it takes to perform tasks. The time they actually spent completing each task differed from the time employees said it should take to complete the task in many discussions with Management regarding the possibility of restructuring the work organisation.

Therefore, unless management can change the morale and the decrease in productivity, the Kitimat smelter will need to focus on the non-core operating areas for future productivity improvements such as the maintenance (skilled trades) and the functional areas (HR, Finance, IT, Administrative, etc.) The challenge for the organisation will be to continue to retain its flexibility with respect to the mix of production of power and of its key aluminum products. The Management team will need to address the conflicting goals of the Corporate Senior Management team and the local union by analysing the different strategic workforce options that are available to them. After choosing a strategy, the team can create a plan to address the maintenance issue that meets the global needs of the plant.

4 STRATEGIC WORKFORCE OPTIONS

As mentioned, there has been much discussion surrounding the future of the Kitimat plant and a potential rebuild of the plant. Recently, the Director of Operations has spoken of a plant that may employ approximately 1000 employees in the future and said recently in a radio interview, "new technology requires less people than we have today, that's a fact."[21] This decision does not lie with the Kitimat Management team. In fact, Alcan's CEO Travis Engen has commented that Kitimat Works has to compete with other smelters world wide for investment dollars.

The preferred scenario by Kitimat Management team is for the CEO or President to announce a rebuild of the existing plant. This would mean that there could be some certainty of the future for the employees, the union executive and the community. The local management would be able to complete the gap analysis and develop an implementation plan to take the current organisation to one with new technology and long-term stability. The union has confirmed to Management that they are willing to work on a transition agreement with the Company but have publicly stated that they do not believe the future organisation could possibly have as few as 1000 employees. Since the Kitimat Management team is not certain about the outcome of the analysis or when a decision will be made, they must continue to operate the plant as effectively as they can with all of the pressures that come with the uncertainty.

The current Management team finds themselves in the middle of a conflict between Alcan's Senior Management's expectations to deliver on cost effectiveness and productivity

[21] NTV News Radio. June 21, 2005 18:00.

targets and the union's resistance to the decreasing number of employees and the changes that come with this. Due to the high rate of overtime and the high levels of attrition within in the next year, the managers need to evaluate the strategic options available to them and make a decision that best meets the needs of the organisation. In order to sustain operations next year, this decision should be made within the next 6 months because there are a considerable number of people retiring. In order to evaluate the different strategic options available, the attrition data and some key financial data will need to be considered.

4.1 Critical Factors

The opportunity for a potential rebuild of the current plant continues to loom over the Kitimat organisation and impedes the local managers from long-term planning. The future plant may be what exists today, with fewer people, or a modernised version with 600 less employees. The critical factors include the number of employees that will potentially retire from the organisation, the costs associated with hiring new employees and laying them off and the cost to the organisation of not maintaining full production of aluminum.

4.1.1 Potential Retirements

The CAW local has negotiated a job security agreement with the Company even in the event of new technology, which prevents Alcan from laying off any of the permanent unionised employees. Therefore, the organisation tries to take advantage of natural attrition through retirement as much as possible. As shown in Table 2 below, there is the potential for 319 full-time employees to leave the organisation within the next four years. This creates an opportunity for the organisation to decrease the number of employees, whether there is a rebuild announced or not. If there is no announcement, many of these employees must be replaced because their positions are critical to maintaining the current operations.

Table 2 Forecast Retirements Kitimat Works' Full-Time Unionised Employees

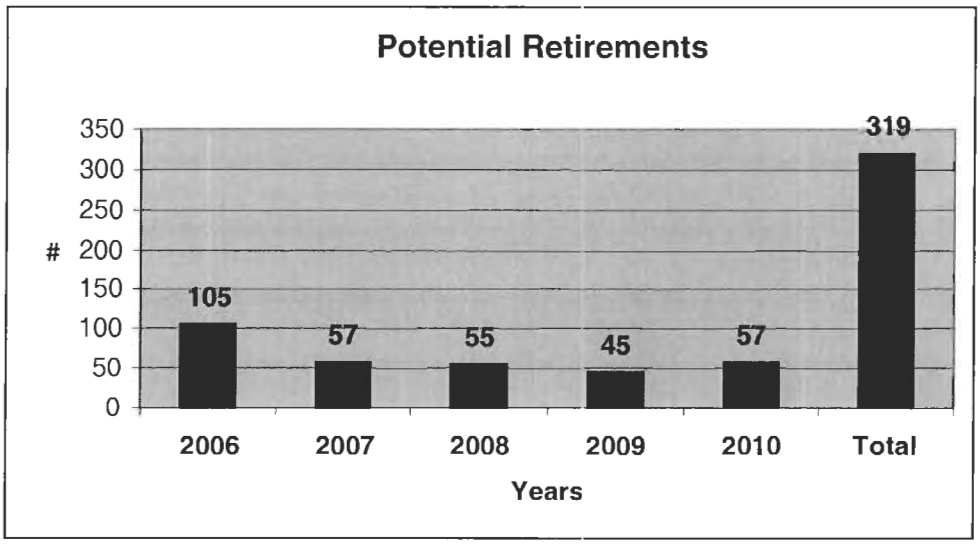

Table created by the author; Data Source: Internal Analysis Kitimat Works (2005).

4.1.2 Costs Associated with the Number of Employees in the Organisation

If the organisation chooses to hire employees and later announces a rebuild, they may be in a position where they have more employees than necessary to operate the future plant. Therefore, the Company can offer an Early Retirement Incentive Program (ERIP) as it has done in the past, or lay off its temporary employees, of which there are between 45 and 50 at any given time.

The ERIP that Alcan in Kitimat has traditionally undertaken is expensive because it offers full health and dental benefits to each retiree until they have reached 65 years of age. These benefits alone average $5000 per year, which is about five times the amount for an employee that retires without this incentive program.

If a rebuild is announced, the Company can lay off the temporary employees and pay them a severance wage package of two or three weeks per year of service, which will not be significant because the temporaries are the most junior employees with very little service. The

biggest cost will be employing people that are not adding value in the organisation, for example, if the organisation only requires 1000 and there are still 1300 employees remaining. This amounts to an additional $25 million in salaries per year.

4.1.3 Revenues for the Organisation

If the plant is shut down due to a strike, there will be a significant loss in revenues, even though the organisation is not paying wages. Using current information on the price of aluminum, the US exchange rate, the cost of raw materials and the price of power, Alcan will lose $400,000 US in metal revenues per day for the duration of a work stoppage. They may also lose $138,000 to $150,000 US in power revenues if they decide that it is too risky to maintain this part of the operations with the staff employees.

In addition to the loss of revenues, the start up of production of part or all of the plant's operations is huge. These costs will run in excess of $58 million US to start up the production in the plant that is currently operating.

4.2 Strategic Options for Future Workforce

In order for the Kitimat Management team to determine which strategic option to choose, they must look at their goals and predict the impact to the organisation of choosing that option.

The goals include maximising short-term operating profits, minimising the impact on the community or the reputation of Alcan, maximising employee morale and minimising the impact on their customers, as indicated in Table 3 below. Achieving each of these operating goals will help Alcan to reach its ultimate goal of maximising shareholder value.

The options that are available include forcing the union to have a strike; resisting senior management and telling them that it is not possible to maintain the current operations with fewer employees; or gradually shutting down part of the operations as employees retire.

All of these options have short-term and long-term impacts on each of the organisation's goals. These have been evaluated in Table 3. Each option is explained in further detail below, with a closer look at the impact a decision to rebuild has, specifically on the maintenance organisation.

Table 3 Predicted Impacts and Valuations of Strategic Options

Goals	Time Scale	(1) Force Strike	(2) Resist Senior Management	(3) Gradual Shutdown
Maximise profits (w=0.4)	ST LT	Low Low	Medium/Low Low	Medium/Low Medium/Low
Minimise impact on community (w=0.2)	ST LT	Low Low	Medium/Low Low	Medium Medium
Maximise employee morale (w=0.2)	ST LT	Low Low	Medium Low	Medium/Low Medium/Low
Retain Customers (w=0.2)	ST LT	Low Medim/Low	Medium/High Medium/Low	Medium/Low Medium/Low
Total Score:	ST LT Overall	1.0 1.1 **2.1**	1.8 1.1 **2.9**	1.6 1.4 **3.0**
Time Scale: ST = Short Term: 1-2 years LT = Long Term: 2-5 years w = weight Valuation based on predicted impact: High=3.0, Medium/High=2.5, Medium=2.0, Medium/Low=1.5, Low=1.0				

Table created by author (2005).

4.2.1 Force the Union to Have a Strike

It is possible that the local union will not agree to work with Alcan to look at more cost efficient ways to operate the plant, which include a reduction in the number of employees. At Alcan's other Canadian plants in Quebec, the unions at the Arvida, Beauharnois, Shawinigan and

Vaudreuil smelters did not enter into any discussions until after there were public statements confirming the imminent closure of these plants. Therefore, if there is no announcement in Kitimat to rebuild the smelter or of a plant closure, it is unlikely the union will collaborate with Alcan on ways to reduce employees. For them, this is a job security issue and it remains a strike issue.

Union strike pay is $500/week compared to average salaries of $1250/week. The union contingency fund has a maximum amount of money available from the National and Local unions that may last up to three or four months. During a strike, the Company will not incur any costs related to wages or health benefits.

During a strike, Alcan would be able to sell power that is not used in the aluminum production because the staff employees may be able to operate the power portion of the organisation. This will be very risky to the organisation because the reaction from the union may lead to violence or sabotage. Damage to any of Alcan's powerlines would end the operation of the power facility.

4.2.1.1 Union Strike and No Decision to Rebuild Plant

The Union will remain on strike until they choose to return and the Company can make the decision to start up operations. Since there is significant revenue at stake with this scenario, the Company would likely need an agreement with the Union that consisted of a new work organisation with major gains in productivity and cost reductions.

4.2.1.1.1 Short-term Impact

The short-term impact of the strike was evaluated as low in each of the four goal categories in Table 3 because the impact becomes much more significant as time progresses. As indicated above, the loss of revenues for Kitimat Works are greater than $500,000US per day, but

there may be an opportunity to sell power in order to keep the balance of water in the Nechako Reservoir. This will definitely not make up for the losses in metal revenues but can minimise them.

The impact on the community will be significant because the loss of wages will impact of the businesses in Kitimat. Also, it is likely that the Kitimat plant will lose some of its customers because they will be able to purchase aluminum from their competitors. The other Alcan plants will not be able to produce the tonnage necessary to maintain the current volume of customer orders.

4.2.1.1.2 Long-term Impact

If the strike continues over a longer period, Alcan will probably redesign the work organisation in order to make up for the loss of revenues associated with the strike. They will be able to look at a long-term decrease in costs by agreeing to restart with significantly fewer people and a drastically new organisation.

If the strike is long, many employees, particularly those with specialised skills, will leave the community for other employment opportunities. Morale of remaining employees would be extremely low when returning to work after a prolonged time. Additionally, the longer the strike lasts, the more difficult it will be for the Kitimat plant to regain the confidence of its customers. It will be very difficult for them to sell the same amount of aluminum as they currently do.

4.2.1.2 Union Strike and Decision Made to Rebuild

If the Management team chooses to force a strike and there is a decision made to rebuild the plant, the Company would probably not start up the operations as they currently exist because the costs to start up the full operations are extremely high. Therefore, they would likely choose to

start up the plant's operations with only the required 1000 employees necessary for the future plant upon reaching an agreement with the union.

Since the Company would be able to start only those operations necessary, they would not have to hire all of the employees back. This would save the organisation the increased costs of the Early Retirement Incentive Program and the expense of laying off temporary employees.

4.2.1.3 Impact on Maintenance Organisation

If Alcan pursues the option to reorganise the work organisation in the event of a strike, they will be able to replace only those tradespeople that are working in the core operating areas and reach an agreement with the Union on not replacing or cross-training the remaining trades. However, depending on how long the strike lasts, the organisation may lose many tradespeople to other organisations. Since they are in demand in the province and the rest of Canada, they will likely move to work in another community.

4.2.2 Oppose Senior Management by Resisting Their Targets

The Management team can choose to continue operating with the same number of employees and explain to Senior Management that their targets are not reasonable. The Senior Management in Montreal will likely see this plant as not being economically viable for the future if they are able to generate larger profits from their other plants. They recently shut down part of the Arvida operations in Quebec because it was not able to generate the value required. This may lead to a plant closure within the next ten to fifteen years or could push Alcan to sell its Kitimat operations. Senior Management's position is if the plant cannot demonstrate that it is able to operate more efficiently, they will not likely make the decision to rebuild. This kind of a decision would be too risky for an investment that can cost anywhere from $1 to $2 billion and that relies

on a reduced number of employees to generate the value expected in any of management's analyses.

4.2.2.1.1 Short-term Impact

In the next one to two years, the revenues will continue as they currently do, but the expenses should decrease because Alcan does not continue to make the same capital investments as it currently does, in the range of $55 million CAD per year. The organisation will be able to take advantage of staff reductions and some natural attrition. This may mean an opportunity of reducing 50 – 60 employees in three years time, including staff.

The employee morale and the Union relations will be stronger in the short-term because there will be no significant drops in employment. There will be no impact on the plant's customers because the operations will continue as normal.

4.2.2.1.2 Long-term Impact

If there is a decision made not to rebuild the plant because the local Management team chooses this option, there will be significant long-term impact on the employees and the community. This will send a message that there is no future for them in Kitimat. The lack of investment in capital will be detrimental to some of the local suppliers and the community, as a whole. Also, it will put some of the plant's infrastructure at risk because there will probably be no long-term maintenance activities planned. This may lead to health and safety issues for the employees. In the past few years, the plant has not repaired some of the floors in the operating areas, which has led to work refusals and increased back problems for employees driving equipment in these areas.

The decrease in employee morale and lack of investment could lead to many problems with the aluminum production process and cause quality issues in the metal. This means the

organisation may lose customers or they will have to put additional steps in their process to try to prevent these problems from occurring.

4.2.2.2 Maintenance Workforce

If there is no future for the skilled Tradespeople in the organisation, they may leave prior to any sort of plant closure. If this is the case, it will be difficult to recruit people to come to Kitimat if Alcan is not able to offer them secure employment opportunities in the future.

If management chooses to decrease its maintenance spending, there will not be the need for the projected number of tradespeople for the future. Further analysis would not to be done to determine if there will still be a gap and how large it will be.

4.2.3 Gradual Shutdown

In order to meet the workforce targets established by Senior Management, it is possible for the management team to gradually close production areas in the plant and to reduce the number of employees as they retire. This would mean that the organisation would have to close down 17% of the hot metal production (reduction process) in the next year and part of its casting facility, for a total of 43,000 tonnes out of its current 245,000 tonne annual production. Three years later, the organisation would close another 21,000 tonnes of production and part of its casting facility. This would leave the organisation producing approximately 66% of its total capacity.

This option will yield productivity targets, which are less than the current ratios because less aluminum is being produced, and there are not significant breakthroughs in workforce reductions. As well, the organisation is not able to totally reduce the employees that are providing service to the entire plant because they are still required for the remainder of the

operations. The current ratio for Kitimat Works is 182 tonnes per employee (this does not include the wharf and power operations because they cannot be benchmarked against the other smelters). With the first production shutdown of 17% metal reduction, there will be a drop in productivity to 163 tonnes per employee.

Although this option does not meet the organisation's productivity requirements, it remains financially feasible because there is the option to decrease the number of positions by 96 and sell the remaining energy. Using existing prices in aluminum and power, this will equate to a loss in metal revenue of $30.6 US million per year (including savings in salaries) but power sales will offset that by roughly $17.5 US million. Therefore, there is still a loss in revenues for the organisation and it is risky if there is no rebuild announced because it does not provide optimal revenues for the organisation over the long-term. Resisting Senior Management by continuing operations with the same number of employees will generate stronger returns for the company.

4.2.3.1 Gradual Shutdown and Decision Made to Rebuild

If part of the operations is shut down and there is a decision to move ahead with the rebuild, the Management team will be able to leave the shutdown capacity idle and start the work for the rebuild.

4.2.3.1.1 Short-term Impact

Depending on the length of time that the capacity is idle, the organisation is losing metal revenues each day that the idled capacity is not producing aluminum. There is an opportunity to sell additional power that is not being used to produce aluminum, although there is a maximum amount that can be fed onto the transmission line and it does not generate the same amount of revenue as the aluminum.

There is less impact on the employees and the community with this option because there is a gradual transition between the smelter with 1600 employees to the smelter with only 1000 employees. The Company will not have to hire people in the short-term or offer the Early Retirement Incentive Program, so they are able to reduce costs in this area.

4.2.3.1.2 Long-term Impact

There will be more stability for the employees and the community in the long-term because there will be certainty about the future of the smelter. Eventually, the price of houses will stabilize and the size of the plant will be accepted, leading to people being more at ease.

The costs and revenues lost will be dependent on when the decision is made and how long capacity will be idle. The customers may be less confident because there is not the same certainty in the amount of aluminum available to them, but the other Alcan smelters may be able to compensate for this.

4.2.3.2 Gradual Shutdown and Decision Made Not To Rebuild

If the Management team chooses to shutdown part of their production, they still have the ability to start up this production in the future, but they must take into consideration the start-up costs.

4.2.3.2.1 Short-term Impact

There will be a loss of revenues for the organisation as they shut down production. The organisation will be able to offset this by selling additional power. However, this is very similar to the shut down of part of Kitimat's production in 2001. There was strong reaction from the community, which instigated the lawsuit from the Mayor and Council, and the employee morale

has not been the same. There became a lack of trust in Alcan Management because of the decrease in jobs that results from a decision such as this.

This option will result in the loss of customers whose orders are not filled in part or in full. Yet, this option gives Alcan the opportunity to restart production in the future, therefore, it may be an option to delay a bigger decision, but with a cost.

4.2.3.2.2 Long-term Impact

The longer production is idle, the more Alcan will need to find a way to recover the lost revenues. After Kitimat Works restarted the idle 2001 production, they were able to reorganise the work organisation with fewer employees. The Management team would likely consider this again and it would probably put pressure on the relations with the union and the employees once again. This would also give the Mayor and Council more ammunition in their lawsuit against Alcan power sales.

4.2.3.3 Maintenance Workforce

The retirements of the tradespeople may not be directly proportionate to those tradespeople not needed as a result of the closed operations. A more thorough analysis would be required to evaluate the exact number of tradespeople that would no longer be required, but approximately one quarter of the tradespeople will need to be replaced. Also, a strategy to recruit tradespeople in the future would be necessary in the event that the idle capacity would be started again in the future.

4.2.4 Recommended Strategic Option

The option to force a strike with the union scored low in the short-term and the long-term because there is a severe threat to the organisation's finances with the loss of revenues from metal and power and the huge impact to the employees and the community resulting from a strike.

The option to resist management shows a strong score in the short-term because the organisation will be able to continue the status quo operations, which will appease the union and the community. However, this option will likely prevent management from investing financial and other resources into Kitimat's organisation, which will result in long-term difficulties for the organisation.

The final option of the gradual shutdown appears to score the highest in the long-term, although not significantly higher, and also scores fairly high in the short-term, with an overall valuation of 3.0.

As mentioned above, there is a cost to the organisation of not selling aluminum. There is a risk of $13.1 US million per year in lost revenues which is the difference between the loss of metal revenue and the offset revenues from power sales. This will vary depending on the price of aluminum and the price of power, both of which are currently very high. Therefore, the risk is likely to decrease in the future as the price of aluminum drops. Other risks include the reactions from the community and the union. Both groups have become extremely vocal since the closure and partial restart of production in 2001. This gradual shutdown without an announcement for the future could push them to react even more. The union reaction will be more detrimental to Kitimat Works because they have the ability to impact production targets through work stoppages, which will impact profitability. The union will probably not engage in such a process unless the only other option was either a total smelter closure or a rebuild. The rebuild is very

positive for them because it ensures job security over the long term and the option of partial closure over full closure is obviously more acceptable.

This option will give the organisation the greatest flexibility to prepare for a rebuild scenario, if the decision is made to modernise the existing plant. It will also provide leverage for Kitimat management to send a strong message to the community and the union that they are serious about decreasing the number of employees, which will allow them to enter into discussions with the stakeholders. The local management can use this option to open the door to discussions about working together to reduce the workforce without having to proceed with even further shutdowns. This scenario allows the organisation to continue with or without an announcement. It does meet the corporate cost reduction targets; however, there is also a reduction in the amount of revenue generated, so the door to restart the closed production should remain open and financial analysis based on current and predicted aluminum prices should be completed on an on-going basis

In order to finalise an action plan and workforce strategy, the organisation's whole workforce, and more specifically the maintenance organisation, must be analysed in order to plan for the probable skills gap.

5 WORKFORCE ANALYSIS

The Kitimat smelter's organisation consists of different organisational units, each with a manager reporting to the Director. These units represent a process in the plant or a functional group that supports the process. In order to analyse the workforce, it is important to understand these units and their roles, and to look for opportunities for reductions.

- Reduction Operations – aluminum ore is reduced to aluminum in a hot molten liquid form
- Casting – liquid aluminum is cooled into a solid form and customised to meet the customers needs
- Maintenance – centralised and supporting each operating area to work on equipment breakdowns and planned activities
- Power Operations – located in Kitimat and Kemano to operate the power station and plant's rectifiers
- Functional groups – Human Resources, IT, Finance, Procurement and Environment, Health and Safety support the operations in their respective areas. This group also includes the janitors in the organisation because of the department they fall within.

Table 4 Kitimat Works Employees by Organisation

Organisation	Unionised	Staff	Total
Reduction	610	78	688
Casting	226	47	273
Maintenance	316	77	393
Power Operations	55	18	73
Functional	54	89	143
Total employees	1261	309	1570

Table created by author: Data Source: Internal Alcan report (2005)

It is important to have a focussed strategy on the areas of the operations with the largest opportunity. One of these areas is the maintenance organisation. As indicated with Figure 3-3, the overtime rate is very high and in 2004, the plant had a difficult time keeping the reduction process under control, which led to customer delays and quality issues. Therefore, the focus of the analysis will be on the maintenance organisation, because in that unit there are opportunities to reduce labour costs without directly impacting the core aluminum process. The analysis must be followed by a recommended strategy, which reflects the gradual shutdown option.

5.1 Kitimat Works Maintenance Organisation

Figure 2 shows that there are currently 349 unionised employees and 77 staff employees in the maintenance organisation (this includes 32 unionised tradespeople that were included in the Power Operations organisation in Table 2). The staff represents Engineers, Maintenance Technicians, Planners and Supervisors, while the unionised employees are a group of skilled trades' employees who have achieved their trade through an apprenticeship program or a recognised accreditation program. Appendix II gives a list of the number of employees that are represented by each of the 26 different trade classifications that currently exist in the plant. Some of these skilled employees work for the entire plant and others are allocated to specific departments so they become specialised on the different pieces of equipment within that area.

5.1.1 Planning for the Future Maintenance Organisation

The dilemma for the organisation is to determine which of these trades are absolutely required to maintain the operations to the standards that are required currently and in the future. If there are trades that are required, is it necessary for Alcan to employ them or is it more advantageous to outsource them? In order to determine that, each trade should be assessed to determine if there is a need with the categories below:

- Urgent – the tradesperson is critical to keep the operations running. Typically they are scheduled on the same shifts as the operations employees in case there is a breakdown or emergency.

- Specialised equipment – the tradesperson is maintaining equipment that is very specific to Alcan and there is more training required and a need to retain the skills required for the equipment.

- Generic work – the tradesperson is performing tasks that are performed at other industries. There are no skills specific to Alcan and the work can be done by an external tradesperson with relatively little training.

- Services available externally – the work that the current tradesperson is currently performing can be found locally.

Table 5 Trades Classified by Need[22]

Trades Goup	Urgent	Specialised Equipment	Generic Work	Services avail. Externally
Sheetmetal Woker				
Brickmason			x	
Carpenter			x	x
Electricians	x	x		
Marine Engineer			x	
Industrial Welder			x	x
Lagger				
Powerline Technician				
Machinist			x	x
Mate (Boat)				
Mechanics - Motor			x	x
Mechanics - Air conditioning		x	x	x
Mechanics - Heavy Duty	x	x	x	x
Instrument Mechanic	x	x		
Millwright	x	x		
Power Station Operator	x	x		
Painter			x	x
Pipefitter			x	x
Gasfitter			x	x
Power Engineer	x	x		
Pressure Welder			x	x
Saw Conditioner			x	x
Steel Fabricator			x	x
System Operator	x	x		
Tinsmith			x	x
Tire Repairman			x	x

If the organisation eliminates trades that are classified as urgent and specialised equipment, it may put the operations at risk. These trades are highlighted in Table 3. It is feasible to outsource the other trades if there is a financial gain for the organisation and the external service providers are able to deliver the quality of service that Kitimat Works requires.

With the gradual shutdown option for the plant, 17% of the organisation's capacity will be idle, relieving the need for the current number of operators and maintenance tradespeople. Some of these tradespeople are providing a service for all of the operations, so the organisation can not simply eliminate 17% of these tradespeople. They will be able to reduce the number of

[22] Table by author (2005)

millwrights and electricians by approximately 5%, representing approximately 3 electricians and 4 millwrights. The trades' work that is considered generic and for which services are available externally will be required for the part of the operations that is not shut down, but does not necessarily have to be completed by Kitimat Works' employees.

5.1.2 Maintenance Workforce Projection

Since the CLA protects the employees from layoffs, the organisation can not simply eliminate these trades. The organisation will need to rely on retirements to downsize, but must also analyse, develop and implement a strategy to ensure that critical positions are filled in the future.

Table 6 Kitimat Works Retirement Potential by Trade[23]

Trades Goup	# Current	Retire within 3 years	Gap	Gain
Sheetmetal Woker	4			
Brickmason	4	1		1
Carpenter	7			
Electricians	58	14	9	
Marine Engineer	1			
Industrial Welder	39	14		14
Lagger	1	1		1
Powerline Technician	5			
Machinist	10	3		3
Mate (Boat)	2			
Mechanics - Motor	3	1		1
Mechanics - Air conditioning	4			
Mechanics - Heavy Duty	50	13		13
Instrument Mechanic	13	3		
Millwright	78	13	8	
Power Station Operator	4			
Painter	5	1		1
Pipefitter	11	1		1
Gasfitter	3			
Power Engineer	22			
Pressure Welder	3			
Saw Conditioner	1			
Steel Fabricator	6	1		1
System Operator	11			
Tinsmith	3	1		1
Tire Repairman	1			
Total				**37**

Using pension data, Table 4 depicts the number of potential retirements within each trade. Gaps are calculated in those trades that have been identified as urgent and specialised. If there are currently apprentices in the trade, there is considered to be no gap because they will fill the position of the person that retires. The Heavy Duty Mechanics have not been identified as a gap because the organisation has recently implemented an action plan to reduce the number of vehicles in the plant, which means there will not be a need for the same number of them in the future.

There is the potential for reducing 37 tradespeople in three years by taking advantage of natural attrition. However, there is loss of 17 electricians and millwrights that will need to be replaced, so the potential is between 20 and 37. The action plan will need to address a strategy to

[23] Table by author (2005)

continue quality maintenance without those employees and the best way to fill the vacant 17 positions. With the gradual shutdown option, only 10 of those positions will need to be filled, which requires further planning. The data and analysis focuses on the next three years but the retirement outlook is very similar for the next ten years, therefore, the options and plan can be used for the long-term.

5.2 Potential Options for Short and Long-term Needs

5.2.1 Hire Millwrights and Electricians as the Organisation needs them

5.2.1.1 Advantages

5.2.1.1.1 External Hiring Has Been Successful in the Past

Kitimat Works has hired 3 or 4 tradespeople into the organisation each year for the past five years. The supervisors were questioned to assess the quality of the hiring practices and 95% of these employees were thought to have good attendance, good work performance, got along well with co-workers and a good safety record. The 5% that did not were thought to have poor attitudes but were still thought of as "average" employees. The turnover of these individuals remains at 0% because none of them have left the organisation since they have been hired.

5.2.1.1.2 Costs are Lower Than the Apprenticeship Program

Although the costs of hiring a tradesperson externally are high and range around $10,000 for recruitment and relocation costs (see Appendix III), they are still significantly less than the costs training an apprentice for the duration of their term.

5.2.1.2 Disadvantages

5.2.1.2.1 Predicted Skills Shortage

Many agencies and governments are predicting that there will be a large skilled labour shortage in the future and the option to hire externally may not always be available. "A National Post Internet based survey: 73% of the respondents believe there is a shortage of skilled labour. Most respondents made up of people in industries that they say have a skilled labour shortage."[24] However, the BC government does not collect and distribute formal data that indicates that there will actually be a shortage of tradespeople in the province. Organisations such as the BC Federation of Labour representing the unions in the province are forecasting such a problem based on data showing the number of workers that are retiring in skilled and non-skilled positions. In their document, "Solving BC's Looming Skills Shortage" from November 2004, they forecast that the province will see between 100,000 to 200,000 jobs vacant in the coming years.

Alcan is a member of the Heavy Industry Training Advisory Committee in BC (HITAC) which is made up of 34 industry representatives from the mining, forestry, gas and other mid to large-sized industries. The representatives meet monthly to advise the Industry Training Authority, a branch of the BC government, on the direction for apprenticeships and industrial training. The HITAC members pooled their internal information to project the number of apprentices and trades in heavy industry in BC.

This data does not represent the number of qualified workers that are retiring, simply the number of apprentices compared to the number of tradespeople, which amounts to approximately 4%. This does not take into consideration the number of apprentices and tradespeople working in the construction field and other industries. Other data from the BC Ministry of Management

Services concludes, "24 percent of the workforce today is over the age of 49. If current workforce trends continue, a very large proportion of that 24 percent will retire within the next ten years, as well as a substantial number of the 45-49 year olds."[25] Therefore, based on the statistics, it appears that the 4% of apprentices in the Heavy Industry programs will not meet the future workforce needs and it may not be possible for Kitimat Works to hire tradespeople externally, as they have been.

5.2.1.2.2 Kitimat's Location

Although the employees at Kitimat Works receive a good wage and benefit package, the organisation often has difficulty attracting candidates to the community.

Kitimat is considered to be an isolated community by many people living in larger municipalities. As the community's population decreases, it continues to lose healthcare, services and shopping to larger cities. Potential candidates are often interested but choose not to come because of the lack of facilities and employment opportunities that the area has to offer their spouses. In the past, the company has had to target Northern communities where there were closures of heavy industries such as Tumbler Ridge with the closure of coal mines and Prince Rupert with the closure of Skeena Cellulose. If there are no future closures or downsizing of industrial facilities, Kitimat Works may find it very difficult to hire.

5.2.1.2.3 External Hires Require More Training

Unlike the Alcan apprentices, who receive four years of hands-on training on the Alcan equipment and processes, the external candidates will not be able to perform their jobs immediately. It takes approximately 6 –12 months for a new tradesperson to acquire the skills and knowledge necessary to perform the job fully, depending on their capacity to learn.

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[24] http://www.nationalpost.com/financialpost/story.html?id=1516CA13-735D-4D9D-b465...(Nov. 13, 2003)

5.2.2 Increase the Number of Internal Apprenticeships

5.2.2.1 Advantages

5.2.2.1.1 Current Apprenticeship Selection Process

Kitimat Works currently has 29 apprentices in different trades in the organisation at various stages of their four-year program. The selection process is very rigorous because applicants must complete a selection of aptitude, math, science, and manual/physical dexterity tests. The applicants scoring the highest results will have a panel interview with representation from both Management and the union. The individuals scoring the highest will be offered an apprenticeship on a trade pre-determined by the company. Alcan is one of the few companies in BC that does not consider an employee's seniority as a determining factor in the selection process. The apprentices from Alcan are considered to be of the highest quality in the province by the British Columbia Institute of Technology because all of them score in the top of their class each year.

5.2.2.1.2 Four Year Training Program

The Kitimat Works apprentices are moved throughout the plant for the applied portion of their training program, when they are not attending classes at a Post-Secondary Institution. Upon completion of their programs, they have been exposed to all areas of the plant and are posted into a vacant position. They may require a limited amount of refresher training if they are posted in a position that they were exposed to early in their program. Since the apprentices were selected internally they would have worked in one of the plant's operating areas prior to the apprenticeship and most would be very familiar with the technology and the aluminum processes,

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[25] The Impact of Upcoming Retirements on the BC Labour Supply. Earnings & Employment Trends Jan/Feb 2004. http://www.bcstats.gov.bc.ca

which is advantageous because the tradespeople must spend a lot of time working with operators in order to effectively troubleshoot.

5.2.2.1.3 Increased Morale of Employees

Since the turnover rate in the organisation is only 2-3% per year, most employees start and end their careers with Alcan. They often become bored and are not challenged in their positions in the operating areas. There are few positions that give them the opportunity to continue progressing and learning. The opportunity to obtain an apprenticeship provides current employees with the opportunity to advance in the organisation and learn new skills.

5.2.2.2 Disadvantages

5.2.2.2.1 Replacement of Operators to Fill Apprenticeships

In an effort to reduce the size of the workforce, the corporate group uses a company-wide hiring freeze to prevent any plant from increasing the number of employees. This strategy poses many problems for the organisation because it does not take into account specific needs that the different plants may have. If the organisation increases the number of apprentices and there is a hiring freeze, gaps will result in the operating areas that they must fill with overtime. If the plant can make a valid case for the additional apprentices and the need to hire additional operators, the organisation must recruit and train those employees.

5.2.2.2.2 Costs Associated with the Apprenticeship Program

As mentioned, the apprentices are selected from the operations and participate in a program that involves "hands on" training and attendance at a recognised post-secondary institute. The administration of this program is expensive and the local union has negotiated benefits for those employees that have the opportunity to participate in the program which include transportation to school, accommodation, books, tools and wages. The cost to Alcan is

approximately $73,000 per year (see Appendix III) to administer the program and meet its obligations with the union. From start to finish, the company spends approximately $300,000 per qualified tradesperson and the apprentices are not legally allowed to perform most tasks on their own. Therefore, these costs are over and above the required staffing costs.

The program has been considered risky by some of the upper Management because an employee that completes the program is very employable with transferable skills. In the past ten years, three or four employees have left the organisation after successfully obtaining their trade certification. The organisation loses a significant investment if the employee does not stay.

The length of the program is also a significant disadvantage because there is typically a four year delay before the organisation has a fully trained tradesperson.

5.2.2.2.3 Difficult to Administer the Program with an Increase

The organisation currently employs a Trades Training Co-ordinator in a Management position to administer the apprenticeship program. With the current number of apprentices, this employee spends approximately 70% of his time co-ordinating the placement of them in the plant, their schooling and working with government advisory committees.

The applied portion of the apprentices training is spent alongside a qualified Tradesperson. This requires that a tradesperson always be available to coach and educate the apprentice about the job.

The apprenticeship program requires management resources and unionised employee resources to be successful. The larger the increased intake of apprentices annually, the more difficult it is for the organisation and the less likely the apprentices will be as successful as they have been in the past.

5.2.3 Partnership Apprentice Program with External Groups

5.2.3.1 Secondary School Apprenticeships

The provincial government has introduced a new program offering Secondary School Apprenticeships (SSA). The SSA is designed for high school students who have or are ready to look for a job (full or part-time) in a trade and want to get started with an industry training program. This program allows students to earn up to 16 graduation credits for work they do and the work hours count towards completion of an apprenticeship if they enrol in one after secondary school completion.

5.2.3.1.1 Advantages

This program will encourage local students to seek employment opportunities in technical fields rather than attending universities or other non-technical institutes. It will be easier for Alcan to attract local youth to the organisation because they are already familiar with the community.

5.2.3.1.2 Disadvantages

The local union is not comfortable with these types of programs because they feel that they remove additional employment opportunities from their membership.

Also, this program only gives the student a small portion of the training required to successfully complete the trade. Therefore, it will not resolve a large portion of the organisation's workforce issue.

5.2.3.2 First Nations Apprenticeship Partnership

The local First Nations band, the Haisla, has approached Alcan about the possibility of a partnership program that will offer their people more opportunities to obtain trades certifications. The concept is that the Haisla select people to participate in a program and the government will pay for their education and wages for the duration of the program. Without applied work experience, an individual will not be able to complete the program. The Haisla have solicited Alcan in the hopes that the people can attain the required work experience with Alcan resources and support.

5.2.3.2.1 Advantages

There are few Haisla people moving away from Kitimat or Kitamaat Village which provides Alcan with the opportunity to fill employment openings in the future with people that are likely to remain in the area. The Haisla would have their work experience at Alcan so the training costs associated with hiring a new employee would be limited. As well, the high cost of an internal apprenticeship selection process would be significantly reduced.

5.2.3.2.2 Disadvantages

This option would also receive opposition from the local union because of the belief that it will reduce the opportunities available to their membership. Implementing a partnership of this nature will require input from all of the parties involved and the union will likely expect different commitments from Alcan to ensure that all of their needs are met as well.

Some of Kitimat Works' employees may be resentful of the opportunities that are being offered to the Haisla people and this may lead to difficulties with the tradespeople and the apprentices working together. These scenarios will need to be addressed prior to any kind of implementation of such a program.

5.2.4 Work with BC Government to Reduce Length of Time to Complete an Apprenticeship

Alcan's involvement with HITAC has increased considerably over the past few years in an effort to provide more input to the current apprenticeship structure in the province. All of the companies that are represented feel that the current structure is unable to respond to industry and learner needs. They believe that it has a "one size fits all approach and that the training is the same for everyone even if the work is significantly different."[26] They firmly believe that the system is designed to meet government and educational providers' needs and that it is not aligned to industry needs. The current system is using a time-based approach with no consideration for the length of time required for an apprentice to learn the knowledge or skills required for the job. Alcan and the other industries feel they have a poor return on investment with the training as it exists and are urging the government to initiate a competency-based approach. In order for this vast change to occur, the industries will need to commit significant time and resources to champion the change.

5.2.4.1 Advantages

The classroom training will be more appropriate to the different industries across the province and will be much more applicable. The length of time required to complete the apprenticeship may be reduced. Given the success rate of the Alcan apprentices and the resources that Alcan commits, it is likely that the apprentices in Kitimat will successfully attain their certification in less than the mandatory four years that is mandated now.

If the training material is broken into smaller modules based on competencies, this should present opportunities to different post-secondary institutions to deliver the training without significantly increasing their costs. It will allow smaller colleges, like the Northwest Community

College in Kitimat and Terrace, to offer flexible packages instead of the large 10-week modules that exist. This will allow Alcan to reduce the expenses associated with sending an employee away to attend school.

5.2.4.2 Disadvantages

Alcan does not have a large amount of control over this option. They must rely on other industries, the government and education providers to commit to the change and fulfil all of the required work that goes along with that.

Additionally, this change is not a short-term solution to the Kitimat Works workforce issue. It should achieve benefits over the long-term but will not address the problem of replacing the 17 electricians and millwrights over the next three years.

Furthermore, there is a possibility that the length of training time would be reduced but it is not certain. It will require rigour from the organisation to demonstrate that the employees have the competency required and this will probably entail additional resources to complete checks and additional follow up.

5.2.5 Recommendation

Kitimat Works will need to implement an action plan for its maintenance organisation, which is linked to the gradual shutdown option for the plant. However, there is still a need to replace millwrights and electricians in the short- and long-term.

The majority of options presented above will only be available for the organisation for long-term planning because they take a defined time period or they require the involvement of

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[26] A Future for Industry Training in British Columbia. Heavy Industry Training Advisory Committee (2004).

external parties that may not allow the process to move quickly. The first option of hiring tradespeople externally has been successful for the organisation and can be done relatively quickly. However, the organisation should not avoid developing a long-term strategy. The looming skilled labour shortage may prevent the company from relying on this option in the future.

Since the organisation will need additional tradespeople in the future, whether there is a rebuild announced or not, a long-term solution should be developed. Since there will be a gradual shutdown, it is very likely that people who are not currently considering leaving Kitimat will leave due to the uncertainty. Therefore, the possible partnerships with external groups should seriously be considered. This will provide local youth and the First Nations community much more opportunity for employment in their home community. This will provide Alcan with some additional comfort if employees begin to leave due to the shutdown of the operations. The largest barrier to this option will be with the local union because this will limit the apprenticeship opportunities available to its members. However, the union will probably react more positively if it means an increase to the size of their membership. Discussions and involvement from the union should begin immediately so they become comfortable with the new option.

In addition, Alcan should pursue the work with the government on the current apprenticeship system. This does not take substantial effort and will reduce workforce pressures if the training time is reduced. Since there are many parties involved in this option, Alcan can not rely on this option alone.

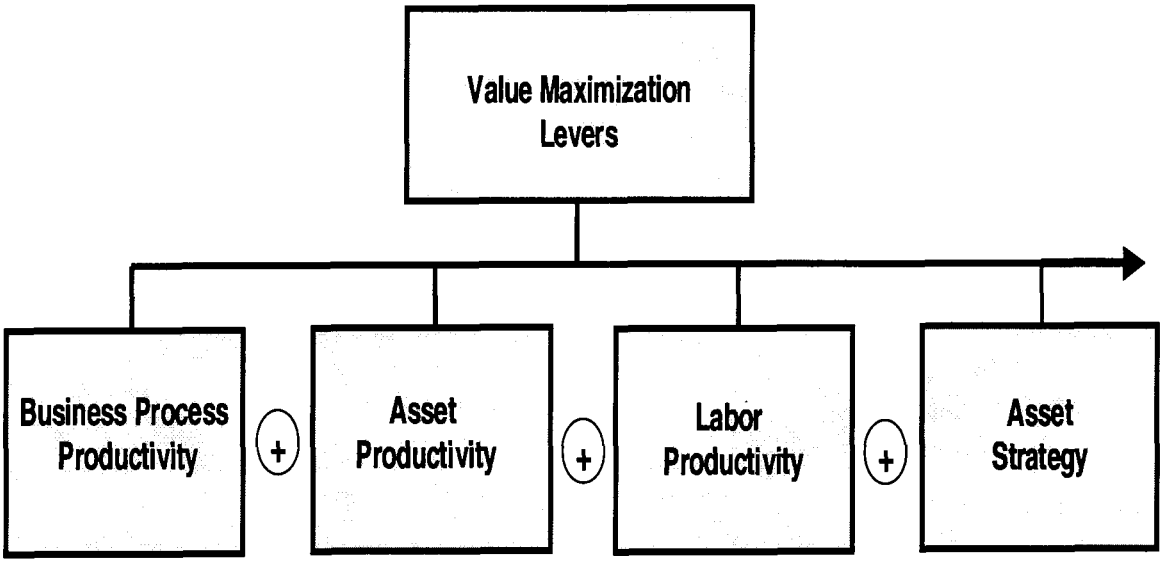
5.3 Conclusion

The workforce challenges that the organisation faces are not likely to go away. Corporate Senior Management will continue to push for cost reduction, the employees in Kitimat

will continue to resist the decrease in the number of employees and the union will push to increase the size of their membership. The uncertainty surrounding the decision of the rebuild may remain for a long time; however the management team in Kitimat must make strategic decisions that best meet the needs of the organisation. If they continue to wait for something to happen, they will be forced to deal with a crisis rather than make decisions that optimise the efficiency of the organisation and create the most value. The organisation should pursue the decision of the gradual shutdown by completing an in-depth financial analysis and action plan. Simultaneously, they can begin to work on the long-term solutions for the workforce in the maintenance organisation to ensure that there are enough employees in the future to maintain the operations. Both the broader strategic option and the long-term maintenance solution will require involvement from many employees and discussions with the union. These should be implemented as soon as possible with consideration given to all of the stakeholders that will be impacted by the changes.

APPENDICES

Appendix I Using Business Process Productivity to Maximise Value



- Reengineering:
  - Sales & Marketing
  - Customer service
  - Procurement, logistics
  - R&D, NPD
  - Technology implementation
  - Organizational development

- Technology optimization:
  - More volume
  - Cost-effective
  - Increased flexibility

- Continuous improvement, process reengineering
- Headcount reduction

- Closing assets
- Adding new capacity
- Greenfield – Brownfield

Appendix II Kitimat Works Unionised Maintenance Employees by Skilled Trade 2005

Trades Goup	Total	Apprentices	Journeymen	Comments
Sheetmetal Woker	4		4	
Brickmason	4		4	
Carpenter	7		7	
Electricians	58	5	53	
Marine Engineer	1		1	*not apprenticeable
Industrial Welder	39		39	
Lagger	1		1	
Powerline Technician	5		5	
Machinist	10		10	
Mate (Boat)	2		2	*not appenticeable
Mechanics - Motor	3	1	2	
Mechanics - Air conditioning	4		4	
Mechanics - Heavy	50		50	
Instrument Mechanic	13	3	10	
Millwright	78	6	72	
Power Station Operator	4		4	*not apprenticeable
Painter	5		5	
Pipefitter	11	2	9	
Gasfitter	3		3	
Power Engineer	22		22	*not apprenticeable
Pressure Welder	3		3	
Saw Conditioner	1		1	
Steel Fabricator	6	1	5	
System Operator	11		11	*not apprenticeable
Tinsmith	3		3	
Tire Repairman	1		1	
Total	**349**	**18**	**331**	

Appendix III

Recruitment Costs - Tradesperson		
Advertising	$	2,000
Interview - incl. Travel expenses	$	1,583
Moving Expense	$	2,500
Relocation	$	1,800
Accommodation	$	1,000
Training	$	1,250
Total	**$**	**10,133**

Based on average internal costs

Apprentice Costs		
Coordinator Salary	$	1,852
Wages	$	56,419
Select & Train Operator	$	6,660
Education	$	7,725
Tools	$	750
Total	**$**	**73,406**

Average of Internal Costs

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