Cap 1 Background Information

Mission is the same: *Arndt Industries Ltd. (AI) is committed to manufacturing innovative, quality products*

Under the current company structure, each company acts as its own investment centre (lots of independence to operate). All divisions (except Engineered Products) and corporate continue to be managed by family members. Some shareholders wanted to sell shares within the family. As well there was an openness to the idea of private equity or IPO. (Catherine's comment in the Board Meeting) A formal succession plan was deemed important.

The corporate office must approve all external financing (i.e. borrowing outside the operating lines of credit). Additionally, under current policy, capital investments over $1.5 million must be purchased with long-term debt rather than by using the operating line of credit and must be approved by the corporate office. The bank is willing to provide up to $50 million at an annual rate of 7.5%, to be repaid monthly over a period of 15–25 years, as long as the following conditions are met:

1. A minimum return on assets of 10% (calculated using after-tax income and total assets);
2. A maximum ratio of debt to tangible net worth of 2:1; and
3. A minimum current ratio of 1.5:1.

Any long-term loans for expansion must be renegotiated every five years. Due to a long standing relationship with the bank and a history of strong operating performance, audited statements have never been required to satisfy the needs of the bank. But the board had wanted to upgrade processes to be ready for a formal audit.

Historically, the amount of dividends paid has been at the discretion of the Board. However, starting in 2008, the Board set a target dividend ratio of 40% of reported net income (in accordance with GAAP).
Company was ready and eager to grow and was looking at various options. A 2019 revenue target of $ 500 million was set. Investments to the tune of $ 20 -$ 30 million were available in locomotives, South America expansion, acquisition of mining equipment company.

In order to move some product along the borders in Africa, the marketing and sales VP was caught authorizing bribes.

AI reports under ASPE.

Arndt Industries-Sample Solution for CFE Day 1- linked case

The assessment is focused on the problem solving and decision-making professional enabling skills and candidates are expected to apply these skills at the highest level for certification as defined in the CPA Competency Map; however, candidates are expected to draw on the Core 1 and 2 common base of competencies in formulating the technical elements of their response.

Report to: Board of Directors

From: CPA (Karam- outside consultant)

This report addresses the issues that Arndt Industries (AI or Arndt) is currently facing.

PART A- SITUATIONAL ANALYSIS

It is September 2017 and the company has two weeks to prepare and present a business plan to the bank that ensures the current ratio and the return on assets ratios are met by December 31, 2017. (link to Cap1) The bank is evaluating return on assets by doubling the mid-year return. The bank will call the loan if the business plan is not solid.

Given that it is mid-September there is not a lot of time to make changes that will impact the financial results for December 31. It is not clear why AI did not address the covenant breach sooner. Once it was apparent that the financial statements would show that the covenants were not met, a discussion with the bank should have been immediately started. By waiting for the bank to react to the financial statements valuable time has been lost. Barry believes that supplying the 3 genset locomotives will not help meet covenants – this needs to be confirmed and then the impacts of selling the JV and/or obtaining additional financing (through either an IPO or private equity offer) should be considered.

The decisions on various issues have to be evaluated keeping in mind that meeting the bank's covenants is a major constraint.

A decision is required on the JV within a short time. The joint venture partner has gone bankrupt and a competitor has offered to purchase this company (Link to Cap 1 where EL was in difficulty when it made the JV offer – was adequate due diligence done before the JV was entered?)

- Arndt can either counter the offer and obtain a new facility for production;
- allow the purchase and renegotiate the Joint Venture into a 50/50 split;
- sell the Joint Venture

Private Equity Financing or IPO have become an important consideration as a way to meet covenants. – strategy vs. immediate need? Board members have differing views on the options.

The goal of reaching $500 million in revenue by 2019 is still considered important to AI (Link to Cap 1) and will be considered as well.

Barry is interim Chair and also CEO. What happened to developing a formal succession plan? (Link to Cap1)

Investment in Peru seems to have worked out well.

It is not clear if accounting policies and controls have been upgraded. Is this the reason red flags were not raised earlier on the covenant miss? (Link to cap1)

Intercompany transactions are going down. The divisions are outsourcing rather than purchasing internally – pricing issues.

The targets for individual divisions (as provided in Appendix VII of the case) with respect to the current ratio are below that required by the bank covenant.

FINANCIAL STATEMENT ANALYSIS

- No cash – and the line of credit is approaching its limit – up to almost $5 from $2.7 million in 2016 and only $100,000 in 2015
- Accounts Receivables are up 6%; 8% over 2015
- Inventory is up 9%, 8% over 2015
- Accounts Payables are up 15%, 7% over 2015
- Investment in JV increased 1.25 million in 2016 and an additional $1 million in the first 6 months of 2017
- Property, building and equipment is up 3% over 2016; 8% over 2015 and over $5 million – for the same time period long term debt is down $7 million

- Dividend payout - approximately 50% of net income being paid out in dividends
- Net Income has dropped from $ 20.6 million in 2015 to an estimated $ 13.6 million in 2017 while revenues are up $ 40 million in the same period. Primary reason is the drop in gross margin from 28% to 25% caused by an increase in material costs of 2% and salaries and wages of 1%.
- At the same time total assets have increase by $ 14.5 million causing the return on assets to go down significantly resulting in a covenant breach.
- Sales in EP down approximately 7% but gross profit % up 25% from 23%
- Gross Profit % in RR down from 25% to 21%
- All divisions are operating at 60% to 70% capacity utilization.

PART B- EVALUATION OF ISSUES/ALTERNATIVES

ISSUE 1: Determine impact of sale of 3 genset locomotives, the collection of $ 4.25 million of receivables and the impact of settling cases on the covenants.

Candidates are provided with these options by members of the board and are asked to consider as to how they may impact the covenant. Candidates should be able to determine the impact of these items on the ratios and conclude if they are sufficient or not to meet the covenants. They may make a recommendation that since the ratios get closer to the covenant as a result of the sale they could buy more time from the bank to evaluate strategic options.

Delivery of 3 genset locomotives in October –expect revenue and cash to increase $1 million. This $ 1 million could be expected to go straight to the bottom line resulting in an estimated net income for full year 2017 of $ 14.5 million. This will also add the same amount to total assets. Using June 2017 as the base total assets would increase to $167.7 million. The revised ROA will be 8.9%, still below the covenant. The revised current ratio will be 1.45 again below the covenant requirement. It may be possible to improve the current ratio if the $ 1.0 million is used to repay the line of credit. In this case the current ratio would improve to 1.46, but is still below the covenant.

Receivable of $4.25 million collected – already reflected in mid-year financial statements; so no change is required and this would not change the covenant calculations.

Next, we need to consider the impact of settling the legal cases to determine if these additional actions would help the company to meet its covenants

First the breach of contract case settlement has the following possibilities:

1. Wait until early 2018 – Likely realization is .8* 2 million i.e. 1,600,000 less legal costs of $ 350,000 = net $ 1, 250,000. If for any reason we do not succeed we will lose the legal costs of $ 350,000 plus may be more if the court requires us to pay the other party's legal costs also, In addition, we need to negotiate with the bank to give us time till first quarter 2018 to correct the covenant breach.

2. Alternatively we can accept the settlement offer of $ 1,200,000 less $ 150,000 of legal costs giving us a net $ 1,050,000 immediately. On balance the likely incremental $ 200,000 that can be obtained by continuing the case may not be optimal given the immediate need for cash. Suggest we take the immediate settlement which will add $ 1,050,000 to net income and the money can be used to repay the line of credit.

   This will further improve net income to $ 15.5 million and the ROA to 9.5 % . . The current ratio improves to 1.48 if both the $ 1.0 million and the settlement amount of $ 1.050 million are used to repay the line of credit.

Excess warranty claims which have only a 50/50 chance of success are not considered because it is not likely to produce any result before December 31. As well the expected legal costs of $ 500,000 are very high, 1/3rd of the expected claim amount. However, it should be further investigated to see if some kind of reasonable settlement can be reached with the dealers. Based on expected values any amount in excess of $ 250,000 would be good. ($ 1.5 million * 0.5 less $ 500,000)

In addition to the above known items we should also consider any seasonal implications that impact the June 30 financial statements i.e. are there any factors related to sales/costs that may have an impact on the June 30 financial statements and not on the December 31 financials.

Conclusion:

Based on the above analysis it appears that the covenants will not be met. An after tax effect of the above adjustments would further reduce the ratios. .
Given the serious implications of not meeting the covenants by December 31 and the other potential changes to working capital, seasonal or otherwise before that date (some changes may be out of our control) the adjustments proposed will not likely suffice.

The bank will most likely not be happy with this but given that these adjustments present a better picture than what the bank has seen they may be willing to give us more time (say 3 to 6 months till June 2018) to meet the covenants. This extra time would be useful to evaluate the other alternatives especially the IPO or Private Equity and to negotiate a better value for the company because those options become necessary for the survival of the company.

I recommend that we immediately arrange a meeting with the bank, present these numbers, discuss the other strategic options and buy more time to get onside the covenants.

ISSUE 2: Evaluate company performance and financials and assess other operating decisions that may provide quick solutions to meeting the covenant.

Candidates are provided with financial analysis that they can interpret to come up with some short term solutions to the covenant problem and discuss long term issues that the company is facing.

A simple use/source of cash analysis is below:

	Increase/(Decrease)		
	June 2017 over Dec 2015	**June 2017 over Dec 2016**	**Dec 2016 over Dec 2015**
Use of Cash			
Net Current assets	3,859	-1,972	5,831
Invest in JV	2,250	1,000	1,250
Intagibles	-97	-48	-49
P,P and E	5,327	2,035	3,292
	11,339	1,015	10,324
Source of Cash			
Line of Credit	4,751	2,166	2,585
LT Debt	-5,175	-4,532	-643
Equity	11,763	3,381	8,382
	11,339	1,015	10,324

It is obvious from the above analysis that the company has used its earnings over the last 2 years to invest in long term assets – JV and PPE ($ 7.5 million); increase in net current assets (excluding line of credit/current debt) $ 3.8 million. Meanwhile although long term debt has been reduced by $ 5.1 million this seems to h-ave been largely offset by short term line of credit which has increased by $ 4.7 million i.e. it appears as if the Company has not been following its policy of matching long term assets with long term debt. (Link to CAP1)

As well, it is apparent from the financial statements that there may be potential for long term debt financing. As on June 30 2017, PP&E is $73 million at cost versus long term debt is only $28 million (40%). Overall debt to equity is only 1.2 (well below the covenant of 2). If we replace the line of credit borrowing with long-term debt it would help immediately improve the current ratio without affecting the ROA.

Therefore, the company should seriously explore the option, of increasing its long term debt by say $7 million (taking long term debt to approximately 50% of PP&E) and use this additional money to settle the line of credit and some payables. If this can be done quickly; the current ratio will immediately improve to 1.62 comfortably above the covenant. Since total assets and total liabilities will not change this will not affect the debt equity ratio (which is well within the covenant) leaving only the ROA offside. As well this may be more appropriate for the company and in accordance with its policy (Link to cap1) since it is clear from the previous analysis most of the funds have gone to PP&E and JV which are also long term i.e. match long term assets with long term funds.

This may be the fastest way of meeting the covenants for December 31. The sale of the JV and raising funds through IPO or private equity can then be evaluated in a more relaxed way keeping in mind future growth needs and not just the covenants.

The dividend payout ratio has increased to 50% of net income, the board guideline is 40% (Link to Cap1). Reducing the dividend payout could help – would not help with the return on assets but would help with the current ratio by increasing cash in hand. This could be another short term measure to boost current ratio. This may have adverse consequences on some members of the family who may depend on the dividends. Alternately a $ 3million injection of equity used to repay the line of credit would also be a quick way to get the current ratio above the covenant requirement. But again this will not help the ROA.

Another possibility to address the current ratio and also provide some boost to ROA will be to collect $ 6 million of receivables and use it to repay the line of credit and some liabilities. This together with the genset locomotive sale and settlement of case would get the current ratio above the covenant. Reduction in receivables will also reduce total asset and improved the ROA to 8.5%, still below the covenant.

Over time this long term debt increase would result in an increase in the interest expense and therefore increase the level of income required to meet the return on asset ratio and the current portion of the debt would impact the current ratio.

As regards the ROA, the main problem is the significant drop in gross margin (3% of sales) in 2017 compared to 2015. If the gross margin had been maintained at 2015 levels the company would have made additional net income of $ 8.0 million ($223.8*.03*2*.6) in 2017. This would have resulted in an ROA of 13.3 comfortably above the covenant. Agricultural Products and Road Rail seem to have had significant increases in material and labour costs whereas Engineered Products has increases in S,G&A. For long term stability in ROA, the root causes of these increases have to be understood. As well price increases should be considered to pass on these increases to customers.

ISSUE 3: Evaluate options for dealing with the joint venture.

Candidates are provided with 3 options – buy, sell and retain 50%, sell 100%. Candidates should discuss the quantitative and qualitative aspects of each option, the impact on covenants and conclude/recommend a course of action**.**

The financial difficulty and potential bankruptcy of EL should not have been a complete surprise – the reason EL were interested in the JV in the first place was they were experiencing cash flow issues and bankruptcy was a possibility at that time.(link to CAP1) AI should have dealt with this possibility in the JV agreement. AI should learn from the experience going forward.

The available alternatives now are:

1. Counter RR's proposal- Purchase EL cost of $10 million - move all of production there – require investment $2 to $3 million over the next 1 to 3 years
2. Sell interest to RR – $12 million - increase in price paid for frames from $800,000 to $950,000; sourcing may be an issue as well.
3. Sell 30% to RR and have 50/50 ownership with terms of JV intact

Option 1 – to counter RR's offer and purchase EL does not appear to be realistic. The purchase of this company will be finalized three weeks from now, with 50% of the purchase price paid then and the remaining 50% one month later - AI does not have cash to make this purchase and cannot expect to arrange financing in this time period! Purchasing EL would also appear risky given its history of financial difficulty. As regards EL's financials (Appendix V) it is apparent that the current net worth is approximately $ 3.1 million. The company is currently in a loss and the entire valuation of the company (at least from RR perspective) seems to be coming from its JV share of 20%.

AI also does not have the time or resources to value EL or do the necessary due diligence. It does not appear to be a good idea to request that this period be extended given the need for EL for cash to pay its employees. Having a new partner in the JV may actually reduce risk and the need to invest more cash in the JV.

There are many valid reasons for keeping an interest in the JV: it differentiates AI from the competition. As well, the trend of environmentally friendly is not going to end anytime soon, and if RR purchases EL and AI does not pursue a joint venture with them, the input components for locomotive frames will cost more – roughly $950,000 per frame versus the $800,000 per frame that AI was receiving under the current joint venture. Production capacity may also become an issue if AI does not have an interest in the JV. As Barry stated "I'm not sure if Road Rail Products can fulfill the demands of the locomotive project and the external demands from Peru and potentially other countries." This statement would indicate that the joint venture or the

capacity of the JV may be needed. It would also support reaching the $500 million revenue goal (Link to Cap1).

Accordingly options 2 or 3 may be the preferred course to take. However, before AI enters a JV with RR, a due diligence should be performed on them, and a clause should be included in JV agreement stating what happens if RR goes bankrupt or one of the venturers wants out.

Analysis of options 2 and 3

A quick calculation based on projected net income for the JV shows the total net income for the period 2018 to 2021 to be approximately $21 million. AI currently owns 80% and should expect it to be worth around $ 16 million subject to discounting. The offer of $ 12 million for its entire interest is low.

If AI keeps a 50% ownership interest it could expect approximately $10.5 million before discounting. As well 30% of the JV would be close to $ 6.3 million which far exceeds RR's offer of $4 million.

The information presented is a forecast and it is necessary to consider and evaluate risk of the forecast not being meet. As per information provided, "R&D have taken longer than anticipated and sales forecast has been revised".

However, AI should negotiate a better deal with RR whether it sells its full or partial interest. The current offers discount the expected values by almost 25% to 33%.

AI will also need to consider and obtain additional information on potential supply issues if AI sells the entire interest in the JV and also calculate the total impact of the increase in the cost of frames for the Road Rail division.

Impact on covenants of potential sale of interest in JV

If AI decides to sell all or a portion of the joint venture, its current assets will increase by the amount of proceeds, total assets will increase by the proceeds less the cost of the JV, and there will be a gain reflected in the statement of earnings.

If the entire interest in the JV is sold the impact on the ratios will be as follows:

Net Income: + $ 4 million to $ 19.6 million (includes the adjustments made above)
Total Assets: + $ 4 million to a new average of $ 166.5 million
Current assets: + 12 million to a new $ 97.6 million
Current liabilities: no change

The covenant ratios would be:

Return on assets: 11.8% and Current ratio: 1.68 both comfortably above the covenant requirements.

Similarly if only partial interest is sold the impact would be:

Net Income: + $ 1.8 million to $ 17.4 million (includes the adjustments made above)
Total Assets: + $ 1.8 million to a new average of $ 165.0 million
Current assets: + 4 million to a new $ 89.6 million
Current liabilities: no change

The covenant ratios would be:

Return on assets: 10.5% and Current ratio: 1.54 both above the covenant requirements

However, . If 100% is sold, there will be an increase in cost of frames to $950,000 from 800,000 (18.75%), there is a risk of difficulty in sourcing the frames, and future income from the JV will be foregone. It appears that additional investments have been required in the JV in 2015 and 2016. If all or a portion of the JV is sold the requirement for additional investment will be reduced.

However, if a portion of the interest is sold to RR resulting in a 50/50 ownership the covenants will be met, but there will not be much margin of safety. In this scenario, the costs of the frames will not increase and AI will still participate in the future JV earnings.

If we take either option, we will satisfy the bank for the time being and need not consider the IPO or Private Equity option for raising money only to meet covenants.

ISSUE 4: **EVALUATE FINANCING OPTIONS – IPO, PRIVATE EQUITY, OTHER**

Candidates are told that the board is open to considering these options though there are reservations. Candidates should also be aware that the issue was considered previously (Link to Cap1) and rejected. Candidates are asked to provide their advice to the company.

At the outset, I must emphasize that a decision on IPO or Private Equity (PE) should be based on strategic considerations like finance required for growth that cannot be generated internally or raised from existing shareholders, desire of the family members to sell shares and exit from the business. A decision based on immediate liquidity concerns will be sub-optimal. It is recommended that a full family consensus is reached before any decision is taken on an IPO or PE offering.

Even within the board the divisional CEO's opinions on the options vary:

- Clare is open to the IPO but concerned about 'aggressive' private equity.
- David does not like the private equity option – one of his concerns is related to the potential reduction in dividend payments to existing shareholders. He is also "very much against IPO".
- Dominique is undecided between IPO and private equity and has raised the question of finding another way.

The significant considerations for the board in coming to a decision on this matter are:

Control and governance

The IPO will allow for maintaining control of AI in the family. Consideration needs to be given and legal advice obtained on how the IPO would impact the Unanimous Shareholder Agreement (USA) (Link to Cap 1). If the agreement is still in effect in the future, it will make it even more difficult to amend the USA, which may have implications for family members wishing to sell their share externally if there are not family members interested or able to purchase them. It may be advisable to try to amend the agreement before the IPO proceeds. Depending on the amendments this may open the possibility of losing control at some point in the future.

If AI proceeds with the PE offer it will give up control for a minimum of five years. AI will have the option of buying control back at the end of the five years. It is very difficult to determine at this point if this will be possible. Given that the PE will have control for five years they may make decisions (intentionally or otherwise) that will limit AI's ability to repurchase the shares to regain control.

Company mission and values

One of the concerns raised with respect to the PE deal is that PE investors are aggressive and focused on the bottom line and the ROI in the short term. This is not in keeping with AI's mission and vision, which have always focused on the manufacturing of high quality products (Link to Cap 1). Quality is important in existing markets and is proving to be so in expanding internationally. AI has built a very good reputation for quality in Peru and there appears to be lots of potential for growth in South America. If the PE option is taken there is legitimate concern that AI's reputation may be at risk. AI should perform due diligence on the PE firm and try to determine if this firm has values that are in line with AI's.

Accounting implications and Assurance requirements (and cost and benefits)

The IPO will require AI to transition to IFRS (as all public companies in Canada are required to report under IFRS), and will require audited financial statements. Using IFRS as a reporting standard will mean additional costs to AI and the need to ensure on an ongoing basis that controls are in place and properly documented. The PE may not require IFRS but may require audited statements. .It is my opinion that the only additional cost for the IPO in terms of "regulatory creep" will likely be the transition to IFRS.

A conversion to IFRS may have an impact on the ratios going forward — for example IFRS provides the option to go to fair value for some assets – AI will have to review the impact when making decisions – in this case, it would be long-term assets that would likely increase and this would mean the income required to maintain return on assets would be higher. The covenants with the bank may have to be renegotiated or adjusted.

In either case (IPO or PE), and even without the requirement for financing, it is important for the company to ensure that proper controls over financial reporting are in place. Controls required for a public company would be more than what AI currently has in place. AI will also have to make sure that all control issues/problems have been addressed to ensure that this does not delay the IPO.

Several issues were noted and discussed in our previous report. One issue that occurred in the past with bribing a government official may have to be disclosed including how it was dealt with and the procedures put in place to make sure it does not happen again (Link to Cap 1). Another item that appeared to be a problem in the past was inventory slippage – this should be reviewed to ensure the cause of the problem was dealt with and proper controls put in place. It is essential that AI receive the proceeds by the end of December to meet the bank's deadline.

Taxation considerations

The consequences of moving from being a private company to a public company will need to be considered. For example acquisition of control rules will need to be considered if there is a private equity take over. There would be a change in status from CCPC to public co in the event of an IPO that would need to be considered. A tax specialist should be consulted.

Financial analysis – quantitative

Information on IPO

- *Proceeds $35 to $40 per share –*
- *Maintain control if sell 3 million (43%) or less shares*
- *Based on $40 per share this is $120 million or $35 it is 105 million for 43% of the company*
- *Actually could issue up to 4 million(50%) and maintain control – 4 million outstanding now*
- *Cost of IPO $2 million for 1 to 1.5 million shares $3 million for 1.5 to 3 million shares*

Consider ongoing cost and cash flow of dividends required and impact on dividends to family shareholders. At dividend rate of 5% and assuming $ 120 million raised, annual dividend outgo could be $6 million ($ 1.5 million per quarter)

Information on Private equity offer

Terms

- *Hold 55% of company and required 50% ROI over 5 years*
- *Upfront payment $95 million*
- *Sell back to AI in 5 years at $142.5 million – payable over 5 years*
- *If debt cannot be repaid in 5 years private equity firm can take company public*
- *Quarterly payment required $1.9 million dividend $1.9 credit towards final payout*

A comparison of the 2 options is summarized below:

	IPO	PE
Proceeds	Range Minimum 1,000,000 shares x $35 less$2,000,000 issue costs = $33,000,000 Maximum 3,000,000 x $40 - $3,000,000 issue costs = $117,000,000	$95,000,000
% of company	Minimum 1,000 / 5,000 = 20% Maximum 3,000/7,000 = 43%	55%
Annual cash flow	5% = 1,750,000 to 6,000,000 on new shares	3,800,000

The proceeds from the Private equity offer, $95 million, is more than AI needs to get its ratios back on side and it appears that AI either accepts the offer for the full amount or turns the offer down whereas under the IPO they can decide how many shares to issue. Issuing fewer shares would result in less impact on the ability to pay dividends to existing shareholders.

ISSUE .5 **EVALUATION OF THE IN-HOUSE POWDER COATING PROPOSAL (AGRICULTURAL PRODUCTS DIVISION)**

Candidates are provided with a capex plan that they have to evaluate. This is a straightforward capital budgeting decision with both qualitative and quantitative aspects provided.

Qualitative

This project is self-contained and appears to provide many benefits to the Agricultural division and potentially to other divisions. There are quality issues as well as an issue with lead times from existing suppliers. AI's mission is based on manufacturing quality products. It is also important to the CEO that the divisions work together to maintain or increase margins wherever practical and this would appear to support that goal. (Link to Cap 1) The capital cost is in the range of $1.8 to $2.4 million and the payback period is less than two years. There does not seem to be any reason to delay this proposal – other than it is outside the normal capital approval process and it might be 'jumping ahead' of other projects that AI wants to undertake. However, given concerns with quality which is important to AI and the seeming willingness of other divisions to proceed, and that there appears to be overwhelming positive results, AI should likely proceed as long as necessary cash flow can be provided – Since AI will have to sell JV or arrange financing anyway, likely doable.

Financial Analysis – (based on information provided in case)

$1.1 million savings per year
Capital cost $1.8 to $2.4 million – issues cash flow/financing
Payback 1.9 years estimated based on Agriculture division only

There would also be further savings if the needs of the EP division and RR division are fulfilled using the available capacity of the equipment. The EP division spends $2.1 million on outsourced powder coating and the RR division spends $3.2 million on conventional coating. Assuming that Agricultural division's savings will be realized, there will be further savings for EP and RR divisions as follows:

EP division – 10% on $ 2.1 million i.e. $ 210,000 (replace outsourced powder coating)
RR division – 19% on $ 3.2 million i.e. $ 610,000(replace conventional coating)

So, total savings for the company could be in the region of $ 1.9 million before tax or assuming a tax rate of 30% approximately $1.3 million i.e. a payback of 1.6 years assuming the final investment is around $2.1 million.

The NPV and IRR for this project will also be very attractive. Assuming that the cost savings are maintained for 10 years and even if a high discount rate of 20% is applied and no residual/terminal value for the equipment is assumed the NPV works to $ 2.8 million and an IRR

of 61%. Accordingly, in my opinion, this is a very attractive proposition and the company should proceed immediately or as soon as the necessary cash is raised and the liquidity issues are resolved.

I must highlight that the above calculations are based on a total company basis. However, on a divisional basis Agricultural division expects to apply a mark-up of 10%. This may not make it attractive for the other divisions especially the EP division which will not see any savings compared to its current costs. It is suggested that the transfer pricing for this product should try and ensure a fairer distribution of the gains i.e. it should be lower than the 10% mark-up expected by the Agricultural division.

ISSUE 6 REVIEW OF AND RECOMMENDATION ON INTERDIVISION TRANSFERS AND PERFORMANCE METRICS

Candidates are told that the chairman is unhappy with declining inter divisional transfers. Candidates are provided information for 3 years. Candidates are given the performance metrics that are being used. Candidates are expected to assess the situation and comment.

Concern has been expressed on the overall decline in gross margins and the decrease in intercompany transfers. The reason for purchasing externally is limited to pricing (quality and time not an issue). If the current policy is in fact causing a decline in the overall profit of AI it should be reviewed. The importance of all three divisions working together has been reiterated by Barry. In order to maximize the consolidated net income and meet the bank's required return on assets it may be necessary to change the way transfer prices are set. This would require changes to the method of performance evaluation and calculating bonuses. The performance metrics for current ratio should be immediately revised to match the bank covenant of 1.5:1.

Divisional autonomy is an important consideration in AI. Bonuses are based on each division's performance (Link to Cap 1) so they need to have the autonomy to make decisions impacting their operations – the purchasing division will not pay more for the product that they can obtain from outside (assuming quality and delivery times from outside is acceptable). If the purchasing division is paying less than the transfer price their margins as a percentage should increase. If the selling division is operating at capacity overall gross margin should not decline. However, if the selling division has surplus capacity (as is likely to be the case with the powder coating machine) if transfer prices are not properly set there will be unutilized capacity, lower absorption of fixed costs and lower margins for the company as a whole. Accordingly it is important to set transfer prices such that capacity utilisation and manufacturing efficiencies are encouraged.

Dominique has expressed concerns that EP is facing capacity issues and may have to start 3rd shift two days a week. This seems to contradict the performance report which seems to indicate that all divisions are operating at capacities between 60% and 70%. Also the EP division was having similar problems and customer complaints when we previously reviewed the business. (Link to Cap 1). The increased cost due to overtime is reflected in the price charged to other

divisions. She also explained that if the necessary capital investment of $3 million is made next year the division should be able to provide a more comparable price. But given the history of the division may be there are other problems within the division which may need to be investigated.

A transparent process of exchanging information about external prices, internal costs and capacity issues may help in setting transfer prices that fairly and equitably distributes profits to each division and at the same time increases profits for the company as a whole.

In terms of performance evaluation the possibility of excluding internal sales and costs or having separate metrics for evaluating internal sales may be considered.

In addition, transfer pricing to international divisions such as Peru will have tax concerns/consequences that will have to be considered and expert advice obtained. As well the exchange rate risk will have to be considered.

ISSUE 7 **FORECASTED REVENUE AND $500 MILLION GOAL**

The company continues to have the target of making $ 500 million in 2019. Candidates have enough information to estimate and more importantly question the reason for this target especially that margins are dropping.

Estimated Revenue - 2019

2017 sales plus assume 2% growth per year $223,878 x 2 plus 2% compound growth - 2 years	$ 465,845
Increase in south America sales	27,500
Subtotal	493,345
Joint venture sales – $31,500 @ 50% less $ 4,950@80%	11,790
	$ 505,135

Based on the estimates, AI will only meet the goal if it maintains 50% of the JV.

Qualitative

- Are the estimates reasonable?
- Why is this an important goal? Why the focus on top line rather than net income? As previously discussed margins are dropping because of cost increases. In their quest for sales are the divisions not pricing properly? Also Engineered Division has increased S,G&A?
- This will be impacted by decision on JV

- Also impacted by Peru and other international sales

PART C- **RECOMMENDATIONS**

The candidate is expected to draw some conclusions/make recommendations

Overall the company is growing well, but over the last 2 years margins have dropped significantly and investments in JV combined with a 50% dividend payout ratio and use of line of credit for long term purposes has created a liquidity situation such that the company is not meeting the bank covenants. Meanwhile the JV is not performing well and is currently a drain on resources. The JV partner wants to sell. However, the forecasts for the South American operations and the JV remain solid. In view of the urgent problem of meeting covenants the board is forced to consider an IPO/PE option on an emergency basis.

As regards meeting the covenants which is top of mind for everybody, I believe that AI will have to sell at least a portion of the JV to meet the ratios as per the covenant. If it sells only a portion of the JV, AI may be able to do without financing – the ratios will be close to the limits. But combined with reduction in the dividends paid out and additional long-term debt this may put the company on stable grounds for the medium term. If AI completely divests of its interest in the JV it will not need any additional financing.

I also have the following other recommendations which are based on my review of company performance as well as review of the issues that were presented to me during the board meeting.

Bank Covenants:

1. Immediately update the bank with the improvements that can be made to the ratios through sale of gensets, settlement of cases.
2. Discuss with the bank if they are willing to provide more long term debt against the security of P,P&E and repay the line of credit and some liabilities so that the current ratio is brought onside the covenant.
3. Advise the bank of the potential sale of a part of the JV which will reduce investments/assets and improve ROA. As well discuss the JV forecasts which indicates good margins going forward.
4. Request the bank for some additional time to get ROA on track.

Operations:

1. The company should immediately start investigating the dropping margins and consider increasing selling prices. Is the quest for revenues resulting in lower margins? Should reaching $ 500 million by 2019 still be important?
2. The company should strengthen its financial function and internal reporting to identify problems well before they become a crisis.
3. The company should change performance metrics to at least match the covenant requirements and implement a transfer pricing mechanism that will encourage intercompany transfers.
4. Intercompany transfers could be left out of performance metrics.
5. Implement powder coating project (more long term debt) which improves margins and seems to have an excellent payback and ROA.
6. Engineering Products operations must be studied to correct any underlying problems and not just a capacity issue.

Joint Venture

1. 50/50 JV is recommended. Helps to meet covenants as well as keep a foot in the door on an initiative that is very important for the future.
2. Try and negotiate a better deal with RR.
3. Perform due diligence on RR and ensure final deal includes a clause on what happens if one party becomes financially incapacitated.

IPO/PE

1. Ensure family consensus is obtained. Update USA prior to IPO/PE.
2. Finalize a formal succession plan prior to IPO
3. Improve internal controls and processes
4. Strengthen financial function to be able to handle IFRS
5. IPO may provide greater control for the family than PE.

In terms of making decisions, AI will have to decide which is more important to them – avoiding either the IPO or private equity offer or keeping all or a portion of the joint venture.

The desire to maintain control of the AI and to keep its financial and other affairs confidential appear to be very important to family members (Link to Cap 1). Accepting either the IPO or proceeding with the PE offer will be a huge change. It may be that the younger generations of the family may be more open to these changes

Mapping

Enabling competencies covered by this case

2.1.1 Defines the scope of the problem.
- 2.1.1.1 Obtains an initial understanding of the problem and its context
- 2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis.
- 2.1.1.3 Exercises judgment in determining whether an issue requires attention
- 2.1.2 Collects and verifies relevant information.
- 2.1.2.1 Identifies the purpose and type(s) of information to be gathered.
- 2.1.2.2 Uses appropriate methods to gather or develop relevant information.
- 2.1.2.3 Verifies/corroborates/tests information and evaluates the quality of information sources, as needed, to satisfy the purpose of the analysis.
- 2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors.
- 2.1.3.2 Determines whether precise calculations, estimates, forecasts, or projections are required.
- 2.1.3.4 Chooses and applies appropriate analysis techniques
- 2.1.3.6 Performs and interprets sensitivity analysis.
- 2.1.4.1 Explores potentially viable solutions or conclusions.
- 2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences.
- 2.1.4.3 Considers alternative interpretations of quantitative and qualitative information.
- 2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions.
- 2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications.
- 2.1.4.7 Explicitly articulates and justifies assumptions.
- 2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions.
- 2.1.5.3 Develops implementation plans for recommendation(s).
- 2.1.6.1 Identifies and sets aside preconceived ideas that might bias or limit analyses and conclusions.

3.2 Writes and speaks to enhance work performed.
- 3.2.1 Communicates logically, clearly, and concisely in one of the two official Canadian languages (English and French).
- 3.2.3 Formats and organizes financial and non-financial information to enhance understandability and usefulness.
- 3.2.4 Exhibits professionalism in written and spoken communications

4.1.4 Manages time effectively