



**IBC ADVANCED ALLOYS CORP.**

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**NINE MONTHS ENDED MARCH 31, 2015**

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**IBC Advanced Alloys Corp.**  
**Management's Discussion and Analysis**  
Nine Months Ended March 31, 2015

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*The following is management's discussion and analysis ("MD&A") of IBC Advanced Alloys Corp., and its subsidiaries, prepared as of May 28, 2015. This MD&A should be read together with the unaudited interim condensed consolidated financial statements for the nine months ended March 31, 2015 and the audited consolidated financial statements and related notes for the year ended June 30, 2014. Financial amounts, other than amounts per share or per pound, are presented in thousands of United States dollars ("\$\$") unless indicated otherwise. Canadian dollar amounts are denoted by "C\$".*

*The terms "IBC", "we", "us" and "our" refer to IBC Advanced Alloys Corp. and its subsidiaries, unless the context otherwise requires.*

*Certain information included in this MD&A may constitute forward-looking statements. Statements in this report that are not historical facts are forward-looking statements involving known and unknown risks and uncertainties, which could cause actual results to vary considerably from these statements. Readers are cautioned not to put undue reliance on forward-looking statements.*

*Our unaudited condensed consolidated interim financial statements for the nine months ended March 31, 2015 have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") using accounting policies consistent with IFRS as issued by the IASB and interpretations of the International Financial Reporting Interpretations Committee.*

*Additional information relating to us is available for view on SEDAR at [www.sedar.com](http://www.sedar.com).*

## **Our Business**

We are primarily engaged in developing and manufacturing advanced alloys, in particular beryllium-aluminum alloys and specialty copper alloys. Our head office is located in Vancouver, Canada. We operate four plants in the United States ("US") that manufacture, heat-treat, machine or market copper-beryllium, beryllium-aluminum, copper-based master alloys and similar specialty alloy products including beryllium-aluminum castings. Our manufacturing operations currently employ 73 people. Our manufacturing operations comprise two divisions: Copper Alloys and Engineered Materials.

- Copper Alloys manufactures and distributes a wide variety of copper alloys as castings and forgings: beryllium copper, chrome copper and aluminum bronze in plate, block, bar, rings and specialty copper alloy forgings for plastic mold tooling and resistance welding parts.
- Engineered Materials supplies high-performance beryllium-aluminum components to the aerospace and high-tech manufacturing sectors.

We also undertake research initiatives with the goal of increasing demand for beryllium-related products. At present, we do not have any active research programs but intend to resume research in the future. Our principal research initiative has been in conjunction with Purdue University ("Purdue"), Texas A&M University ("Texas A&M") and the Massachusetts Institute of Technology ("MIT") to develop an enhanced beryllium oxide nuclear fuel. This fuel is intended to operate in both current and next generation reactors but with a longer fuel life and a higher safety margin. Other than our VP nuclear fuels who is employed part-time, we do not have any employees directly engaged in research.

We were formed by an amalgamation under the laws of British Columbia on November 23, 2007 and our common shares are listed on the TSX Venture Exchange (the "TSX-V") under the symbol "IB" and on the OTCQX International under the symbol "IAALF".

## Corporate Developments

- In May 2015, we announced a non-brokered private placement to raise gross proceeds of up to C\$1,750,000 by issuing 17,500,000 common share units at a price of C\$0.10 per unit. See *Private Placement* below.
- In April 2015, we received a purchase order from UTC Aerospace Systems, a unit of United Technologies Corp., to supply advanced Beralcast<sup>®</sup> components for critical imaging systems used on a variety of US and foreign military aircraft.
- In March 2015, we received a purchased order from Kaman Corporation to supply critical imaging system components that will be used on US naval and foreign military tactical aircraft.
- In February 2015, we received approval from the TSX-V to extend the expiry dates of 15,166,997 financing warrants exercisable at C\$0.18, that were issued on February 28, 2013 and May 13, 2013, to February 28, 2016. See *Shareholders' Equity – Warrants* below.
- In January 2015, we granted 1,970,000 incentive stock options to directors, officers, employees and consultants with an exercise price of C\$0.15 and exercisable until January 16, 2020.

## Manufacturing Operations

We currently have four manufacturing operations in the United States that employ 73 people.

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Location	Building Area		Leased/ Owned
	m <sup>2</sup>	sq ft	
Copper Alloys			
Franklin, IN	4,800	48,800	Owned
Royersford, PA	1,500	16,000	Leased
New Madrid, MO	2,500	26,500	Owned
Engineered Materials			
Wilmington, MA	5,800	63,000	Leased

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### *COPPER ALLOYS*

We manufacture and distribute a wide variety of copper alloys as castings and forgings: beryllium copper, chrome copper and aluminum bronze in plate, block, bar, rings and specialty copper alloy forgings for plastic mold tooling and resistance welding parts. We sell directly to end users and serve some markets through a network of established dealers and distributors. Our copper alloys operations are based in Franklin, Indiana, where we maintain a forging (hammer, press and ring rolling), heat-treating and machining operation. We cast billets at plants in Royersford, Pennsylvania and New Madrid, Missouri. Our Franklin plant sits on 4.8 hectares (12.0 acres) of land that has considerable room for expansion.

We source copper alloys in cast billet, slab or ingot from mills in North America, Europe and Asia and convert these into usable industrial products serving the industrial welding, oil and gas, plastic mold, metal melting, marine defense, electronic and industrial equipment markets. We also provide tooling components for the North American automotive industry, the European and

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North American consumer plastic tooling producers, the global oil and gas service industry, the prime North American submarine and aircraft carrier producers and repair facilities including the US Navy, electronics industries and general equipment manufacturers. We produce material at two IBC-owned mills and buy other billet from independent third-party mills.

We have expertise in melting and casting beryllium copper and other beryllium containing alloys. Our casting operations are a primary producer-supplier of beryllium copper casting and master alloy ingot products in North America and markets around the world. Our copper alloys operations also manufacture beryllium nickel and low-beryllium-content beryllium-aluminum alloys. We offer our customers a full range of manufacturing and support services including casting and master alloy products, cast and forged billet products, semi-continuous cast input billets and wrought products. We manufacture our beryllium alloys utilizing either pure metallic beryllium or certified beryllium copper master alloy.

Our Royersford facility has three furnaces that have been adapted to meet the specialized requirements of beryllium alloy manufacturing. We have strong technical and manufacturing engineering resources in the highly specialized beryllium and beryllium containing alloy industry, which have allowed us to develop and integrate proprietary direct chill VLT (very low turbulence) semi-continuous casting technology into a highly autonomous billet manufacturing cell. This effort has resulted in the capability to manufacture large 21-inch diameter beryllium copper input billets weighing up to two tonnes. These large-scale as-cast billets exhibit consistently fine-grained, uniform micro-structures coupled with high purity, low carbide chemical compositions.

Our New Madrid plant is located on a 2.4-hectare (6.0 acres) site 265 kilometres (165 miles) south of St. Louis, Missouri. It has two furnaces and is capable of producing billets in a range of sizes and compositions. We are planning to upgrade this facility to make it suitable for beryllium alloy production when production volumes justify the investment. This facility is underutilized and as a result there is room for significant expansion of plant operations at this location.

*ENGINEERED MATERIALS*

Engineered Materials supplies high-performance beryllium-aluminum components to the aerospace and high-tech manufacturing sectors. We currently manufacture the Beralcast<sup>®</sup> and ABX<sup>™</sup> families of metal matrices that can be used in commercial and military applications requiring complex, lightweight or high-stiffness parts. We have additional, higher-performance products in development and plan to launch at least one new major product line in the next 12 months. Using our proprietary manufacturing techniques, we plan to make beryllium-aluminum components more accessible and cost-effective.

In general, Beralcast<sup>®</sup> and ABX<sup>™</sup> alloys serve as a higher-performance or lower-cost replacement materials for cast aluminum, magnesium, titanium, metal matrix composites, non-metallic composites, and pure beryllium or powder metallurgy beryllium-aluminum. Some of the varied applications include automotive braking and structural components and aerospace and satellite system components.

The principal Beralcast<sup>®</sup> metal matrix is more than three times stiffer than aluminum with 22% less weight and can be precision-cast to simple and complex configurations. This material is very lightweight with a high modulus of elasticity and can be precision cast for three-dimensional stability. Beralcast<sup>®</sup> is ideally suited for certain demanding semiconductor manufacturing equipment, computer components and other commercial and aerospace applications and allows for a near-net shape to be cast for maximum manufacturing efficiencies.

Binary beryllium-aluminum composites were developed by a US corporation, which was originally a metallurgical laboratory affiliated with MIT, in cooperation with Lockheed Martin. We

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own the intellectual property relating to the more advanced development of this technology, which is a proprietary and patented castable metal matrix composite beryllium aluminum alloy now manufactured as Beralcast<sup>®</sup>. We believe that a competitor may be working towards the commercial launch of an alternative cast beryllium-aluminum product which if commercially viable would be a direct competitor to Beralcast<sup>®</sup> and ABX<sup>™</sup>.

We have trade name rights to Beralcast<sup>®</sup> and ABX<sup>™</sup>; proprietary know-how; manufacturing equipment; marketing and supply agreements; and US beryllium stockpile bidding requirements and bona fides. Since the manufacturing process is different from that employed for Copper Alloys, we operate a separate manufacturing facility optimized for Beralcast<sup>®</sup> and ABX<sup>™</sup> alloys.

We are developing Engineered Materials' business by undertaking product-focused development initiatives with a heavy emphasis on defence applications. Generally, the process is as follows:

1. Memorandum of understanding – The first step is to assess the feasibility of using Beralcast<sup>®</sup> in the customer's application.
2. Non-recurring engineering – At various stages between the initial feasibility assessment and production, we and our customer engage in engineering work to tailor the part design to the material and assess its performance.
3. Hard tooling – Once production is likely, the customer asks us to design, manufacture and implement hard tooling to be included as part of final qualification process. Although not a guarantee that a production order will follow, a hard tooling contract is a very strong indication that the customer expects to enter volume production of the component.
4. LRIP (low-rate initial production) – New programs typically work through a start-up phase to iron out problems before production reaches long-term levels. As part of the first production run, we work with our customer on various quality assurance steps culminating in the first article inspection.
5. Volume production.

We are currently working on various initiatives at stages from memorandum of understanding to LRIP.

*Recent Business Initiatives*

In September 2014, Lockheed Martin Missiles and Fire Control selected Engineered Materials to provide critical cast components for the electro-optical targeting system ("EOTS") system on the F-35 Lightning II. The first component covered by this contract is an EOTS azimuth gimbal housing to be manufactured using Beralcast<sup>®</sup>, Engineered Material's proprietary beryllium-aluminum casting alloy. In October 2014, we began shipping castings for machining to our subcontracted machine shop.

This first contract is for production of OEM aircraft fitted with EOTS systems and spares for low-rate initial production (LRIP) lots 7 and 8. Production has begun at Engineered Material's Wilmington, MA manufacturing facility and initial deliveries have been made to the machine shop. Due to delays beyond our control in prior periods, initial deliveries of completed parts will be later than originally scheduled but we expect to be able to catch up. Production will continue through the balance of this fiscal year and into early fiscal 2016. The value of this initial contract is just over \$2.0 million including non-recurring engineering and hard tooling deliverables and has the potential, with subsequent LRIP contract awards, to increase significantly over the life of the F-35 program. The EOTS assembly being produced by Lockheed Martin is for all the F-35 variants and planned production quantities are estimated to be over 3,000 aircraft with deliveries through 2035.

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We are currently pursuing other sales opportunities with several defence companies and expect that developments will take place during the next 12 months. While we are currently operating at much less than capacity and recently refurbished part of our vacuum furnace, we believe that increased production at our Wilmington, MA facility will require replacement of key parts of our furnace within the next 12 months at an expected cost of less than \$1 million. This work will more than double our melt capacity.

In September 2014, we delivered unmanned aerial system ("UAS") demonstration articles manufactured using IBC's proprietary Beralcast® technology to the US Department of Defense's Reliability Information Analysis Center ("RIAC") as a part of a program that evolved from a 2011 development and technical services agreement between us, the US military's Army Research Laboratory ("ARL") and the Naval Air Systems Command ("NAVAIR"), headquartered in Patuxent River, Maryland.

In February 2014, we signed a non-binding memorandum of understanding with Nu-Cast Inc. ("Nu-Cast"), based in Londonderry, NH, to collaborate on new beryllium-aluminum investment casting projects and opportunities, initially for the aerospace sector. We plan to work towards increasing manufacturing capacity and improving production efficiencies of our proprietary near-net-shape beryllium aluminum castings. Nu-Cast is supplying tooling and other materials for our F-35 initiative. We continue to discuss joint business development initiatives aimed at increasing market share for IBC's castings.

*ULBA METALLURGICAL PLANT*

We are dependent on Ulba Metallurgical Plant ("Ulba") for our supply of vacuum-cast beryllium and beryllium copper master alloy. Ulba operates a beryllium processing and manufacturing facility and is owned by Kazatomprom, the national atomic company of Kazakhstan. As we have done in the past, we may also be able to source beryllium from the US National Defense Stockpile and a third-party business from time to time. We have entered into long-term beryllium and beryllium copper master alloy supply agreements with Ulba. Ulba's ability to honour its supply obligations will depend on its ability to source raw materials. We are unable to obtain reliable information as to the extent and availability of Ulba's raw material supply, although we understand that production uses long-term stockpiles. Any disruptions in Ulba's ability to manufacture beryllium or CTMA to our specifications would have a materially adverse effect on our business.

In June 2011, we signed a strategic memorandum of understanding with Ulba to further advance and strengthen our relationship and to continue to target emerging opportunities in the global beryllium and rare metals market. Under the terms of the memorandum of understanding, we intend to renew and extend the multi-year binding supply agreements, for both beryllium metal and beryllium master alloys, which will provide us with a consistent and reliable supply. We also agreed with Ulba to examine technological and business development initiatives for the beryllium alloys business.

*OPERATING PERFORMANCE AND OUTLOOK*

*Copper Alloys*

Our first and fourth fiscal quarters are usually stronger than our second and third fiscal quarters. This is due to seasonal factors such as the holiday season and our customers' production schedules. We expect that Copper Alloys sales in the fourth fiscal quarter will be abnormally soft as, in the last few months, we have seen a drop in accepted casting alloys orders. The drop in orders is due to equipment downtime at one of our customers and to certain customers failing to meet our credit requirements. We expect that this trend will continue into the first quarter of fiscal

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2016. We will be able to partially, but not fully, offset this decline with growth from other Copper Alloys product lines. We expect that casting alloy orders will improve over the course of the summer, but they will not necessarily return to historical levels.

Copper Alloys sales are also affected by changes in the underlying price of commodities, primarily copper. Indicative copper prices per pound are:

	2014	2013
June 30	\$3.15	\$3.05
December 31	\$2.85	\$3.42
	2015	2014
March 31	\$2.75	\$3.06

We pass the cost of copper through to our customers and do not hold large inventories of copper. Accordingly our profitability is not, in the long term, affected by the price of copper except to the extent that high copper prices discourage consumption. In the short term, price fluctuations can have a bearing on our profitability as we realize gains or losses on our inventories.

#### *Engineered Materials*

Engineered Materials sales increased, as we shipped several castings for machining and earned revenues as a result. We expect that sales will remain strong in Engineered Materials through the fourth quarter. In spite of the increased sales in the second and third fiscal quarters, Engineered Materials gross margin is still adversely affected by our manufacturing costs being spread over a small sales volume as Engineered Materials has relatively high fixed costs and operates far below capacity. We expect that the sales contribution from F-35 components will significantly improve Engineered Materials margins in the fourth quarter of fiscal 2015 when we expect to begin delivering finished components.

Our Engineered Materials division has typically generated 10% to 15% of our revenues but we expect Engineered Materials' proportion of total revenue to increase over the next few years as that segment grows. In addition, we expect that the seasonality of Engineered Materials' sales will become less pronounced as it broadens its customer base.

#### **Research Initiatives**

From time to time, we sponsor and assist in research initiatives with a view to increasing long-term demand and new market opportunities for beryllium and beryllium oxide. Our primary focus has been on enhanced nuclear fuels, however we are not actively engaged in research at present.

In August 2008, we signed a two-year collaborative research agreement with Purdue to advance that university's existing nuclear fuels research program and to develop a new type of beryllium oxide ("BeO") nuclear fuel that is longer lasting, more efficient and safer than current nuclear fuels. Following successful completion of this research initiative, we signed collaborative research agreements with both Purdue and Texas A&M, in April 2011 to further advance the BeO nuclear fuels project. This research initiative continued until December 2013. In October 2014, we presented a paper at the International Atomic Energy Agency's ("IAEA") Technical Meeting on Accident Tolerant Fuels for Light Water Reactors at the Oakridge National Laboratory in Oakridge, Tennessee.



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Previous work by Purdue nuclear engineers showed that an advanced  $\text{UO}_2 - \text{BeO}$  nuclear fuel could potentially save money by lasting longer and burning more efficiently than conventional nuclear fuels. In addition to cost savings, an advanced  $\text{UO}_2 - \text{BeO}$  nuclear fuel could also contribute significantly to the operational safety of both current and future nuclear reactors due to its superior thermal conductivity and associated decrease in risks of overheating and meltdown.

Under the terms of the collaborative research agreements, IBC has an option to enter into an exclusive royalty-bearing license for commercial application to the intellectual property relating to the development of an advanced BeO nuclear fuel (the "IP") with both Purdue and Texas A&M.

Based on work undertaken in our 2008-2010 research agreement, Purdue filed provisional patents covering the IBC-funded nuclear fuel research. In January 2011, we received reports on the 2008-2010 phase of research and initial testing. These reports concluded that  $\text{UO}_2 - \text{BeO}$  fuel is longer lasting, more efficient and provides a larger safety margin than current nuclear fuels.

The 2011-2013 research work met or exceeded expectations in the critical areas of repeatability and scalability of fuel pellet production, and as-fabricated fuel pellet thermal conductivity. The higher thermal conductivity will allow the fuel to attain the desired thermal conductivity with about one-half of the prior BeO content thereby enabling the fuel to achieve its desired power output with lower enriched uranium content, which improves fuel economics. The Texas A&M team, led by Dr. Sean McDeavitt, successfully established a repeatable lab-scale pellet production method that should enable fuel manufacturers, utility operators and regulators to confidently and consistently accept the physical properties of BeO pellets from one production batch to another.

The next step in this research initiative will be to have an industrial assembly of the BeO-enhanced fuel approved for irradiation in a test reactor. We have not allocated funds to this initiative in the current fiscal year and we are seeking a partner to jointly fund the next development step.

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**Financial**

Except as noted, all financial amounts are determined in accordance with IFRS and expressed in thousands of US dollars, except per-share amount.

*SELECTED QUARTERLY INFORMATION*

During our most recent eight quarters, we have not incurred any loss from discontinued operations or extraordinary items.

Quarter Ended	Revenue	Asset impairment	Loss for the period	Basic and diluted loss per share <sup>1</sup>
	\$000	\$000	\$000	\$
June 30, 2013	5,876	(2,948)	(3,608)	(0.06)
September 30, 2013	4,869	-	(599)	(0.01)
December 31, 2013	3,869	-	(866)	(0.01)
March 31, 2014	3,867	-	(587)	(0.01)
June 30, 2014	4,323	-	(792)	(0.01)
September 30, 2014	4,646	-	(519)	(0.01)
December 31, 2014	5,087	-	(706)	(0.01)
March 31, 2015	4,479	-	(582)	(0.01)

<sup>1</sup> The sum of quarterly loss per share may not add to year-to-date totals due to rounding

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Factors affecting quarterly losses include:

- June 30, 2013 – we impaired certain manufacturing-related tangible and intangible assets incurring an aggregate expense of \$2,948 (see *Results of Operations – Manufacturing* below).
- June 30, 2014 – our Copper Alloys operations had a weak quarter, although this was partly offset by improved Engineered Materials sales. The Copper Alloys weakness was not due to any single factor but had a variety of causes that were not attributable to a long-term trend.

*RESULTS OF OPERATIONS*

*Overview Three Months Ended March 31, 2015*

We incurred a loss of \$582 for the three months ended March 31, 2015 compared to a loss of \$587 in the comparative 2014 period. We enjoyed strong growth in both divisions compared to the same period last year. Selling, general and administrative expenses for Copper Alloys were unusually low on a net basis due to a reversal of a bad debt provision. A summary of our results of operations to income before other income (loss) (“operating income”) follows:

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	Three Months Ended March 31, 2015				Three Months Ended March 31, 2014			
	Copper Alloys	Eng. Mat.	Corp.	Consol- idated	Copper Alloys	Eng. Mat.	Corp.	Consol- idated
Sales	3,683	796	-	4,479	3,503	364	-	3,867
Cost of sales								
Materials	2,056	415	-	2,471	1,626	117	-	1,743
Labour	504	223	-	727	304	172	-	476
Overhead	306	400	-	706	378	246	-	624
Depreciation	121	69	-	190	77	89	-	166
Change in finished goods	(25)	2	-	(23)	443	(16)	-	427
	2,962	1,109	-	4,071	2,828	608	-	3,436
Gross profit (loss)	721	(313)		408	675	(244)		431
SG&A expenses	569	346	276	1,191	484	168	408	1,060
Operating income (loss)	152	(659)	(276)	(783)	191	(412)	(408)	(629)
<i>Gross margin</i>	20%	(39%)	-	9%	19%	(67%)	-	11%

*Overview Nine Months Ended March 31, 2015*

Our loss for the nine months ended March 31, 2015 was \$1,807 compared to a loss of \$2,052 in the comparative period. We enjoyed strong sales in both divisions, with the most noticeable impact coming from F-35-related revenues at Engineered Materials. A summary of our results of operations to income before other income (loss) ("operating income") follows:

	Nine Months Ended March 31, 2015				Nine Months Ended March 31, 2014			
	Copper Alloys	Eng. Mat.	Corp.	Consol- idated	Copper Alloys	Eng. Mat.	Corp.	Consol- idated
Sales	12,082	2,130	-	14,212	11,432	1,173	-	12,605
Cost of sales								
Materials	7,548	817	-	8,365	6,239	298	-	6,537
Labour	1,419	947	-	2,366	1,155	640	-	1,795
Overhead	1,009	1,099	-	2,108	1,301	760	-	2,061
Depreciation	297	244	-	541	311	266	-	577
Change in finished goods	(278)	2	-	(276)	498	(1)	-	497
	9,995	3,109	-	13,104	9,504	1,963	-	11,467
Gross profit (loss)	2,087	(979)		1,108	1,928	(789)		1,138
SG&A expenses	1,198	944	959	3,101	1,563	665	1,097	3,325
Operating income (loss)	889	(1,923)	(959)	(1,993)	365	(1,455)	(1,097)	(2,187)
<i>Gross margin</i>	17%	(46%)	-	8%	17%	(67%)	-	9%

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*Segment Analysis*

A discussion about the significant components of the segment operating loss and net loss follows.

*Copper Alloys*

- A decline in the price of copper reduced our sales by \$218 in the nine months ended March 31, 2015 compared to the same period in 2014. We try to pass price changes (favourable or unfavourable) through to our customers but sharp declines in price adversely affect our profitability due to holding losses on inventory.
- We generated a net recovery of bad debts of \$165 in the nine months ended March 31, 2015. The recovery reflects collection of a \$222 receivable that we had previously fully provided for and the current period bad debt expense of \$57.
- Most of the increase in administrative compensation expense compared to prior periods was due to healthcare costs.
- Depreciation and amortization expense declined from the comparative period as we fully depreciated many assets from the 2008 acquisitions of Freedom and Nonferrous in the intervening period.
- Interest expense relates to line of credit and term loan facilities for our Copper Alloys operations.

*Engineered Materials*

- Engineered Materials gross profit margin is adversely affected by fixed costs being spread over a small sales volume. In the short term, material and supplies costs are the only significant variable expense. We expect that if Engineered Materials sales increase, gross margin will improve as the fixed costs will be spread over a larger sales volume.
- Our manufacturing overhead increased in the current fiscal year as a result of increased production activity and an extensive preventative maintenance program undertaken on our furnace in late 2014.
- Depreciation charges are a significant proportion of operating costs, so while we report an operating loss, the cash flow performance of Engineered Materials is better. We expect that most of Engineered Materials' plant and equipment will be fully depreciated by the end of fiscal 2016.
- In our first fiscal quarter, we experienced a lower than normal yield of non-F-35 components due to equipment and process problems, but fixed those problems in the second quarter.

*Research*

- Although we intend to continue research in the future, we did not undertake research programs in the current period. At the moment, our principal research cost is for our vice president nuclear fuels who continues to work on securing development initiatives.

*Corporate*

- Corporate expenses relates to expenses incurred to manage the overall group, including senior management, fundraising initiatives, business development activities, public company costs and any expenses not directly related to manufacturing or research.

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- Investor relations expense largely comprises consulting fees paid to communicate information about us to current and prospective investors. As a result of new initiatives, particularly regarding our Engineered Materials operations, we increased our investor relations activities and expect they will remain at the current level for the foreseeable future.
- We include corporate-related personnel costs in salaries, wages, and management fees expense. Our CEO and CFO have at various time deferred payment of some or all of their compensation and are currently deferring 100% of their salary until our finances improve. Accordingly the cash operating costs were less than the accrued costs reflected in our financial statements.
- Professional fees comprise corporate audit, legal and valuation fees, other than legal fees incurred to acquire properties or for financings, which are capitalized.
- Other income primarily represents receipts from the sublease of our premises. We recognized only a smaller rental recovery in the second fiscal quarter due to (1) we reduced our office size, with a commensurate decrease in both rental cost and rental recovery; and (2) the poor financial condition of our primary remaining tenant made collection unlikely so we did not recognize the rent recovery.

*CHANGES IN FINANCIAL POSITION SINCE JUNE 30, 2014*

Changes in our financial position since June 30, 2014 relate to operations in the ordinary course other than the issuance of common shares for cash on the exercise of warrants as discussed elsewhere in this MD&A.

*LIQUIDITY AND CAPITAL RESOURCES*

At March 31, 2014, we had working capital of \$2,549 including cash and equivalents of \$185, as compared to working capital of \$2,680 at June 30, 2014. At the date of this MD&A, our corporate segment has exhausted its cash and Engineered Materials is working-capital constrained. The planned private placement (see *Private Placement* below) will provide sufficient working capital to see us through scheduled delivery of certified F-35 components and completion of certain alloy development initiatives under way. Once we have completed those milestones, we believe our financial performance will improve so that we need to place less reliance on equity raises. Factors affecting our liquidity include:

- Copper Alloys generates enough cash to independently support its operations, but Engineered Materials will have to generate additional business to generate positive cash flow. We continue to support Engineered Materials' operations, primarily to acquire beryllium inventory.
- The main limitation on our cash position is the cost of maintaining our corporate office and corporate development initiatives. Related to this are restrictions imposed by our banks that currently prevent us from transferring funds from Copper Alloys to our other segments. Consequently, at present, our corporate office, research and corporate development activities are entirely dependent on our ability to raise equity funds.
- To support our cash position, directors and officers have deferred \$345 of compensation to March 31, 2015. Most of this balance is denominated in Canadian dollars and so this obligation has been favourably affected by changes in exchange rate.

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- We have materials purchase commitments that may exceed our operational needs with the result that we over-invest in inventory. While we currently have more inventory than we need, we expect that increases in production will restore inventory to a normal level.
- Resource prices, particularly for copper, have a bearing on our manufacturing costs and selling prices, as copper is a large component of most of our products.
- We may be obliged to incur material expenditures on purchases of property, plant and equipment to maintain our productive capacity or service customers. In particular, based on sales initiatives under way, we are contemplating the purchase of equipment to expand our capacity to produce Beralcast<sup>®</sup> products. We will need to raise further capital in order to complete such an expansion.

We may be able to generate additional cash by expanding our bank facilities but we will need to raise additional funds to complete our business plan. There can be no assurance that we will be successful in obtaining such funds.

*RELATED PARTY TRANSACTIONS*

We do not have any contractual relationships with directors or officers other than employment contracts in the ordinary course of business. The contracts are not financially material to our business except that our CEO, CFO and executive vice president of business and technical development are eligible to receive payments of up to C\$675, C\$360 and \$405 respectively in the event of a change of control of IBC, if certain conditions are met. Our directors were paid \$36 per year, but agreed in October 2012 to reduce annual director compensation to \$18 temporarily as part of a broader initiative to reduce overhead expenses. Furthermore, our board, CEO and CFO have agreed to defer all of their compensation until IBC's finances improve as described in *Liquidity and Capital Resources* above.

The employment agreement with the president of our Engineered Materials Division expired in March 2015, but we have not yet finalized a renewal of his contract.

*FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS*

Our activities expose us to a variety of financial risks, including foreign exchange risk, interest rate risk, commodity price risk and credit risk. We do not have a practice of trading derivatives. We attempt to employ a natural hedge for foreign currency by holding funds in the currency in which we expect to spend the monies.

*Foreign Exchange Risk*

While most of our activities are in the United States, we maintain a corporate office in Canada and raise money in Canadian dollars. We manage exchange risk on equity capital by converting expected United States expenditures to United States dollars at the time the money is raised.

*Interest Rate Risk*

Our interest rate risk mainly arises from the interest rate impact on cash and cash equivalents and interest expense on the BMO Harris Bank line of credit. Our term loan has a fixed interest rate and is not exposed to short-term interest rate risk.

*Commodity Price Risk*

Our profitability and long-term viability depend, in large part, on the market prices of copper, aluminum and beryllium. The market prices for metals can be volatile and are affected by factors beyond our control, including: global or regional consumption patterns; the supply of, and demand for, these metals; speculative activities; the availability and costs of metal substitutes;

expectations for inflation; and political and economic conditions, including interest rates and currency values. We cannot predict the effect of these factors on metal prices. We do not engage in hedging but, where possible, structures selling arrangements in a way that passes commodity price risk through to the customer.

#### *Credit Risk*

We manage credit risk by trading with recognized creditworthy third parties and insuring trade receivables. In addition, we monitor receivable balances with the result that the Company's exposure to bad debt is generally not significant.

We also manage our credit risk by investing surplus cash in low-risk, liquid securities, typically short-term deposits with large financial institutions.

#### **Environmental and Occupational Safety Issues**

We melt and machine materials that have the potential, if not controlled and handled appropriately, to have a negative effect on health and the environment. In addition, our operations use materials such as cutting and hydraulic fluids, which have the capacity to cause environmental contamination if left uncontained.

To mitigate these potential risks we:

- employ manufacturing practices to minimize and eliminate dispersal of fumes and dust;
- use trap basins and fluid reservoirs to capture and retrieve possible overages;
- use of active exhaust vents/hoods located in equipment areas to capture and filter air;
- regularly scheduled assessment and maintenance of in-house ventilation systems;
- require our employees to use appropriate personal protective equipment (respirators, outer garments, gloves, etc.) selected to limit and protect them from any potential exposures;
- conduct beryllium lymphocyte proliferation tests (BeLPT) to determine employees' potential for sensitivity to beryllium prior to possible exposure;
- undertake ongoing air quality monitoring and perform periodic employee health exams as per occupational health guidelines; and
- limit access to areas that may have a potential exposure to beryllium dust particles.

In spite of these procedures, we remain subject to risk in this regard.

As with all industry, we are subject to periodic inspection by state and local safety, health and environmental authorities. If during an inspection a failing was noted in our system, the potential for the temporary or permanent closure of the facilities could exist. If during the periodic employee health screening, an employee displays elevated exposure to metals, it could require us to place the employee on sick leave, which would have the potential to impact both our direct and indirect costs and cause a disruption of production. There is also the potential that an inherent safety or environmental exposure, if uncontrolled, could initialize a suit by employees or neighbours.

To minimize the risks arising from pre-acquisition activities, we commissioned phase one environmental reviews prior to acquiring our copper alloys businesses. It may be possible that environmental problems remain at our facilities that these phase one assessments did not uncover.

## **Shareholders' Equity**

### *PRIVATE PLACEMENT*

In May 2015, we announced a non-brokered private placement to issue up to 17,500,000 common share units at a price of C\$0.10 per unit for gross proceeds of up to C\$1,750,000. Each unit consists of one common share of IBC and one-half of a common share purchase warrant, with each whole warrant exercisable to acquire one common share of IBC at C\$0.18 for a period of 24 months from the closing date. The warrants will be subject to a forced conversion at our option if our common shares trade at or above C\$0.45 per share for a period of 20 consecutive trading days. The warrants will expire 20 business days after the notice of the forced conversion is sent to the warrant holders.

The offering is non-brokered and subject to necessary approvals including approval of the TSX - V. We will pay a cash finder's fee equal to 7% of the offering gross proceeds and will issue finder's warrants equal to 7% of the number of shares sold under the offering. Each finder's warrant will entitle the holder to purchase one common share at a price of C\$0.10 for a period of 24 months from the closing date.

There can be no assurance that the private placement will complete on these or any terms.

### *SHARE ISSUANCES*

Our board and the TSX-V have approved the issuance of 33,334 shares to settle a contingent liability of \$30 with a supplier but we have not yet issued the shares.

In the nine months ended March 31, 2015, we issued 1,135,451 common shares, relating to warrant exercises described below.

### *WARRANTS*

In the nine months ended March 31, 2015, warrant holders exercised 1,135,451 warrants at C\$0.18 for gross proceeds of C\$204 (\$187). In February 2015, 292,158 warrants expired unexercised and in May 2015, a further 40,383 warrants expired unexercised.

In February 2015, we received approval from the TSX-V to extend the expiry dates of 15,166,997 outstanding C\$0.18 financing warrants issued on February 28, 2013 and May 13, 2013 to February 28, 2016. All other terms of the C\$0.18 financing warrants, including the exercise price remain the same.

### *SHARE OPTIONS*

We have a rolling 10% share option plan that allows for the issuance of options equal to 10% of the number of issued shares. Shareholders approved our 2014 share option plan at our annual general meeting held in December 2014.

In January 2015, we granted incentive stock options to directors, officers, management and certain key employees and consultants, to purchase up to 1,970,000 common shares. The options have an exercise price of C\$0.15, are exercisable until January 16, 2020 and vest in stages over a three-year period, except for options granted to a certain consultant which vest in two tranches on March 31, 2015 and September 30, 2015.

In April 2015, 58,334 options expired unexercised.



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*OUTSTANDING SHARE DATA*

As at the date of this MD&A, we have issued:

- A total of 80,585,813 common shares. In addition, we plan to issue 33,334 common shares to settle a contingent liability to a supplier.
- Warrants to purchase 23,694,286 common shares.
- Share options to purchase 7,814,999 common shares.

The maximum number of shares potentially issuable is therefore 112,128,432.