MINNESOTA CASTING CORPORATION (MCC): A REVENUE RECOGNITION CASE STUDY

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The Minnesota Casting Corporation (MCC) case study presents a real-life, research-based application of the revenue recognition concept. It is cast within the automotive manufacturing industry and the revenue recognition issues surrounding a company with customer owned specialized tooling. In a new deal, the company (MCC) acquires, on a client reimbursement basis, the machinery necessary to produce the inventory item required by the client. Three major issues are to be addressed by the student. First is whether there is revenue to be recognized by the manufacturer (MCC) for the reimbursed cost of the customer owned tool, especially given that MCC includes a "profit margin" to the cost of the tool. Second, when should the revenue from the manufacturing process be recognized? A conversation between MCC's controller and MCC's auditors is then captured and becomes part of the case study. The auditors questioned the treatment given to the reimbursed cost of the customer owned tool. A unique element in this case study is the consideration given to industry practice in influencing accounting treatment afforded transactions. Finally, the case requires the student to determine when and how revenue should be recognized for the unique transaction under the newly enacted revenue recognition standard ASC 606. In summary, this case requires the student to conduct accounting research, apply a principles-based accounting revenue recognition standard to a unique industry where Multiple-Element Arrangements are present, and present a well written solution offering guidance on the treatment of the unique transaction.

Keywords: Revenue recognition; Revenue from Contracts with Customers; Customer tooling; Automotive Industry; ASU 2014-09; ASC 605; ASC 606

INTRODUCTION

Minnesota Casting Corporation (MCC) is a privately held firm that was established in 1989. The corporation has a Japanese parent company and is a tier one supplier of auto parts to Forkrice, a major automotive manufacturer. Being a tier one supplier simply means that the parts MCC produces are sold directly to Forkrice and are not sold to any other company. That also means the parts are shipped in complete form and there is no more value-added activity relating to the parts. When these parts leave the MCC production line, they are shipped directly to an assembly plant where they, along with parts from other suppliers, are assembled into automobiles. MCC has a total of six buildings on its premises; three of which house the die casting departments, one that is a trim shop, and two that are machine shops.

Production Process:

The manufacturing process is fairly simple. The whole production process begins when aluminum is ordered in ingot form much like a brick of gold. The ingot is later melted in a large furnace. The molten aluminum is then transferred to a die cast machine and poured into a holding furnace where the aluminum is kept in molten form, awaiting use. When further processing begins, a robotic arm is used to control a ladle that dips a measured amount of aluminum out of the holding furnace and pours it into a special tool inside the die cast machine called a die. The die is like a giant steel mold that, when filled with aluminum, cooled and then separated, produces an auto part specific to customer requirements. The molten aluminum is cast (aluminum forged) in one of the die cast buildings and then moved to the trim shop area where excess pieces of aluminum are removed. The parts are then taken to the machine shop where specialized machines drill holes in required spots. The finished parts are then packaged and delivered to Forkrice.

MCC's New Deal with Forkrice:

For lack of its own capacity, Forkrice approached MCC in late 2014 with a new product development project for MCC to produce a new line of muffler parts that would require a large investment of capital (around 3 million dollars) for new machinery and equipment. In order to help offset this capital expense and to make the offer more appealing to MCC, Forkrice offered to pay for the expensive die molds required to build the part. Forkrice therefore asked MCC to design the die according to Forkrice's specifications and place the order with the die manufacturer, accept all responsibility for the die throughout its useful life, and then dispose of the die at the appropriate time for salvage. Although technically the die would be owned by Forkrice from the time of invoicing by MCC, Forkrice contended that it would never require possession of the die and would only ask that MCC request permission to scrap the die once it was out of service. The permission to scrap would then cancel Forkrice's ownership rights to the die. After

consideration of various elements, MCC eventually agreed to engage in the project, purchased the machines and dies, and started producing the part (muffler).

Forkrice also indicated that the order quantities for 2015 during the testing and trial phase would be very small - four to six trial events of 3,000 parts each compared to a full order of 700 per day for the 240 working day calendar or roughly 168,000 pieces. However, Forkrice firmly reassured MCC that in 2015 the orders would be large enough to fulfill capacity in the new machines and generate a profit for MCC.

The Die:

The cost of most of the die molds that MCC used ranged anywhere from $60,000 to $100,000 each. The finished part to be produced required a $90,000 die that had a one-month lead time from the time of purchase order. The die had a useful life of 100,000 shots (roughly one month). The first die was ordered in October 2015 and began mass production in January 2016. Throughout 2016 when a die reached 80% of its shot life a new die would be ordered. MCC would pay for the 30% down payment at purchase order time and the remainder at the time of receipt. Once the die was received, MCC would then bill Forkrice for the cost of the die plus a 15% profit margin to cover internal costs incurred.

MCC's Accounting Procedures:

According to the controller for MCC, Amanda Anderson, there was much thought to be put in determining proper accounting treatment of the die mold arrangement. Before she could book the entry to record the revenue of the die mold machine sale to Forkrice she had to first determine if the revenue recognition requirements of the then existing GAAP had been met. The thought of where to research for appropriate authoritative support for her position was daunting and Amanda's thoughts became affixed on her research experiences during her college years.

In January of 2017 MCC went through a financial audit by a well-known and prominent audit firm. Amanda could not help but think of the audit as a "classroom type" test of her GAAP knowledge. After a thorough examination of the books, the auditors had only one major concern - the treatment of the die transaction between MCC and Forkrice. The auditors approached Amanda to discuss their concern. Specifically, the lead auditor argued, "There are many automotive parts suppliers that are contracted by their customers to provide tooling that is specific to that customer's need. Since these suppliers are in business to produce automotive parts and not in the business to construct and sell specialized tooling, the current general industry practice is to be followed in accounting for these transactions". They contended that the earnings generated from the reimbursement of tooling costs should be treated as a reduction of cost of goods sold, not as revenue. Also, any gain or loss realized from the transaction should not be immediately recognized

but amortized over the life of the tooling. Further, the lead auditor explained that "We are especially concerned about a die sale that was invoiced in December 2015 but was not in mass production at all in 2015. In order for MCC to adhere to the matching principal the earnings process would not be complete until the die made the required parts, generated sales, and at that time a portion of the revenue and related cost of goods sold would be recognized."

Amanda began to realize that the auditors were raising issues that she had not considered during her initial process of determining the treatment she would give these transactions. More specifically, she had not considered industry practice. Additionally, Amanda needed certainty as to the accounting for any gain or loss realized from the reimbursement of tooling costs. The auditors explained to her that the auditor assigned to the revenue section of the income statement had suggested that Amanda carefully consider the costs[5] to be used (see footnote) when determining if a gain resulted from the reimbursement from Forkrice and if so, when that gain should be recognized.

In determining when a gain or loss from a transaction should be recognized the auditors were kind enough to show Amanda the guidance set forth in EITF 00-21. After a lengthy discussion about EITF 00-21, Amanda was certain the die mold transaction would be considered a separate unit of accounting under the then existing accounting standards on revenue recognition. Amanda also immediately remembered a recent newsletter she had just read regarding the newly proposed revenue recognition standard that later was enacted and coded as Accounting Standards Update ASU 2014-09, "Revenue from Contracts with Customers."[6] She remembers reading that this update would replace more than 200 different pieces

[5] When determining the costs incurred by MCC the auditors wanted to see back up documentation to support the 15% mark up on the cost of the die. Amanda knew that the 15% ($13,500 mark up on each die sale) was a percentage used as a general rule but not supported by any facts. She then sat down and calculated all of the internal costs in order to see if the 15% was reasonable. She looked at the salaries and benefits associated with employees who were involved with the design, ordering, receiving, and customer acceptance of the die. She calculated machine and production supplies costs to make sample parts. She also calculated freight costs incurred to obtain the die and to send sample parts to the customer for approval. The internal cost that Amanda calculated totaled $10,000.

[6] On May 28, 2014, the FASB completed its Revenue Recognition project by issuing Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. On August 12, 2015, the FASB issued an Accounting Standards Update (ASU) deferring the effective date of the new revenue recognition standard by one year. The new guidance on revenue recognition is effective for annual reporting periods beginning after December 15, 2017. Additionally, the Board decided to permit both public and nonpublic organizations to adopt the new revenue standard early, but not before the original public organization effective date (that is, annual periods beginning after December 15, 2016). [https://www.fasb.org/jsp/FASB/FASBContent_C/CompletedProjectPage&cid=1175805486538]

of specialized guidance that had developed over time in U.S. GAAP for revenue recognition under various industries and circumstances and in fact might support her treatment of the die transactions. Although the requirement for adoption of the new standard was effective for reporting periods beginning after December 15, 2017, companies were permitted to adopt it on or after December 15, 2016 if they so chose.

Even after Amanda felt like she had proven that the die sale met the requirements found in the then existing standards and recommendations, the auditors still needed more information before they were completely satisfied. The dialog that ensued was as follows:

Lead auditor: Are there two separate contracts for the die purchase and the automotive parts purchase?

Amanda: Yes, there are two distinct contracts - one representing the agreement to purchase the die molds used to make the mufflers along with its cost reimbursement; and one that represents the agreement to purchase the parts themselves. To me, these look like two separate and stand-alone contracts.

Lead auditor: Is the piece price for the automotive parts dependent on MCC'agreement to acquire the die and was the price for the auto parts subject to competitive bid?

Amanda: Even though the quoting process does contain a bid for lowest price for most auto parts MCC makes for Forkrice, in this instance there were no other suppliers considered for the business. This was mainly due to the amount of investment that would be required by the supplier as well as the complexity of producing the part. For this part, Forkrice wanted a supplier with the capital available to make the investment and one that could be depended on to produce a quality part and to deliver it on time. This was such an important product line to Forkrice that the usual priority of lowest quote was displaced for supplier quality and performance.

Lead auditor: Is there any evidence that the price of the die and the price of the automotive parts were negotiated separately?

Amanda: Here are the two separate contracts showing the price negotiations and the terms agreed upon.

Lead auditor: How dependable is Forkrice in meeting its contractual obligation?

Amanda: Forkrice has been a very dependable customer and collections are reasonably assured.

Lead auditor: Does MCC ever sell only automotive parts without also selling a specialized tool?

Amanda: 98% of all of the parts we produce are made without customer owned tooling. In those cases, we purchase the die and follow the standard procedure explained to you at the beginning of the audit (Amanda rolls her eyes).

Through these questions the auditors wanted to ensure that not only were GAAP standards being met but also if there were distinguishing circumstances that made the transactions of MCC different than those usually seen in the industry.

During this process of discussing these transactions with the auditors Amanda really started to worry. If the auditors made her remove those die sales out of the revenue section into the cost of goods sold section, she would be in big trouble with the executives. MCC had invested millions of dollars in capital over the last few years to improve the machinery and give the aging plant a much-needed upgrade. It was very important to upper management that revenue targets be met in order to help offset and justify the expense of the recent improvements and new product lines. The earnings from the die sales to Forkrice were budgeted as a part of sales. Since MCC is a small company of about $80 million in sales, to reclassify the annualized earnings would mean that MCC would face the risk of not having met its sales targets. Amanda decided she had no choice but to immerse herself in these issues so she could determine if she had treated all the transactions correctly. Considering MCC was a small company, it didn't have the resources or time for Amanda to continuously keep up with the constantly changing GAAP regulations. Amanda realized she had to do a lot of research to refresh her knowledge of existing revenue recognition requirements as well as to familiarize herself with the proposed new requirements. She researched everywhere she could think of, including the FASB and AICPA resources, to find answers to the auditor's questions.