



Inventory Valuation Issues at AKL

By Grace S. Morin, CPA

The president probably won't support Matt unless he ignores the inventory problem. Does Matt's job hang in the balance?

Abstract

Matt, the new controller of a promising manufacturing company, is troubled by the inventory valuation practices he finds. Examine the facts for AKL and determine the course of action you believe should be taken.

Background

AKL was a job-shop. It manufactured and designed equipment for radio transmission towers. Tight specifications were required for microwaves to travel with integrity through the rectangular, elliptical or round metal pipe-like conduits. Usually the equipment systems were unique and, with normal wear and tear, replacement parts were often needed in five to seven years. The orders for replacement parts from the end-users were almost always sole-sourced to the company that made the original systems. Repair parts were considered to be an important and profitable element of sales.

AKL's component parts inventory was made up of 105,000 different item numbers. If you walked through the plant, you would see very large ductwork and other types of items that were easy to count and verify. Also, there were three room-size, secured "cages" that contained items very difficult to verify. In these cages, one could find precisely milled, small gold- and silver-plated fittings, with inventory valuations ranging from about \$500 to \$1,000 each, and often more. In total, the parts inventory value was several million dollars, a high investment for a company doing \$11 million in sales.

The small, milled items in inventory were made on computer-aided milling machines. A typical job at a milling machine involved a significant amount of time for set-up, the run of several pieces so the quality department could test them for very tight size tolerances, and then the run of however many pieces were requisitioned by the job. Sometimes several attempts, and many test pieces, were needed to get the tolerances through the quality department. Once approved, the actual run time was fast. For example, the set-up time of Item #34571 might be 4 ½ hours, the production of the test items and the quality check might take 45 minutes, and the run time might be 6 minutes each. So, the total time committed to make five acceptable units would be 5 ¾ hours, and the total time committed to make 10 acceptable units would be 6 ¼ hours. Clearly because of the set-up time, and reject material before the first good unit was milled, the unit carrying cost varied considerably, depending on how many units were made. As a result, the company



almost always chose to make more units than immediately needed and put the excess into inventory to use as replacement parts that were expected to be sold in four to five years.

AKL was fixed-asset intensive, due to the amount of machinery needed. It had been in business seven years, and was founded by three talented engineers who used to work for a larger company. None of the founders had much money to put into the business, but they were trying to keep the company privately held. Consequently, the company relied primarily on banks and equipment suppliers to provide the needed loans for plant and equipment, and for operating capital as the company grew. The asset-based loan for the operating cash meant at least quarterly audits by the bank, and close contact with the principal lending officer in charge of the account.

The company was located in a relatively rural part of the state, and was hiring more and more people as it grew. Currently it provided jobs for 137 local people. It trained them, provided good wages, urged continuing education and was considered a good place to work. The product was highly regarded, with dependable engineering and extremely high product quality.

The price competition in the market was significant. The rework in the company was not excessive, and AKL was growing, though struggling from time to time.

The Problem

One issue had always been there, but no one had known to look for it: the inventory valuation. The original CFO, Charlie, was the brother of one of the founders, and was a bright, likable, quick-witted person, with a good head for finance and accounting. From inception, the company had valued the inventory based on an equal costing of all of the units produced in each machine run. Using the previous example, if 10 units were produced, and the cost was a total of \$5,000, then each unit would be valued at \$500. If five units were actually required for the immediate order, then \$2,500 would be posted towards the cost of the job, and \$2,500 would be posted to inventory, as the other five units were put into general stock. The company assumed the leftover units were very good inventory parts that would, indeed, be sold in the upcoming years.

In year 6, Charlie the controller quit to start his own campground on the shore of a nearby lake. Matt, a CPA, was hired to be the new controller. Matt was familiar with engineered products and manufacturing companies, since he had audited several of them. Despite his experience, learning AKL's business was a formidable task, which included catching up on and building new systems, and managing with a lean staff. Matt did a good job, but it took over a year for him to really understand the business.

Matt found the inventory turnover distressing. His recent calculations showed that the turnover had decreased each year. Once the new computer systems were operational, he started running aged inventory reports. At first the data from the old, half-manual system wasn't in the new computer system, so he couldn't get the history he needed. But, as time went by, he realized just how much "old" inventory was in the cages. He had been suspicious because he often went into the cages to test count with the auditors, or just to



walk around and familiarize himself with the pieces. Matt began to suspect he was going to find something amiss.

Towards the end of year 7, Matt went to the president with the problem. The president genuinely could not understand Matt's concerns, because he looked at the matter from a practical unit-cost point-of-view. However, not only was he starting to get information from the computer system, but Matt had also dug into old card files and found the age of some of the units. Five, six and even seven years was not uncommon.

Matt reminded the president that "inventory" was by definition a current asset. The president impatiently told Matt that all of the inventory would eventually be used. Some of the older inventory was the most valuable, he said, because it would be the most profitable when the systems for which the items were built broke down. The more time went by, the closer those systems were to needing repairs.

The president, as much as he liked Matt and appreciated the good job he had been doing, clearly looked worried, and frowned as Matt left the office to think things over. The president was very aware that the operating line of credit was "asset-based." It provided the cash that paid the weekly payroll and the vendors. It relied mainly on the current asset balances to calculate the line's upper limit, which was usually used to the fullest. The president wanted all of the current assets, including the parts inventory, at the highest value possible so money could be borrowed from the bank based on those values.

Matt was also very aware of the dilemma. Due to the old, semi-manual inventory system, or the technical and complex nature of the inventory items, or the inexperience of the bank auditors and the independent auditors, there had never been one question, as far as Matt knew, about whether the inventory was "good," or current.

It was clear that the president believed the inventory approach was correct and wanted to maintain it. Since the independent auditors had accepted the inventory valuation every year, and since the bank auditors had allowed it every quarter, Matt set out to research how he could justify retaining the current approach.

The Choices

"Inventory" kept coming up in his research as something that had to be used sooner than a lot of the parts in his company's inventory were being used. Matt decided to think aggressively. Maybe, as a compromise, he could create a new non-current account called "Investment in Parts." Then Matt remembered that the president and other engineers had told him that systems would break in four to five years. Why, then, were parts left from seven years ago? Clearly, some of the systems took longer to break down. Or were these systems even in use anymore? Maybe they had since been decommissioned or blown away in tornadoes, for all Matt knew. It seemed possible these old parts would never be sold. Matt began to doubt if he could justify even a new, aggressive, non-current account for these items.



Matt groaned inwardly as he thought what would happen to the current financing arrangement if the inventory had to be significantly reduced. First, he would have to determine how much it should be reduced, which meant a battle with the president and the engineers. But who was more qualified than the engineers to help determine if inventory items would really be used currently? Who would be his ally on his quest to correct the valuation? The bank's lending officer came to mind, but if Matt were to enlist his help, would it appear that the officer hadn't properly reviewed the work of the bank auditors, or had succumbed to the hype of the optimistic president? Suddenly one of banker's strongest clients would have an abrupt drop in its line of credit, and wouldn't be able to pay its bills or payroll. All company assets were mortgaged or already used as collateral, so there was no cushion.

Could Matt enlist the help of the independent auditors? An investigation into inventory for the last several years would require a lot of extra audit fees, which the company could ill afford. Plus, the bank or the company might sue the auditors for failing to do a thorough job in previous years. Restated financials might well make the company miss the profit targets required by the loan covenants.

Matt thought about trying to institute a new policy, in which the company could still make production runs in excess of what was immediately required but would cost the overruns incrementally in general inventory. Thus, an immediate order would be charged with the lion's share of the cost, and the excess items manufactured would be costed very low. Matt quickly realized that if he implemented that system, there would be slimmer job margins and losses on many jobs. Had the company been fooling itself into thinking that it was profitable in the first place? Had the method of calculating a bidding quotation been erroneous from the very start?

If Matt started telling the engineers and the estimators that they were doing their jobs incorrectly, and informed the president that he had to notify the auditors and bank that the inventory was wrong, where would it end? Would Matt lose his job? Would everyone in the company lose their jobs, since the company might not "make payroll"? Would the banker lose his job? What would happen to the auditors who had been assigned to the job?

Matt wanted so much to go along with the existing approach. But by doing so, was he just postponing an inevitable demise? Would someone else discover this problem and blame Matt for not finding it, since he was the resident accounting professional? Matt felt that he might single-handedly be causing his company to fail and be putting his professional reputation in jeopardy.



Comments on “Inventory Valuation Issues at AKL”

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There are two issues involving generally accepted accounting principles that Matt should recognize. The first relates to his concern about inventory turnover and the potential need to write down inventory to reflect obsolete and excessive spare parts. The second issue is how to price inventoried spare parts in the future.

Obsolete/Excessive Inventory

The AKL spare-parts inventory accounting is a complex accounting estimate. Management has made an economic decision to produce extra high-cost inventory items over and above what is needed for a given radio transmission tower job. The decision is driven in part by production run cost savings. AKL has used the average cost method for allocating parts to specific jobs and to spare-parts inventory. Matt is concerned about whether the cost allocated to inventory is recoverable. The primary question at this point is whether the spare parts should be written down to net realizable value.

GAAP demands that the spare-parts inventory be analyzed, and, if excessive or obsolete/impaired inventory is present, that the inventory be written down to its net realizable value. AKL needs to undertake this task before issuing new financial statements. Moreover, if existing spare parts are deemed to be excessive, AKL should revamp its assumptions and policies for producing and inventorying future spare parts.

If inventory write-down is necessary, it should be accounted for as a change in an accounting estimate and recognized in the current period income statement. The write-down of inventory to realizable value usually is reflected in the cost of goods sold, unless the amount is unusually material, in which case GAAP requires that the loss be separately identified in the income statement as a part of income from operations.

In deciding on whether an inventory write-down is called for, Matt should not focus primarily on losing his job, on the possible actions of creditors or the demise of the company. These are certainly important concerns, but they are secondary issues, none of which would justify treating inventory amounts as assets when they are not. If Matt were to ignore the inventory valuation problem, the consequences of his action—civil and perhaps even criminal liability—would be far greater than the secondary concerns. Matt needs to do what GAAP requires and what is right. In carrying out this responsibility and making the difficult decisions that are involved, he, of course, should demonstrate empathy and compassion for those affected by his decision.



Future Inventory Pricing

The average cost method that AKL currently uses for spare-parts inventory may comply with GAAP. Again, the problem may be overproduction of spare parts, not costing the parts in excess of net realizable value. However, if the analysis of spare-parts inventory (discussed above) demonstrates that the cost charged to individual inventory parts exceeds net realizable value, then AKL should change its cost allocation method to reflect market reality.

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AKL’s new controller, Matt, has a true dilemma. While he suspects that the company’s long-established method of valuing its inventory is inappropriate, he has no clear-cut evidence that (1) the valuation will not be justified upon eventual sale of the five- to seven-year-old parts or (2) that the bank auditors and its lending officer and the outside financial auditors have been incorrect in accepting the company’s valuations. Although he believes the expected realization of five to seven years indicates the parts inventory does not fit the definition of a current asset, Matt is also aware that both sets of auditors have accepted the company’s evaluation and classification. Is the dilemma an ethical one or merely a case of differing views regarding professional judgment?

First of all, Matt has an obligation to test his opinion that some of the inventories may, in fact, be worthless because the systems for which the parts were being “saved” are no longer operative. Before confronting the president, bank and auditors with allegations of inappropriate behavior, he must back up his claims. A sample of the customers who have purchased systems from the company in the past should give him some idea of the systems’ current usage. Are the systems operative (but working better than expected without needed replacement parts) or have they indeed been discarded for other systems? Armed with this information, Matt can proceed to satisfy his professional responsibilities.

If Matt’s additional research convinces him the parts inventory is overvalued because of obsolescence, etc., he should bring his findings to the company’s president, along with his suggestions for determining the appropriate valuation. If the president refuses to revalue the inventory, Matt must consider whether he should remain in his current

position. Since the company's financial statements reflect the representations of management and Matt is part of that management, he does not want to be associated with false and/or misleading financial statements.

Assume, on the other hand, that the sample survey suggests the parts will eventually be sold, bearing out the president's allegation of their true value. Revaluation of the inventory may not be necessary, but disclosure of the lengthy time period over which the costs will be recovered should be considered. Despite Matt's concern that neither the bank's auditors nor the independent auditors have considered the possibility of non-current inventory, this is highly unlikely. It is much more probable that the bank and other capital suppliers have factored the risk associated with long-term realization into their interest charges and sales prices, respectively.

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Executive Summary

Matt, the controller of AKL, has an ethical dilemma because inventory turnover of the replacement parts is decreasing each year and some parts have been carried in inventory for seven years. He is uncertain about the future usefulness of the parts since the president and other engineers told him that systems would break in four to five years. Matt has discussed the matter with the president, who reminded Matt that the older inventory would be used and was potentially more profitable than newer inventory because of its lower cost basis. Moreover, both the bank auditors and independent auditors allowed the inventory to be valued at the original cost every year. Matt knows that the president will resist any suggestion to lower the value of inventory because it is slow-moving since bank loans are based on the level of current assets. If the bank reduces the loans because of an inventory write-down, then the company may be unable to pay its vendors and meet weekly payroll.



Stakeholders and Interests

The bank is a major stakeholder since it provides the funds that enable the company to meet operating needs. If Matt recommends a write-down of inventory, then the restated financials might prevent the company from meeting the profit targets required by the loan covenants. If Matt ignores the inventory problem, then the bank would not receive full disclosure and the loans will be based on inaccurate information.

Employee jobs and the company's existence may be in jeopardy if the bank reduces the amount of operating loans that it provides to AKL. Moreover, the equipment suppliers may be reluctant to continue to provide credit for the purchase of plant and equipment once it becomes known that the bank has lowered its lending.

Since the bank auditors and independent auditors have not questioned the carrying value of inventory in the past, they may wonder about the integrity of the company and its top management if Matt now raises questions about proper value. The company's relationship with its auditors may be affected by the disclosure.

Matt is a stakeholder since the president probably won't support Matt unless he ignores the inventory problem. The president is likely to use past inaction by the auditors to support keeping the inventory at its current level. Matt's job may hang in the balance.

Ethical Issues

The bank has a right to receive accurate and reliable information about the market value of the inventory if it is below the cost. Matt has a duty as the controller to make sure the financials provide such information. He would be violating his ethical obligations as a CPA if he allowed biased information to go forward to the bank. The profession's ethical standards require Matt to be objective and maintain integrity in carrying out his responsibilities as the company's controller.

Matt has a responsibility to the independent auditors because they rely on the controller's work in planning and executing the audit. He should not allow his relationship with the independent auditors to be jeopardized by the pressure the president will apply if he discloses his concerns about the inventory valuation.

Matt has a conflict between his loyalty to AKL and his ethical responsibilities to the bank and the independent auditors. He should not subordinate his judgment to that of the president merely out of a sense of loyalty. There should be a sound accounting reason to keep the inventory at its current level. It should not be done out of concern for the potential harm to the company if he insists on full disclosure.

Alternatives

Matt has already identified a variety of alternatives, including changing the company's policy to charge current orders with a larger share of the cost representing some of the over-production and discussing the matter with the independent auditors. He should enlist the help of the independent auditors since they also have an ethical obligation to the bank. By working together, Matt and the independent auditors may be able to come up with a



solution that respects the rights of the bank and the vendors as suppliers of credit to AKL to receive accurate and reliable financial information about the current market value of the inventory.

Matt should approach the president before going to the independent auditors. If the president denies permission for him to speak with the auditors, then he should consider resigning his position. Since AKL is privately held, there may not be a board of directors, but if the company does have one, then Matt should approach that group with his concerns about the need to resign. He may also choose to speak with a trusted adviser about the situation.