Excess/Residual Inventory in a Proposal Audit

The Scenario

Risk Assessment-Research and Planning:
The auditor was assigned to audit a $28 million firm-fixed price proposal for the Army. The 1-year proposal represented Lots 5 and 6 for production of specialty infrared night vision goggles. The proposed contract is a negotiated procurement that required the contractor to certify that the proposed cost or pricing data was current, accurate, and complete. The predecessor contracts for the previous lots had the same requirements. The auditor did an initial review of the proposal and determined that it complied with the Request for Proposal (RFP) requirements and was adequate for audit. The auditor reviewed the permanent file and documented information about the contractor, DCAA audit history, and the status of the relevant business systems.

- The contractor designed and manufactured night vision goggles for all the Military Services and state and local law enforcement.

- Per the current internal control questionnaire (ICQ), the contractor was medium sized with about $95 million in sales. Government contracts represented 70 percent of the sales and all Government contracts were fixed price.

- DCAA performed a pre-award accounting system audit 2 years ago in conjunction with a proposal audit. The audit report stated that the contractor's accounting system was adequate for accumulating and billing costs on Government contracts.

- Contractor was required to have an adequate estimating system in accordance with Defense Federal Acquisition Regulation Supplement (DFARS) 252.215 (c). The contractor had an estimating system description of its policies and procedures, but neither DCAA nor the Defense Contract Management Agency (DCMA) had evaluated the contractor's estimating system internal controls.

- The contractor was required to maintain an adequate purchasing system, but the Administrative Contracting Officer (ACO) had not yet approved it. The DCAA permanent file included copies of the purchasing policies and procedures dated 1 year prior.

- At DCMA's request, DCAA performed an audit of the material management accounting system (MMAS) 7 months ago and reported non-compliances with the DFARS 252.242-7004 MMAS standards. The contractor had submitted two corrective action plans which the ACO, in consultation with DCAA, determined did not adequately address all the reported deficiencies. Unresolved deficiencies included:
  - The system description, including policies, procedures, and operating instructions, was inadequate (MMAS Standard 1);
  - Bill of material (BOM) accuracy was inadequate to ensure that the bill of material consistently represented contractually required materials and quantities (MMAS Standard 2); and

- Contractor had insufficient system monitoring controls to identify, report and/or resolve internal control weaknesses and system overrides (MMAS Standard 3).

- DCAA audited the proposal for Lots 3 and 4 of the predecessor Army contract. The only finding was the contractor used new vendor quotes rather than relevant purchase history to price some electronic material parts. DCAA also audited several other proposals in the last year and identified no major exceptions or questioned costs.

Risk Assessment-Discussion with Requester and Administrative Contracting Officer (ACO):
The auditor discussed the proposal and the scope of the planned audit with both the requesting Procurement Contracting Officer (PCO) and the DCMA ACO. Both stated that they did not have any concerns about the program or suggestions for specific areas or costs to be audited. Neither had identified issues with contract performance or progress payment billings on past production lots.

The auditor asked the ACO about the status of the reported non-compliances identified in the MMAS audit. The ACO stated that they requested the audit because a Navy Contracting Officer's Technical Representative (COTR) had some concerns about the contractor's MMAS for identifying necessary materials and quantities to meet required delivery schedules. The MMAS audit results substantiated those concerns. The ACO had a corrective action plan submitted by the contractor that DCMA considered adequate to address the deficiencies. The ACO would be requesting a DCAA follow-up audit shortly.

Risk Assessment-Initial Review of Proposal:
The auditor reviewed the proposal and documented information about the proposed costs and basis of estimate (BOE[1]).

- Current proposal for Lots 5 and 6 was a follow-on to the contract for Lots 3 and 4. Lot 3 was recently delivered, but Lot 4 was still in production. Lots 1 and 2 had been complete for 2 years.

- The proposed unit cost for Lots 5 and 6 included direct labor, direct material and indirect costs. The contractor used the actual incurred cost for Lots 1 and 2 as a historical basis to develop the proposed unit cost for Lots 5 and 6. The basis of estimate stated that Lots 1 and 2 actuals had been the basis for Lots 3 and 4 unit costs as well.

- Proposed direct labor and indirect rates were based on the current forward pricing rate agreement (FPRA) with DCMA.

[1] The basis of estimate (BOE) is the part of a contractor's proposal that identifies the sources of data and the estimating methods and rationale used in developing the proposed cost estimates. The contractor should include a basis of estimate description for each major cost element or significant sub-cost element.

- Proposed labor hours were based on Lots 1 and 2 actuals that were adjusted using improvement curve applications[2].

- Proposed materials costs were listed in a consolidated bill of material that identified the part numbers, the quantity required for each part, unit price and total price for each part, and price basis. Most of the proposed parts were priced based on purchase history from Lots 1 and 2. The proposal included detailed engineering drawings that identified the parts required for production and mapped the parts to the bill of material.

Entrance Conference:

The auditor met with the contractor's audit liaison and the proposal preparer to gain an understanding of the basis of each cost element in the proposal, the related supporting documentation, and the relevant policies, procedures, and processes (walk-through of the proposal). At the auditor's request, the contractor representatives discussed how the reported MMAS deficiencies might impact the current proposal and how the corrective action plan addressed those risks. In addition, the auditor asked questions about the proposal as well as the contractor's assessment of fraud risk and knowledge of potential fraud that might affect the proposal.

Auditor Question: "Why weren't the actuals for the completed Lot 3 production considered in developing the proposed unit cost?"

Contractor (proposal preparer) Response: "The proposal team discussed this but our company's program management office stated that they were still finalizing costs on the Lot 3 production so the actuals might not be entirely reliable as basis to price the new lots. The Lots 1 and 2 actuals had also been used to develop unit costs for Lots 3 and 4."

Auditor Follow-up Question: "What role does the company's program management office have regarding costs charged to the contract?"

Contractor (proposal preparer) Follow-up Response: "Our program management office is responsible for all costs charged to contract, including determining whether costs charged are allowable and allocable to the contract."

Auditor Question: "What does management consider to be the risk of fraud related to this proposal or contract program?"

Contractor (audit liaison) Response: "With the Army program, I suppose theft of materials or supplies would be the greatest fraud concern. We believe our estimating system internal controls are sufficient to prevent any potential issues with the proposal preparation process. In particular, we rely heavily on our

[2] Improvement curve theory is based on the principle that the time required (labor) to produce successive quantities of a product decreases with (a) additional experience and (b) introduction of improved methods and tools unless there is a significant change in the production. The improvement will result in a corresponding reduction in the time required to produce the product and, therefore, a reduction in the cost of the product. The improvement curve itself is a graphical representation of hours expended per unit to produce a product or service as a contractor gains experience with it. It normally shows a declining trend in hours as additional units are produced. DCAA uses a quantitative methods software program that applies the historical improvement trend to predict or estimate the hours required to produce additional units. Since the reduction is primarily due to increased knowledge and skill, the curve is also referred to as the learning curve, experience curve, or progress curve.

program management technical staff to provide the appropriate historical contractual cost data and technical requirements for use in preparing the cost and technical proposals."

Auditor Question: "Is the company aware of any allegations of fraud or suspected fraud made by employees, former employees or others related to this program?"
Contractor (audit liaison) Response: "I am not personally aware of any such allegations, but you need to verify that with our legal department."

Auditor Question: "What potential fraud or suspected fraud related to this program is the company aware of?"
Contractor (audit liaison) Response: "Again I would refer you to our legal department. However, I'm not sure why we are having all these discussions about fraud. This seems like a pretty straightforward proposal based on definitive, reliable historical cost and pricing experience. We have done a great job meeting the Army's needs before and we will again with these follow-on production lots."
Auditor Response: "To comply with Government Auditing Standards, we are required to plan and perform our audits to detect instances of fraud or noncompliances with laws and regulations that are significant to the audit subject matter. We comply with this requirement by making inquiries of management about their knowledge of potential fraud and areas of fraud risk. Public accounting firms are required to make these same kinds of inquiries."

Audit Team Brainstorming for Fraud Risk Assessment:
The auditor met with supervisor to discuss the results of the risk assessment/preliminary audit procedures performed and to brainstorm about the potential audit risks for proposal misstatements due to fraud or error that could affect the proposal audit. Their primary concern was the outstanding MMAS deficiencies and the potential impact on the historical material costs used to develop the current proposed unit pricing. They also could not rely on the unaudited contractor estimating and purchasing system internal controls.

The auditor also was skeptical about the validity of the contractor's explanation why the Lot 3 actuals were not used. The auditor suggested ongoing incurred costs audits might result in some adjustments to indirect costs, but the direct labor and direct material costs used for Lot 3 should be final and, therefore, valid historical costs to price Lots 5 and 6. To address the identified risks, the team decided to perform the following audit procedures for the proposed material costs.

- Scan pertinent contractor records (cost charging entries, adjusting entries, production bill of material, master production schedule reports, and inventory records) from the MMAS related to Lots 1 and 2 to identify any transactions that might impact the reliability of the historical material costs. Transactions needing further review would include:
  - materials purchased/charged to contracts in excess of requirements,
  - material charged but not required for contract,
  - no cost transfers, and
  - unusual adjusting entries affecting material cost charging.

- Compare the Lot 3 direct cost actuals by cost element to the Lots 1 and 2 actual costs and document any significant differences.

- For the proposed material parts on the consolidated bill of material for Lots 5 and 6, verify that the proposed unit prices and quantities agree with the Lots 1 and 2 purchase history source documents and the material quantity requirements in the proposal's engineering drawings and supporting documents. The auditor will do the testing by:
  - performing a 100 percent review of each part with a total price of more than $100,000; and
  - for all other parts, develop a statistical sample using a sample size sufficient to address a high risk of misstatements (high expected error rate) which the auditor is unwilling to accept (low tolerable misstatement).

Results from Audit Procedures:
The auditor reviewed the MMAS records, compared Lot 3 and Lots 1 and 2 actuals and documented the results.

- The MMAS records related to Lots 1 and 2 included several material transfers of a specialty lens part to the Lot 4 production with no associated costs. The program manager authorized all the transfers that were made in small $50,000 increments. The total material costs associated with the transferred material was over $3 million. One transfer document had a notation about a purchasing quantity order error resulting in excess inventory.

- The auditor did not find any MMAS exception reports identifying excess inventory for Lots 1 and 2.

- The actual Lot 3 direct costs were more than 35 percent less than the direct costs for Lots 1 and 2. Most of the difference related to direct material costs. The reduced amount of specialty lens material charged to Lot 3 versus what was charged to Lots 1 and 2 accounted for about 60 percent of the material cost difference.

Additional Audit Procedures and Results:
Based on the results from this testing, the auditor and supervisor determined that Lots 1 and 2 actuals likely included excess inventory costs and were not reliable historical costs on which to estimate Lots 5 and 6. The auditor suggested comparing the unit prices and quantities for the previously selected Lots 5 and 6 proposed bill of material parts to the Lot 3 purchase history. The supervisor concurred and the auditor performed the comparison testing and documented the results.

- Of the parts with total costs of $100,000 or more, the only exception noted was with the specialty lens part. The proposed quantity for this part was significantly more than that used in the Lot 3 production. It also exceeded the material requirements listed in engineering documents.

- Of the parts selected by the statistical sample, the proposed quantity for five material parts was more than that from the Lot 3 actuals and the required materials listed in the engineering documents.

Further Actions:
The auditor and supervisor discussed the results of the audit and the identified deficiencies in the material pricing. The supervisor agreed with the auditor that they should submit a fraud referral. The contractor's MMAS records showed excess inventory on Lots 1 and 2. The contractor used these actual costs to price Lots 3 through 6 resulting in an overstated fixed price for these contracts. The transfers of excess inventory to Lot 4 with no associated costs also increased profits on that contract. The fact that the MMAS did not generate exception reports that identified the excess inventory was also a concern and an additional MMAS internal control deficiency. The team agreed on the following actions related to the direct material audit findings.

- Calculate the questioned material cost and incorporate into the proposal audit report.

- Contact a local DoD criminal investigator and brief them on the results of the audit and the forthcoming fraud referral.

- Submit a written fraud referral, DCAA Form 2000, for the direct material irregularities identified in the audit.

- Draft an audit lead to test for excess/residual inventory in historical costs used as a basis to price follow-on contracts.

- Issue separate business system deficiency reports for the identified MMAS and estimating system non-compliances with the applicable DFARS requirements.

- Discuss the audit results with the PCO and ACO. In particular, recommend that the ACO begin withholding on progress payments until the contractor has satisfactorily corrected all the reported business system deficiencies. Also recommend that the estimating and purchasing systems be evaluated as soon as possible.

- Establish defecting pricing audits for the predecessor contracts for Lots 1 and 2 and Lots 3 and 4.

General Comments/Lessons Learned:
Excess or residual material is material that is acquired or furnished for a contract and not used or consumed during the performance of that contract. Title to excess contractor-purchased material belongs to the Government under completed cost-reimbursable contracts. Title to excess or residual materials on a firm-fixed-price contract normally resides with the contractor. The contractor can manipulate excess or residual material in its MMAS resulting in the overstatement of the cost of follow-on contracts. Untimely transfer of excess inventory on either cost-type or

fixed-price contracts affects the proposed costs for the next follow-on contract. When the contractor bases the proposed costs on historical costs that include excess inventory, the cost of excess parts may be double-counted. Additional problems occur if the excess is then transferred to the follow-on contract at no cost. Actual costs for the first contract are overstated, while the actual costs for the follow-on contract are understated. The contractor can also overstate costs on a follow-on contract by purchasing new parts when excess or residual material is available to satisfy the contract requirements. The contractor's MMAS should have adequate controls to identify excess or residual inventory when first known and properly price material transfers of the inventory.

FRAUD INDICATORS

- **No reporting of residual/excess materials.**
- **Transfers from prior lot work orders to current or forecasted work orders.**
- **Transfers from cost-type to fixed-price work orders.**
- **Transfers from cost-type to commercial work orders.**
- **Mass transfers to scrap accounts.**
- **Mass transfers to an inventory write-off account.**
- **Transfers to or via a suspense or any type of holding account.**
- **Lengthy time periods between when material is received and charged to the contract.**
- **Poor internal controls over physical inventories.**
- **Disproportionate increase in the proposed scrap factor.**
- **Disproportionate increase in the inventory write-off account.**
- **Large quantity of or significant costs for "found" parts.**
- **Proposed material costs on follow-on contracts are based solely on historical costs without consideration of actual costs incurred on the original contract.**
- **Management non-disclosure or vague explanations of significant events that may have an effect on inventory levels to the Government.**