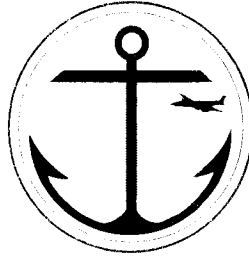


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OFFICE OF THE INTERNAL AUDITOR

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## **Internal Audit Report 2001-8 Change Orders Purchasing Department**

**Introduction.** We have completed a statistical analysis of construction contract change orders (contract amendments). Title 7 of the Anchorage Municipal Code (AMC) states that contract amendments shall not be used to avoid procurement by competitive procedures. Contracts for supplies, services, professional services and construction may be amended only for the following reasons:

1. To change the quantity ordered or date of delivery under a contract for supplies;
2. To change the quantity of services to be rendered or to change the scope of a project under a contract for services or professional services;
3. To change the scope of a project or to change the specifications under a construction contract;
4. To change the time for completing a project under a contract for services;
5. To correct an error in contract specifications or to resolve a good-faith dispute between the Municipality and a contractor; or
6. To change administrative provisions of a contract without materially altering the contract terms governing the quantity or quality of supplies, services, professional services or construction.

Assembly approval was required for change orders that collectively increased the price of a contract by 10% or \$30,000, whichever was greater, or any single change order that exceeded \$30,000 (this was revised in July 2001).

**Scope.** The objective of this audit was to determine the number of construction contract change orders that were processed during the period of January 1, 2000, through September 30, 2001. Specifically, we reviewed selected construction projects to determine the reasons for the change order, whether the final project costs were more than the highest bid, and the accuracy of the engineer's estimate for the project. The audit was conducted in accordance with generally accepted government auditing standards, except for the requirement of an external quality control review, and accordingly, included tests of accounting records and such other auditing procedures as we considered necessary in the circumstances. The audit was performed during the period of August through October 2001. The audit was requested by the Administration.

**Summary of Findings.** Between January 1, 2000, and September 30, 2001, there were 235 change orders totaling \$8,907,323 that pertained to construction contracts that were still open, having been initiated between January 1, 1997, and September 30, 2001. Overall, the change orders were processed in accordance with Title 7 and appeared to be reasonable. The following statistics are presented regarding the 235 change orders:

1. 152 change orders, totaling \$6,079,399, were initiated in 2000 against the open construction contracts.
2. 83 change orders, totaling \$2,827,924, were initiated in 2001 (through September 30) against the open construction contracts.

There were 68 construction contracts initiated in 2000. The following statistics are presented regarding these 68 construction contracts:

1. As of September 30, 2001, only 43 of the 68 construction contracts had change orders processed against them. For the 43 contracts, there were 111 change orders totaling \$2,658,784.
2. 42 of the 68 construction contracts had been completed and closed as of September 30, 2001.

**Reasons for Change Orders:** Our review of change orders pertaining to the 68 construction contracts initiated in 2000 revealed the following reasons for the change orders:

1. The majority of the change orders (80%) resulted from unexpected site conditions discovered during the project.
2. The remaining change orders (20%) were the result of a variety of reasons, such as zoning conflicts, structural issues, underestimated requirements for material and labor, and increases in the scope of work.

**Change Order Statistics:** Our review of the 42 closed contracts (totaling \$19.2 million) disclosed the following:

1. 27 contracts (totaling \$16 million) had 56 change orders (totaling \$1.7 million). The remaining 15 contracts were completed without changes.
2. The change orders increased the cost of the contracts by a low of 2% to a high of 120% with an average of 19% and a median of 10%.
3. The final cost of a completed contract exceeded the highest bid in only one instance.
4. The final cost exceeded the engineer's estimate for 20 (42%) of the completed contracts. The amounts ranged from 3% to 105% with an average of 31%.
5. The final cost was less than the engineer's estimate for 22 (52%) of the completed contracts. The amounts ranged from 0% to 52% with an average of 20%.

**Discussion With Responsible Officials.** The results of this analysis were discussed with appropriate Municipal officials.

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