



INTERNAL AUDIT REPORT NO. **98-3-009**

Client

Heat Transfer, Buffalo, NY

Project #2130/332

Procurement Review

October 23, 1998

Fieldwork completed 9/16/98

TO: Joe Smith, General Manager
Peter Piper, Purchasing Manager

FROM: AA Manager

CC:

Audit performed by:

Darryl Doolittle - AA/LLP

Chan Fan - AA/LLP

This report is furnished solely for the information and use of management and the Board of Directors of Client, Inc. and subsidiaries and is not to be used for any other purposes.

Arthur Andersen
Contract Audit Services

AUDIT SUMMARY

AUDIT OBJECTIVES

Assess processes for all functional aspects of procurement for effectiveness and efficiency, risk management and process risks, including requisitioning, sourcing, supply base management, vendor performance, receiving, and use of information systems. Compare the “as is” process flow and activities to best practices within the Arthur Andersen Global Best Practices database.

OVERALL ASSESSMENT: SATISFACTORY

Process improvements are needed to document bidding and sourcing activity, and buyer’s expediting activities need to be contained with consideration of overall unit goals.

AUDIT RESULTS

A number of constraints to effective purchasing processes were identified that when changed or corrected will improve the functioning of the department.

The degree of expediting activity by buyers appears to be significantly more than usually observed, which is caused in part by quoting delivery times for some products inside of normal product cycle times. As a result, some purchased components for engineered product are released for purchase without prices. During the present market downturn for Heat Transfer products, Management accepts the risk in order to muscle the cycle times shorter than normal and hold on to the existing market. However, management will reassess the impact that this expediting activity has on purchasing processes and effectiveness, and balance buyer effectiveness with business unit goals. The incidence of issuing purchase orders without prices will be closely monitored and should be a rare exception with a few specialized product vendors.

Documentation of bids and awards is informal and does not adequately explain or support the decision to place an order. For all major commodity purchases, oral explanations and side notes did help explain the choices. The Purchasing Manager will define bidding and bid analyses in an effort to standardize the bid process and help train the new buyers as to what standards of bidding and analysis is expected.

Supplier performance measurements for on-time delivery and quality can be improved by use of quantitative measurements, updating of supplier lead times, and ensuring

Procurement Review

completeness of recording rejected material reports. Management has undertaken actions to improve the usefulness of this data.

Procurement Review

VALUE ADDED	SHARING OF BEST PRACTICE IDEAS
<ul style="list-style-type: none">• Provided feedback to purchasing management of observations and concerns of the users of purchasing services.• Provided management with purchasing process map for use in reengineering and business improvement efforts.• Provided purchasing with process appraisal tools to benchmark their procurement process against those of global best practice.	<ul style="list-style-type: none">• Establishing a supplier feedback survey can be a means of obtaining benchmarking information for continuous improvement.• Electronic transfer of PO's, drawings, and correspondence to suppliers can reduce internal handling and expedite communications.

BUSINESS BACKGROUND

Client manufactures a broad line of shell and tube, plate-type, and air-cooled heat transfer products for commercial and industrial markets. Primary markets are material processing, HVAC, Navy/Commercial marine, power generation, and industrial machinery and equipment. 1997 sales and operating income were \$52.9 million and \$3.3 million respectively. The current 1998 outlook for sales and operating income is \$50 million and \$3.15 million respectively. Annual purchases approximate \$35 million.

AUDIT ISSUES

Expediting Versus Sourcing

Buyers spend a significant amount of time on expediting activity as compared to sourcing activity. If the need for expediting is too great, the company risks not being able to put sufficient efforts towards sourcing for competitive prices.

Customer delivery commitments are frequently quoted at less than the total throughput (cycle) time to deliver the product. As a result, some purchased components for engineered product are released to suppliers inside of the suppliers' standard lead times, and without pricing. Although the opportunity to source competitively may be limited for these kinds of purchases, it appears that releasing orders to suppliers in less than standard lead times works against competitive sourcing. It would also be difficult for business unit performance (on-time delivery) to meet customer expectations.

Action plans

The General Manager will re-evaluate the current marketing strategy of quoting customer delivery in less than the standard cycle times for each product line.

The Purchasing Manager will assist the buyers in developing work plans that balance their purchasing activities to ensure that sourcing decisions receive sufficient time and effort to obtain the best total cost.

The Purchasing Manager will instruct buyers that no purchase order will be issued without a price, and that he will approve any exception.

Documentation and Analysis of Bidding Process

Documentation of competitive bids to support long-term agreements and vendor contracts is not defined or consistently applied. Due in part to staff turnover, there is a risk that vendor agreements and contracts are not adequately supported and may not result in the best total cost to the unit. From the perspective of training new buyers, not setting and monitoring basic documentation standards can lead to a weakening of sourcing disciplines and possibly results.

Through inquiry and review of available documentation determined that quotes and bids are obtained for the most significant purchased commodities; however, the basis for the awards is not adequately documented to support award decisions. Heat Transfer has approximately 12 long-term agreements with suppliers. Three of the agreements are in dispute with possible inventory exposure of approximately \$300K. One of the disputes has been referred to the IIN legal department for action.

Action plan

Procurement Review

The Purchasing Manager will establish criteria for obtaining and documenting competitive bids, such as dollar thresholds, time frames, and purchase volumes and price variability.

The Purchasing Manager will ensure that bid analyses and contract award processes and documentation is consistently applied for all buyers.

Supplier Performance Measures

Supplier on-time performance is not measured accurately, and the quality measurement does not adequately highlight quality performance issues. There could be a missed opportunity to improve supplier performance because of not communicating key elements of supplier performance and Heat Transfer expectations.

- Supplier on-time delivery is calculated in some instances using “filler” data loaded during the BPCS conversion in 1997, and in some cases using system lead times.
- Supplier quality performance is based on dollar value of rejected items as a percent of total purchases, as compared to frequency or number of rejects (i.e., parts per million).
- Cost accounting found that 42 out of 174 material reject reports were not included in the vendor performance measurement over the last 12 months. Management has already taken action to ensure completeness of recording reject reports.

Action plan

The Purchasing Manager will:

- Update supplier lead times to ensure that supplier on-time delivery performance is based on supplier delivery promises or an agreed-upon delivery date; and
- Measure supplier quality performance based on quantitative measurements, such as the number of rejected material transactions by supplier or parts per million of rejected items, to ensure that the measurement highlights quality issues and fosters continuous improvement.

APPENDIX

Improvement Agreements*

1. Expediting Versus Sourcing
2. Documentation and Analysis of Bidding Process
3. Supplier Performance Measures
4. Item Master Accuracy
5. System Data File Access

** Distribution of Improvement Agreements is to the local operating company, AA Contract Audit personnel, Bob Blue of Client HQ.*

Improvement Agreement #1

Expediting Versus Sourcing

Audit objective:

Obtain products or services at the highest value, lowest total cost, and correct quantity and at the appropriate time. Determine that procurement processes support achieving those goals.

Issues:

Buyers spend a significant amount of time on expediting activity as compared to sourcing activity.

Customer delivery commitments are frequently quoted at less than the total throughput (cycle) time to deliver the product.

Purchase orders for engineered product are generally released to suppliers inside of the suppliers' standard lead times, and without pricing.

Test results:

A survey and observation indicated that a significant amount of the buyer's time is spent on expediting activities.

Customer delivery commitments are frequently quoted less than the total throughput time to deliver the product (i.e. quote to shipment). As a result, purchase orders are occasionally released to vendors with less than the standard lead-time, without pricing and, in most cases, without obtaining competitive quotes.

Risk and/or impact:

If the need for expediting is too great, the company risks not being able to put sufficient efforts towards sourcing for competitive prices. Although the opportunity to source competitively may be limited for these kinds of purchases, it appears that releasing orders to suppliers in less than standard lead times works against competitive sourcing. It would also be difficult for business unit performance (on-time delivery) to meet customer expectations.

Solutions or action plans:

The General Manager will re-evaluate the current marketing strategy of quoting customer delivery in less than the standard cycle times for each product line.

Procurement Review

The Purchasing Manager will assist the buyers in developing work plans that balance their purchasing activities to ensure that sourcing decisions receive sufficient time and effort to obtain the best total cost.

The Purchasing Manager, will instruct buyers that no purchase order will be issued without a price, and that he will approve any exception.

Improvement Agreement #2

Title: Contract awards and bid analysis

Audit objective:

Obtain products or services at the highest value, lowest total cost, correct quantity and at the appropriate time.

Issue:

Documentation of competitive bids to support long-term agreements and vendor contracts is not defined or consistently applied.

Test results:

Through inquiry and review of available documentation determined that quotes and bids are obtained for the most significant purchased commodities; however, the basis for the awards is not adequately documented to support award decisions.

Client has approximately 12 long-term agreements with suppliers. Three of the agreements are in dispute with possible inventory exposure of approximately \$300K. One of the disputes has been referred to the IIN legal department for action.

Risk and/or impact:

Due in part to staff turnover, there is a risk that vendor agreements and contracts are not adequately supported and may not result in the best total cost to the unit.

From the perspective of training new buyers, not setting and monitoring basic documentation standards can lead to a weakening of sourcing disciplines and possibly results.

Solutions or action plans:

The Purchasing Manager will establish criteria for obtaining and documenting competitive bids, such as dollar thresholds, time frames, and purchase volumes and price variability.

The Purchasing Manager will ensure that bid analyses and contract award processes and documentation is consistently applied for all buyers.

Improvement Agreement #3

Title: Supplier Performance Measures

Audit objective:

Suppliers deliver the correct quantity, on time and at the highest quality. Source products and services with the best suppliers.

Issue:

Supplier on-time performance is not measured accurately, and the quality measurement does not adequately highlight quality performance issues.

Test results:

- Supplier on-time delivery is calculated in some instances using “filler” data loaded during the BPCS conversion in 1997, and in some cases using system lead times.
- Supplier quality performance is based on dollar value of rejected items as a percent of total purchases, as compared to frequency or number of rejects (i.e., parts per million).
- Cost accounting found that 42 out of 174 material reject reports were not included in the vendor performance measurement over the last 12 months. Management has already taken action to ensure completeness of recording reject reports.

Risk and/or impact:

There could be a missed opportunity to improve supplier performance due to not communicating key elements of supplier performance and client expectations.

Solutions or action plans:

The Purchasing Manager will:

- Update supplier lead times to ensure that supplier on-time delivery performance is based on supplier delivery promises or an agreed-upon delivery date; and
- Measure supplier quality performance based on quantitative measurements, such as the number of rejected material transactions by supplier or parts per million of rejected items, to ensure that the measurement highlights quality issues and fosters continuous improvement.

Improvement Agreement #4

Title: Item Master Accuracy

Audit objective:

The item master provides sufficient and accurate data to make buying, planning and scheduling decisions.

Issue:

The item master contains temporary or “filler” data in numerous instances.

Test results:

During BPCS conversion, key fields such as vendor codes, lead times, item number and pricing in the Item Master were loaded with temporary data. The temporary information is only updated when there is a demand for these items. There is no proactive program in place to update the temporary information with accurate data.

Risk and/or impact:

Production orders could be placed based upon inaccurate information leading to missed delivery performance.

Solutions or action plans:

The Materials Manager will assign responsibility for a structured updating of the Item Master.

Improvement agreement #5

Title: Access to system data files

Audit objective:

Inquiry and update access to BPCS data files is restricted to those employees having functional responsibility for the accuracy and reliability of the data.

Issue:

The ability to modify BPCS data files is not sufficiently restricted to prevent access by employees with conflicting functional responsibilities. Available detective controls are not utilized to ensure the appropriateness of modifications.

Test results:

Terminated employees and central team personnel for the BPCS implementation project have not been properly removed from the system access. Also there are employees with conflicting functional responsibilities that have access to modify system files outside of their functional area. For example, a buyer can adjust the perpetual inventory record balance.

Risk and/or impact:

Inappropriate activity by employees to BPCS data files may not be detected and corrected timely.

Solutions or action plans:

The Security Administrator will ensure that access capabilities are sufficiently restricted to prevent access to employees with conflicting functional responsibilities.