Specifically, the limited availability of statewide procurement information further limits MMO's procurement officials' ability to:

- Assess the effect of the decentralization of procurement

- Assess their success at achieving the best possible prices for the taxpayer

- Perform comprehensive vendor and contract management

- Ensure that the most efficient form of contracting is being used by agencies (except in cases of emergency and sole source procurements where there is 100% sampling during the audit)

- Establish an effective procurement planning process

Central to the limited capability to conduct a thorough assessment is the lack of consistent data collection and reporting procedures statewide. The ineffective data collection practices limit taking an analytical approach to procurement, and although MMO is in the process of developing a new procurement management system, this system will not be implemented in the agencies, nor will it interface with those agency procurement systems already in place.

Presently there are no processes to promote data exchange between MMO and agencies. Historically, user agencies have been resistant to attempts to mandate a common system and controls. During interviews, MMO staff indicated that they believe MMO has limited authority or practical ability to mandate such a common system.

In addition to MMO's new system, several agencies are in the process of developing and implementing new automated procurement systems. There has been no pre-planning to ensure compatibility and availability for data exchange between MMO's system and those of agencies. Each procurement office is operating independently and not communicating regarding an overall technology strategy for procurement.

MMO's procurement system upgrade has been a long process. Staff and vendors reported frustration with the current procurement technology and the process of developing the new system, APS 2000. The development of APS 2000 began over two years ago and has experienced several delays.

In January 1995, MMO entered into an agreement with the Office of Information Resources (OIR) to develop and supply a procurement information system. The capabilities of the planned system are advanced and on the cutting-edge for public procurement systems. The capabilities of the planned system include:

- On-line accessibly to procurement information

- Procurement activity tracking

- Electronic data interchange capability

- Improved commerce and business opportunities

The original proposed operational date for the system was July 1, 1995. All development work is currently being performed in-house. Implementation of APS 2000 has been postponed three times and the current implementation is now scheduled for January 1, 1998.

The APS 2000 development is significant and complex and is the first project of this scope for OIR. However, there exists only a vision, including flow charts, of the system's proposed capabilities, and a draft user's guide. Many of the components necessary for a standardized system development life cycle, including detailed system requirements, conceptual and detailed design documents, and system documentation have not been prepared. In addition, we noted only limited planning regarding how the system would interface with existing or planned agency procurement systems or promote data exchange between MMO's office at the agency-level procurement offices.

Finding: ***The lack of information on what and how the state purchases inhibits effective decision making.***

Direct access to information is paramount for making sound decisions. Due to the limited capability of existing information systems, procurement managers experience difficulty in easily tracking expenditures, pricing, commodities purchased, and term contract utilization.

Many agencies still process and track their procurement transactions manually—of the 84 agencies responding to the survey, 28 had no automated procurement system. Without conducting a time-consuming, agency-by-agency review, the state has difficulty analyzing purchase trends, determining usage of state term contracts, projecting future procurement volume or identifying items for management review.

Procurement staff also find the lack of automation and systems supporting the retrieval of data to be very restrictive. The majority of those interviewed identified the current technology systems as a significant weakness in the state's procurement process. Staff anxiously await automation, including electronic document processing and flow management.

A summary of the extent of systems automation in agency procurement offices can be found in **Appendix C**. Each of these 34 independent systems also support different reporting processes, forms, and procedures—and very few of the systems produce useful

summary reports as evidenced by the inability for most agencies to summarize their procurement workload data.

Few agencies were able to provide summaries of their expenditures by commodity—even MMO has difficulty easily tracking this data. Furthermore, approximately only 35% of the agencies were able to provide the number of procurements, and dollar amounts expended by type of procurement—small purchase, invitation for bid, or request for proposal. Without this information it is difficult to determine whether the procurement methods employed are the most economical and practical method of acquisition.

A critical function of MMO is to develop, administer, and distribute contracts for common use items. These established term contracts reduce the need for state agencies to determine acceptable requirements, obtain prices, and evaluate bids/offers on their own. When agencies establish a majority of contracts themselves, there is a requirement for larger procurement staffs at the agency level. Agency survey results indicated that there are at least 391 procurement staff in the state of South Carolina—52 in the centralized procurement office, including the audit and state engineer staff, and 339 distributed among the 84 agencies responding to the survey. (See survey results in **Appendix B**). With any variation of a decentralized procurement system there will always be a need for staff at the agency level; decentralization offers distinct benefits including flexibility for agency managers and more efficient procurement of highly specialized items needed to support the agency's mission.

Government organizations can achieve significant benefits using statewide contracts, including an opportunity for cost savings. Studies conducted by the National Institute of Governmental Purchasing, Inc. (NIGP) show substantial cost savings in the purchasing programs that aggregate demands among government organizations. Counties and regions participating in cooperative buying programs reported cost saving ranging from ten to fifteen percent. There is an opportunity for the state to use term contracts more frequently, however their effective implementation requires that MMO have the ability to analyze individual agencies' purchasing patterns.

According to interviews with state agency staff, MMO is doing an effective job of awarding state term contracts despite the lack of information mentioned previously. MMO also does not have information summarizing how much is purchased against established state term contracts. They are reliant upon vendors to provide this information.

Without agency level procurement data, MMO is hindered in effectively analyzing usage patterns and identifying those "commonly" procured commodities. The inability to capture this data limits:

• Analysis of statewide purchasing and spending patterns

- Long-range procurement planning

- Identification of consolidated purchases that can result in cost savings through economies of scale

- Fostering price competition which could result in lower prices for the state

- Improving the state's position in negotiations with vendors because the state does not track quantities procured through state contracts

The inability to effectively identify and plan for procurement needs and schedules impacts all aspects of an organization. A procurement office exists to support an organization. By failing to have adequate information systems supporting the procurement function, the office risks being unable to respond to state government management objectives and requirements for the decision-making process.

Recommendation: **Develop a comprehensive statewide management information system through the use of advanced technology.**

MMO is at a crossroads in their technology strategy development. In developing requirements and objectives for a world class procurement system, it is essential to:

- Complete the development and implementation of the central procurement information system

- Review the existing information technology environment at the agency level

- Inventory all technology architectures supporting the procurement function statewide

- Assess current capabilities to meet procurement plans

- Identify the technology issues, problems, and necessary changes to support the collection and consolidation of basic procurement information and data

- Develop a statewide technology plan to support procurement, and have MMO direct implementation of the plan across the state agency procurement offices

The Office of Information Technology Policy and Management (ITPM) and the Information Resource Council (IRC), in conjunction with MMO, should educate agencies on the benefits of a statewide procurement information system and provide assistance to agencies in developing implementation plans to move to a central procurement information system. Additionally, IRC and ITPM should take the lead in reviewing, inventorying, and assessing state agencies' current systems to help define and develop a data warehousing and systems consolidation implementation plan.

An initial investment would be required to improve the management systems supporting statewide procurement, but the benefits of complete procurement information should outweigh the cost.

MMO requires an information system that will collect, retrieve, process, store, and distribute statewide purchasing information. A system capable of reporting only MMO's workload and transactions does not provide the necessary information needed to accurately assess the efficiency and cost effectiveness of statewide procurement. An integrated information system must track all procurement information, statewide, including transactions, procurement method, commodities purchased, and dollars expended to provide the ability to:

- Improve tracking and analyzing of basic procurement information

- Allow for improved procurement planning

- Provide data regarding usage patterns to identify opportunities for consolidated purchases, potentially increasing economies of scale and lowering costs

- Support decision making

- Enhance management control within the state's procurement function

In enhancing the procurement management information system there are short- and long-term and interim solutions.

Short-Term

MMO has already invested extensive time and resources for the development of their APS 2000 system. In the short term it should be a top priority to complete and install the system in a timely manner. MMO should seek outside system development or implementation expertise if it will aid in the timely and cost effective delivery and implementation of the complete system.

Upon completion and implementation by MMO, the APS 2000 system should be offered for use to state agencies and all governmental bodies purchasing off state term contracts. Furthermore, all agencies should be mandated to automate their procurement process to the fullest extent that is cost effective for the agency.

Long-Term

The long-term goal for the procurement system should be a statewide integrated system that interfaces with the state's financial systems. However, that goal is dependent upon the development and implementation of an overall statewide technology strategic plan.

The procurement management team is only one stakeholder in the development of such a system, which should be a long-term information technology goal.

Interim Solution

As an interim step to an integrated system, MMO needs to take the lead in establishing a system whereby agency procurement data is "dumped" into a common information system. An advanced technology that will offer the ability to provide the information MMO needs is data warehousing. Data warehousing facilitates data consolidation and could provide MMO with essential statewide procurement data without the need for development and implementation of a single statewide procurement system.

A data warehouse is an integrated system of hardware, software, and network technologies designed to convert operational data into accessible information. Information is extracted from data sources and then transformed and maintained in a data warehouse. Using data warehouses, end users can directly query data without degrading the performance of the operational system. In the design of a procurement data warehouse system, MMO should:

- Identify the procurement system's data elements, including developing a procedure for use of consistent coding structures

- Define interfaces with current automated system

- Identify necessary management and financial reports and analyses to be produced by the system

- Serve as the leader for testing and system maintenance

Concurrent with the development of a data warehouse system, IRC and ITPM, with MMO's assistance, should conduct an assessment of agencies' stages of automation. MMO should support those agencies still utilizing a manual procurement system by assisting in developing timetables for implementing APS 2000 or another appropriate automated system in those agencies. The goal is to eventually transform all state procurements to paperless transactions and utilize electronic commerce to the fullest extent possible. Automated systems will reduce procurement processing costs and reduce purchase costs for goods and services. Procurement staff and the vendor community would welcome this advancement. For example, during a focus group, vendors noted that they were anxiously awaiting being able to download requests for proposals from the Internet.

Opportunities to Increase Technical Knowledge and Expertise

Best practices, policies, procedures, and systems can lay the foundation for a sound procurement system, but it is procurement managers and staff who must have ownership

of the process and implement policies and regulations. During interviews with state agencies, MMO staff received consistent positive reviews regarding their service and support to customers. The Audit and Certification function was often singled out as an exceptional resource for procurement guidance. However, in a large majority of interviews, the lack of procurement training, especially at the agency level, was raised as a concern. Additionally, most agencies do not have a training plan for procurement staff.

State procurement staff should have requisite skills and knowledge concerning procurement practices in the public environment, both in terms of South Carolina law, policies, and procedures and in terms of accepted industry best practices. Currently, there are approximately 391 staff statewide responsible for procurement. There are several opportunities to establish programs and procedures that will maximize their value to the state.

Finding: *The state lacks a structured procurement training program.*

No organization can maximize the value of comprehensive and sophisticated procurement practices, procedures, and automated systems without providing training to those individuals responsible for carrying out the procurement function. Staff need the support of effective tools and systems, and as the use of advanced technology moves the procurement process from manual processes to completely automated processes, they will need adequate training to be successful. Additionally, electronic commerce will place new demands on procurement staff. The staff must be prepared to face the redesigned business process.

Survey results identified that only 14 state agencies responding to the survey have structured procurement training programs and less than 21% of state procurement staff hold standardized industry certification. **Appendix B** provides a summary of each agency's certified staff levels and the status of established training programs.

In fielding telephone calls regarding the procurement survey, it became obvious that in many agencies the purchasing function is performed by staff members who are not trained purchasing agents. Furthermore, the vendor community indicated that their perception is that procurement officials' levels of experience varies—sometimes the lack of experience in purchasing makes conducting business more difficult.

The state has not established a structured training program that identifies specific courses that agency staff should take in order to be a qualified purchaser in the state. Presently, useful training is offered through the Budget and Control Board, Office of General Services. These training opportunities include NIGP courses that cover topics such as contract administration and general public purchasing. However, inconsistency exists among agencies as to whether these types of procurement courses are mandatory or even encouraged. During interviews, central procurement staff voiced concerns that agencies may not want, or be able, to invest the money to send staff to procurement training.

Recommendation: **Establish and encourage participation in a statewide procurement training program.**

MMO needs to take the lead to develop a certification-oriented training program for agency procurement staff. Once a training program is developed, all state agency directors should be encouraged to require the participation of their procurement staff in the statewide training program.

A structured training program will aid agency procurement offices in the identification, organization, and training of staff. This program should support:

- Mandatory training as a prerequisite for the hiring and promotion of procurement personnel at all levels

- The goal of professional certification for all procurement personnel and a requirement for all procurement officers at the central and agency level to be certified

Prior to the development of the program, MMO needs to conduct a training needs assessment in order to gather and analyze the current knowledge, skills, and abilities of state procurement staff.

A structured, ongoing professional development and training program will provide procurement managers and staff with:

- Better decision making skills

- Improved specification development and writing

- More effective evaluation of bids and proposals

- More effective evaluation of vendor performance

Training should also include modules addressing complex procurements, such as service contracts. A service contract is one that authorizes procurement of a provider's time and service. According to interviewed senior management staff, in the future there will be more state procurements that contract out services currently performed as daily operations by government employees. These types of acquisitions are considerably more complex than standard commodity purchases because it is more difficult to define and evaluate organizational skills and experience versus contracts for specific commodities.

Training covering negotiation skills and specification development should also be incorporated into the program—better specifications on the front-end of a procurement will enhance quality assurance. Training needs to address all these aspects of procurement

in addition to the basic skills and methodologies to ensure the staff stays up to date with the agencies' requirements.

Over time, as a result of training, the state will accrue cost savings through the use of improved buying techniques and procurement practices.

Finding: *These is a lack of a consistent procurement terms, definitions, and forms used in the state.*

The state lacks a common body of knowledge that includes procurement terms, definitions, and forms that are used consistently among all state agencies. The lack of consistency in the use of common procurement terms is evidenced by the varying responses to requests for basic procurement information, the numerous telephone calls inquiring about the statewide survey, and MMO's client agencies' statements during interviews. The inconsistencies are due in part to a limited training system, the lack of an integrated procurement management system, and the lack of a statewide procurement desk manual.

An essential element of a sound procurement system is leadership that facilitates consistency across the system—whether the system is centralized or decentralized. In South Carolina, each agency is responsible for producing their own procurement policies and procedures, and although they must be approved by MMO, each agency has the authority to interpret the Code. Because agencies may interpret the Code differently, there is a potential for the use of inconsistent procurement definitions, approaches, processes, and service delivery among the state agencies.

During a focus group, the vendor community noted that they had observed improvement in the consistency of conditions and procurement terms used, but voiced their concerns regarding the lack of a user friendly summary of the Code. In the current vendor publication, *"How to Do Business with the State of South Carolina,"* there are several sections which refer the reader to the Code for further clarification or detail. The Code though, is written in "legislative" language and may be unclear to a non-technical reader. Vendors stated that an easier to read summary of the Code, and MMO's interpretations might facilitate better communication between buyers and vendors.

Recommendation: **Develop a consistent set of terms, definitions and forms.**

The MMO should take the lead developing a common body of knowledge that includes terms, definitions, and forms, for all state procurement staff and modifying their current procurement reference book for the vendor community. Agency directors need to encourage agency compliance with the common body of knowledge.

The standardized procurement practices and policies should be communicated through a structured training program, discussed above, and an easy to read document made available for all state procurement staff. One client agency suggested that MMO needs to

produce a "street language" procurement code and outline procurement policies and procedures based on the Code. As NASPO asserts, "a procurement law is not self-implementing."[5] The standardized practices and principles should:

- Describe procurement processes

- Establish consistent forms and documentation

- Define required and appropriate review and control points

- Establish specific terms and definitions related to procurement

- Define the tracking of commodities procured by standardized commodity codes, such as NIGP's

- Track contract awards per MMO's established categories of procurement methods

While the Code does provide for a consistent set of procurement terms and definitions and MMO suggests appropriate forms, we found that many agencies have adopted terms, forms, and approaches to procurement that vary widely and can result in confusion in communicating needs between and among MMO and other agencies with delegated procurement authority.

A more user friendly vendor handbook should explain the Code in layman's terms and list the state's definitions for common procurement terms. This type of written manual for vendors will help reduce and eliminate confusion and misunderstandings regarding the state's procurement process.

As a first step in modifying the vendor handbook, MMO should conduct focus groups with vendors of all sizes. The purpose of these groups is to identify the information and procedures to be presented in the vendor guide and the most appropriate format and language to use in order to convey the guide's information.

A common baseline of information, forms, terms, and definitions will also contribute to the successful implementation of more advanced procurement automation systems in the future. Consistency of data elements and their definitions across agencies, systems, and forms will streamline future automation and data conversion efforts.

Finding: *The Materials Management Office lacks a centralized quality assurance and contract management unit.*

A key aspect in the procurement process for a central procurement unit is contract administration and quality assurance. Currently, neither of these programs are separate

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[5] *Source: State and Local Government Purchasing Principles and Practices, 5th Edition, 1997.*

units, which requires buyers in MMO to perform contract administration and quality assurance responsibilities in addition to their purchasing functions.

Contract Administration

Contract administration refers to the process of:

* Ensuring compliance by the vendor with contractual commitments and obligations

* Obtaining feedback from client agencies using the commodities and services under contract

* Regularly monitoring vendor performance

MMO supported a contract administration unit, consisting of three full time equivalents (FTEs), until FY 1992-93 when the formal unit was eliminated. A number of MMO staff, managers, and agency customers of MMO raised a concern that there is no separate contract administration unit in MMO. All contract administration is done by the buyer, who already has several other demands on his time. Also, during the focus group, vendors noted they rarely hear from procurement officials after contracts are established. While MMO has made a management decision to have all buyers be responsible for all contracts on a "cradle to grave" basis, interviews with MMO staff indicated that contract administration and oversight portion of their duties was frequently the lowest priority given their substantial work load. Several noted that they became involved in contract administration activities only if a user agency contacted them with a critical problem. In addition, MMO is unable to provide any contract administration support for those agencies with delegated procurement authority due to staffing and workload constraints.

MMO has developed a strong practice of surveying their client agencies immediately after the establishment of a contract, but similar formal mechanisms are not in place to obtain agency feedback on how established contracts are operating. Such input would be beneficial for the management of term contracts, providing insight into target areas for improvement for the next contract solicitation, award, and implementation.

Presently records are maintained only on those vendors with a history of poor performance. Without an effective contract administration system, a problem with a state established contract will only go on statewide record if it is escalated to MMO's level. There can be several areas of concern regarding a vendor's performance that should go on record but never do because of the lack of a mechanism to record such instances. A formal contract administration program would also result in the collection of data regarding vendors, which could enhance MMO's tracking of vendor performance.

Quality Assurance

Quality assurance, as defined by NASPO's *State and Local Government Purchasing, Principles and Practices,* 5th Edition, is:

> *A planned systematic series of actions designed to provide adequate confidence that a product purchased or to be purchased will perform satisfactorily in service*

When the formal contract administration unit disbanded in FY 1992-93, two FTEs moved into a customer assurance unit that had limited quality assurance responsibilities. The following year, the unit performing the limited quality assurance responsibilities was disbanded. Presently, in MMO, there is no formal centralized quality assurance unit that measures the capability of the contractor or prospective contractor, and the item being supplied. Individual buyers perform quality assurance as part of their individual duties.

Quality assurance prior to the contract award rests with the procurement officer during his or her review of the proposal in a request for proposal solicitation. Procurement staff now also have the authority to use competitive best value bidding which allows for factors other than price to be considered during the bid evaluation as long as evaluation factors are stated in the solicitation. Another quality assurance option that presently exists is the ability for vendors to be debarred. These additional avenues for quality assurance by procurement staff are essential, but are not substitutes for mandated policies and procedures.

MMO does not have a formalized quality assurance program that encourages pre-award testing and inspection where appropriate, or promotes staff to be proactive in contract administration by conducting periodic testing of commodities for conformity with specifications. Both are components of a quality assurance program recommended by NASPO. Some agencies, such as the Department of Transportation, may have established their own programs for quality assurance and testing. South Carolina reports that the only products with required product-testing programs are paints, chemicals, and janitorial supplies.

Recommendation: **Establish a centralized quality assurance and contract administration unit.**

MMO should establish a quality assurance and contract administration unit to administer complex procurements, including term contracts. The primary responsibility of the quality assurance and contract administration unit will be to support agencies with distributed procurement authority in the management of contractual relationships. Other key responsibilities of this unit will be to:

• Provide contract management support for statewide procurements

- Establish appropriate quality assurance standards for goods and services

- Develop and deliver training to agency procurement staff through MMO's procurement training program

- Assist in the establishment of agency-level quality assurance and contract administration programs

- Provide centralized statewide vendor information tracking and management

- Assist agencies and vendors in problem resolution

Recommended staffing for the unit is 5 FTEs—2 newly authorized positions and 3 from existing staff. The existing staff positions will result from a reallocation of the current staff's duties. Based on the average salaries of a Procurement Manager I and a Procurement Specialist II, the cost of the additional two FTEs is between $60,000 and $80,000 (based on annual salaries between $30,000 and $40,000).

While the overall number of contracts awarded and administered by MMO's State Procurement and Information Technology Offices has moderately declined since fiscal year 1993-1994, the nature of the contracts is growing significantly more complex. Service contracts and complex information technology procurements are more common today and require adequate contract administration and quality assurance.

The extent of contract administration will vary with the type and complexity of a contract. During interviews, agency personnel stated that at times it would be beneficial for a staff member in MMO to be the designated contact person with vendors on term contracts. Agency staff can encounter problems with a term contract procurement, and feel as if they have no authority with the vendor because they are just one of many purchasers. By identifying a designated contact person in MMO, this uncertainty for the agency end-user can be averted.

Essential to the establishment of a quality assurance unit is the development of a quality assurance manual which outlines the procedures, techniques, and standards that are necessary to ascertain the quality of a product or vendor. The state is already authorized to inspect a contractor's or prospective contractor's plant and to audit a contractor's or subcontractor's records. What is lacking is the requirement for MMO to establish and administer a formal quality assurance program, including inspection and testing. By implementing a program and defining procedures and guidelines, the state has the opportunity to increase cost effectiveness and efficiency in procurement.

If MMO's staffing limitations prevent the full establishment of these functions, MMO at a minimum should take the responsibility to train agency staff to conduct field inspections for commodities and performance. Contract administration for all MMO contracts should only be conducted at the MMO level.