



**1998-645
Final Report**

**Review of Automated Buyer Environment
(ABE) - Data Integrity and Functionality**

Approved: ARC Meeting of June 8, 1999



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Executive Summary

Authority for the Audit

This review of the Automated Buyer Environment (ABE) was approved by the Audit and Review Committee as part of the 1998/99 Audit and Review Workplan.

Objective

The objective was to review ABE from both a data integrity and system functionality perspective.

Scope

The scope addressed ABE as it is currently operating. With respect to functionality, the review focused at a high level on the aspects of the Supply Operations Service Branch's (SOSB's) business processes which are performed by ABE. Regarding data integrity, the focus was on data maintained by ABE for management information and reporting purposes.

Background

ABE, a major component of the Acquisition Decision Support System (ADSS), is the central system used by SOSB and the Regions to support all stages of procurement. The system is a complex, client/server based procurement desktop application.

PWGSC relies on ABE data to provide regularly-updated contracting statistics to internal clients, client departments, central agencies and Parliament. The department is therefore highly visible in regard to the accuracy and integrity of the statistics it disseminates. Consequently, it is important that the data be reliable and credible.

A review of ABE data integrity was conducted by SOSB in 1997. Although the study identified data omissions, there were not felt to have sufficient materiality to warrant action at that time. Since then, reviews by Audit and Review Branch indirectly acquired knowledge about data discrepancies which suggested it would be prudent to further investigate and remedy any existing problems.

Key Findings

- In 1997, ABE received a technology award - the GTEC Bronze Medal of the Distinction. Further, the Supply Systems Directorate (SSD), responsible for overseeing the technical side of ABE, sees ABE as having exceeded all functionality originally defined for the system, except for the Quality Assurance module approved as part of the ADSS Operating Principles in July of 1995. Users, however, are unaware of all the functionality offered by ABE.
- Both systems and procurement staff consider ABE to be an improvement over its predecessor. Procurement officers' confidence in ABE's reliability, and their use of the system has, however, been undermined by periods of system instability and infrastructure problems. This has resulted in reduced use of the functionality available. Systems staff, on the other hand, although pressed to address priorities related to Office Infrastructure Renewal (OIR), MERX and Year 2000 Preparedness, have a much higher level of comfort with ABE.
- Procurement officers find that ABE performs or supports functions such as requisition acknowledgement, contract award, and linkages with the Vendor Information Management system (VIM) and Translation very well. The functions they find require improvement include bid evaluation and approval processing. They strongly contend more user involvement is necessary in ABE's development.
- The information sought from ABE is reportedly roughly equally divided between factual requests concerning specific contracts or suppliers, and summary statistics. There is a high level of confidence across SOSB in the integrity of ABE's contract identification or 'tombstone' data, but not in the accuracy of its management statistics. Further, ABE's reporting capabilities are not widely used and there are continuing requests for manual reporting.
- The organization's culture is highly case-oriented, and dominated by an emphasis on integrity in procurement as well as throughput and client service. There is less emphasis on the importance and application of statistical reporting. Further, there is no assurance that all buys which are supposed to be processed through ABE are being fully captured, or that data regarding SOSB's procurement volume is complete and up to date. Neither is there supervisory review or quality control to ensure that the descriptors and coding in the ABE system are consistent with hardcopy files.
- Data elements, identified through the present and previous studies, where inaccuracies and data corruption occur include: GSINs; line item details (especially with multiple line/multiple consignee requisitions); justifications for contract selection decisions (eg. sole source justification); ACAN postings and codes; CAP codes; method/basis of payments; contract expiration dates; milestone dates; contract period; and, dates goods/services required.

Conclusions

Functionality

- Some ABE functions are working well, while others are not. Functions which require early attention should include those which are considered priorities by procurement officers and those related to reporting capabilities needed by management. To the extent that system problems may result in incomplete or erroneous procurement information being issued by ABE (via MERX) to the supplier community, there should be particular concern.
- Users have turned away from functionalities they experience as overly-complex, demanding or not user-friendly. The current state of technical volatility has contributed to the perception that ABE is not reliable or dependable. Such volatility is being perceived to be related to ABE even though it could be associated with OIR, problems with other systems interfacing with ABE, or peculiarities of individual workstations. In order to foster a broader and more comprehensive use of ABE, management needs to resolve the problems, overcome the negative perceptions about ABE and regain users' confidence.
- The pressures related to MERX, OIR, and Year 2000 Preparedness may have diverted management's focus on ABE functionality issues. The resulting delay in remedial action has undermined staff confidence in the system's capability as well as their belief that management is concerned about the impact on users.
- There is a need for enhanced communications to broaden user awareness of the full range of functions ABE is able to perform. There is also a need for more regular dialogue between system owners and developers and its users to: (i) identify user needs and priorities, (ii) provide comprehensive, non-technical feedback regarding ABE problems and issues being dealt with, and (iii) communicate the rationale for, and status of, system fixes and enhancements, including those which are not currently being addressed. To update users' knowledge of the functionality of ABE, refresher or renewal training may be appropriate.

Data Integrity

- Case-specific inquiries on individual contracts and suppliers creates a de facto quality control check for contract identifier data contained in ABE. The same cannot be said of summary statistics provided by the system. Overall, there is little assurance that the statistical information contained in departmental reports to Parliament or Central Agencies, or generated for internal use, is sufficiently accurate. There is also little assurance that ABE has been configured in such a way as to be able to generate, automatically and in a timely fashion, all the statistical reports developed by SOSB for management control purposes.
- The current environment does not reinforce the importance of complete and accurate data. Speed of client service and compliance with contracting policies and practices are the areas

of preoccupation of procurement staff. At the same time, clients, suppliers and management are preoccupied with turnaround time and the number of completed buys.

- Data integrity is being compromised when the process of dealing with ABE-related problems becomes time-consuming for procurement officers. Some procurement officers have reached a level of frustration with the system such that their diligence or care regarding data accuracy may have been diminished. A parallel frustration is evident among the systems staff who are faced with many competing priorities which have resulted in what they regard as inadequate time to devote to remedying issues concerning ABE.
- There should be an ongoing facility to ensure that the coding definitions and options are sufficiently clear to procurement officers. Also, there should be measures in place, external to ABE, to validate the choices being made and to verify the data being generated. Limited use of management reports results in a lack of feedback on the accuracy of data and, as a result, a lack of awareness and incentive for accurate data. Unless this view is turned around, SOSB cannot take comfort in this first line control where the accuracy of the data depends largely on the procurement officer's diligence in coding, as well as applicability of the coding fields.
- In summary, the accuracy of information contained in ABE is dependent upon a variety of factors: (i) the nature and complexity of the procurement; (ii) procurement officers' understanding and awareness of the importance of accurate coding; (iii) the relevance of coding fields provided on drop-down menus and provision of clearly differentiated/correct choices; (iv) weak reinforcement of the importance of clean data; (v) certain tombstone information defaulting to values other than what has been entered; and (vi) the implementation of new releases without conversion of existing data on databases.

Further Work

- The issues identified during the Preliminary Survey phase of the current review are sufficient to suggest that a plan of work is required. Further investigation by way of a Detailed Examination is not considered necessary at this time, although SOSB may wish to undertake more study itself once actions to remedy the concerns already identified have been undertaken.

Recommendations

In order to attain greater user awareness and acceptance of ABE functionality and to ensure ABE data integrity, it is recommended that SOSB management:

1. *Address current functionality concerns by:*

- i. focussing specifically on developmental work related to problems regarding ABE application;*
 - ii. broadening integrated testing prior to new releases; and*
 - iii. ensuring that stakeholders are provided with user-friendly capability generating accurate and timely information and reports themselves based on key data fields they require.*
- 2. Take steps to support the achievement of data integrity by:*
 - i. identifying key statistical data fields which are currently captured, or could potentially be captured, by ABE and which are important for departmental decision-making and reporting purposes (such as reports to Parliament, Central Agencies and internal management reports); and*
 - ii. amplifying the control environment related to these data fields through such means as additional edits, enhancing exception reporting of outstanding transactions awaiting coding, and conducting spot checks for data accuracy.*
- 3. Undertake communications initiatives to promote an organizational culture which:*
 - i. recognizes and understands the value of accuracy in the data being captured and reported from ABE;*
 - ii. improves user awareness of existing ABE functionality as well as Change Management Review Board and IM/IT Committee decisions and strategies; and*
 - iii. fully involves all stakeholder groups in the identification of ABE functions which require modification, and provides subsequent training to such groups once the functions are operational.*

1 Introduction

1.1 Authority for the Project

This review of the Automated Buyer Environment (ABE) was approved by the Audit and Review Committee as part of the 1998/99 Audit and Review Workplan.

1.2 Objective

The objective of this project was to review ABE from both a data integrity and system functionality perspective.

1.3 Scope

The review examined ABE as it is currently operating. With respect to functionality, the review focused at a high level on the aspects of Supply Operations Services' business processes that are performed by ABE. Regarding data integrity, the focus was on the data maintained by ABE for management information and reporting purposes. The emphasis was on data completeness and accuracy, the latter being whether each completed procurement (transaction) would be accurately reflected in the ABE database(s). Work-in-progress, as well as operational data such as status coding, log data and system audit trail data, were excluded from the scope of this review.

1.4 Background

ABE, a major component of the Acquisition Decision Support System (ADSS), is the central system used by Supply Operations Services Branch (SOSB) and Regions to support all stages of procurement. The system is a complex, client/server based procurement desktop application.

PWGSC relies on the ABE system to provide regularly-updated contracting statistics to internal clients, client departments, central agencies and Parliament. The department is therefore highly visible in regard to the accuracy and integrity of the statistics it disseminates. Consequently, it is important that the data the system provides be reliable and credible. Government's ability to successfully respond to the growing emphasis on performance measurement, reporting to Parliament and the modernization of comptrollership in government requires the assurance of credible management information. Furthermore, the growing level of external interest by clients and suppliers in having direct access to ABE would enhance PWGSC's service to clients and generate efficiency gains.

2 Results of the Preliminary Survey Phase

2.1 Approach

The purpose of a Preliminary Survey is to raise themes and issues which may require further investigation in the Detailed Examination phase of the audit. To identify such issues, the Preliminary Survey for the current study drew on: a review of background material; previous studies including the User Study performed by Supply System Directorate (SSD), the ABE Data Integrity review conducted by Consulting and Audit Canada (CAC), the reviews conducted by ARB on the Bid Evaluation and Contractor Selection Methods and the Audit of Advanced Contract Award Notifications (ACANs); interviews and focus groups with key informants (both management and staff) among systems development and user personnel in the following sectors: the Aerospace, Marine and Electronics Services Sector (AMES), Industrial and Commercial Products and Standardization Services Sector (ICPSS), Informatics and Professional Services Sector (SIPSS) and the Supply Program Management Sector (SPMS); attendance at demonstrations of ABE and Infomaker (the application process used to provide reports).

2.2 Profile of the Entity

2.2.1 Description

ABE encompasses management of the allocation process, approvals, preparation of contracts, notices to the Government Electronic Tendering System (MERX), evaluation of proposals, and contract award process. As an operational system, ABE is available on the desktop application of all SOSB procurement officers and managers involved in the procurement process.

ABE also provides the basis for the production of comprehensive, management reports and access to databases and information banks that automatically gather data during the procurement process. The data captured by ABE is transferred to the Acquisition Information System (AIS) which is accessible through the desktop application as well.

Annex 1 outlines ABE's interfaces with other SOSB databases.

2.3 Preliminary Survey Findings

2.3.1 Functionality

Interviewees considered ABE to be an improvement over the previous system, however, they question the reliability of ABE.

In 1997, ABE received a GTEC technology award - the Bronze Medal of Distinction - for leadership, innovation and excellence in the management and use of information and

technology within government. With respect to the functionality originally envisaged for ABE, Supply Systems Directorate (SSD), which is responsible for systems design, indicates that ABE has actually exceeded all functionality originally defined for it. The Quality Assurance module, approved later (July 1995) for implementation as part of the ADSS Operating Principles, has, however, not yet been added.

In attaining ABE's current functionality, SSD designers have had to contend with a fluid environment brought on by: changing policies and requirements; changes to the technological infrastructure including changes in word processors (WordPerfect, AmiPro, WordPro); conversions in operating systems and platforms (Windows NT and UNIX); and most recently by connectivity with MERX, the Office Infrastructure Renewal (OIR), and Year 2000 preparation. Nonetheless, interviews with SSD revealed a continuing high level of commitment to ABE.

Overall, there is also general agreement among line managers/staff interviewed that ABE is an improvement over the previous system, the Procurement Acquisition Support System (PASS). However, interviewees felt that ABE is unstable and unreliable, due to their experiencing, in their view, too many system crashes and freezes. The problem has also been aggravated by what they referred to as an "inundation" of changes, updates and debuggings of the ABE system. Many commented that system changes result in some problems and enhancements being successfully addressed but in new problems emerging.

Their acceptance of ABE has been undermined by episodes of system instability and by infrastructure problems which they believe have, at times, corrupted functionality that was already operational.

The changeover of the responsibility for and management of ABE development from AMS Inc. to GTIS AMS, resulted in a number of problems emerging through the transition. The two most significant of these were: the accidental deletion of a part of the electronic approval capability, which set those users of the functionality back to relying on a manual process; and the amendment of records using a non-primary key, which corrupted a considerable number of records. A prolonged state of technical volatility has created the perception that ABE is not reliable or dependable.

Periods of instability in the users' automated environment and infrastructure problems have attenuated the take-up of ABE functionalities.

The lack of trust in the users' automated environment has resulted in uneven use of ABE according to the procurement officers and line managers interviewed. They acknowledge that they, and others, are using the system at the margin and are working outside of ABE to the extent possible due to their concerns about the system's ability to expedite the accomplishment of their procurement responsibilities. Most stated they use ABE for the minimum required to process contractual documents and still rely on tools outside of ABE that were previously in use, or design "parallel systems" or ways to work around ABE. They see this behaviour as a prudent way to ensure product delivery. SSD

recognizes that, as a result of ongoing problems, ABE has lost credibility and users have turned away from the system, not embracing the functionality available.

Interviewees confirmed that ABE performs or supports certain functions well and identified others that require improvement.

Procurement officers and line managers interviewed were asked to comment on a list of functions which ABE was designed to perform. See **Annex 2**, for the results of those comments. The following functions were identified as being performed well by ABE: requisition acknowledgement, contract award, linkages to Vendor Information Management (VIM) and Translation. Some of the functions which were not rated as working well were: document preparation, approvals, vendor information, bid evaluation, and workload management. Additional functions are rated in Annex 2. SSD indicates that: successful document preparation can vary depending on the workstation configuration and set-up by System Administrators in the SOS sectors; the approvals function has been attended to with some work still underway; stronger controls will be introduced with respect to vendor information; and the new version of bid evaluation may, for some users, be more complex and require training. SSD is aware that workload management remains a problem function using ABE.

There is a significant contrast between the perceptions of SSD staff and procurement management and staff interviewed concerning what functionality is available within ABE. Annex 2 demonstrates that, overall, the procurement officers do not use a lot of the functionality within ABE and are not aware that many of the functions exist. SSD, on the other hand, indicates that most of the functions identified by the procurement officers as not provided by ABE are, in fact, operational, with enhancements planned for approval processing, post-award administration, archiving and management reporting in the 1999/2000 fiscal year.

Interviewees do not believe the reporting capabilities of ABE are being widely used.

Line managers interviewed indicated they are not using ABE to generate management information (such as performance or workload measurement) and instead rely largely on non-ABE systems for such information. Some indicated that they and/or other managers are receiving management reports from ABE/AIS obtained either through the Supply Program Management Sector (SPMS), by asking their own systems people, or through requests to ABE Support for customized reports. In spite of the data being resident in ABE, sectors are still called upon to prepare ad hoc reports. Desktop applications such as "Powerplay" or "Infomaker" are also used, by some line managers, to extract information from ABE/AIS and create standard or ad hoc reports for operational purposes.

Standard reports are produced by the SPMS Operational Support Directorate and include: trade reports for NAFTA, WTO, AIT; Treasury Board contracting statistics; and annual

summary statistics. However, there is still a requirement for the manual collection of data or reprogramming of other systems (e.g. the Reporting Inquiry Status Tracking System). SSD has indicated, however, that an effort to improve ABE management reports is almost complete, and that the ABE management reporting function will be enhanced and made more user friendly in the fiscal year 1999/2000.

Procurement officers interviewed did not express a need for any reports. They also did not display a collateral awareness of management's need for reporting capabilities within ABE or the availability of any standard reports or ABE's ability to customize reports.

The approach to resolving problems or enhancing ABE functionality has not met the expectations of users.

Two committees have been set up to deal with system requirements: the Change Management Review Board Committee (CMRB) and the Information Management/Information Technology Committee (IM/IT). With the CMRB being the more hands-on, both committees identify requirements for system changes, define priorities for addressing requirements, and allocate resources consistent with the priorities. Priorities are determined based on criteria such as legislative changes (policy), ADM requirements, technical requirements, and importance for the user groups. Given the high departmental and government-wide priority at the moment on Year 2000 proofing of systems and applications, few other functional issues have the opportunity to be currently addressed.

The current study was not able to identify the extent to which problems raised by interviewees related entirely to ABE or were associated with OIR, problems with other systems interfacing with ABE, or configurations of individual workstations. Nevertheless, ABE, as the systems 'face' seen by users, has borne the brunt of the criticism regardless of what may be the actual problems.

It is normal for systems to continuously evolve and for there to be fine tuning of the functionality in terms of "user friendliness". As this has not occurred at a pace satisfactory to users, interviewees indicated that they have turned away from using transactions which they have experienced as too cumbersome or demanding. The response time in resolving problems oftentimes has caused those interviewed to informally seek workaround solutions from their colleagues. Indications from the interviews and focus groups are that the formal sharing of information on workarounds, fixing of problems and changes to the system has been weak, which has further contributed to the general cynicism about ABE.

2.3.2 Data Integrity

2.3.2.1 Recent Reviews

The User Survey performed by SSD and the recent reviews undertaken by ARB have acquired knowledge about the ABE system. The review of ABE data integrity conducted for SOSB by Consulting and Audit Canada (CAC) in 1997 indicated that half of the 549 files examined contained a discrepancy of some kind. SOSB concluded that the omissions were not material to warrant action at that time. The review focused primarily on the examination of "specific data elements" in contract files selected and tracing that information from the files to the data from ABE.

ARB's review of Bid Evaluation and Contractor Selection Methods in three SOSB sectors in Headquarters and one Regional office noted significant error rates (25-50%) in the CAP (Contract Award Process) coding.

The recent audit of Advanced Contract Award Notifications (ACANs) encountered data discrepancies related to the posting and challenging of ACANs. The study also noted many Contract Award Process (CAP) code errors; unclear code fields and inconsistent application of the fields; apparent system overrides of original contract information by subsequent amendment data; and an apparent lack of controls to prevent the use of codes which were invalid. Overall, 29% of the 288 cases examined exhibited fundamental discrepancies between the information provided by the automated system and that contained in hard copy files. For one sub-population, the error rate was 86%.

These previous studies indicate weaknesses in ABE with respect to summary reporting statistics. Furthermore, this is recognized by the department to the extent that statistical reports and databases containing procurement data include emphatic disclaimers. However, there seems to be no consensus as to the cause of the problem. Each stakeholder group believes other stakeholders to be at fault.

2.3.2.2 Current Review

There are mixed views regarding the degree of data integrity, depending on whether the subject is 'tombstone' data or management statistics.

There is a higher degree of confidence in the accuracy of 'tombstone' information which is frequently called upon to respond to Ministerial or supplier enquiries (e.g. supplier profile, contract value, goods/services, date of entry, date of contract award, etc.) than there is in summary statistical data (i.e. information that is used for management decision-making or reporting purposes). Confidence in the accuracy of statistical data is

mixed. Some interviewees estimate high levels of accuracy with statistical data and observe that they have received no indication that their input is faulty. Others interviewed felt that ABE is not accurate and that the coding, particularly for the more complex coding area of services, is inaccurate.

Reportedly, approximately half of the requests for information from ABE are related to specific contracts and/or suppliers and are addressed through the contract tombstone data stored in ABE. The other 50% of requests relate to broad, summary statistics which can be used for management decision-making and for reporting purposes. PWGSC uses statistical reporting in all its corporate reports, including the Business Plan; Planning, Reporting and Accountability Structure Report; Report on Plans and Priorities; and Performance Report, as well as numerous internal reports and research undertakings.

During the course of the interviews, certain data elements where inaccuracies and data corruption have been observed were discussed. These included: GSIN #s; line item details (especially with multiple line/multiple consignee requisitions); justifications for contract selection decisions (eg. sole source justification); posting of ACANs onto MERX; ACAN codes; CAP codes; method/basis of payments; contract expiration dates; milestone dates; contract period; and, dates goods/services required. Interviewees were aware of problems in these fields.

System managers and staff are aware of many of these problems but, given competing priorities, particularly Y2K, they indicate there are inadequate resources to address the problems. Despite the problems, system managers believe that ABE improves the quality and integrity of data and that the system and its architecture is supporting data integrity.

There is no assurance that all buys are captured in a complete, timely and accurate fashion.

Data on Major Crown Projects, the procurement of fuels, sensitive procurement, certain low dollar value/urgent procurements, foreign office procurement, and some RPS requisitions which are found on SPEC and ACCORD databases (although the RPS transactions will eventually be included for ABE), is not entered into ABE. Over and above these "planned exceptions", interviewees suggested that for those buys which are supposed to be processed through ABE, there is no assurance that all are being fully captured. The necessity to have a requisition number in ABE in order to post a transaction on MERX provides a control which supports data capture of ABE transactions. However, for the subset of procurements which are not posted on MERX, ABE can be bypassed.

Once a requisition is resident in ABE, however, there is a mechanism which promotes timely completion of the buy. The "Uncontracted Requisitions Report" is used to monitor outstanding contract awards. Beyond this point though there is no assurance of timely capture of all the ultimate data/coding via the Procurement Summary. Some

managers are availing themselves of a report capability which flags procurements not yet coded. However, unless all SOSB managers call for a summary report of the number of documents that remain uncoded, a clear picture of data not yet entered on ABE cannot be obtained.

With respect to accuracy of the data in ABE, concerns were raised by procurement officers interviewed as to whether they were always providing the correct answers to ABE data prompts. They found that drop down lists provided by ABE offered choices which were inexact or did not adequately describe the circumstances of the procurement. It was noted that this was a business issue rather than a system's issue. SSD indicates that the system does provide the opportunity for buyers to select an appropriate category, and, in fact the drop down lists of choices can be modified within a 48 hour period, should the selections or discreteness of the choices need to be revised. Users appear to be unaware of this capability.

In terms of the overall control environment supporting 'clean' data, ABE's syntax edits and relational prompts help, but controls to ensure that the descriptors and coding in ABE are consistent with what is found on the hardcopy files are absent. Neither supervisory review nor quality control is exercised in this respect. Such errors are only identified if an external request provokes a look at an individual buy.

The system edits certain fields to determine whether or not information has been entered. However, in some of these fields, ABE does not edit whether the information entered is correct. The recent Audit of the Advance Contract Award Notification (ACAN) Process and the Review of Bid Evaluation and Contractor Selection Methods indicated a need to strengthen the edits over the use of CAP Codes.

In general, procurement officers interviewed felt accountable for the data that they enter into ABE. Data integrity and contracting statistics are not, however, priorities for the officers, other than the data capture and coding of the Procurement Summary. This is partly due to a lack of direct interdependence between the information produced and the buyer, and partly due to a lack of feedback or consequence to the procurement officers on the accuracy of the data entered into ABE. Within the organizational culture, client service is the predominant philosophy reinforced. Turnaround time and the completion of buys are the preoccupations of management in that these reports are the most used. Procurement officers interviewed demonstrated little awareness or understanding of how statistical data benefits PWGSC or indeed themselves, and were sceptical of its utility.

Amendments processing is a source of frustration for procurement officers.

Most officers interviewed found the process of entering amendments in ABE to be complex and time consuming for what they believed should be a relatively simple process. Some end up by-passing ABE altogether in order to process amendments. Furthermore, the original data of a procurement can be corrupted through amendments,

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resulting in contracting statistics being skewed to reflect amendment data rather than original transaction activity. Work is underway to address known problems in this area.

3. Conclusions

3.1 Functionality

- Some ABE functions are working well, while others are not. Functions which require early attention should include those which are considered priorities by procurement officers and those related to reporting capabilities needed by management. To the extent that system problems may result in incomplete or erroneous procurement information being issued by ABE (via MERX) to the supplier community, there should be particular concern.
- Users have turned away from functionalities they experience as overly-complex, demanding or not user-friendly. The current state of technical volatility has contributed to the perception that ABE is not reliable or dependable. Such volatility is being perceived to be related to ABE even though it could be associated with OIR, problems with other systems interfacing with ABE, or peculiarities of individual workstations. In order to foster a broader and more comprehensive use of ABE, management needs to resolve the problems, overcome the negative perceptions about ABE and regain users' confidence.
- The pressures related to MERX, OIR, and Year 2000 Preparedness may have diverted management's focus on ABE functionality issues. The resulting delay in remedial action has undermined staff confidence in the system's capability as well as their belief that management is concerned about the impact on users.
- There is a need for enhanced communications to broaden user awareness of the full range of functions ABE is able to perform. There is also a need for more regular dialogue between system owners and developers and its users to: (i) identify user needs and priorities, (ii) provide comprehensive, non-technical feedback regarding ABE problems and issues being dealt with, and (iii) communicate the rationale for, and status of, system fixes and enhancements, including those which are not currently being addressed. To update users' knowledge of the functionality of ABE, refresher or renewal training may be appropriate.

3.2 Data Integrity

- Case-specific inquiries on individual contracts and suppliers creates a de facto quality control check for contract identifier data contained in ABE. The same cannot be said of summary statistics provided by the system. Overall, there is little assurance that the statistical information contained in departmental reports to Parliament or Central Agencies, or generated for internal use, is sufficiently accurate. There is also little assurance that ABE has been configured in such a way as to be able to generate, automatically and in a timely fashion, all the statistical reports developed by SOSB for management control purposes.
- The current environment does not reinforce the importance of complete and accurate data. Speed of client service and compliance with contracting policies and practices are the areas

of preoccupation of procurement staff. At the same time, clients, suppliers and management are preoccupied with turnaround time and the number of completed buys.

- Data integrity is being compromised when the process of dealing with ABE-related problems becomes time-consuming for procurement officers. Some procurement officers have reached a level of frustration with the system such that their diligence or care regarding data accuracy may have been diminished. A parallel frustration is evident among the systems staff who are faced with many competing priorities which have resulted in what they regard as inadequate time to devote to remedying issues concerning ABE.
- There should be an ongoing facility to ensure that the coding definitions and options are sufficiently clear to procurement officers. Also, there should be measures in place, external to ABE, to validate the choices being made and to verify the data being generated. Limited use of management reports results in a lack of feedback on the accuracy of data and, as a result, a lack of awareness and incentive for accurate data. Unless this view is turned around, SOSB cannot take comfort in this first line control where the accuracy of the data depends largely on the procurement officer's diligence in coding, as well as applicability of the coding fields.
- In summary, the accuracy of information contained in ABE is dependent upon a variety of factors: (i) the nature and complexity of the procurement; (ii) procurement officers' understanding and awareness of the importance of accurate coding; (iii) the relevance of coding fields provided on drop-down menus and provision of clearly differentiated/correct choices; (iv) weak reinforcement of the importance of clean data; (v) certain tombstone information defaulting to values other than what has been entered; and (vi) the implementation of new releases without conversion of existing data on databases.

3.3 Further Work

The issues related to ABE functionality and data integrity identified during this Preliminary Survey are sufficient to suggest a plan of work required for SOSB. Further investigation by way of a Detailed Examination is not considered necessary at this time, although SOSB may wish to undertake more extensive study itself once actions to remedy the concerns already identified have been undertaken.

4. Recommendations

In order to attain greater user awareness and acceptance of ABE functionality and to ensure ABE data integrity, it is recommended that SOSB management:

1. *Address current functionality concerns by:*
 - i. *focussing specifically on developmental work related to problems regarding ABE application;*
 - ii. *broadening integrated testing prior to new releases; and*
 - iii. *ensuring that stakeholders are provided with user-friendly capability generating accurate and timely information and reports themselves based on key data fields they require.*

2. *Take steps to support the achievement of data integrity by:*
 - i. *identifying key statistical data fields which are currently captured, or could potentially be captured, by ABE and which are important for departmental decision-making and reporting purposes (such as reports to Parliament, Central Agencies and internal management reports); and*
 - ii. *amplifying the control environment related to these data fields through such means as additional edits, enhancing exception reporting of outstanding transactions awaiting coding, and conducting spot checks for data accuracy.*

3. *Undertake communications initiatives to promote an organizational culture which:*
 - i. *recognizes and understands the value of accuracy in the data being captured and reported from ABE;*
 - ii. *improves user awareness of existing ABE functionality as well as Change Management Review Board and IM/IT Committee decisions and strategies; and*
 - iii. *fully involves all stakeholder groups in the identification of ABE functions which require modification, and provides subsequent training to such groups once the functions are operational.*

Annex 1 (Interfaces with ABE)

Annex 2 - Results from Questionnaire Given to Procurement Officers

Procurement officers involved in the focus groups, were asked for their input into a tabular questionnaire which listed the functions which ABE was designed to perform. They were asked to indicate which of the functions they themselves performed, whether the functions were performed on ABE and, if so, whether or not they thought ABE was working well with respect to those functions.

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TABLE 1

| Function | Function is not performed by the procurement officer or not familiar to the officer | | Procurement officer does not use ABE to perform this function | | Procurement officer uses ABE to perform this function | | ABE Performance of this function | | | Respondents' Comments | |
|--|---|------------|---|---------------------------------------|---|---------------------------------------|----------------------------------|------------------------|--------------------------|-----------------------|--|
| | # of responses | % of total | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | | |
| A: Buyer Functions: | | | | | | | | | | | |
| Procurement Functions: | | | | | | | | | | | |
| Requisition Acknowledgement | 1 | 4% | 5 | 22% | 18 | 78% | 17 | 94% | 1 | 6% | |
| Development of Procurement Strategies | 3 | 13% | 13 | 62% | 8 | 38% | 7 | 87.5% | 1 | 12.5% | |
| Preparation of Solicitations | 0 | 0% | 1 | 4% | 23 | 96% | 21.5 | 93% | 1.5 | 7% | .5 indicates works well but not consistently |
| Bid Evaluation | 3 | 13% | 18 | 86% | 3 | 14% | 0 | 0% | 3 | 100% | |
| Standing Offer Evaluation/Creation/Maintenance | 12 | 50% | 4 | 33% | 8 | 67% | 6.5 | 81% | 1.5 | 19% | .5 indicates works well but not consistently |
| Approval Processing | 4 | 17% | 10 | 50% | 10 | 50% | 5 | 50% | 5 | 50% | |
| Preparation of Agreements | 7 | 29% | 6 | 35% | 11 | 65% | 9 | 82% | 2 | 18% | |
| Contract Award | 1 | 4% | 0 | 0% | 23 | 100% | 21.5 | 93% | 1.5 | 7% | .5 indicates works well but not consistently |

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| Function | Function is not performed by the procurement officer or not familiar to the officer | | Procurement officer does not use ABE to perform this function | | Procurement officer uses ABE to perform this function | | Performance of this function | | | Respondents' Comments | |
|---|---|------------|---|-------------------------------------|---|-------------------------------------|------------------------------|------------------------|--------------------------|-----------------------|----------------|
| | # of responses | % of total | # of responses | % of total who perform the function | # of responses | % of total who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | | |
| Post-Award Administration: | | | | | | | | | | | |
| Delivery Tracking | 2 | 8% | 16 | 73% | 6 | 0.27 | 6 | 100% | 0 | 0% | |
| Payment Tracking | 13 | 54% | 11 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | Not yet in ABE |
| Agreement Milestone Tracking | 12 | 50% | 11 | 92% | 1 | 8% | 1 | 100% | 0 | 0% | |
| Agreement Termination and Close-out | 7 | 29% | 9 | 53% | 8 | 47% | 6 | 75% | 2 | 25% | |
| Progress Monitoring (through the display of the above data) | 14 | 58% | 10 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | Not yet in ABE |
| Cost/Performance Monitoring | 13 | 54% | 11 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | Not yet in ABE |
| Commodity Management: | | | | | | | | | | | |
| Standing Offer Initiation/Up-load ECOTS | 24 | 100% | 0 | 0% | 0 | 0% | N/A | N/A | N/A | N/A | |

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| Function | Function is not performed by the procurement officer or not familiar to the officer | | Procurement officer does not use ABE to perform this function | | Procurement officer uses ABE to perform this function | | Performance of this function | | | Respondents' Comments |
|-------------------------------------|---|----------------------|---|---------------------------------------|---|---------------------------------------|------------------------------|------------------------|--------------------------|------------------------------|
| | # of responses | % of total responses | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | |
| Access to Qualified Products Lists | 22 | 92% | 2 | 100% | 0 | 0% | N/A | N/A | N/A | |
| GSIN Registration | 22 | 92% | 0 | 0% | 2 | 100% | 1 | 1 | 50% | not done in ABE, done in VIM |
| GSIN Display | 21 | 88% | 1 | 33% | 2 | 67% | 2 | 0 | 0% | done in VIM |
| Maintain Source Lists | 22 | 92% | 2 | 100% | 0 | 0% | N/A | N/A | N/A | |
| Commodity Reporting | 22 | 92% | 2 | 100% | 0 | 0% | N/A | N/A | N/A | not an ABE function |
| General Support: | | | | | | | | | | |
| Bring Forward Processing | 15 | 63% | 9 | 100% | 0 | 0% | N/A | N/A | N/A | |
| Procurement Folder Display | 19 | 79% | 2 | 40% | 3 | 60% | 3 | 0 | 0% | |
| Milestone/Status Processing | 16 | 67% | 6 | 75% | 2 | 25% | 2 | 0 | 0% | |
| Checklist Display/Editing | 22 | 92% | 2 | 100% | 0 | 0% | N/A | N/A | N/A | |
| Alert Processing | 20 | 83% | 4 | 100% | 0 | 0% | N/A | N/A | N/A | |
| Correspondence and Note Attachments | 14 | 58% | 8 | 80% | 2 | 20% | 2 | 0 | 0% | |

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| Function | Function is not performed by the procurement officer or not familiar to the officer | | Procurement officer does not use ABE to perform this function | | Procurement officer uses ABE to perform this function | | Performance of this function | | | Respondents' Comments | |
|---|---|----------------------|---|---------------------------------------|---|---------------------------------------|------------------------------|------------------------|--------------------------|-----------------------|--|
| | # of responses | % of total responses | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | | |
| Document Preparation/Management | 14 | 58% | 4 | 40% | 6 | 60% | 6 | 100% | 0 | 0% | |
| Policy Display | 17 | 71% | 4 | 57% | 3 | 43% | 3 | 100% | 0 | 0% | |
| External Systems Interface | 23 | 96% | 0 | 0% | 1 | 100% | 0.5 | 50% | 0.5 | 50% | .5 indicates works well but not consistently |
| SSC Heritage Systems Interface | 24 | 100% | 0 | 0% | 0 | 0% | N/A | N/A | N/A | N/A | |
| Tables Display | 23 | 96% | 1 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | |
| Default Configuration Maintenance | 23 | 96% | 0 | 0% | 1 | 100% | 1 | 100% | 0 | 0% | |
| Procurement Project Management: | | | | | | | | | | | |
| Linking Requisitions to the Project | 19 | 79% | 4 | 80% | 1 | 20% | 1 | 100% | 0 | 0% | |
| Maintaining Procurement Project Information | 17 | 71% | 6 | 86% | 1 | 14% | 1 | 100% | 0 | 0% | |

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| Function | Function is not performed by the procurement officer or not familiar to the officer | | Procurement officer does not use ABE to perform this function | | Procurement officer uses ABE to perform this function | | ABE Performance of this function | | | | Respondents' Comments | |
|--|---|------------|---|---------------------------------------|---|---------------------------------------|----------------------------------|--------------------------|----------------|--------------------------|-----------------------|------------------------|
| | # of responses | % of total | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | % of total # who use ABE | # of responses | % of total # who use ABE | | ABE does not work well |
| Buyer Enquiry And Reporting | | | | | | | | | | | | |
| Report Functions - Pre-defined Reports or Ad-hoc Queries | 19 | 79% | 3 | 60% | 2 | 40% | 1 | 50% | 1 | 50% | | |
| Vendor Profile Display/Maintenance | | | | | | | | | | | | |
| Vendor Performance Input/Monitoring | 18 | 75% | 5 | 83% | 1 | 17% | 1 | 100% | 0 | 0% | | done on VIM |
| Vendor Facility Evaluations | 18 | 75% | 6 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | | not an ABE function |
| Rate Negotiation | 18 | 75% | 6 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | | not an ABE function |
| Vendor Financial Report Display | 19 | 79% | 5 | 100% | 0 | 0% | N/A | N/A | N/A | N/A | | not an ABE function |
| B: Managerial Functions | | | | | | | | | | | | |
| Work Group Set-up and Maintenance | 24 | 100% | 0 | 0% | 0 | 0% | N/A | N/A | N/A | N/A | | |

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|--|---|------------|---|---------------------------------------|---|---------------------------------------|------------------------------|------------------------|--------------------------|-----------------------|--|
| | # of responses | % of total | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | | |
| Requisition Assignment and Re-Allocation | 16 | 67% | 0 | 0% | 8 | 100% | 7 | 87.5% | 1 | 12.5% | |
| Procurement Folder Transfer | 21 | 88% | 0 | 0% | 3 | 100% | 3 | 100% | 0 | 0% | |
| Management Reporting | 20 | 83% | 3 | 75% | 1 | 25% | 0 | 0% | 1 | 100% | |
| C: Service/Support Functions | | | | | | | | | | | |
| Requisition Capture | 20 | 83% | 0 | 0% | 4 | 100% | 4 | 100% | 0 | 0% | |
| Bid Entry/Receipt | 16 | 67% | 4 | 50% | 4 | 50% | 2 | 50% | 2 | 50% | |
| Requisition Allocation | 19 | 79% | 0 | 0% | 5 | 100% | 5 | 100% | 0 | 0% | |
| Acknowledgement/Notice/Document Handling | 13 | 54% | 0 | 0% | 11 | 100% | 8 | 73% | 3 | 27% | |
| Label production | 20 | 83% | 3 | 75% | 1 | 25% | 0 | 0% | 1 | 100% | |
| D: Data Transfer/Receiving | | | | | | | | | | | |
| ABE Interfaces to External Databases | 22 | 92% | 0 | 0% | 2 | 100% | 1 | 50% | 1 | 50% | |

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|--|---|------------|---|---------------------------------------|---|---------------------------------------|------------------------------|------------------------|--------------------------|-----------------------|--------------------------|
| | # of responses | % of total | # of responses | % of total # who perform the function | # of responses | % of total # who perform the function | ABE Works well | ABE does not work well | % of total # who use ABE | | |
| Additional Functions Not Listed Above | | | | | | | | | | | |
| Creating Source List | N/A | N/A | 0 | 0% | 1 | 4% | 0.5 | 50% | 0.5 | 50% | Works well when it works |
| Creating NPPs | N/A | N/A | 0 | 0% | 1 | 4% | 0.5 | 50% | 0.5 | 50% | Works well when it works |
| Transmitting to MERX | N/A | N/A | 0 | 0% | 1 | 4% | 0.5 | 50% | 0.5 | 50% | Works well when it works |
| Procurement Summary | N/A | N/A | 0 | 0% | 1 | 4% | 0 | 0% | 1 | 100% | Works well when it works |
| Vendor's Name Change | N/A | N/A | 0 | 0% | 0 | 0% | N/A | N/A | N/A | N/A | |
| Use of Templates | N/A | N/A | 1 | 4% | 0 | 0% | N/A | N/A | N/A | N/A | |
| Attachments | N/A | N/A | 0 | 0% | 1 | 4% | 1 | 100% | 0 | 0% | |
| Document Import/Export | N/A | N/A | 0 | 0% | 1 | 4% | 1 | 100% | 0 | 0% | |
| Ticklers | N/A | N/A | 0 | 0% | 1 | 4% | 1 | 100% | 0 | 0% | |
| Cost History | N/A | N/A | 1 | 4% | 0 | 0% | N/A | N/A | N/A | N/A | |
| Links to IHS (Information Handling Service) | N/A | N/A | 1 | 4% | 0 | 0% | N/A | N/A | N/A | N/A | |