

Project No.: 050105

Report on BCTS Cost Accounting

Ministry of Forests and Range

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Abbreviations

BCAS	BCTS Cost Accounting System
BCTS	British Columbia Timber Sales
CAS	Corporate Accounting System
CHIPS	Corporate Human Resources Information and Payroll System
EA	Expense Authority
Genus	Genus Resource Management Information System
IAAS	Internal Audit & Advisory Services
QR	Qualified Receiver
the ministry	Ministry of Forests and Range
the Province	Province of British Columbia
TSOs	Timber Sales Offices
UBI	Unique Block Identifier

Executive Summary

The British Columbia Timber Sales (BCTS) division of the Ministry of Forests and Range (the ministry) uses cost accounting to support operations to achieve two of the organizations strategic goals. These goals are to 'provide a credible reference point for costs and pricing to timber harvested from public land in BC', and to 'maximize net revenue return to the Province, within the parameters dictated by our benchmarking and sound forest management practices'.

At the time of our review, BCTS was implementing the BCTS Cost Accounting System (BCAS) to meet their cost accounting requirements and help meet strategic goals. The system will have checks in place but will still require verification of the adequacy of data coded into the system. Accordingly, BCTS management requested Internal Audit & Advisory Services, Office of the Comptroller General, Ministry of Finance, to review and assess the adequacy and verifiability of coded data, as well as the reliability of coding practices. Our fieldwork was conducted between November 2006 and February 2007.

Overall Conclusion

Overall, we found that BCTS recorded expenditures for the period of our review are accurate, consistent with coding guidance, and originate from valid acquisition of goods and services. BCTS coded expenditures are verifiable, but we recommend simplifying the verification process by strengthening supporting documentation for goods and services received and costs allocated. Coding practices are consistent with BCTS guidance across Timber Sales Offices (TSOs) and are reliable.

We are recommending strengthening some practices to enhance the reliability of coding practices. Specific issues are highlighted in the following sections.

Accuracy and Validity of Coded Expenditures

We found that existing BCTS coded expenditures for the period of our review were accurate and consistent with present guidance, and originated from valid goods and services. However, overall expenditures are not yet allocated to the block level, but this issue will be addressed once the BCAS becomes fully operational, as costs in some accounts have to be allocated to blocks by the system.

End-user
Precision
Requirements

The cost accounting framework should be adequate for end-user needs. However, the adequacy of data from the cost accounting framework has not been measured against end-user precision requirements. Consequently, there is an increased risk that precision levels may not appropriately meet end-user needs and could result in inefficient use of BCTS resources.

BCTS now has over three years of data collected under the new framework that can be analyzed. Accordingly, we recommend that BCTS revisit costing precision requirements for end-users, to enable refinements to cost accounting guidance and procedures.

Documentation
Tracking

The variety of activities and expenses associated with block costs increases the complexity to track information for verifying recorded transactions, as the nature of supporting source documents varies. We recommend BCTS simplify the verification process for auditors and future audits, by clarifying who to contact, where information is located, and what information to obtain for each unique type of expenditure.

Better documentation for supporting goods and services received and for serving as backup for expense coding allocations would also simplify tracking information for some transactions.

Reliability of
Coding Practices

Coding practices across BCTS TSOs were consistent with guidance. Increased attention to accuracy checks of vendor coded invoices, and obtaining more detailed data for invoiced goods and services to be allocated at a later date would increase the reliability of coding practices.

We would like to thank BCTS management and staff for their co-operation and valued inputs during this engagement.

Keith Margetts
Director, Professional Practice
Financial Controls and Compliance
Internal Audit & Advisory Services

April 7, 2008

Introduction

BC Timber Sales (BCTS) is a division of the Ministry of Forests and Range (the ministry) and has 12 Timber Sales Offices (TSOs) located throughout the province and a headquarters located in Victoria. Cost accounting is critical for the continued success of BCTS and is a key business strategy to support the achievement of two of the organization's four strategic goals, which are to:

1. *“Provide a credible reference point for costs and pricing to timber harvested from public land in B.C.”.* This is supported in part through BCTS cost accounting processes and systems to demonstrate the accuracy, completeness, reliability, and verifiability of the information.
2. *“Maximize net revenue return to the Province, within the parameters dictated by our benchmarking and sound forest management practices”.* This is achieved by using relevant cost, revenue, and Genus Resource Management Information System (Genus) spatial data to inform operational business decisions.

During the past three years, BCTS has been developing the cost accounting framework and the BCTS Cost Accounting System (BCAS) to meet their cost accounting requirements and meet strategic goals.

The cost accounting framework guidance and procedures (guidance) currently support vendor invoice coding practices to specific Unique Block Identifiers (UBIs) (or blocks) roads, or pooled accounts. Costs accumulating in the roads and pooled accounts will be allocated to blocks once the framework is further developed.

The BCAS being developed to integrate BCTS data required for cost accounting within a single database and will receive descriptive data from Genus, cost data from the Provinces Corporate Accounting System (CAS) and salary and benefit costs from Corporate Human Resources Information and Payroll System (CHIPS). The system will have data checks in place but will still require verification of the adequacy of data coded into the system. Therefore, it is important for BCTS management to assess the adequacy of the coding and the knowledge of those responsible for coding.

Accordingly, at the request of BCTS management, Internal Audit & Advisory Services (IAAS), Ministry of Finance, has conducted a review and assessed the adequacy and verifiability of coded data, as well as the reliability of coding practices.

Purpose

The purpose of this engagement was to review the adequacy of BCTS cost accounting data and processes.

Scope

The scope of this engagement included an examination of coded BCTS expenditures for the fiscal year ended March 31, 2006.

Specifically, we examined:

- BCTS coded expenditures for adequacy as a credible reference point for recorded costs;
- BCTS coded expenditures for coding verifiability to identify opportunities for improvement and efficiency of the verification process; and
- coding practices for reliability to assess the adequacy of support for current and future BCTS recorded costs.

Our approach included an analysis of a statistical sample of expense transactions in each TSO, and a review of coding practices and controls in place through interviews with BCTS staff.

Fieldwork for this engagement was conducted between November 2006 and February 2007.

Comments and Recommendations

1.0 Adequacy of Coded Expenditures

On the basis of our analysis results, we conclude that BCTS recorded expenditures for the fiscal year ended March 31, 2006 were accurate and consistent with BCTS coding guidance. Expenditures examined included those coded to blocks, roads, and pooled project codes.

Overview

To examine the overall adequacy of BCTS expenditures we primarily considered adequacy of expenditures against existing BCTS guidance. This was done because the cost accounting framework was not yet fully developed at the time of our fieldwork.

To assess adequacy of expenditure processing against existing BCTS guidance, we drew a statistical sample of expenditures from the population of BCTS coded transactions that occurred during the period of our review. We then compared the expenditure coding against adequacy criteria for errors.

We defined adequacy criteria to include the following three attributes:

1. Accuracy/Consistency, comprising the extent to which coded expenditures were free from error. We defined an error as any coding transaction that did not match coding guidance for coding to the block, or that contained a recording error.
2. Validity, encompassing whether expenditures coded to the block were approved and received.
3. Completeness, covering the extent to which all BCTS costs were coded to blocks.

Variations in coding practices for any of the above criteria where guidance is silent or could be interpreted differently were not counted as errors, but rather are discussed under Section 3 of this report, 'Reliability of Coding Practices'.

We found the error rate of four errors in our sample of 178 was less than the maximum allowable error rate determined in the sampling plan. As a result, we were able to make conclusions about the adequacy of the entire population.

To extend the discussion of adequacy to include the end users, we have also briefly commented on the adequacy of BCTS guidance itself, as measured against precision needs of identified stakeholders, taking into account that quantitative comparisons have not yet been performed.

1.1 Accuracy of Coded Expenditures

We found that existing BCTS coded expenditures for the period of our review were accurate and consistent with present guidance. To assess accuracy, we traced a sample of coded lines to source documents, then compared BCTS coding requirements based on the source documents to actual coding.

BCTS cannot yet access overall expenditures accurate to the block level from BCAS, which is not yet operational. Accordingly, our conclusion includes the following limitations:

- expenditures coded to pooled accounts have not yet been reallocated to blocks; and
- expenditures coded to roads have not yet been allocated to blocks.

At the time of our fieldwork, we established that these allocation functions will be transacted in BCAS when the system becomes operational.

1.2 Validity of Coded Expenditures

The population of BCTS coded transactions for the time period under our review originate from expenditures related to overall goods and services verified through the regular government procurement Expense Authority (EA) and Qualified Receiver (QR) approvals.

Cost accounting guidance is silent; however, on whether the level of QR verification of deliverables received is adequate at an overall level or whether the level should mirror accuracy guidance and require verification to the to the block level. We found that practices varied, and this is discussed further under Section 2 of this report, 'Coding Verifiability'.

1.3 End-user Requirements

In general, the cost accounting framework should be adequate for end-user needs. This is because the framework aggregates costs to blocks, the specific costs are well defined and use a systematic data gathering approach. This would satisfy given end-user requirements, for example:

- informing operational decisions by BCTS management and staff ability to identify, measure and control costs;
- providing a backup to demonstrate the accuracy, completeness, reliability, and verifiability of the data as a credible reference point for market pricing (e.g. as related to costs for Tenure Obligation Adjustments);

Also, as sales and costs can be related to the block level, the framework allows the individual characteristics of sales to be examined and drive costs. This also fits the Market pricing system requirements for developing cost profiles for Tenure Obligation Adjustments based on distinct attributes.

However, adequacy of data from the cost accounting framework as compared against end-user precision requirements is not known because it has not been measured. Thus, there is a risk that precision levels may not meet end-user needs, resulting in inefficient use of BCTS resources. The risk is compounded by the wide coding flexibility the framework allows because guidance was not yet fully developed, which allows differing expense coding allocations and verification control practices.

We were advised that the BCTS Cost Accounting Working Group did consider end user requirements in the design of the cost accounting framework. We acknowledge that the question of whether these considerations will be correct cannot be known until the BCAS is fully functional.

Accordingly, we suggest that BCTS would benefit from revisiting the adequacy of the cost accounting model when BCAS is fully functional, from the perspective of data produced and whether it meets current and expected needs of end-users. This is especially true, given BCTS now has more than three years of data under the new framework that can be analyzed.

Recommendation:

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- (1) **We recommend that BCTS revisit specific costing precision requirements for end-users, to confirm it meets user needs.**
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Management Response

- (1) *BCTS plans to review cost accounting results at the block level for reasonability and precision once the BCAS is operational and make any refinements to policy and guidance required at that time.*

2.0 Coding Verifiability

We found that recorded expenditures are verifiable to vendor invoices, contract schedules and expenditure approvals, and evidence of receipt of services or goods. Opportunities for improvement were identified in the following areas to improve effectiveness of future audits:

- strengthening document tracking could improve the efficiency of the verification process, to reduce delays occurring due to the diverse nature of information required and wide variety of supporting document sources for validating different expenditures;
- referencing supporting documentation sources from manual journal vouchers; and
- providing increased guidance for BCTS staff.

2.1 Documentation Tracking

The variety of activities and expenses associated with block costs increases the complexity for verifying recorded transactions, as the nature of supporting source documents varies. Complexity is also increased because verification involves determining whether the goods or services were authorized, received, and properly billed. Also, there are many different staff contracts and locations for the verification documents.

Guidance for Verifying Expenses

A guidance document depicting ‘who’ to contact, ‘where’ the information is located, and ‘what’ information to obtain for each unique type of expenditure would be adequate to improve the ability to verify transactions when the need arises. It could also be updated for current contacts when required. The costs associated with more detailed solutions would likely be excessive.

This would help overcome difficulties we observed for verifying expenditures, including:

- locating evidence of authorized expenditures at the block level;
- verifying physical evidence that goods or services were received at the block level; and
- different locations and contacts for source billing documentation.

For example, evidence of authorized expenditures at the block level is found from different sources depending on the good or service. Refer to Table 1, which illustrates the variety of document sources.

Table 1: Authorized Good or Service Source Documentation

Good or Service	Source Document for Authorized Expenditure and Deliverable
Planting	Project Management Plans
Block Surveys	Proposal for Surveys and Brushing
Silviculture	Contract Schedule G
Wildfire Management	Pre Work Plans
Inventory or other Goods	Supplier Arrangement order forms Various order methods
'As and When Needed'	Verbal authorization via emails Helicopter Flight Request Forms Road Supervisor field diaries

It would be difficult to perform an external verification, without knowing up front the link between the good or service and the related source authorization documentation.

Also, physical evidence to verify goods or services were received at the block level could also come from any number of sources, as illustrated per Table 2.

Table 2: Received Good or Service Source Documentation

Good or Service	Source Document for Goods and Services Received.
Helicopter flights. Delivered goods such as planning or silviculture reports or data received.	Emails from ministry users Review of the deliverables
Planting Brushing Wildfire Management Road Work etc.	Compliance field review notes from ministry staff or independent contractors. Sample inspections Reasonability analysis of deliverable vs. overall cost.
Inventory or other Goods	Receiving Slips

Lastly, there are different locations and contacts for source billing documentation depending on the method by which the expenditure occurred. Table 3 illustrates this point.

Table 3: Billing Documentation

Method	Location
Vendor invoices, contracts and attachments.	TSOs.
Vendor services made through corporate supply arrangements.	Government staff from originating office.
iExpenses, Queens Printer charges, manual JVs, etc.	Government staff from originating office.

To improve verifiability of deliverables for each contracted block, we believe that solutions should not be too prescriptive or overly burdensome on BCTS staff, given the relative infrequency of the need for verification and the current unknown level of end-user cost accounting requirements.

Verification Practices for Large Complex Invoices

Verification practices for the receipt of goods and services and related transaction coding for larger complex invoices are generally based on overall reasonableness from an operational control perspective. They are not the more detailed review requirements for cost accounting purposes to the block level.

These practices make it difficult to determine validity of goods and services received to the block level for some coded transactions. This issue is discussed further in Section 3.0 of this report.

Manual Journal Vouchers

Manual journal vouchers, coding allocations and holdback releases are difficult to validate because supporting documentation is not always attached. Supporting documentation or description of the transaction and cross reference to supporting information would assist with the verification process.

Recommendations:

We recommend that BCTS management:

- (2) provide guidance to assist expense verification by identifying where potential source documentation is held, who to contact, and what documentation to obtain for both source documentation and evidence of QR; and**
 - (3) ensure manual Journal Vouchers, coding allocations and holdback releases have sufficient and appropriate documentation attached to the manual transaction sheet.**
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Management Response

- (2) BCTS Cost Accounting Working Group will review the cost – benefit of providing future auditors with guidance to assist in cost allocation verification.*
- (3) BCTS Cost Accounting Working Group will provide guidance and direction on documenting coding requirements for Journal Vouchers, year-end accruals.*

2.2 Staff Training

We found BCTS staff very accommodating in assisting with obtaining evidence to verify coded transactions. Some, however, had some difficulty with providing required documentation requirements to verify the accuracy and validity of BCTS coded expenditures. Consequently, this deficiency could increase the risk of adversely affecting their ability to provide timely verifications.

This is due in part because some QR documentation follow the less detailed evidentiary requests to satisfy core policy and related iProcurement control requirements than would be required for cost accounting verification. For example, we found instances where:

- to illustrate authorized blocks, staff would provide contracts but not the required source documents (as per Table I), and
- to illustrate goods and services received staff initially provided little QR information until requirements were explained in detail.

Recommendation:

(4) We recommend that BCTS management provide training guidance for their field staff, on the purpose and information requirements for expenditure audits, to ensure adequate information is obtained when processing transactions for subsequent verification, and to enable timely review by external users.

Management Response

(4) BCTS Cost Accounting Working Group will develop guidance materials to assist staff in ensuring sufficient documentation is retained on file to support any subsequent verification requirements.

3.0 Reliability of Coding Practices

Overall, we found that coding practices were consistent with guidance and tools, where they existed as discussed in Section 1.0 of this report. Staff training and accessibility to guidance and supports was adequate. All staff interviewed felt existing supports were adequate for transaction coding practices.

However, we identified a number of areas where coding practices could be strengthened. These improvements include:

- documenting practices for validating goods and services transactions, verifying vendor coded invoices, and allowing for coding of expenditures to blocks based on likelihood;
- allocating transactions to block if known, regardless whether they occur near fiscal year end; and
- documenting a management trail of transactions into pools.

3.1 Specific Validation and Verification Practices

Although we established that coding practices generally conformed to guidelines, we suggest strengthening controls through improved documentation of transaction validation and verification processes. This additional guidance would help to ensure consistent coding practices are applied at all locations.

Validity of Goods and Services

For transactions related to goods and services involving many blocks, or transactions originating from invoices not initially tied to specific blocks and/or roads, the verification of receipt of goods and services vary.

While practices support QR validation from a core policy and operational practicality perspective, they may or may not always support verification for the more detailed cost accounting purposes, or may not be documented. Table 4 illustrates the different practices employed.

Table 4: QR Practices

Practice Type	Practice Used
Large Invoices	May be limited to receiving the invoices as they are submitted then assessing the reasonability of work done once all the deliverables are complete. The overall cost per unit (block) is then allocated against approved contract amounts.
'as and when needed' contract services	Such as road maintenance or supervision may be limited to ensuring goods and services are received on an overall basis, but reliance may be placed on the vendors for coding to the block.
Field Checks	By BCTS technicians on blocks for which services are billed vary. Some are done regularly, while others are done rarely.
Contact with Vendors	By BCTS staff throughout the vendor contract vary. Some are highly integrated while others are not.

To improve reliability of verifying deliverables for each contracted block, without being too prescriptive or overly burdensome on BCTS staff, BCTS should ensure QR practices are adequately documented. This includes documenting:

- reasonability assessments and Block allocation calculations for larger invoices;
- sample field checks on blocks for which contracted goods or services were provided and invoiced; and
- contacts with contracted vendors in the contract period relevant to QR verification.

Vendor Coded
Invoice Checks

Practices for verifying coding accuracy for the complex vendor coded invoices were not consistent across TSOs. For example:

- some TSO staff checked detailed invoice coding to the UBIs per the contract;
- others checked sample coding lines on invoices; and
- others only relied on controls in place to verify overall deliverables by comparing overall expenditures and deliverables to the contracted amounts after contract completion, using generated reports.

Some controls existed, such as giving completed invoice template coding to vendors for complex invoices, and use of reports by BCTS to review if correct accounts charged and not overcharged. However, the controls do not ensure all relevant UBIs are charged or correct amounts are charged to UBIs. Checking detailed invoice coding to UBIs per the contract on a sample basis would provide a practical way to ensure coding accuracy, subject to precision requirements of end-users.

Coding Based on
Likelihood

Some coding practices followed were more precise than required by guidance, improving coding accuracy, but potentially sacrificing efficiency to some extent. For example, in a few of the samples we noted coding variations of small invoices such inventory items for planting where cost allocations to blocks were not known but the most likely blocks were. Some staff would allocate expenditures to most likely blocks as evidenced by allocations across tens to hundreds of blocks. Others would allocate strictly to pooled accounts as per guidance if the block account numbers were not strictly known.

We were advised that the development of automated coding spreadsheets since the start of the engagement makes allocating invoice smaller costs across many blocks (equally) more practical than when it had to be done manually.

Recommendations:

We recommend that BCTS management:

- (5) provide guidance for BCTS staff review and documentation of vendor coded invoices to help ensure adequacy of coding to the block; and**
 - (6) require checking of detailed invoice coding to UBIs per contracts on a sample basis; and**
 - (7) Update guidance to provide greater direction with respect to coding expenditures to multiple blocks based on formulas where it is not practical to allocate costs based on actual work to individual blocks.**
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Management Response

- (5) BCTS Cost Accounting Working Group will develop guidance materials on requirements for staff review of contractor coded invoices to ensure coding accuracy and compliance with requirements of BCTS' cost accounting framework.*
- (6) BCTS Cost Accounting Working Group will develop and provide direction to staff on requiring checking of detailed invoice coding to UBIs per contracts on a sample basis.*
- (7) Agreed.*

3.2 Tracking Transactions in Pooled Accounts

Details of transactions coded into pooled accounts are tracked to different levels of detail, depending on the TSO. As a result, this will affect the level of precision with which they will be able to allocate transactions back out to UBIs, particularly for costs that were initially temporary until the UBIs were known. In discussing pooled accounts with staff from four TSOs we found:

- one TSO tracked transactions into the pooled accounts, and only for the 2004/2005 year;

- each TSO contact noted temporary coding to the pooled accounts were likely tracked but they were unsure of the exact process; and
- the TSO contacts were unsure how the future allocations will be made. Expectations include reverting to CAS Code transactions list to make detailed allocations, to proportional allocations to all blocks, to reliance on BCAS in the future to allocate existing amounts.

Recommendations:

- ⁽⁸⁾ We recommend that BCTS management require TSOs to adequately document a management trail of transactions coded into pools on a temporary basis to ensure future allocation methods to UBIs can be supported.**
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Management Response

- ⁽⁸⁾ *Agreed.*