Advanced Education

SUMMARY

DEPARTMENT

There are no new recommendations to the department in this report. The department has five outstanding recommendations to implement.

POST-SECONDARY INSTITUTIONS

There are no new recommendations made to post-secondary institutions in this report. Post-secondary institutions in total have 16 outstanding recommendations to implement.

Matters from prior audits

IT system implementation at Olds College follow-up audit—see page 49.

Athabasca University, the University of Calgary and the University of Lethbridge have improved systems to comply with legislation—see page 64.

We repeat recommendations to Athabasca University to:
- establish information technology resumption capabilities—see page 65.
- improve procedures to monitor and report access and security violations—see page 66.

The University of Calgary improved processes to remove users' access privileges promptly —see page 68.

POST-SECONDARY INSTITUTIONS REPORT CARD

This report includes an update on the report card on four universities' internal controls over financial reporting, together with comparative assessments from our 2015 and 2014 audits. Our February 2016 report included the results of our audits at the colleges, technical institutions, MacEwan University and Mount Royal University.

To govern effectively, boards need accurate and timely financial information throughout the year, not just at year-end. To manage effectively, management needs the same information. We see a direct correlation between a strong year-end process to prepare financial statements and the ability to prepare quality financial information throughout the year. Strong, sustainable processes improve management's decision making ability and provide opportunities to use results analysis to communicate to Albertans the institution's performance and accountability for results. The Minister of Advanced Education, through the department, must ensure the boards of governors of post-secondary institutions hold management accountable for sustaining strong internal control environments and improving identified control weaknesses in a reasonable period of time.

Consistent with our prior report cards, we evaluated the following key indicators of sustainable effective financial processes and internal controls:

- the time it took institutions to prepare complete and accurate year-end financial statements
- the quality of draft financial statements we received, including the number of errors our audit found
- the number and type of current and outstanding recommendations

A university could have a yellow or red status yet still receive an unqualified opinion on its financial statements, as management can correct errors and disclosure deficiencies during the audit process. The number of errors and disclosure deficiencies we find in the draft financial statements indicates how effective financial controls are for preparing accurate financial statements. We occasionally make observations to management at the end of our financial statement audit of less significant control weaknesses that do not require immediate remediation like recommendations do. We would note a caution in the report card however if numerous observations are being identified at a particular institution. Numerous observations would be a strong indication the institution's overall financial processes and internal controls may not be sustainable.

Our conclusion on the status of outstanding recommendations considers not just the number, but also the age and nature of the outstanding recommendations. A summary of outstanding recommendations by institution is on page 66. Thirteen of the 16 outstanding recommendations to institutions are older than three years.

Effective control environments include clear policies, well designed processes and controls to implement and monitor compliance with policies, and secure information systems. Such control environments help provide timely and accurate financial and non-financial information to manage and govern the institutions. Recommendations not implemented promptly erode the effectiveness of the institution's control environment. Weak control environments impact the quality of decisions made by management and the board of governors. This can result in an institution not achieving its goals by operating in a cost effective manner and managing operating risks.

The report card

◆ Significant improvement is required.

⚠ Improvement is required, but not to the same extent as the red items. Yellow items may or may not be associated with a management letter recommendation. They represent areas where an institution can improve, as opposed to areas that require significant, immediate attention.

● We have not identified significant weaknesses in the control environment.

INSTITUTION	FINANCIAL STATEMENTS PREPARATION		OUTSTANDING RECOMMENDATIONS
	Accuracy	Timeliness	
Athabasca University			
2016	●	●	◆
2015	●	●	◆
2014	●	●	◆
University of Alberta			
2016	●	●	●
2015	●	●	●
2014	●	●	●
University of Calgary			
2016	●	●	●
2015	●	●	●
2014	●	●	●
University of Lethbridge			
2016	●	●	●
2015	●	●	●
2014	●	●	●

Note: *The Report of the Auditor General of Alberta—February 2016*, page 96 included the fiscal 2015 report card as the results of our audits at the colleges, technical institutions, MacEwan University and Mount Royal University.

In concluding on our report card, we note the following:

Financial statements preparation

The four universities have sustained effective processes to prepare timely and accurate financial statements. The universities prepare clear documentation and support for financial reporting conclusions which significantly enhances the universities' financial reporting preparation and internal controls throughout the fiscal year. The universities are continuously working to improve financial reporting systems and management's decision making ability. Sustaining strong financial reporting systems increases opportunities to use results analyses to better communicate the universities' performance and accountability for results.

We issued unqualified audit opinions on the financial statements of all four universities.

Outstanding recommendations

There were no new recommendations to the four universities. Five of Alberta's six universities have now implemented all their outstanding recommendations.

We repeated two recommendations on Athabasca University's information technology internal controls and processes. We again repeat that the university must establish IT resumption capabilities. The university must also improve procedures to monitor and report IT access and security violations. The board of governors must ensure management implements these recommendations promptly, along with other IT system observations we have made during our audit. Rectifying the identified weaknesses is critical to reliably providing accessible online learning to Albertans and sustaining processes to produce accurate financial reporting to the board of governors and Albertans.

FINDINGS AND RECOMMENDATIONS
POST-SECONDARY INSTITUTIONS
CROSS-INSTITUTION RECOMMENDATION
Matters from prior audits
Improve systems to ensure compliance with legislation

Starting in 2013, we recommended that post-secondary institutions[1] improve systems to comply with legislation by implementing systems to:
- understand what legislation they must comply with
- develop appropriate policies, procedures and controls to ensure compliance with legislation
- monitor and report non-compliance to senior management and board audit committees

The post-secondary institutions worked collaboratively to implement the recommendation in two phases. Initially, in 2014, the institutions implemented a sector-wide initiative to engage an external legal firm to identify existing and recently changed or newly enacted legislation impacting post-secondary institutions. In the second phase of implementation, each institution used information obtained collaboratively to integrate compliance with legislation within its risk management systems and processes.

We previously reported seven institutions had implemented our recommendation.[2]

We examined process improvements implemented at Athabasca University, the University of Calgary and the University of Lethbridge. Our follow-up audit at each of these three universities included examining:
- the legislative compliance framework outlining management's processes to identify legislation with which the institution must comply
- management's process for monitoring to ensure compliance
- instances of non-compliance, along with corresponding mitigation plans
- reporting to board audit committees

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[1] *Report of the Auditor General of Alberta—February 2013*, no. 7, page 60, *October 2013*, page 94, and *February 2014*, page 75.
[2] University of Alberta: *Report of the Auditor General of Alberta—October 2015*, page 127. Grande Prairie Regional College, MacEwan University, Mount Royal University, NorQuest College, Northern Alberta Institute of Technology and Southern Alberta Institute of Technology: *Report of the Auditor General of Alberta—February 2016*, page 99.

We found management of each of the three universities provided their board and executive committees at least an annual report on legislative compliance. The compliance report included instances of non-compliance along with corresponding mitigation plans. Significant legislative compliance risks were included in the university's enterprise risk management assessment, and some institutions prepared separate legislation risk registers. Completion of the legislative compliance assessments was by either management or special management committee. At each university, we did not identify any significant legislation related to financial reporting for the fiscal 2016 financial statements that management failed to consider in their reporting.

We conclude the three universities have implemented processes to ensure compliance with legislation and that the processes are operating effectively.

ATHABASCA UNIVERSITY
Matters from prior audits
Establishing information technology (IT) resumption capabilities —repeated
BACKGROUND

In 2010,[3] we recommended that Athabasca University:
- assess the risks and take the necessary steps to establish appropriate off-site disaster recovery facilities, including required computer infrastructure, to provide continuity of critical IT systems
- complete and test its existing disaster recovery plan (DRP) to ensure continuous services are provided in the event of a disaster

The university relies heavily on its IT systems and infrastructure to deliver online student services, including course materials and course evaluations as well as daily corporate financial activities. Failure to recover promptly from a disaster affecting the data centre at the main campus in Athabasca would affect the university's ability to continue providing these services.

We found in 2010 that the university prepared a DRP in 2008 but had not updated or tested it since. We repeated our recommendation in 2013 as updating and testing were still incomplete. We found the university had performed a risk assessment on its IT resumption capability that confirmed the university would not be able to recover its critical student IT services from a catastrophic failure at the data centre in Athabasca. The university initiated a project in 2012 to update its recovery plans and capabilities and was assessing disaster recovery scenarios and pilot test cases for its disaster recovery strategy. This project is still in progress.

We again repeat our recommendation given the significant risk to the university if it does not update and test its DRP capabilities.

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[3] *Report of the Auditor General of Alberta—October 2010*, no. 10, page 111 (repeated in *Report of the Auditor General of Alberta—October 2013*, no. 9, page 96).

RECOMMENDATION 9: ESTABLISH INFORMATION TECHNOLOGY RESUMPTION CAPABILITIES—REPEATED

We again recommend that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate off-site disaster recovery facilities that include required computer infrastructure to provide continuity of critical IT systems
- complete and test its existing disaster recovery plan to ensure continuous services are provided in the event of a disaster

CRITERIA: THE STANDARDS FOR OUR AUDIT

The university should have:

- a DRP that is based on risk assessment of critical IT services and business requirements for the continuity of these services
- a documented and effective backup and restoration plan or procedures for its critical information assets
- effective plans and means to test the DRP regularly using an off-site IT recovery facility
- effective procedures to assess the adequacy and completeness of the DRP after testing

OUR AUDIT FINDINGS

KEY FINDING

The university has still not updated and tested the DRP prepared in 2008 as management has concluded the university does not have adequate monetary resources to do so.

Since 2013, management's efforts to design a disaster recovery site hosted by another institution were not successful. As a result, the university has still not updated or tested its DRP prepared in 2008. Management has asserted that implementation of IT resumption capabilities is not imminent because it is unable to obtain appropriate monetary resources to test the DRP and establish an off-site disaster recovery facility.

Management must prioritize resources to establish IT resumption capabilities, which are critical to the university's mandate to reliably provide accessible online learning. The university would likely not recover significant IT systems in a reasonable period of time if a system failure occurred.

IMPLICATIONS AND RISKS IF RECOMMENDATION NOT IMPLEMENTED

Without a functional disaster recovery plan and appropriate recovery facilities and equipment, the university will not be able to systematically recover data or resume critical business and student services within the required time frames.

Improve procedures to monitor and report access and security violations—repeated

BACKGROUND

In 2013,[4] we recommended that Athabasca University formalize its access and security monitoring procedures to:

- detect and assess security threats to critical information systems
- report access and security violations to senior management
- identify and resolve the root causes of security threats and violations

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[4] *Report of the Auditor General of Alberta—October 2013*, no. 8, page 95.

We found that, while management logs and monitors access to critical IT systems, it did not formally document evidence of periodic review, escalation of access and security violations identified and remediation actions. Management also did not inform senior management of any access and security violations that occurred.

We again repeat this recommendation as management's periodic reviews of access and security violations are incomplete.

RECOMMENDATION 10: IMPROVE PROCEDURES TO MONITOR AND REPORT ACCESS AND SECURITY VIOLATIONS—REPEATED

We again recommend that Athabasca University formalize its access and security monitoring procedures to:
- detect and assess security threats to critical information systems
- report access and security violations to senior management
- identify and resolve the root causes of security threats and violations

CRITERIA: THE STANDARDS FOR OUR AUDIT

The university should have a documented and effective control process to monitor and log information security and access violations. Management should configure its network operating systems, applications and other security devices to prevent unauthorized access. Such processes should specify how management should report and remediate security violations.

OUR AUDIT FINDINGS

KEY FINDING

The university still does not perform regular periodic reviews of access and security violations on applications.

Effective September 2014, the university implemented the Computer Security Incident Response Procedures. The procedures provide direction to students, faculty, staff and executives when dealing with computer security incidents affecting any part of the university's information technology infrastructure. We observed that the procedures document included the reporting process to senior management, identification of root causes and resolution of security threats and violations. We also examined a computer security response and verified that management followed appropriate procedures.

Management logged and monitored access to its critical systems and performed periodic reviews to monitor logs of servers, network devices and firewalls. However, management still does not perform regular periodic reviews of access and security violations at the application level. Management only performs reviews on applications when security violations occur. We also did not see evidence that management kept documentation of their reviews performed under the procedures. Management is assessing the use of automated log management and log review tools to improve its processes.

IMPLICATIONS AND RISKS IF RECOMMENDATION NOT IMPLEMENTED

Failure to actively monitor access and security violations allows an intruder to probe for weaknesses or entry points to the university's financial information systems. Access and security violations would go undetected or not be properly dealt with, causing security threats to the university's financial applications and information resources.

THE UNIVERSITY OF CALGARY

Matters from prior audits

Remove users' access privileges promptly—implemented

The university has implemented our 2012 recommendation[5] to define and communicate an acceptable time frame to disable or remove user accounts from the university's information technology systems when the users leave the university. We:

- reviewed the university's policy requiring the removal of a user's access within five business days of the termination date
- ensured that the policy was communicated through the human resources department to team leaders/supervisors
- examined control procedures to ensure deactivation of user access policy is complied with
- tested a sample of deactivated accounts during the period and found no exceptions to the university's policy

We conclude from our examination that management's processes are adequate and operating effectively.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Develop strategic plan and accountability framework—July 2013, no. 6, p. 48
We recommend that the Department of Advanced Education (through the Campus Alberta Strategic Directions Committee):

- develop and communicate a strategic plan that clearly defines the minister's expected outcomes for Campus Alberta, initiatives to achieve those outcomes, resources required and sources of funding
- develop relevant performance measures and targets to assess if the outcomes are being achieved
- publicly report results and the cost of achieving them
- review and clarify the accountability structures for governing collaborative initiatives

Develop processes and guidance to plan, implement and govern collaborative projects —July 2013, no. 7, p. 51
We recommend that the Department of Advanced Education (through the Campus Alberta Strategic Directions Committee) develop systems and guidance for institutions to follow effective project management process for collaborative initiatives.

For-profit and cost recovery ventures at post-secondary institutions—document and communicate expectations and guidelines—October 2015, no. 1, p. 25
We recommend that the Department of Advanced Education:

- document its expectations in terms of desired results and risk management for institutions participating in for-profit and cost recovery ventures
- establish approved guidelines for cost recovery ventures, to support best practices and align with the department's expectations
- update and approve for-profit venture guidelines, to support best practices and align with the department's expectations
- develop a process to communicate the department's expectations and guidelines to all institutions.

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[5] *Report of the Auditor General of Alberta—October 2012*, no. 21, page 112.

For-profit and cost recovery ventures at post-secondary institutions—improve department's oversight of institutions' risk assessment of ventures—October 2015, no. 2, p. 27

We recommend that the Department of Advanced Education improve its oversight processes to ensure that boards of governors oversee management's assessment of the risks associated with for-profit and cost recovery ventures by:

- tailoring board training to examine these ventures
- maintaining relevant documentation of the institution's risk assessment and venture approval requests
- requiring the institution to comply with the department's expectations and guidelines
- requiring the institution to report on venture results on an ongoing basis
- providing effective feedback and ongoing guidance to the boards

Improve enterprise risk management—October 2015, no. 15, p. 124

We recommend that the Department of Advanced Education implement an integrated enterprise risk management framework to identify and mitigate relevant risks.

POST-SECONDARY INSTITUTIONS

Institution	OUTSTANDING RECOMMENDATIONS		
	3+ Years*	Other	Total
Alberta College of Art + Design	1	-	1
Athabasca University	2	-	2
Bow Valley College	1	-	1
Grande Prairie Regional College	-	-	-
Keyano College**	1	1	2
Lakeland College	1	1	2
Lethbridge College	1	-	1
MacEwan University	-	-	-
Medicine Hat College	1	-	1
Mount Royal University	-	-	-
NorQuest College	-	-	-
Northern Alberta Institute of Technology	-	-	-
Northern Lakes College	1	-	1
Olds College	1	1	2
Portage College	1	-	1
Red Deer College	2	-	2
Southern Alberta Institute of Technology	-	-	-
University of Alberta	-	-	-
University of Calgary	-	-	-
University of Lethbridge	-	-	-
Total Outstanding	**13**	**3**	**16**
Ready for follow-up audit***	8	1	
Not yet ready for audit	5	2	

* Originally issued in October 2013 report and earlier
** Outstanding recommendation to improve financial reporting processes
*** Based on management representations to October 1, 2016

CROSS-INSTITUTIONAL RECOMMENDATION

Improve systems to ensure compliance with legislation—February 2013, no. 7, p. 60
We recommend that the post-secondary institutions[6] implement systems to:

- understand what legislation they must comply with
- develop appropriate policies, procedures and controls to ensure compliance with legislation
- monitor and report non-compliance to senior management and board audit committees

For the following institutions, this recommendation is outstanding and not yet ready for a follow-up audit:

- Keyano College
- Northern Lakes College
- Portage College

For the following institutions, management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

- Alberta College of Art + Design
- Bow Valley College
- Lakeland College
- Lethbridge College
- Medicine Hat College
- Olds College
- Red Deer College

ATHABASCA UNIVERSITY

The following recommendations are outstanding and not yet ready for follow-up audits:

**Establish information technology resumption capabilities—October 2016, no. 9, p. 66
(repeated October 2013, no. 9, p. 96 and originally October 2010, no. 10, p. 111)**
We again recommend that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate off-site disaster recovery facilities that include required computer infrastructure to provide continuity of critical information technology systems
- complete and test its existing disaster recovery plan to ensure continuous services are provided in the event of a disaster

**Improve procedures to monitor and report access and security violations
—October 2016, no. 10, p. 67 (originally October 2013, no. 8, p. 95)**
We again recommend that Athabasca University formalize its access and security monitoring procedures to:

- detect and assess security threats to critical information systems
- report access and security violations to senior management
- identify and resolve the root causes of security threats and violations

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[6] As a result of our assessment, we made this common recommendation to all colleges and universities as part of our original audit in February 2013, and then followed up in October 2013, February 2014, February 2016 and October 2016.

KEYANO COLLEGE

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve financial reporting processes—February 2016, no. 13, p. 102
We recommend that Keyano College improve its financial reporting by:
- training staff on Canadian Public Sector Accounting Standards
- improving its monitoring and reviewing processes to ensure accurate financial information.

LAKELAND COLLEGE

Management has identified this recommendation as implemented – to be confirmed with a follow-up audit:

Improve segregation of duties—February 2016, no. 14, p. 103
We recommend that Lakeland College improve segregation of duties within the finance department.

OLDS COLLEGE

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve access controls to information systems—February 2016, no. 15, p. 105
We recommend that Olds College strengthen its information systems access controls, to ensure it:
- promptly removes system access privileges when staff or contractors leave the college
- discontinues the practice of leaving accounts open for email access after staff are terminated

RED DEER COLLEGE

Management has identified this recommendation as implemented – to be confirmed with a follow-up audit:

Improve general computer control environment—February 2016, no. 16, p. 108
(originally February 2013, no. 32, p. 100)
We again recommend that Red Deer College improve its general computer control environment by:
- finalizing its risk assessment process and implementing a comprehensive IT control and governance framework for its key processes
- managing changes to computer programs
- testing its disaster recovery plan and then assessing its adequacy