Environment and Sustainable Resource Development

SUMMARY

DEPARTMENT

Matters from current audit

The Department of Environment and Sustainable Resource Development should improve the security patch management of servers.

Matters from prior audits

The department has implemented our 2008 recommendation to improve its controls over revenue.

FINDINGS AND RECOMMENDATIONS

DEPARTMENT

Matters from current audit

Security patch management of servers

Background

Patches and updates to operating systems are a critical component in keeping information secure. To be effective, these patches must be applied promptly. Properly patched systems are less vulnerable to external attacks and the risk that someone will compromise information contained in the system.

RECOMMENDATION 10: SECURITY PATCH MANAGEMENT OF SERVERS

We recommend that the Department of Environment and Sustainable Resource Development regularly update its computer servers with security and operating system patches to reduce the risk of security weaknesses.

Criteria: the standard for our audit

The department should maintain its servers, applications and other devices to a secure standard. The department should have a formal process to patch, update and monitor all servers and devices it uses to host applications that are critical for its business.

KEY FINDINGS

- The department did not consistently and promptly maintain its critical business servers with the latest patches.
- A patch management control policy and procedure has been drafted, but has not been approved or implemented.

Our audit findings

Through our audit testing (as of December 2012) we found that, since July 2012, the department had not regularly updated its computer servers with security and operating system patches. The following were noted:

- 16 stand-alone servers had not been patched
- 67 virtual servers had not been patched

We also noted that a formal patch management control policy and procedure had been written, but not approved or implemented by the department.

Implications and risks if recommendation not implemented

Delays in implementing security patches make the department's computer systems more vulnerable to unauthorized access to its financial and business applications.

Matters from prior audits

Controls over revenue—implemented

Our audit findings

The department has implemented our 2008 recommendation[1] to record significant revenue when it is due to the crown, rather than recording revenue when it has been received.

OUTSTANDING RECOMMENDATIONS

MINISTRY AND DEPARTMENT

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

Drinking water: Information systems—October 2006, no. 4, vol. 1, p. 52
We recommend that the Department of Environment and Sustainable Resource Development improve the information systems used to manage its drinking water businesses by:

- updating the Environmental Management System forms and improving reporting capacity
- coordinating regional, district, and personal information systems to avoid overlap and encourage best practice, and
- using data to improve program effectiveness and efficiency

Sand and gravel: Flat fee security deposit—October 2008, no. 41, p. 362
We recommend that the Department of Environment and Sustainable Resource Development assess the sufficiency of security deposits collected under agreements to complete reclamation requirements.

Climate change: Data quality—October 2009, p. 40
We recommend that the Department of Environment and Sustainable Resource Development strengthen its guidance for baseline and compliance reporting by:

- clarifying when uncertainty calculations must be done
- prescribing the minimum required quality standards for data in terms of minimum required frequency of measurement and connection to the period being reported on
- describing the types of data controls that facilities should have in place

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[1]*Report of the Auditor General of Alberta—October 2008*, no. 39, page 355.

**Climate change: Guidance to verifiers of facility baseline and compliance reports
—October 2009, no. 3, p. 42**
We recommend that the Department of Environment and Sustainable Resource Development strengthen its baseline and compliance guidance for verifiers by improving the description of the requirements for:
- the nature and extent of testing required
- the content of verification reports
- assurance competencies

Climate change: Outsourced service providers—October 2009, p. 49
We recommend that the Department of Environment and Sustainable Resource Development develop controls to gain assurance that data hosted or processed by third parties is complete, accurate and secure. We also recommend that the Department of Environment and Sustainable Resource Development formalize its agreement with its service provider for the Alberta Emissions Offset Registry.

Climate change: Cost-effectiveness of regulatory processes—October 2009, no. 5, p. 51
We recommend that the Department of Environment and Sustainable Resource Development assess the cost-effectiveness of the *Specified Gas Emitters Regulation*.

**Financial security for land disturbances—October 2009, no. 23, p. 207
(Originally October 1999, no. 30, p. 158; repeated 2001, no. 8, p. 90; and unsatisfactory progress October 2005, no. 31, p. 180)**
We again recommend that the Department of Environment and Sustainable Resource Development implement a system for obtaining sufficient financial security to ensure parties complete the conservation and reclamation activity that the department regulates.

Managing Alberta's water supply: Backlog of *Water Act* applications—April 2010, no. 4, p. 65
We recommend that the Department of Environment and Sustainable Resource Development minimize the backlog of outstanding applications for *Water Act* licences and approvals.

**Managing Alberta's water supply: Assessing compliance with the *Water Act*
—April 2010, no. 5, p. 68**
We recommend that the Department of Environment and Sustainable Resource Development ensure its controls provide adequate assurance that performance in the field by licence and approval holders as well as others complies with the *Water Act*.

Managing Alberta's water supply: Wetland compensation—April 2010, no. 6, p. 71
We recommend that the Department of Environment and Sustainable Resource Development formalize its wetland compensation relationships and control procedures.

Managing Alberta's water supply: Watershed planning and advisory councils grants and contracts—April 2010, no. 7, p. 73
We recommend that the Department of Environment and Sustainable Resource Development strengthen its control of grants and contracts with Watershed Planning and Advisory Councils.

**Climate change: Clarify guidance—November 2011, no. 1, p. 17
(Originally October 2009, no. 4, p. 46)**
We again recommend the Department of Environment and Sustainable Resource Development clarify the guidance it provides to facilities, verifiers, offset project developers and offset protocol developers, to ensure they consistently follow the requirements in place to achieve the Alberta government's emissions reduction targets.

Climate change: Ensure all protocols meet new standard, and improve transparency—November 2011, no. 2, p. 23

We recommend the Department of Environment and Sustainable Resource Development implement processes to ensure that all approved protocols adhere to its protocol development standard. We also recommend the Department of Environment and Sustainable Resource Development improve its transparency by making key information about how protocols are developed publicly available.

Climate change: Public reporting—October 2012, no. 10, p. 38
(Originally October 2008, no. 11, p. 101)

We again recommend that the Ministry of Environment and Sustainable Resource Development improve the reliability, comparability and relevance of its public reporting on Alberta's results and costs incurred in meeting climate change targets.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Climate change: Planning—October 2008, no. 9, p. 97

We recommend that the Ministry of Environment and Sustainable Resource Development improve Alberta's response to climate change by:
- establishing overall criteria for selecting climate-change actions
- creating and maintaining a master implementation plan for the actions necessary to meet the emissions-intensity target for 2020 and the emissions-reduction target for 2050
- corroborating—through modeling or other analysis—that the actions chosen by the ministry result in Alberta being on track for achieving its targets for 2020 and 2050

Climate change: Monitoring processes—October 2008, no. 10, p. 100

We recommend that for each major action in the 2008 Climate Change Strategy, the Ministry of Environment and Sustainable Resource Development evaluate the action's effect in achieving Alberta's climate change goals.

Sand and gravel: Enforcement of reclamation obligations—October 2008, no. 40, p. 360

We recommend that the Department of Environment and Sustainable Resource Development improve processes for inspecting aggregate holdings on public land and enforcing land reclamation requirements.

Sand and gravel: Quantity of aggregate removed—October 2008, p. 364

We recommend that the Department of Environment and Sustainable Resource Development develop systems to verify quantities of aggregate reported as removed by industry from public lands so that all revenue due to the Crown can be assessed and recorded in the financial statements.

Sand and gravel: Information management—October 2008, p. 366

We recommend that the Department of Environment and Sustainable Resource Development capture and consolidate information throughout the life of an aggregate holding and use it to test compliance with legal obligations.

Climate change: Technical review—October 2009, p. 45

We recommend that the Department of Environment and Sustainable Resource Development strengthen its technical review processes by:
- requiring facilities to provide a process map with their compliance reporting
- ensuring staff document their follow-up activity and decisions in the department's regulatory database

NATURAL RESOURCES CONSERVATION BOARD

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

Compliance and enforcement (Confined feeding operations)—October 2007, no. 34, vol. 2, p. 167 (Originally October 2004, no. 28, p. 294)

We again recommend that the Natural Resources Conservation Board rank its compliance and enforcement activities based on risk. To do so, the board must:

- define through research the environmental risks applicable to CFOs and their impact
- categorize CFOs by priority levels of environmental risk at different locations
- conduct appropriate sampling and testing to confirm the validity of assigned risk levels
- select and deliver appropriate compliance and enforcement action

Surface water risks—April 2011, no. 2, p. 59

We recommend that the Natural Resources Conservation Board demonstrate that its compliance approach is adequate in proactively managing surface water risks.