

Chapter 44

Water Security Agency – Ensuring Dam Safety

1.0 MAIN POINTS

At March 2019, the Water Security Agency had not yet fully addressed two of four recommendations that we first made in our 2005 audit of its processes to ensure its four largest dams were safe. Its four largest dams were the Gardiner, Qu'Appelle River, Rafferty, and Grant Devine (formerly known as the Alameda). The Agency has emergency preparedness plans for each of its four major dams.

The Agency has not approved its 2016 draft policy about testing the plans.

As of March 2019, the Agency has tested only one of the four emergency preparedness plans—the Rafferty dam in January 2018. The Agency was implementing recommendations from lessons learned from the testing of the emergency preparedness plan for this dam.

Testing plans helps make sure the plans work as intended if an emergency were to occur, such as a dam failure.

The Agency made some progress in updating its procedure manuals for its four major dams, but more work remained. These procedure manuals set procedures to operate, maintain, and monitor the dams safety. Up-to-date manuals support safe operations of the dams.

2.0 INTRODUCTION

The Agency is responsible for the safety of 69 dams that help to preserve a sustainable water supply for the province. Four of these dams are considered major in that failure of any of these dams would risk serious downstream flooding. This flooding could cause loss of life and damage homes, businesses, crops, infrastructure, and wildlife habitat.

Our *2005 Report – Volume 1*, Chapter 3 included four recommendations we made from our audit of the Agency's processes to ensure the safety of its four major dams. By August 2016, it had implemented two of the four recommendations.¹

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance* (CSAE 3001). To evaluate the Agency's progress towards meeting our recommendations, we used the relevant criteria from the original audit. The Agency agreed with the criteria in the original audit.

We interviewed management responsible for the Agency's processes to keep dams safe and reviewed related documentation (e.g., emergency preparedness plans, lessons learned study from testing an emergency plan, and completed manuals).

¹ We previously reported on whether the Agency implemented these recommendations in 2007, 2010, 2012, 2014, and 2016.



3.0 STATUS OF RECOMMENDATIONS

This section sets out each recommendation including the date on which the Standing Committee on Public Accounts agreed to the recommendation, the status of the recommendation at March 19, 2019, and the Agency's actions up to that date.

3.1 More Testing of Emergency Preparedness Plans Required

We recommended that the Water Security Agency (formerly Saskatchewan Watershed Authority) have up-to-date, tested emergency preparedness plans for each of its major dams (i.e., Rafferty, Grant Devine (formerly Alameda), Qu'Appelle River, and Gardiner). (2005 Report – Volume 1, p. 38, Recommendation 2; Public Accounts Committee agreement June 21, 2005)

Status – Partially Implemented

As of March 2019, the Agency had tested its emergency preparedness plan (plan) for only one of its four major dams—the Rafferty dam in January 2018. The Agency's 2016 draft policy for testing its emergency preparedness plans (see **Figure 1**) remained unapproved.

In January 2018, the Agency completed its first test of its plan for Rafferty dam. It completed an exercise that simulated a potentially dangerous situation (e.g., dam equipment malfunction) and a dam failure.² The test included numerous activities such as discussion of the plans (e.g., stakeholder roles and responsibilities during emergencies), how to issue emergency warnings, and discussion of what each party was expected to do and how. Many stakeholders attended the test; 45 of the 56 invited stakeholders participated (e.g., SaskPower, Public Safety Canada, nearby rural municipalities).

The Agency started to implement resulting recommendations from the Rafferty test exercise summary report. The report summarized the results of the test exercise and made 13 recommendations to help further improve the Agency's emergency preparedness abilities. Overall, the report found the exercise to be successful.

At March 2019, the Agency had implemented one of the thirteen recommendations.

Figure 1—Water Security Agency 2016 Draft Policy for Testing Emergency Preparedness Plans

Its draft policy contemplates:

- Annually review stakeholder contact information in the plans
- Complete advanced plan tests every four years for these four dams (e.g., discussion-based exercise, activity-based exercise)
- Evaluate lessons learned from advanced plan tests

Source: Water Security Agency.

² The Agency used a consultant to help facilitate the exercise to test its emergency preparedness plan at Rafferty dam.

Plans set key responses to emergencies. They provide information on flooding, planned warnings and notifications, and actions to take in the event of a dam failure or other emergency. Use of plans can safeguard lives, reduce property damage, and help local governments and other groups develop their own emergency preparedness plans. Testing plans is an essential part of emergency preparedness and is required to know that plans and staff training is adequate.

3.2 Required Manuals Remain Unfinished

We recommended that the Water Security Agency (formerly Saskatchewan Watershed Authority) set processes that ensure its manuals always include complete procedures to operate, maintain, and monitor dam safety. (2005 Report – Volume 1, p. 38, Recommendation 3; Public Accounts Committee agreement June 21, 2005)

Status – Partially Implemented

The Agency had not prepared all 32 procedure manuals it determined that it required for its four major dams. These manuals include processes and procedures for dam operation, maintenance, and surveillance.³

At March 2019, the Agency continued to complete its required manuals. It had updated 25 manuals (August 2016: 21 manuals), was actively updating four manuals (August 2016: eight manuals), and had not started updating three manuals (August 2016: three manuals).⁴

Complete and current procedure manuals support the safe operation of dams. They provide staff with clear and readily accessible direction, and are a resource in the event of staff turnover.

³ Dam surveillance refers to the systems that exist to monitor/assess dam performance and how and when performance monitoring is to be completed.

⁴ The Agency considers the update of these manuals a key action. Its 2017-18 Water Security Agency Annual Report, p. 10, communicated the status of its actions.

