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Main points

In this chapter, we report the results of our audit of the Saskatchewan Water Corporation (SaskWater) for the year ended December 31, 2005.

We conclude that SaskWater's financial statements are reliable; it had adequate processes to safeguard public resources; and it complied with the authorities governing its activities.

This chapter also contains the results of our audit of SaskWater's processes to maintain its water treatment and transmission infrastructure. We recommend that SaskWater compile detailed information about its infrastructure to identify maintenance needs and use a maintenance plan to improve infrastructure efficiency and reliability for the lowest possible long-term cost.

Introduction

The Saskatchewan Water Corporation (SaskWater) operates under *The Saskatchewan Water Corporation Act*. SaskWater's mandate is to construct, acquire, manage, or operate waterworks and provide services in accordance with the agreements it makes under the Act.

At December 31, 2005, SaskWater held assets of \$69.9 million, had operating revenue of \$17.8 million, and had a net loss from operations of \$1.0 million. SaskWater's 2005 Annual Report includes its financial statements.

Our audit conclusions and findings

Our Office worked with Meyers Norris Penny LLP, the appointed auditor for SaskWater, to form the following opinions. We followed the framework recommended in the *Report of the Task Force on Roles, Responsibilities and Duties of Auditors*.¹ Meyers Norris Penny LLP and our Office formed the following opinions.

In our opinion, for the year ended December 31, 2005:

- ◆ **SaskWater's financial statements are reliable**
- ◆ **SaskWater had adequate rules and procedures to safeguard public resources**
- ◆ **SaskWater complied with authorities governing its activities relating to financial reporting, safeguarding public resources, revenue raising, spending, borrowing, and investing**

The remainder of this chapter contains the results of our audit of SaskWater's processes to maintain its waterworks infrastructure.

Infrastructure maintenance

SaskWater owns waterworks infrastructure that treats and distributes water to over 50 towns and villages and to various industries across the

¹ To view this report, see our website at www.auditor.sk.ca/rrd.html.

province.² SaskWater's infrastructure includes seven water treatment plants that produce over 2.5 billion litres of water annually, 32 water pump stations, and over 770 km of water pipelines. This infrastructure also includes large pumps, motors, filters, valves, and other electrical and mechanical equipment. SaskWater's infrastructure has an estimated replacement cost of \$250 million.

SaskWater's goal is to provide quality water that meets or exceeds regulatory requirements. Infrastructure maintenance can reduce overall costs while increasing the efficiency and the reliability of the supply of pure water. To provide reasonably priced, quality water treatment and transmission services, SaskWater requires well-maintained infrastructure.

Our audit objective and criteria

The objective of the audit was to assess if SaskWater had adequate processes to maintain its water treatment and transmission infrastructure at December 31, 2005.

We based the audit criteria on a review of the literature including reports of other auditors. SaskWater accepted the criteria as reasonable standards for assessing its maintenance processes. Our criteria describe the following key processes that we expected SaskWater to use to maintain its water treatment and transmission infrastructure (waterworks assets):

- ◆ obtain reliable information on assets
- ◆ develop a maintenance plan
- ◆ carry out maintenance effectively
- ◆ monitor performance

² Most municipalities manage their own waterworks infrastructure. As rural populations shift to urban areas, smaller municipalities contract with SaskWater for water services.

Our conclusion and recommendations

We concluded that at December 31, 2005, SaskWater had adequate processes to maintain its water treatment and transmission infrastructure except as noted in the following recommendations.

1. We recommend Saskatchewan Water Corporation compile reliable information detailing the water treatment and transmission infrastructure it owns and the condition of that infrastructure.
2. We recommend Saskatchewan Water Corporation develop and use a maintenance plan for its water treatment and transmission infrastructure.

Our key findings

Throughout our audit, we followed the *Standards for Assurance Engagements* established by The Canadian Institute of Chartered Accountants. We describe what we expected (in italics) and what we found for each of our four criteria.

Obtain reliable information on assets

Collecting information about infrastructure (capital assets) helps managers identify maintenance needs and make informed decisions. To obtain reliable information on assets, we expected SaskWater to:

- ◆ *identify assets that must be maintained*
- ◆ *assess asset condition and expected remaining service life*
- ◆ *assess probability and impact of risks to assets*
- ◆ *determine asset value (cost/replacement value)*

SaskWater does not have a detailed listing of the waterworks assets that must be maintained and their condition. In October 2005, SaskWater began to gather detailed information about its water treatment and transmission infrastructure. It purchased asset management software and expects to have a complete list of its assets by late 2006. The software will help SaskWater document the condition, lifespan, and maintenance requirements of its assets.

As required by *The Water Regulations, 2002*, SaskWater obtains independent waterworks-systems assessments for each waterwork system once every five years. The first cycle of assessments was nearing completion in early 2006. The engineers' reports highlight the general condition and performance of the waterworks systems. SaskWater also assessed the probability and impact of risks to its significant waterworks assets.

SaskWater maintains summary financial information on existing waterworks assets. For example, it reports the cost, depreciated value, and estimated capital replacement cost of waterworks assets by type (e.g., pumps). This information is available by district.

Develop a maintenance plan

Planning for asset maintenance helps an agency take targeted, timely action to keep assets more efficient and reliable for the lowest possible long-term cost. To develop a maintenance plan, we expected SaskWater to:

- ◆ *establish specific objectives, strategies, and performance measures*
- ◆ *set maintenance priorities (short and long term)*
- ◆ *establish maintenance standards*
- ◆ *communicate priorities and standards*

SaskWater does not have a maintenance plan or specific objectives and strategies to maintain its water supply and transmission infrastructure. SaskWater has general performance measures related to maintaining its water supply systems. For example, it measures the operation and maintenance cost per sales volume, the number of service interruptions, and the number of boil water advisories.

SaskWater carries out maintenance activities as determined by the district supervisors. The supervisors and local operators decide what maintenance to do based on their daily observations, established practices, and manufacturers' recommendations.

Through regular monitoring, SaskWater identifies potential problems before equipment failures occur. For example, SaskWater monitors the

vibrations of pumps and motors to determine when maintenance is required. It also routinely monitors the protection system on its steel pipelines. SaskWater told us it intends to document its preventive maintenance program and enhance it with short- and long-term priorities.

SaskWater purchased software in December 2005 to actively manage its infrastructure and maximize its life span. SaskWater told us the software will help it plan when to maintain, upgrade, or replace its infrastructure to keep it functioning well for years to come.

SaskWater uses water-quality standards to monitor its waterworks. SaskWater has not adopted formal standards for maintaining its infrastructure. In 2005, SaskWater began to document maintenance standards in its quality assurance and quality control manual.

Carry out maintenance effectively

To carry out maintenance effectively, we expected SaskWater to:

- ◆ *establish maintenance procedures that manage risks*
- ◆ *develop trained staff*
- ◆ *record maintenance activities*
- ◆ *use information on assets and maintenance to adjust plans*

To manage risks, SaskWater maintains its infrastructure as repair or replacement issues arise and sets some short-term priorities. It has detailed operation and maintenance manuals at each site. These manuals describe the maintenance procedures recommended by manufacturers and suppliers.

SaskWater employs certified operators in each location to operate and maintain its waterworks assets as required by *The Water Regulations, 2002*. SaskWater supports continuing education for waterworks operators. It has policies and a budget to help operators meet their training needs.

SaskWater keeps a record of maintenance work in operational logs. These logs document daily maintenance activities by date. SaskWater does not yet have a maintenance record for specific assets to help it monitor the condition of each asset.

SaskWater's operators inspect its assets regularly. It uses these observations and information in the daily log to adjust maintenance activities.

Monitor performance

To monitor performance, we expected:

- ◆ *regular analyses of reports by senior management*
- ◆ *periodic review of reports by the board*

SaskWater's senior management receives and reviews monthly activity reports from district supervisors. The reports list inspections completed and identify problems. The problems may include cracked valves, deteriorating pipes, or equipment not functioning at full capacity. The reports explain how operators repaired or maintained the equipment or pipeline. The reports also summarize operational and maintenance activities, and explain any related community issues.

Quarterly, the board reviews SaskWater's balanced scorecard results, which include performance measures such as water service interruptions. In addition, in 2005 the board set a policy to begin receiving a water quality report twice a year. Other reports to SaskWater's board integrate maintenance information with financial information. For example, the board receives information that alerts it to risks related to maintenance.

SaskWater told us it intends to improve its information on infrastructure using its new asset management software. As its information improves, SaskWater can then further strengthen how it monitors its maintenance performance.

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