

Chapter 16

Agriculture – Irrigation Infrastructure Maintenance

1.0 MAIN POINTS

As of February 28, 2014, the Ministry of Agriculture (Ministry) had implemented three recommendations and made some progress on two recommendations from our 2011 audit of its processes to maintain irrigation infrastructure at Lake Diefenbaker.

The Ministry needs to complete its long-term maintenance plan and provide regular reports on the results of maintenance activities to senior management for their review.

2.0 INTRODUCTION

The mandate of the Ministry is to foster a commercially-viable, self-sufficient, and sustainable agriculture and food sector.¹ In some parts of Saskatchewan, this involves irrigation.

The Irrigation Act, 1996, gives the Ministry authority to own irrigation infrastructure and/or grant financial assistance related to irrigation. This infrastructure has a recorded cost of about \$62 million and a net book value of about \$13.5 million.² In 2012-13, the Ministry spent about \$8.1 million to operate, maintain, and administer irrigation infrastructure.³

In 2011, we assessed the Ministry's processes to maintain its irrigation infrastructure at Lake Diefenbaker. Our *2011 Report – Volume 2*, Chapter 3 concluded that the Ministry's processes to maintain irrigation infrastructure at Lake Diefenbaker were not effective. We made five recommendations.

This chapter describes our follow up of management's actions on the recommendations we made in 2011.

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

3.0 STATUS OF RECOMMENDATIONS

This section sets out each recommendation and its status, the Ministry's actions up to February 28, 2014. We found that the Ministry has implemented three recommendations and has made progress on the remaining two recommendations.

¹ *Ministry of Agriculture 2012-13 Annual Report*, p. 5.

² Ministry of Agriculture Tangible Capital Asset Continuity Schedule as of March 31, 2013.

³ *Ministry of Agriculture 2012-13 Annual Report*, p. 17.



3.1 Reliable, Current, Complete Information

We recommended that the Ministry of Agriculture regularly assess the condition of its irrigation infrastructure to facilitate maintenance planning and ensure it can supply irrigation water as needed. (2011 Report – Volume 2; Public Accounts Committee agreement April 10, 2013)

Status – Implemented

Asset management plans help identify and obtain the most current information about the condition of irrigation infrastructure. With this information, the Ministry can plan more effectively for maintenance, rehabilitation, or replacement of key components of its irrigation infrastructure over the longer term. This will help ensure the Ministry can supply irrigation water when and where it is needed.

In 2011, the Ministry had asset management plans in place for the East Side Pump Station, pipelines, and M1 Canal. Effective March 31, 2013, the Ministry transferred the ownership of the M1 Canal to the Water Security Agency.

In March 2012, the Ministry had completed asset management plans for its remaining assets at the Riverhurst and Luck Lake pump stations. These asset management plans included detailed inventory of all of the pump station's components, their condition, and risks related to their condition at the time of assessment. These plans also provided recommendations on how to improve weaknesses with the assets and estimated costs to repair or replace the assets over the short and medium term.

3.2 Documented Planning Processes for Maintenance

We recommended that the Ministry of Agriculture document its planning processes and its maintenance plan for its irrigation infrastructure. (2011 Report – Volume 2; Public Accounts Committee agreement April 10, 2013)

Status – Implemented

Documented maintenance plans and procedures are necessary to ensure the Ministry is able to effectively carry out maintenance activities, especially when experienced Ministry staff leave. Lack of documentation of the rationale for decisions to postpone maintenance may result in the Ministry missing critical maintenance when the demand for water is greater and the pressure on its irrigation infrastructure increases.

In October 2013, the Ministry implemented asset management software called the Saskatchewan Irrigation Information Management System (SIIMS). This software helps the Ministry track the irrigation assets it owns, determine the condition of assets and when maintenance is required, and report to management on maintenance activities performed during the year.

The implementation of SIIMS has allowed Ministry staff to create automated reminders for maintenance activities to be performed and create work assignments. Also, irrigation staff meet twice per year (once at the beginning of the irrigation season and once at the end) to outline maintenance issues, what action is required, who is responsible for ensuring the completion of the task, and when the task is to be completed. Finally, the Ministry has documented processes that staff are to follow when preparing the irrigation facilities for the beginning the season, any general maintenance that is required throughout the season, and the detailed requirements to be followed when closing the facilities for the season.

3.3 Long-Term Maintenance Plans Needed for Irrigation Infrastructure

We recommended that the Ministry of Agriculture set long-term irrigation objectives and use them to guide maintenance plans and priorities for its irrigation infrastructure. (2011 Report – Volume 2; Public Accounts Committee agreement April 10, 2013)

Status – Partially Implemented

Long-term irrigation objectives would help the Ministry select the right maintenance activities at the right time over the life of the irrigation infrastructure. This reduces the risk that irrigation infrastructure will become unreliable and will help keep future repair costs predictable.

The Ministry has drafted a Provincial Irrigation Strategy that will be part of the *25 Year Saskatchewan Water Security Plan* and is currently waiting for its approval. The four main goals and objectives of this plan are enhanced returns from existing irrigation, irrigation expansion, irrigation sustainability and long-term growth. Management indicated that they have begun implementation work that will meet the irrigation objectives within the Strategy.

The Ministry anticipates approval of its long-term maintenance plan by April 30, 2014.

3.4 Maintenance Documented

We recommended that the Ministry of Agriculture document its maintenance activities completed on irrigation infrastructure. (2011 Report – Volume 2; Public Accounts Committee agreement April 10, 2013)

Status – Implemented

Documenting maintenance activities allows the Ministry to demonstrate it is properly maintaining its irrigation infrastructure.



Since the implementation of SIIMS in October 2013, the Ministry has been able to create work orders within the system that outline maintenance procedures performed. These work orders outline who requested the maintenance, how long the maintenance activity is expected to take, the procedure performed, the reason for the procedure(s), and indicates who is signing off that the maintenance was completed.

3.5 Performance Monitoring Needed

We recommended that the Ministry of Agriculture require and review regular written reports on the results of its maintenance activities for irrigation infrastructure for review by senior management. (2011 Report – Volume 2; Public Accounts Committee agreement April 10, 2013)

Status – Partially Implemented

Written reporting is essential for senior management to make informed decisions that have a long-term impact on the condition of the irrigation infrastructure. Written information also provides a permanent record of the history of results of maintenance activities for irrigation infrastructure. Such records are important when experienced Ministry staff leave the organization.

In 2013, staff provided senior management with a report on the standard maintenance activities conducted during the operating season. Senior management also received a report on the annual pump station electrical testing and facility inspection, and a report prepared by a contractor on significant electrical repairs performed at the Riverhurst Pump Station.

The Ministry implemented SIIMS in October 2013. As the Ministry collects maintenance information using SIIMS over future operating seasons, staff should be able to prepare reports on the results of its maintenance activities, irrigation service disruptions, and changes in the condition of irrigation infrastructure over time. Once the long-term maintenance plan has been completed and documented within SIIMS, the Ministry should also be able to track the expected impact of not completing or deferring maintenance on irrigation infrastructure.