Chapter 14
Technical Safety Authority of Saskatchewan—Inspecting Elevating Devices

1.0 Main Points

The Technical Safety Authority of Saskatchewan (TSASK) administers Saskatchewan's safety programs for elevating devices (e.g., elevators, escalators).

Generally, TSASK had effective processes to inspect almost 4,000 elevating devices located across the province. TSASK needs to:

- Document key information and processes surrounding inspections
- Perform in-service inspections of escalators in accordance with a risk-informed strategy
- Monitor whether device owners resolve deficiencies within an acceptable timeframe
- Define the expected frequency for inspecting elevating devices to enable reporting of overdue inspections

Effective regulation of elevating devices is important to help prevent device malfunction and keep the public safe.

2.0 Introduction

TSASK is a not-for-profit organization established under *The Technical Safety Authority of Saskatchewan Act* (TSASK Act). TSASK administers Saskatchewan's safety programs for boilers, pressure vessels, elevating devices, and amusement rides on behalf of the Ministry of Government Relations (Ministry) under the Safety Standards Agreement (Agreement).

For the purposes of this audit, elevating devices refer to any apparatus, appliance, or device used for lifting or lowering persons or material from one permanent level, floor, or landing to another.[1]

Refer to **Section 5.0** for a definition of terms in **bold** font.

2.1 Responsibilities for Inspecting Elevating Devices

The TSASK Act and Agreement assign TSASK with the responsibility for administering and enforcing *The Passenger and Freight Elevator Act* (Elevator Act) and *The Passenger and Freight Elevator Regulations, 2003* (Elevator Regulations).

[1] *The Passenger and Freight Elevator Act*, Section 2(d).

The Elevator Act makes TSASK responsible for inspecting elevating devices periodically and when a reason to believe a device may be unsafe exists. In addition, the Elevator Regulations require elevating device owners to inspect or test their elevating devices as follows:

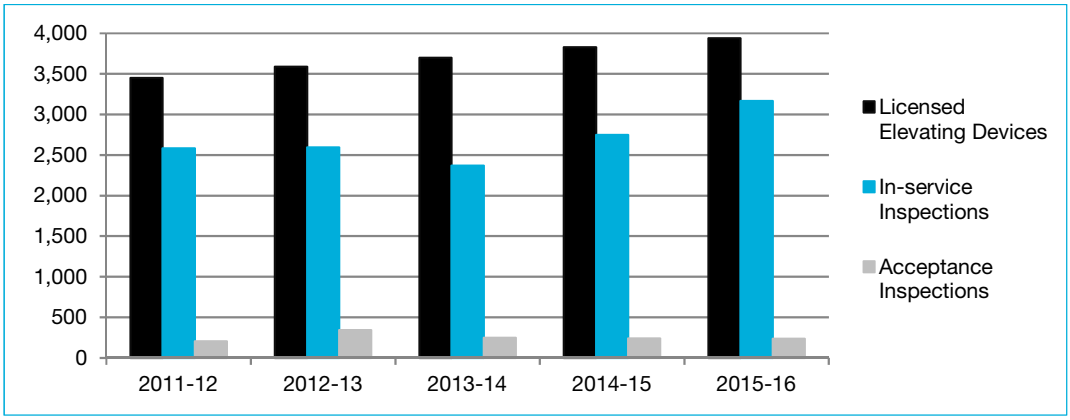
- Intervals not exceeding five years for electric and hydraulic elevators[2]
- Intervals not exceeding one year for escalators[3]
- Before putting into operation any new elevators or existing elevators undergoing major alterations or reinstallations[4]

The Elevator Regulations also establish the safety standards (e.g., Safety Code for Elevators and Escalators [ASME A17 / CSA B44 Code])[5] that TSASK inspectors and elevating device owners must use when inspecting or testing elevating devices.

The Agreement requires TSASK to regularly report to the Ministry on its administration and enforcement activities.

As shown in **Figure 1**, over the past five years the number of licensed elevating devices in Saskatchewan has increased by about 14%—from 3,450 in 2011-12 to 3,938 in 2015-16. These devices are located across the province. Over the same period, the total number of **in-service inspections** and **acceptance inspections** have increased by 22%—from 2,583 in-service and 203 acceptance inspections in 2011-12 to 3,165 in-service and 237 acceptance inspections in 2015-16.

Figure 1—Licensed Elevating Devices and Inspections from 2011-12 to 2015-16



Source: TSASK Annual Reports 2012-2016.

In 2015-16, TSASK had 7.5 full-time equivalent (FTE) staff (2014-15: 6.5 FTEs), including one manager, devoted to inspecting elevating devices and other types of equipment that TSASK regulates (i.e., amusement rides).[6] TSASK also has a Chief Inspector appointed pursuant to the Elevator Regulations. In 2015-16, TSASK spent $1.0 million on elevating

[2] *The Passenger and Freight Elevator Regulations, 2003*, Sections 26 and 27.
[3] Ibid., Section 28.
[4] Ibid., Section 20.
[5] The American Society of Mechanical Engineers (ASME) and the Canadian Standards Association (CSA) develop and maintain the Safety Code for Elevators and Escalators (ASME A17 / CSA B44 Code). The ASME A17 / CSA B44 Code provides requirements applying to the design, construction, installation, operation, testing, inspection, maintenance, alteration, and repair of elevating devices. www.asme.org/products/codes-standards/a171csa-b44-2013-safety-code-elevators-escalators (10 January 2017).
[6] Adapted from information provided by TSASK.

device inspections (2014-15: $0.8 million) as well as inspections of other types of equipment regulated by TSASK.[7]

Effective regulation of elevating devices helps keep the public safe. Regular and proper inspections are a key component of effective regulation.

Inspections confirm whether elevating devices are properly designed, operated, and maintained. They can identify equipment deficiencies (e.g., an elevator car running with an open door, brake failure, elevating devices being off level) before deficiencies cause damages to property, injuries, or deaths. Malfunction of an elevating device can cause significant harm to facilities, staff, and the public.

In addition, a strong inspection regime encourages device owners to maintain elevating devices within industry standards, and reduces the risk that equipment deficiencies go undetected and unaddressed.

3.0 Audit Objective, Scope, Criteria, and Conclusion

The objective of this audit was to assess whether the Technical Safety Authority of Saskatchewan had effective processes for inspecting elevating devices for the 12-month period ended November 30, 2016.

We examined TSASK's criteria, policies, and procedures that relate to inspecting elevating devices. We tested a sample of inspections conducted during the audit period, and reviewed qualifications of TSASK's inspectors, incidents, and reports provided to senior management and the Ministry. We also observed inspections of elevating devices.

To conduct this audit, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance*. To evaluate TSASK's processes, we used criteria based on our related work, reviews of literature including reports of other auditors, and consultations with management. TSASK's management agreed with the criteria (see **Figure 2**).

Figure 2—Audit Criteria

Processes to:

1. **Use a risk-informed strategy for the inspection selection**
   - 1.1 Identify legislative requirements and standards for inspections
   - 1.2 Identify key risks of non-compliance
   - 1.3 Develop a strategy to address requirements and risks
   - 1.4 Periodically re-evaluate the strategy
   - 1.5 Set clear policies and procedures to carry out the strategy, including policies for the handling of incidents and complaints
2. **Carry out inspections in accordance with strategy**
   - 2.1 Use qualified personnel for inspections
   - 2.2 Carry out inspections as planned
   - 2.3 Investigate incidents and complaints
3. **Monitor compliance with standards**
   - 3.1 Report promptly identified non-compliance to affected parties
   - 3.2 Resolve deficiencies noted in inspections
   - 3.3 Report periodically to senior management, Board, and Ministry of Government Relations on compliance trends

[7] Costs include staff salaries, benefits, travel, and training.

We concluded that for the 12-month period ended November 30, 2016, the Technical Safety Authority of Saskatchewan had, except in the following areas, effective processes to inspect elevating devices. The Technical Safety Authority of Saskatchewan needs to:

- **Document key information and processes surrounding inspections (i.e., keep accurate and complete inspection records, document a risk-informed strategy for prioritizing inspections, formalize procedures for handling incidents and complaints, document the sharing of inspection reports with elevating device owners)**
- **Perform in-service inspections of escalators in accordance with a risk-informed strategy**
- **Monitor whether device owners resolve deficiencies within an acceptable timeframe**
- **Define the expected frequency for inspecting elevating devices to enable reporting of overdue inspections**

4.0 Key Findings and Recommendations

In this section, we describe our expectations (in italics), key findings, and recommendations related to the audit criteria in **Figure 2**.

4.1 Risk-Informed Strategy for Inspection Selection Needed

4.1.1 Need to Confirm Accuracy and Completeness of Elevating Device Records

We expected TSASK to have complete and accurate information regarding its elevating device inspections, as well as processes to ensure the integrity of data.

TSASK does not have complete or accurate records of its inspections of elevating devices.

TSASK keeps its inspection records electronically. During the summer/fall of 2016, TSASK was transitioning from tracking its elevating device inspections in an electronic spreadsheet to an inspection records IT system (Basebridge). By November 2016, it had not yet completed this transition.

For 78 device records we tested for completeness and accuracy of inspection information, we found:

- One elevating device had an incorrect inspection date in both the spreadsheet and in Basebridge

- Two elevating devices from TSASK's spreadsheet were not in Basebridge

To assess the accuracy of inspection dates in Basebridge, we also compared inspection dates in Basebridge to TSASK's expectation of inspection frequency. TSASK expects staff to inspect each elevating device about every 18 months. In Basebridge, we found 673 elevating devices had inspection dates older than 18 months. This was a result of a combination of inaccurate data entry and past-due inspections.

At November 2016, TSASK did not have formal processes to check the accuracy and completeness of elevating device inspection data in Basebridge. Management advised us these differences and errors resulted from data entry errors primarily during its transition of information to Basebridge. It indicated to mitigate the risk of future data entry errors, TSASK plans to do the following:

- Have TSASK inspectors directly enter their inspection data into Basebridge—this will result in inspectors correcting inaccurate inspection dates in conjunction with the next inspection (over an 18-month period)

- Have a manager regularly review and assess the reasonableness of new inspection data entered by inspectors

Inaccurate and incomplete elevating device inspection records can result in misleading reports or untimely completion of inspections. It can also result in inefficient use of resources (e.g., conducting inspections sooner than required) because of inaccurate dates in Basebridge.

1. **We recommend that the Technical Safety Authority of Saskatchewan keep accurate and complete elevating device inspection records.**

4.1.2 Inspection Requirements Identified

We expected TSASK to identify the legislative requirements for inspections.

TSASK identified all requirements for elevating device inspections, including requirements set out in legislation, the Safety Standards Agreement, and industry standards (e.g., ASME A17 / CSA B44 Code).

To confirm whether its listing of licensed elevating devices includes all devices subject to the legislative requirements, TSASK does the following. It inspects new buildings for any elevating devices, receives information from external parties (e.g., **licensed elevating device contractors**, the Occupational Health and Safety Division of the Ministry of Labour Relations and Workplace Safety), and may receive notifications from the public if licences are not posted inside elevators.

4.1.3 Lack of a Risk-Informed Strategy for Prioritizing Inspections

We expected TSASK to identify the key risks of non-compliance, and develop a strategy to address legislative requirements and related risks.

TSASK does not have a documented and approved inspection strategy, and does not prioritize inspections using a risk-informed strategy.

As described in **Section 4.1.1**, TSASK expects staff to inspect each elevating device about every 18 months. For in-service inspections, TSASK divides the province into 40 regions. It inspects all devices within a given region before moving onto another region. Within a region, TSASK does not prioritize the timing of inspections based on assessed risk of devices and device owners not complying with standards or public safety issues. Rather, TSASK informally prioritizes the timing of inspections by types of inspections.

When prioritizing the timing of inspections, TSASK's informal inspection strategy consists of the following. TSASK gives first priority to **incidents** involving elevating devices with potential public safety issues. It gives acceptance inspections priority over in-service inspections—this recognizes, that by law, elevating devices cannot be in operation until TSASK completes and a device owner passes an acceptance inspection. In addition, TSASK prioritizes in-service inspections of ski lifts over other in-service inspections because ski lifts are only in operation seasonally.

TSASK verbally communicates this strategy to staff as it is not formally documented. Most of TSASK's elevating device inspectors are long-term staff; we found they are familiar with this strategy.

In addition, TSASK does not formally re-evaluate its inspection strategy on a periodic basis. Rather it informally discussed its strategy with stakeholders, staff, and similar organizations in other jurisdictions. Also, it does not assess a risk level (e.g., based on the probability of failure, severity of the issue, and detection risk) for each licensed elevating device. At November 2016, TSASK indicated that it is re-evaluating its inspection strategy as part of transitioning to the use of Basebridge for elevating devices.

TSASK uses Basebridge for other equipment TSASK regulates (i.e., boilers and pressure vessels). It indicated that it plans to use Basebridge in a similar way. For example, similar to how it uses Basebridge for boilers and pressure vessels, it plans to have its inspectors determine a risk level for each licensed elevating device. It expects to use these risk levels to develop a risk-based inspection strategy. It expected to begin assessing risks for individual elevating devices in spring 2017.

Developing a risk-informed strategy would allow TSASK to focus its resources on the highest risk areas. Periodically re-evaluating the inspection strategy confirms its continued relevance. Documenting the strategy will also enable staff to understand and follow consistent processes in the event of staff turnover.

2. We recommend that the Technical Safety Authority of Saskatchewan develop a documented risk-informed strategy for prioritizing inspections of elevating devices.

4.1.4 Processes for Handling Incidents and Complaints Not Documented

We expected TSASK to set clear policies and procedures to carry out its inspection strategy, including policies for the handling of incidents and complaints.

TSASK has clear policies and procedures to carry out inspections, but its processes for handling incidents and complaints are informal.

TSASK's inspection manual includes key policies and processes for inspecting elevating devices. TSASK makes its inspection manual and the relevant safety codes readily and electronically accessible to all staff. However, the inspection manual does not include processes for handling elevating device incidents and complaints.

Over the past four years, TSASK handled about seven incidents each year (e.g., clothing caught in an escalator). TSASK does not formally track complaints received from the public, as they are typically minor in nature. We found TSASK staff understood its informal processes for handling incidents and complaints. As previously noted, at November 2016, most of TSASK's inspectors were long-term employees.

For three incidents we tested, TSASK received reports of incidents, documented their receipt, and followed up within a timely manner; it adequately documented results of the subsequent inspections.

Documenting processes can prevent actions that do not align with expectations, promotes consistency in handling similar situations, and provides clear direction for staff in the event of staff turnover.

3. **We recommend that the Technical Safety Authority of Saskatchewan formalize its procedures for handling incidents and complaints related to elevating devices.**

4.2 Inspections Generally Carried Out in Accordance with Strategy

4.2.1 Inspectors are Qualified

We expected TSASK to use qualified personnel for inspections consistent with industry practice. The ASME A17 / CSA B44 Code establishes the qualifications for inspectors performing in-service and acceptance inspections for elevators and escalators.

TSASK hires appropriately qualified inspectors, requires them to maintain their qualification through professional development, and monitors that inspectors complete required safety training.

TSASK requires its inspectors to have the qualifications established by industry standards. Inspectors must have a Grade 12 education and maintain a Qualified Elevator Inspection (QEI) certification.

To maintain their QEI certifications, inspectors must maintain their knowledge in the trade through annual professional development (e.g., webinars, training offered by NAESA).[8] NAESA is responsible for issuing QEI certifications and monitors professional development hours for certified inspectors. Through NAESA, TSASK monitors whether inspectors maintain their QEI certifications.

In addition, TSASK's safety training policy also requires inspectors to attend necessary safety training (e.g., fall protection, confined space entry) every three years.

For the qualifications of three inspectors we tested, each had the qualifications to conduct elevating device inspections (i.e., were QEI certified). However, the required safety training for two of the three inspectors had recently expired in fall 2016. Management was aware of the expired safety training and had asked these two inspectors to renew their training.

4.2.2 Other than Escalators, Devices Inspected in Accordance with Strategy

We expected TSASK to carry out inspections as planned.

As described in **Section 4.1.3**, TSASK expects staff to inspect each elevating device about every 18 months and to prioritize the timing of inspections based on type of inspection (e.g., acceptance inspections, ski lifts in-service inspections).

New elevating devices or devices with major alterations require TSASK to approve the design prior to installation.

For five acceptance inspections we tested, in all cases, TSASK approved the elevating devices' designs prior to their installation; TSASK completed inspections as expected, communicated deficiencies to device owners, and confirmed resolution of deficiencies prior to devices being put into operation.

For 31 in-service inspections we tested, in all but one case (an escalator), TSASK performed the in-service inspections within 18 months of the previous inspection. We also found that TSASK checked whether device owners complied with the inspection and testing requirements set out in the Elevator Regulations, as described in **Section 2.1**.

At November 2016, Saskatchewan had about 39 escalators in operation. For over 75% of 21 escalators with in-service inspections completed that we tested, TSASK had not performed an in-service inspection within 18 months of a previous inspection. The time since the last inspection date for these devices, which are located in Regina and Saskatoon, averaged 30 months (between 19 months to 90 months). TSASK management acknowledged the reduced inspection frequency for escalators, citing occasional difficulties in scheduling inspections with device owners as escalators must be shut down and two escalator contractors must be present during an inspection.

[8] NAESA is the National Association of Elevator Safety Authorities and certifies inspectors to the Standard for Qualified Elevator Inspectors (QEI). www.naesai.org/faq (18 January 2017).

Figure 3 illustrates that while escalators comprise a very small percentage of the total number of elevating devices, they represent a significant proportion of reported elevating device incidents. These statistics highlight the importance of using a risk-informed strategy to help determine the frequency of inspections.

Figure 3—Escalator Incidents from 2013 to 2016

	2013-14	2014-15	2015-16
Elevating device incidents involving escalators	50%	20%	42%
Proportion of escalators as compared to total number of licensed elevating devices (e.g., elevators, escalators, lifts)	1%	1%	1%

Source: Adapted from information provided by TSASK.

For the elevating device incidents reported to TSASK between December 2015 and November 2016, we found TSASK had inspected each of the devices involved in these incidents within 18 months of the previous inspection.

Performing regular in-service inspections based on a risk-informed strategy reduces the risk of equipment deficiencies going undetected and unaddressed. Periodic inspections reduce the risk of elevating device incidents.

4. **We recommend that the Technical Safety Authority of Saskatchewan perform in-service inspections of escalators in accordance with a risk-informed inspection strategy.**

4.3 Compliance with Standards Monitored

4.3.1 Communication of Deficiencies Not Always Documented

We expected TSASK to report promptly identified non-compliance (i.e., deficiencies with elevating devices) to affected parties.

While TSASK has well-established processes for reporting identified deficiencies, it did not always follow them in that it did not consistently confirm device owners' receipt of inspection reports.

For each inspection, while on site, TSASK inspectors:

- Complete a written inspection report that documents results of the inspection including identified device deficiencies that the device owner must fix and by when (i.e., the timeframe to resolve the deficiency)
- Leave a copy of the inspection report with the elevating device to make the report available to the device owner's licensed elevating device contractor
- Provide a copy of the inspection report to the elevating device owner—whenever possible, TSASK prefers that elevating device owners sign the inspection report to show they have received it

When inspectors cannot report deficiencies to affected parties while inspectors are on site, TSASK requires them to communicate (e.g., via email) the deficiencies within one week of the inspection date.

TSASK communicates its process for reporting deficiencies to inspectors through on-the-job training, in-house training, and bi-annual inspector conferences.

We tested five acceptance inspections. In all cases, inspection reports identified deficiencies and expected due dates for repairs. Identified deficiencies were resolved within the required timeframes (i.e., before issuance of a licence and device operation), which illustrated the affected parties were promptly informed of the deficiencies identified.

For 31 in-service inspections we tested, 16% of inspection reports with deficiencies were not signed as received by the elevating device owner (i.e., not signed when the inspector was on site) and there was no evidence of when the inspector gave the reports to the owner (e.g., related emails or correspondence not retained, if any). TSASK expects implementing Basebridge will assist in documenting its communication of deficiencies to device owners.

Not documenting whether and when inspection reports are shared with the device owners increases the risk of device owners not being aware of TSASK-identified deficiencies or not fixing the deficiencies a timely manner.

5. We recommend that the Technical Safety Authority of Saskatchewan document when it shares inspection reports with elevating device owners.

4.3.2 Resolution of Deficiencies Often Not Well Monitored

We expected TSASK to make sure deficiencies noted in inspections are resolved within a specified timeframe. We expected the timeframe to clear deficiencies would depend on the inspector's assessment of the severity of the deficiencies and their impact on safety.

TSASK inspectors do not always actively follow up to determine whether identified deficiencies are resolved within expected timeframes.

By law (Elevator Act), elevating device owners are responsible for resolving deficiencies identified and informing TSASK once they have done so.

TSASK has clear guidance on actions inspectors are to take for deficiencies identified during inspections. These actions are based on inspectors' assessment of the severity of the deficiencies and their impact on safety. For example, if a deficiency causes an immediate safety hazard, the inspector shuts down the elevating device until TSASK has confirmed the deficiency is resolved. If the inspector determines the deficiency will not cause an immediate safety hazard, TSASK expects an elevating device owner to resolve a deficiency within a standard timeframe of 30 days. If an inspector assesses a deficiency as minor, the inspector has the flexibility to extend the timeframe to a reasonable period.

As noted in **Section 4.3.1**, the inspector notes the timeframe to resolve the deficiency on the inspection report.

TSASK does not centrally monitor the status of inspection deficiencies. Rather it expects its inspectors to actively follow up to determine whether identified deficiencies are resolved.

For 5 acceptance and 31 in-service inspection reports we tested:

- All of them included a timeframe for resolving identified deficiencies (i.e., specified timeframe)
- All of the acceptance inspection reports with identified deficiencies had evidence that the deficiencies were resolved within the specified timeframe
- Only 21% of the in-service inspection reports with identified deficiencies had evidence that the deficiencies were resolved within the specified timeframe
- TSASK had not received any notification from the elevating device owners by the specified timeframe for 47% of the in-service inspections with noted deficiencies
- TSASK received notification that the elevating device operator had corrected deficiencies only after it made inquiries to address questions from our audit (i.e., TSASK management did not previously know whether these deficiencies were corrected) for the remaining 32% of in-service inspections with noted deficiencies

A significant aspect of TSASK's responsibility for administering and enforcing the Elevator Act and Elevator Regulations includes monitoring the resolution of identified deficiencies. Active monitoring of the timely resolution of deficiencies can reduce the risk of elevating device malfunctions and any resulting safety incidents. TSASK expects implementing Basebridge will improve its processes for monitoring the resolution of deficiencies.

6. We recommend that the Technical Safety Authority of Saskatchewan monitor whether device owners resolve deficiencies noted in its inspections of elevating devices within an acceptable timeframe.

4.3.3 Other Than Overdue Inspections, Trends Tracked and Reported

We expected TSASK to report periodically to senior management, its Board, and the Ministry of Government Relations on compliance trends related to inspecting elevating devices.

Other than providing information on **overdue inspections**, TSASK provides sufficient periodic reports to senior management, its Board, and the Ministry on the results of its inspections of elevating devices.

Each week, the TSASK manager responsible for elevating device inspections receives updates from the inspectors about inspections recently completed, as well as plans for

upcoming inspections. Each month, senior management receives a statistical report that includes information on the total number of licensed devices, the number of inspections by types (i.e., acceptance, in-service, incidents) by month, and various inspection data (e.g., total inspections performed, inspections with deficiencies, etc.) by year.

At each Board meeting, the Chief Inspector gives TSASK's Board an Operations Report. The Operations Report typically includes information since the last reporting period on elevating device inspections (e.g., overview of operations, details regarding the number of licensed devices, number of inspections, and incidents). The Board meets about four times per year.

Each quarter, TSASK gives the Ministry the information for elevating devices required under the Agreement. The Agreement requires TSASK to give the Ministry quarterly reports containing the following information:

- Total number of inspections
- Total number of reported accidents[9]
- Details regarding corrective action reports issued (i.e., inspections with noted deficiencies)
- Total number of overdue inspections (i.e., those where the last inspection date exceeds a legislated inspection frequency)

TSASK does not report the number of overdue inspections for elevating devices because the inspection frequency of elevating devices is not set out in law. That is, neither the Elevator Act nor the Elevator Regulations establish an inspection frequency for TSASK's inspections of elevating devices. At November 2016, the expected frequency for inspecting elevating devices was not set.

At November 2016, TSASK also did not track the number of inspections of elevating devices carried out later than 18 months since the previous inspection. TSASK's manual tracking of the number of inspections completed made tracking of later than anticipated inspections from its plan impractical.

As noted in **Section 4.1.1**, TSASK is transitioning to use Basebridge for tracking inspection activity for elevating devices. Once transitioned, TSASK indicated that it expects to be able to track and report on overdue elevating device inspections. It expects to complete this transition by fall 2017.

Deciding how often elevating devices should be inspected, and tracking overdue inspections facilitates better monitoring. Untimely inspection of elevating devices both increases the risk that deficiencies go undetected and the risk of incidents. Also, without complete information regarding overdue inspections, TSASK cannot demonstrate and the Ministry cannot fully monitor performance under the Agreement.

[9] An accident is any incident that causes death or serious injury which involves equipment that TSASK regulates. TSASK defines serious injury as receiving medical attention (i.e., in a clinic or hospital).

7. **We recommend that the Technical Safety Authority of Saskatchewan and the responsible Ministry define the expected frequency for inspecting elevating devices to enable reporting of overdue inspections.**

5.0 Glossary

Acceptance inspections – one-time inspections for installation of new or altered equipment, before it is licensed and put in use.

In-service inspections – periodic inspections that are required for licensed equipment that is in use or operation.

Incident – an event related to the operation of an elevating device that is abnormal to routine operation.

Licensed Elevating Device Contractor – an individual or company trained and experienced in the construction of elevators.

Overdue inspections – inspections related to licensed equipment whose periodic inspection interval has exceeded the inspection intervals as set out in legislation or by TSASK.

6.0 Selected References

Provincial Auditor of Saskatchewan. (2014). *2014 Report – Volume 1, Chapter 14, Technical Safety Authority of Saskatchewan – Boiler and Pressure Vessel Inspection Processes*. Regina: Author.

Provincial Auditor of Saskatchewan. (2011). *2011 Report – Volume 1, Chapter 6, Highways and Infrastructure*. Regina: Author.

Provincial Auditor of Saskatchewan. (2011). *2011 Report – Volume 2, Chapter 22, Saskatchewan Power Corporation*. Regina: Author.