Outstanding Recommendations

Assessment of Implementation Report

Alberta Energy Regulator (AER)

Systems to Regulate Pipeline Safety and Reliability in Alberta

(March 2015)

Summary of Recommendations

In March 2021, we completed our assessment of implementation from our March 2015 audit of the Alberta Energy Regulator's *Systems to Regulate Pipeline Safety and Reliability in Alberta*. We found that the six recommendations have been implemented:

IMPLEMENTED Recommendation:
Use risk management activities to make informed decisions

IMPLEMENTED Recommendation:
Formalize training program for core pipeline staff

IMPLEMENTED Recommendation:
Identify performance measures and targets

IMPLEMENTED Recommendation:
Review pipeline incident factors

IMPLEMENTED Recommendation:
Assess current pipeline information needs

IMPLEMENTED Recommendation:
Implement risk-based compliance processes

Introduction

In 2015, we audited the Alberta Energy Regulator's (AER) systems to determine whether they were adequate to regulate the operations of pipelines in Alberta. We made six recommendations to AER in areas essential for regulatory oversight and where it should improve processes.[60]

We focused our assessment of implementation work on assessing if the enhanced systems were designed adequately and implemented.

In our assessment of implementation, we found that AER implemented our six recommendations related to:

- risk management of pipeline regulatory activities
- staff training program for core pipeline staff
- measuring performance of pipeline operations
- response, investigation and reporting of pipeline critical incidents
- collecting information from pipeline operators
- monitoring of pipeline operations

Recommendation: **Use risk management activities to make informed decisions**

IMPLEMENTED

Context

In 2015, we recommended that AER use its risk management activities to make informed decisions on allocating resources and determine the nature and extent of activities to oversee pipelines. We found:

- AER did not fully implement an enterprise-wide risk management system
- at an operational level, AER lacked a formal process to fully assess the risks and its related resource requirements for various pipeline operational activities
- the system for ranking risks does not guide allocation of resources

Our current findings

AER has implemented our recommendation. It deployed an enterprise-wide risk management (ERM) system that includes ranking of identified risks and a process to decide how to allocate resources commensurate with risks.

For pipelines, AER also implemented processes to assess operational risks and use them to guide allocation of resources for pipeline activities.

[60] *Report of the Auditor General of Alberta—March 2015*, pages 39-61.

Enterprise-wide risk management

We found that the ERM program has been deployed across the whole organization and covers activities performed by all AER employees. Risks are identified and assessed for likelihood of occurrence and residual risk is determined (after taking into account mitigating controls) by the risk owners in conjunction with the ERM team. The ERM team ensures consistent assessments are performed organization-wide.

We noted risks classified as principal risks are approved by AER senior management. The principal risks and proposed mitigation actions to reduce risks to acceptable targeted tolerance levels are reported to the AER board.

Pipeline operational activities

We found that the Operational Pipeline group performs analytics on historical incidents to identify trends, such as the primary causes of the incident, substance of incident, and material of pipe of incident.

We confirmed that the Operational Pipeline group uses the information from analytics to develop target inspections to complete by area, focusing on substance flow rates, length of pipe by material, etc. stemming from the identified trends.

Recommendation: **Formalize training program for core pipeline staff**

IMPLEMENTED

Context

In our original audit, we found that AER did not complete a skills gap analysis and did not have a formal training program for its core pipeline staff. Moreover, there was no coherent strategy to manage training needs of core pipeline staff.

In 2015, we recommended that AER complete a skills gap analysis and formalize a training program for its core pipeline staff.

Our current findings

AER has implemented our recommendation. It prepared a skills gap analysis to identify the training focus areas for all pipeline staff. AER developed training and courses around the training focus areas. We found evidence that management, responsible for overseeing pipelines, tracked and reviewed training for core pipeline staff.

AER managers overseeing pipelines are accountable to decide on required training programs for the staff they oversee. The managers also identify the core staff who require pipeline training and the specific training requirements. The training staff need to complete is being tracked. On an annual basis, AER designed processes to ensure all pipeline staff have completed, or have been assigned, all required training.

Recommendation:
Identify performance measures and targets

IMPLEMENTED

Context

In 2015, we recommended that AER identify suitable performance measures and targets for pipeline operations, assess the results obtained against those measures and targets, and use what it learns to continue improving pipeline performance. Moreover, AER did not consider the severity and risk of incidents; all incidents were treated similarly.

Additionally, we noted there was weak correlation between individual goals and plans for working toward the organization's goal to reduce pipeline incidents.

Our current findings

AER has implemented our recommendation. It developed performance measures with targets, including identifying and reporting all high consequence incidents to the board.

Key performance indicators (KPIs)

There are three primary KPIs reported internally and externally and used by the pipeline operations:

- number of incidents
- per cent of satisfactory inspections
- hydrocarbon volume of releases

All of these KPIs have targets that are included in the reporting. The targets have been developed and established with a goal to continually drive improvement in pipeline performance. Several secondary KPIs are also used by Pipeline Operations.

The performance measure reported to the board on an annual basis is a two per cent reduction in high consequence pipeline incidents from the prior two years. Over the last five years, the annual number of high consequence incidents have been below the target threshold. High consequence pipeline incidents has been defined to enable identification and accurate reporting.

Individual goals

We found that AER key pipeline staff are required and instructed to base individual goals in alignment with the corporate goal of working towards reducing pipeline incidents.

Recommendation:
Review pipeline incident factors

IMPLEMENTED

Context

In our 2015 audit, we recommended that AER:

- expand its analysis of pipeline incident contributing factors beyond the primary causes
- promptly share lessons learned from its investigations with industry and operators

We found:

- greater benefit could have been extracted by examining the contributing factors for critical incidents
- lessons learned from an investigation are not consistently shared with operators and the industry
- the final investigation report review process was time consuming
- action items in post-incident assessments were not followed up

Our current findings

AER has implemented our recommendation. It established processes for identifying contributing factors for critical incidents, sharing lessons learned from investigations, defining a target duration to complete an investigation, and ensuring action items are followed up.

Contributing incident factors

Investigations are conducted and include the review and identification of secondary and contributing factors for critical incidents, including the lack of due diligence factors.

Lessons learned

Completed investigation reports are posted to the AER external website.

The lessons learned are shared with industry through bulletins and industry information sessions. Bulletins are issued when AER has identified systemic issues and concerns that merit communication to industry.

Investigation timeliness

AER has focused on improving the overall duration of investigations, from incident date to closure. It set a target for completing investigations within 18 months.

AER implemented a real time internal reporting on status of active investigations against the 18 month target. The reporting enables prompt identification of investigations trending beyond the target.

Action items

Operator corrective action plans and evidence of completion is required to be provided to the inspector for review and approval prior to closure of the incident. The incident will not be closed until all action items have been accepted by the inspector.

Recommendation:
Assess current pipeline information needs

IMPLEMENTED

Context

In 2015, we recommended that AER complete an assessment of its current pipeline information needs to support effective decision making and determine the type and extent of data it should collect from pipeline operators, through a proactive, risk-based submission process. We found:

- AER did not complete an assessment of the current and future pipeline information needs
- AER did not mitigate the risks of operator transfer of ownership
- an assessment of key information systems' ability to meet AER's regulatory needs was not completed

Our current findings

AER has implemented our recommendation.

Information needs

AER primarily uses OneStop[61] to obtain and store license data and Field Inspection System (FIS) for incident related information. A gap assessment, using CSA[62] guidance, was completed in 2015 on pipeline information needs for both licensing and incidents. AER has prioritized the data gaps identified through the assessment, and the significant gaps have been remediated in OneStop or FIS.

Operator transfer of ownership

All applications for transfer of ownership must be submitted through the Digital Data System (DDS), a web-based application administered and supported by AER. Within the application, the transferor is required to complete certain steps to initiate the transfer application. The transferor has 30 days to acknowledge and agree that they have been provided with all the records required for the transfer.

If both parties do not complete the required steps and submit the required acknowledgements, the license transfer will not be accepted or completed by AER.

Assessment of key information systems

Through the Integrated Decision Approach (IDA), or formerly known as New Activity Life-Cycle Approach (NALA), AER has assessed the pipeline systems' ability to meet regulatory requirements and needs. The pipeline phase of the project identified enhancements and has been concluded.

[61] OneStop is the system of record for application submissions, including pipeline licensing applications.

[62] Canadian Standards Association (CSA) protects the public and improves community safety by supporting public safety personnel, improving the transportation of dangerous goods, and enhancing community resilience to disasters and emergency events.

Recommendation:
Implement risk-based compliance processes
IMPLEMENTED

Context

In 2015, we recommended that AER implement a cost effective risk-based compliance process to evaluate the adequacy and effectiveness of pipeline operators' integrity management programs, and safety and loss management systems. We found:

- AER had no formal process to evaluate the effectiveness of operator safety and loss management systems and integrity management programs
- AER response to pipeline integrity requirements was pending

Our current findings

AER has implemented our recommendation. AER carried out a program to assess operators' safety and loss management systems (SLMS) and ensure integrity management programs (IMP) meet regulatory requirements. AER concluded its assessment of the pipelines integrity requirements and formalized processes for its risk-based compliance programs.

Safety and Loss Management Systems (SLMS)

The SLMS program was piloted from 2016 until 2020. After the trial pilot project, AER senior management took the learnings from the SLMS pilot and applied them to existing operational inspections to increase the focus on building a robust IMP. Rather than maintain a stand-alone SLMS program, management chose to focus efforts on an integrity management program.

Integrity Management Programs (IMP)

The AER IMP's objective is to review and evaluate an operator's pipeline systems to ensure they are in accordance to regulatory requirements and the operator's internal operating and maintenance requirements and procedures. AER completed reviews of the program and decided that the pipeline operations inspections program should focus on the four key areas of IMP: preventative maintenance, hydro-technical and geotechnical, leak detection, and inactive pipelines.