
Ministry of Energy and Resources

Audit Protocol

(Version 3.4)

Pipeline Safety and Loss Management Program

Definitions

Regulator - the Ministry of Energy and Resources (ER).

Licensee - a pipeline license holder who is operating in Saskatchewan under the jurisdiction of ER.

IMP - pipeline Integrity Management Program.

SLMS - Safety and Loss Management System as defined in CSA Z662.

ERP - Emergency Response Plan

CSA - Canadian Standard Association Group

CSA Z662 - Oil and Gas Pipeline Systems standard

Directive PNG034 - Saskatchewan Pipelines Code

Directive PNG014 - Incident Reporting Requirements

IRIS – Integrated Resource Information System

Major finding - a particular element does not fulfill the requirements or is missing. A major finding would indicate that no evidence of compliance may be evident and/or a process may be present; but regulatory requirements are not met. There is a requirement to immediately initiate remedial or corrective action to comply with the requirements. A safety hazard may be evident.

Minor finding - some evidence of compliance and/or a process may be present; but requirements were not met. There is a requirement to initiate remedial or corrective action to comply with requirements and assure safety; however, no immediate safety hazard is evident. An analogy would be "safe but not compliant".

Observation evidence of compliance is present; however, increased discipline and commitment to fully comply at all times is required or some additional preventative measures would change this to a continual improvement process. Essentially in compliance, but there is an "opportunity for improvement".

ER SLMS Elements
(based on CSA Z662-23 and Directive PNG034:22)

#	Element	Reference Clause
1	Policy and Leadership Commitment	Clause 3.12 (a)
2	Organizational Roles and Responsibilities	Clause 3.12 (b)
3	Communications and Engagement	Clause 3.12 (d)
4	Training and Competency	Clause 3.12 (c)(i) &(ii)
5	Documents, Records and Data Management	Clause 3.12 (e)
6	Risk Management	Clause 3.12 (f)(i)
7	Engineering Assessments	Clause 3.12 (f)(vi), Clause 3.4
8	Operational Controls	Clause 3.12 (f)(iv)
9	Management of Change	Clause 3.12 (g)
10	Incident Management	Clause 3.12 (h)(ii) &(iii)
11	Procurement and Contractor Management	Clause 3.12 (c)(iii)
12	Management Review	Clause 3.12 (h)(vii)
13	Audits	Clause 3.5
14	Performance Monitoring	Clause 3.12 (h)(iv)
15	Recommendations and Conformance Management	Clause 3.12 (h)(v) &(vi)
16	Design and Materials	Clause 3.12 (f)(ii)
17	Construction and Installation	Clause 3.12 (f)(iii)
18	Operations and Maintenance	Clause 3.12 (f)(iv)
19	Discontinuation and Abandonment	Clause 3.12 (f)(ix)
20	Emergency Preparedness and Response	Clause 3.12 (f)(vii)

1. Policy and Leadership Commitment

#	Description	Reference Clause
1	Policy (reviewed and updated)	A.3.1, A.6.1(a)
2	Leadership commitment (availability of resources, meeting organization and regulatory requirements)	A.3.2

2. Organizational Roles and Responsibilities

#	Description	Reference Clause
1	Responsibilities and authorities	A.3.3.1, N.1.3
2	Management representative	A.3.3.2

3. Communications and Engagement

#	Description	Reference Clause
1	Communication	A.5, A.3.3.1, A3.2 (c)
2	External stakeholders	A.3.3.2 (d)
3	Internal communication of lessons learning	A.9.3
4	Risk communication process	3.2(e)
5	Ground disturbance communication	10.5.5.3

4. Training and Competency

#	Description	Reference Clause
1	Training and competency	10.2.1, A.4.2.1
2	Training records	A.6.3(o)
3	Training and competency requirements for company personnel, contractors, and consultants	N.1.7
4	Evaluation and training needs	N.1.7.2

5. Documents, Records and Data Management

#	Description	Reference Clause
1	Control of documents	A.6.2
2	Control of records	A.6.3
3	Records management process	N.1.5.2

6. Risk Management

#	Description	Reference Clause
1	Hazard identification	N.1.8.1
2	Risk assessment	3.2(b), N.1.9.2.1
3	Risk acceptance criteria	3.2(a), A.7.3(a)
4	Regular reviews	3.2(d), A.7.3(e), N.1.9.2.2

7. Engineering Assessments

#	Description	Reference Clause
1	Engineering assessment process	3.4.2, A.7.9.2
2	Documentation, Records	3.4.3, A.7.9.4
3	Disposition of EA recommendations	3.4.3(g)
4	Engineering assessments of existing pipelines	10.1, 10.3.2.1
5	Records of EA for temporary repairs	10.12.1.1
6	Engineering assessment prior to reactivating piping	10.15.2.1
7	EA for sour service pipelines	16.8.7
8	EA for hydrogen pipelines	17.4, Table 17.1, 17.10.2

8. Operational Controls

#	Description	Reference Clause
1	Operation and control	A.7.7(f)
2	Operation and control system malfunction	N.1.10.1

9. Management of Change

#	Description	Reference Clause
1	Type of changes (Physical, Technical, Organizational)	A.8.1, N.1.6
2	Management of change process	A.8.2
3	Change management process for sour service pipeline system	16.8.6

10. Incident Management

#	Description	Reference Clause
1	Incident investigations	10.3.6, A.7.7(e), N.1.16
2	Reporting process	A.9.2, Section 3.2 of Directive PNG034
3	Lessons learning	A.9.3, N.1.15.1(i)
4	Incident records	10.4.4

11. Procurement and Contractor Management

#	Description	Reference Clause
1	Evaluation and selection, Qualifications, Performance requirements	A.4.2.2, A.6.3(b)
2	Procedure for evaluation of suppliers Quality assurance for purchase of materials	A.7.5
3	Approved suppliers and contractor records	A.6.3(g)

12. Management Review

#	Description	Reference Clause
1	Review at planned intervals	A.9.7.1
2	Review of audit results	3.5.5
3	Decision and actions	A.9.7.3
4	Records	A.6.3(a)

13. Audits

#	Description	Reference Clause
1	Audit report	3.5.3, A.9.8.2, A.6.3(n)
2	Corrective actions	3.5.4, A.9.8.4
3	Periodic audits	N.1.15.3

14. Performance Monitoring

#	Description	Reference Clause
1	Documented procedure, Regular monitoring	A.9.4, N.1.15.2
2	Integrity objectives and performance indicators	N.1.2

15. Recommendations and Conformance Management

#	Description	Reference Clause
1	Documented procedure	A.9.5, N.1.15.4
2	Nonconformance reports	A.6.3(m)
3	Completion of corrective and preventive actions	3.5.4, A.9.6, N.1.14.2
4	Tracking of corrective actions	A.9.8.3
5	Records of recommendations	N.1.13.4

16. Design and Materials

#	Description	Reference Clause
1	Design records Sour service design information Sour service design records	4.1.13, A.6.3(c)(d)(e)(f), N.1.5.1(c) 16.3.1 16.5.2
2	Design control procedure (review, verification and validation)	A.7.4.2
3	Records of materials, Material test reports	5.7.1, N.1.5.1(e)
4	Marking of pipes intended for sour service	16.4.3.2
5	Identification and documentation of designated geographic areas (DGA)	4.3.7.2
6	Valve locations accessibility	4.4.2
7	Valve spacing	4.4.4, 4.4.5, Table 4.7
8	Installation of isolating valves at major water crossings for HVP and LVP pipelines	4.4.9
9	Cover and clearance	4.11, Table 4.9, 4.11.7
10	Design of reinforced composite pipelines	13.1.2.5
11	Manufacturing records of reinforced composite piping	13.1.3.3

17. Construction and Installation

#	Description	Reference Clause
1	Availability of drawings, documents and specifications	A.7.6.1(a), N.1.5.1(d)
2	Identification records of system components	A.7.6.3
3	Joining and inspection records	N.1.5.1(f)
4	Inspection records of coating, pipe, components, and bends Elevated temperature pipelines	6.2.5, 6.5.1, N.1.5.1(g) 14.4
5	Construction planning documentation for crossings installation	6.2.10.1
6	Inspection plan for sour service construction	16.5.3
7	Records of qualified weld procedure specification and qualification test Elevated temperature pipelines	7.6.3 14.4
8	Records of qualified welders	7.8.7
9	Visual inspection records	7.10.2.4
10	Retention of radiographic records	7.14.9
11	Ultrasonic evaluation records	7.15.11.5
12	Pressure test records: Reinforced composite pipelines PE pipelines Elevated temperature pipelines	8.7.7.6, 8.8.7.5, 10.4.5, N.1.5.1(i) 13.1.8.1 13.3.8 14.5

#	Description	Reference Clause
13	Manufacturer's documented reinforced composite pipe joining procedure	13.1.5.1
14	Certificate of qualification for joining personnel	13.1.6.4
15	Documented evidence of the competency of the fusion technicians of PE pipelines	13.3.6.5, 13.3.6.8

18. Operations and Maintenance

#	Description	Reference Clause
1	Description of pipeline systems	N.1.4
2	Maintenance of critical equipment	A.7.7(a)
3	Documented procedure for coating application	9.3.2.4
4	Applied coating inspection	9.3.3
5	Cathodic protection system design and performance monitoring	9.5.1, 9.9.1, N.1.5.1(j)
6	Cathodic protection monitoring of metallic risers of reinforced composite pipelines, PE pipelines	13.1.2.20, 13.3.3.7
7	Corrosion control records (Chemical injection, Pigging)	9.11
8	Internal corrosion monitoring of sour service pipelines	16.7.2, 16.10.3.2
9	Integrity management program Integrity management program for sour service	10.3.1, N.1.11 16.8.8 Section 3.5 of Directive PNG034
10	Development of leak detection program for: <ul style="list-style-type: none"> • Sales quality liquid hydrocarbon pipelines • Gas pipeline systems and carbon dioxide pipeline systems • Other pipelines (excluding fresh water) 	10.3.3.1 10.3.4 10.3.5.1
11	Periodic review of leak detection program	10.3.4.3, 10.3.5.3
12	Pipeline system records (Location of valves, crossings)	10.4.2, N.1.5.1
13	Operation and maintenance records of sour service pipelines	16.8.2
14	Operating and maintenance procedures	10.5.1.2
15	Pipeline identification signs	10.5.3.1
16	Right of way inspection	10.6.1, A.7.7(b)
17	Inspection of underwater crossing (depth of cover)	10.6.5.2
18	Change of class location	10.7.1
19	Inspection of pressure control and pressure limiting devices, Records of tests and inspections	10.9.5.2, 10.9.5.6 Section 2.6.2 of Directive PNG034
20	Inspection of emergency valves	10.9.6.2
21	Inspection of temporary repairs	10.12.1.2
22	Records of liner vent checks	13.2.8.1
23	Temporary repairs to PE pipelines	13.3.9.3

19. Discontinuation and Abandonment

#	Description	Reference Clause
1	Deactivation of piping	10.15.1, A.7.7(g)
2	Documented abandonment plan	10.16.1
3	Records of abandoned pipelines	10.16.9
4	Deactivation or abandonment of reinforced composite pipelines	13.1.11
5	Deactivation or abandonment of lined pipelines	13.2.8.6
6	Abandonment reporting	Section 5.3 of Directive PNG034

20. Emergency Preparedness and Response

#	Description	Reference Clause
1	Public awareness	10.5.2.2, N.1.10.2(b), N.1.10.5(f)
2	Emergency response procedures	10.5.2.1, N.1.10.5(e)
3	Emergency preparedness	10.5.2.3, A.7.7(c)
4	Pipeline emergency records	10.4.3
5	Participation in one-call utility location organizations	N.1.10.2(a), Section 3.4 of Directive PNG034