

Integrity Management Program (IMP)

Integrity Management Program Scope

County of Vermilion River Natural Gas Utility (The County) is committed to providing safe, environmentally responsible, and reliable service as a natural gas distributor. The intent of this IMP is that it shall cover both pipelines, as defined in CSA Z662, Clause 2 as well as facilities, as defined in CSA Z662, Annex N, Clause N.2.1.1, such as customer meters and regulators, meter stations, pressure regulating stations and Regulating, Metering, Odorization (RMO) stations.

The County is committed to collect, integrate, and analyze information related to the design and type of pipeline system and facilities by following the methods outlined in its IMP.

Policies, Objectives, and Performance Indicators

The County shall document policies, objectives, and results (performance indicators) related to its IMP. Performance Indicators may include targets for gas loss, maintenance and inspection schedules, audit results, etc.

Organization

In addition to the information found in the SLMS under Clause A.3.

The Director of Gas Utility has been appointed as the IMP Manager and is responsible for administering the IMP.

Those responsibilities shall include:

- Pipeline integrity management program development and improvement
- Records management
- Pipeline integrity management program planning and reporting
- Allocation of funding
- Implementation of plans
- Integrity performance indicators
- Integrity program audits, reviews, and evaluations

Description of Pipeline Systems and Facilities and Integrity Management Program Records

In addition to the information found in the SLMS under Clause A.7.6.3.

The County is committed to prepare and maintain a description of the system related to all pipeline and facility design, construction, operation and maintenance of their distribution system.

The County shall prepare and manage records related to pipeline and facility design, construction, operation and maintenance that are required when performing the activities outlined in the IMP.

The County AER pipelines licenses are included in the IMP as Schedule “A”.

The County's annual Approval to Operate from Rural Utilities shall be included in the IMP.

The County's approval Orders from the Canadian Energy Regulator (CER) for pipelines crossing the AB-SK border are included in the IMP as Schedule "B".

This can be achieved by the following:

- a) Location of all pipelines and facilities through a current and accurate mapping system (GIS and as-built books)
- b) Identification of pipeline class locations (CSA Z662, Table 4.1)
- c) Properly designed pipelines and facilities including maximum operating pressures, load surveys and all other pertinent operating conditions
- d) All pipeline and facility specifications including pressure control equipment documentation, quality assurance documents, material test reports (MTR), nondestructive examination (NDE), joining and inspection records, pressure testing reports, coating specifications and test records, inspection test plans (ITP), cathodic protection system design and performance. Other documentation specific to crossings, including approvals and agreements, details and drawings, photographs, inspection, and as-built reports shall be retained.

Management of Change

The County is committed to a process of managing, implementing, and tracking change that can affect the integrity of the distribution system. These changes are both those initiated by the County and those that are under control of the County.

This process may include, but is not limited to:

- Compliance with the Management of Change Directive
- Annual updating the Distributors mapping system for foreign pipelines, facilities, and pipeline ownership
- Monitoring source pressure, operating pressures due to load changes, and gas quality
- Employment training and mentoring to ensure a continuous qualified staff
- Updating the organizational charts to ensure operational hierarchy and corresponding responsibilities
- Reviewing proposed design changes that may affect the functionality of the pipeline, facility, and control systems with your Engineer prior to implementation.
- Reviewing inspection records of piping, valves, pressure control, and measurement equipment to identify changes that could affect the integrity of the distribution system
- Monitoring physical environment changes as it relates to the distribution system
- Compliance with and auditing of the Federation O&M Manual
- Governance training and succession planning for directors
- Methods practices and procedures related to pipeline integrity management
- Monitoring changes in technical requirements, industry standards, and regulations

Competency and Training

The County shall employ qualified personnel or approved/qualified contractors and support participation in training programs as may be required to safely construct, operate, and maintain the pipelines and facilities. The Gas Utility Training Directive provides guidance in this regard.

The skill requirements are based on system or operating requirements which may include but not necessarily limited to the following training:

- Gas Utility Operator
- Gasfitter
- RMO I and II
- Emergency Response
- First Aid & CPR
- H₂S Alive
- WHMIS
- Confined Space Entry
- Transportation of Dangerous Goods
- High Energy Joining
- PE Fusion
- Olfactory Testing
- Ground Disturbance
- Defensive Driving
- Any training course that may be found in the Distributors Health and Safety Policies and Procedures

The County maintains documentation that tracks certification expiry dates and is committed to ensure the level of training meets industry requirements.

Training is available through, but not limited to:

- Federation of Alberta Gas Co-ops Ltd.
- Local accredited training facilities
- Online training
- Industry workshops/seminars
- Inhouse mentorship

Hazard Identification and Control

In addition to the information found in the SLMS Clause A.7.3.

The County is committed to the identification of hazards that can lead to failures, external interference, and damage incidents. Hazards that are within the scope of risk assessments must be identified and described in sufficient detail to support root cause analysis.

This can be achieved by:

- Conducting regular staff/safety meetings
- Addressing any deficiencies found during an external audit
- Investigating all incidents

- Training on facility, equipment, or technological changes via virtual or hands on
- Reviewing industry and regulatory related bulletins
- Sharing Health and Safety learnings with the Federation Health and Safety Working Group

The County will keep records of all failures or external incidents for the life of the facility and pipeline system. Using this historical data will allow the identification of potential hazards on specific sections of the facilities and pipelines system and also identify repeat external interference incidents. Consideration should be given to the location of the failure, the cause or type of failure, the component of the facility and pipeline system, failure occurrence, and all other details pertinent to the incident. If one section shows an abnormal failure rate, this section will be monitored more frequently and replaced if deemed necessary.

This can be achieved by:

- Following the Federation O&M Manual
- Following the Distributors Health and Safety Policies and Procedures
- Review of applicable Industry incidents

Risk Assessment General and Documentation and Risk Analysis Approach, Evaluation, Refinement, and Reduction Evaluation

The County is committed to reducing exposure to risk to their facilities and pipelines through preventative analysis, documentation, evaluation, and refinement. The County takes into account the frequency and consequences of incidents, the significance of the estimated risk and identifying, evaluating and implementing options for reducing risk. If the County deems the risk level to be significant, a more in-depth analysis will be undertaken.

This can be achieved by:

- Determining the impact of the risk
- Determining the negative consequences and severity that would result
- Determining the probability of the risk occurring

An Assessment Matrix, like the one in the Emergency Preparedness and Response section of the Federation O&M Manual, could be utilized.

Options for Reducing Likelihood and Consequences of Failure or Damage Incidents and Operating Errors

The County is committed to track failure incidents, external interference incidents, damage, deterioration, environmental protection, and safety to any and all parts of its distribution system. The Distributor is committed to report all such incidents to the proper governing authorities.

The County shall follow procedures set out in the Federation O&M Manual for investigating and reporting failure and external interference incidents. Such incidents shall be documented and reported to the proper authorities immediately. Documentation shall include:

- Location
- Incident date and time

- Weather conditions
- Operation of pipeline
- Pipe specification
- Coating condition
- Cathodic protection status
- External interference
- Joining method
- Volume release
- Ground condition
- Pipeline locate request (completion and exposure)

An analysis of each incident shall be undertaken to seek improvements to the IMP on a per incident basis.

The County is committed to reduce the frequency of failure incidents associated with improper operation and control system malfunction in the following manners:

- Continuing personnel training
- Improved pipeline control and monitoring methods
- Changing the operating and maintenance practices
- Improvements to the pipeline and above ground facilities

External Interference

The County is committed to reduce the frequency of failure incidents and external interference incidents in the following ways:

- Maintaining a process for third-party crossing of County pipelines (facility and regulated equipment) by written approval only and with inspections as required
- As a member of Utility Safety Partners
- Maintaining all above ground facilities for vegetation control on a semi-annual basis
- Performing right-of-way patrols and pipeline inspections as required
- Using only qualified pipeline locators
- Erecting fences and structures to protect its facilities
- Maintaining appropriate pipeline signage
- Participating in public awareness sessions

Imperfections

The County is committed to reduce the frequency of failure incidents due to manufacturing and/or construction defects by the following:

- Participating in the Federation Quality Assurance Program
- Temporarily reducing operating pressures
- More frequent monitoring of cathodic protection
- Pressure testing
- Pipe repair and/or replacement
- Inspect any exposed pipeline during normal operation for pipe/tracer wire/coating imperfections and/or damage and general condition

Natural Hazards

The County is committed to reduce the frequency of failure associated with natural hazards by the following:

- Inspection of critical watercourse crossings after flood events
- Performing right-of-way patrols and pipeline inspections as required
- Erect fences and structures to protect its facilities
- Relocate pipelines if necessary

Consequence Reduction

The County is committed to reduce the consequences associated with failure incidents by the following:

- Supervisory Control and Data Acquisition (SCADA) on critical infrastructure
- Balancing meters and customer automated meter reading to quickly identify gas loss
- Public Awareness campaigns
- Emergency Response Planning and Training
- 24-7 On Call Personnel and 24 Hour Dispatch through East Central 9-11

Integrity Management Program Planning

The County is committed to establishing plans and schedules related to pipeline system integrity management. The frequency and type of inspection shall be in accordance with the Federation O&M Manual.

The County will take the following into consideration when planning its IMP:

- Known existing problems that could lead to a failure incident
- Potential greater risk for pipelines and facilities located in high consequence areas
- The potential of those existing problems to grow in magnitude
- Controlling identified hazards through historical data
- Reducing the estimated risk level through third party consultation
- Regularly scheduled inspections, testing, patrols, and monitoring
- Annual reviews of the IMP to ensure effectiveness of the program
- Failure and external interference incident history of the County and the pipeline industry as a whole

The County is committed to document all methods used to prioritize and schedule activities related to its IMP.

The County shall, upon completion of pipeline and facility integrity activities, review the following:

- Methods and procedures were performed properly
- Any changes were approved prior to implementation
- Objectives were achieved
- Incomplete work noted
- Any recommendations for future work noted
- All work documented

Inspections, Testing, Patrols, and Monitoring

The County is committed to follow all procedures set out in the Federation O&M Manual for inspecting, patrolling, testing, and monitoring its distribution system. This will include:

- Verifying the satisfactory operation of the cathodic protection system through a third-party inspection or assessment by a corrosion specialist on a scheduled basis
- Monitoring of the internal corrosion control program through visual inspection and lab analysis of cut-outs
- Undertaking leak detection on all pipelines on a regular interval. Methods will include daily gas volume monitoring, monthly wholesale/retail gas balancing and regularly scheduled gas detection surveys.
- Inspecting block valves for proper operation and leakage on a scheduled basis
- Inspecting facility pressure regulators and relief valves on a scheduled basis
- Pipeline patrolling on a scheduled basis

The County shall base its frequency of inspections, if not specified by code or regulation, then on historical performance of its distribution system and industry standards.

The County shall utilize a cathodic specialist to evaluate the condition of the cathodic protection of the system and follows corrective actions as recommended.

The County shall regularly inspect pipelines and facilities (filters, drains, pipeline components, etc.) that may collect corrosive agents. Any corrosive agents collected shall be tested to determine the chemical nature and potential impact on the pipeline system and/or facilities or gas quality. Upon opportunity, inspect all coupon/cutouts on metallic pipelines for internal corrosion. The results of this inspection/analysis will be documented.

The County shall include in its documents of inspections, testing, patrolling, and monitoring the following:

- Dates performed
- Methods and equipment used, including the most recent calibration of such equipment
- Results and observations and subsequent evaluations of those results

Evaluation of Inspection, Testing, Patrol, and Monitoring Results

The County shall evaluate potential deficiencies that may lead to a failure incident. Such evaluation may include consulting with a corrosive specialist or undertaking an engineering assessment.

Evaluation of Indications of Imperfections

The County shall have all imperfections evaluated as identified in the inspection reports. Such evaluations shall be in accordance with the requirements as stated in Z662 for all types of pipelines and facilities.

Natural Hazard Evaluations

The County shall assess and monitor for slope instability, erosion, scour, loss of cover, ice effects, etc. that may adversely impact the pipeline or facility. If any of these concerns exist near a pipeline or facility, increased monitoring is required to determine risk of potential failure.

Records of Recommendations

The County shall document records of recommendations and dispositions of recommendations.

Corrective Action

The County shall assess and document the corrective actions and repair procedures required to prevent failures or damage with significant consequences. Where pipelines or facilities are not suitable for continued service at current operating levels, they shall be repaired, replaced, or operated at a lower pressure as may be determined by an engineering assessment.

Continual Improvement, Integrity Management Program Review and Evaluation

The County shall develop and document a process for continual improvement, document the results of reviews and evaluations of the IMP and consider the following in that process.

- Annual reviews and evaluations
- Monitor gas balancing monthly
- Effects of changes to the pipeline and facilities
- Assess trends resulting from the audit
- Review the status of the integrity performance indicators
- Review incident analysis
- Review and learn from events

Performance Monitoring and Measurement and Audits

The County shall establish and maintain documented procedures for internal audits on an annual basis to ensure the integrity of the County's pipelines and facilities. In addition, and in accordance with the Federation O&M Manual - Audit Procedures section, an external audit will be completed on a scheduled basis.

Control of Nonconformance

The County shall establish and maintain procedures for defining responsibility and authority for handling and investigating nonconformances, and for initiating and completing corrective and preventive action.

Incident Investigations

The County shall follow the procedures in the Federation O&M Manual and the County's Health and Safety Policies and Procedures for failure and damage incidents.

Infrastructure Risk Management Program

All of the above required information regarding risks and mitigations to the distribution system will be compiled, by pipeline segment, in a digital Risk Management Program. The data in the Risk Management Program will be accessible to County personnel and will assist management in assessing risk and evaluating appropriate mitigation measures.



Integrity Management Program (IMP)

Declaration, Commitment, and Authority

The County of Vermilion River Natural Gas Utility (The Distributor) is committed to the development and implementation of a documented Integrity Management Program (IMP) for the pipeline system that provides protection of people, the environment, and property.

The Council fully supports the IMP in its entirety and accepts that all the terms, conditions, and commitments are being satisfied based on an annual report and confirmation by the IMP Program Manager.

Reeve Signature:

Date:

Chief Administrative Officer Signature:

Date:

Gas Utility Director Signature:

Date:

Schedule “A”

AER Pipeline Licenses

License Number
10736
18150
34709
41042
41970
44143
48416
50883
54399
62850
63276
63294
63490
63700
63982
64049
64277
64278
64424
23768

Schedule “B”

CER Pipelines

Pipeline Name	NEB Order or Certification Number	Start Location	End Location
Ron Detchon	XG-V008-17-2004	SE-12-52-1-W4M	SE-12-52-28-W3M
Richert Infill	XG-V020-041-2015	NE-25-52-01-W4M	NW-25-52-28-W3M
28-45-28-W3M Residential Infill	XG-V020-032-2016	SE-25-45-01-W4M	NE-28-45-28-W3M
Reilly Lake	XG-023-2020	SW-12-52-01-W4M	SW-12-52-28-W3M

Quality Management Plan

County of Vermilion River Gas Utility

This Quality Management Plan (QMP) represents an agreement with the Province of Alberta under section 5 of the *Gas Distribution Act* that the rural gas utility is designed, constructed, operated and maintained in accordance with the requirements set by section 2 of the Act. In signing this agreement, the Chief Officer recognizes that complete compliance with these standards may not always be attainable, although they remain the objective for the rural gas utility. In the event of identified deficiencies resulting from an operation and maintenance inspection conducted under section 4 of the Act, the rural gas utility will respond in a timely manner to render the distribution system safe and as compliant to the applicable standard(s) as possible.

The County of Vermilion River Gas Utility (hereinafter referred to as "the municipal gas utility", as per section 1(k) of the *Gas Distribution Act*), owns and operates a rural gas utility in Alberta and in accordance with its franchise issued under section 18 of the Act. Under section 18, the municipal gas utility has both the exclusive right and duty to offer and provide natural gas service to residents in a specific area of the province. The municipal gas utility, represented by the County Council is, as the owner, responsible for ensuring that the rural gas utility continues to be designed, constructed, operated and maintained in a manner consistent with section 2 of the Act. This is achieved with the full support of the municipal gas utility's Chief Administration Officer, the municipal gas utility's Manager and its employees as to ensure the safety of its customers, employees, and the general public of Alberta. Annual review and commitment to this QMP document by the County Council, the Chief Administrative Officer and the Gas Utility Manager, in conjunction with the annual submission of as-built plans and meeting operation and maintenance expectations of the Chief Officer partly form the 'Approval to Operate' a rural gas utility in Alberta.

QUALITY MANAGEMENT PLAN FUNCTIONS

Standards

As applicable, the municipal gas utility will design, construct, operate, and maintain its gas utility in accordance with the following legislation and standards:

- The *Gas Distribution Act*
- The *Pipeline Act* and Regulations
- The *Municipal Government Act*; only as applicable/relevant to the rural gas utility
- The *Gas Utilities Act*, as applicable
- The *Occupation Health and Safety Act*, and all codes and regulations, as applicable
- Canadian Standards Association (CSA) Z662 Oil and Gas Pipeline Standard
- Canadian Standards Association (CSA) Z246.2 Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems
- The Technical Standards Manual for Gas Distribution Systems in Alberta, issued by Rural Utilities
- Guidelines for Operations & Maintenance Practices in Alberta Natural Gas Utilities issued by the Federation of Alberta Gas Co-ops Ltd.
- Alberta Energy Regulator (AER) Directive 71 Emergency Preparedness and Response Requirements for the Petroleum Industry (as applicable)

Rural gas utilities are also expected to maintain appropriate insurance coverage.

Design, Construction, Testing, and Commissioning

The municipal gas utility will ensure that its distribution system is designed and constructed to safely deliver the required volumes of gas to each consumer under the most extreme conditions by following the Technical Standards Manual for Gas Distribution Systems in Alberta and the most recent version of the Canadian Standards Association (CSA) Z662 Oil and Gas Pipelines. Collectively, these are the standards for Alberta's gas distribution systems.

Operation, Maintenance and Repair

To ensure the gas utility is properly operated, maintained, and repaired, the municipal gas utility will employ or contract the services of qualified field staff to safely operate and maintain the system. This will include development of a regular preventative maintenance program to safeguard the distribution system against premature deterioration. Further, the rural gas utility will ensure that the level of safety equipment for both the shop and emergency response vehicles (as adopted in the Guidelines for Operations & Maintenance Practices in Alberta Natural Gas Utilities) in addition to personal protective equipment (PPE), is provided, inventoried, maintained, and calibrated as and if required.

Emergency Preparedness and Response

To ensure that employees understand the municipal gas utility's program to respond to emergency situations, the municipal gas utility will develop and implement an Emergency Response Program (ERP) to effectively respond to emergencies, promote safety of workers, responders and the public, in accordance with the Guidelines for Operations & Maintenance Practices in Alberta Natural Gas Utilities.

Surveying and Plant Records

In order to ensure the completeness, accuracy and timely completion of the municipal gas utility's as-built drawings and ensure that the Utility Safety Partners database is current, the municipal gas utility will maintain up-to-date as-built plans of the rural gas utility and submit these to Rural Utilities by March 31 of the year following construction.

RESPONSIBILITY

This Quality Management Plan highlights the safety related components of the County of _____ Gas Utility's design, construction, operation, and maintenance programs. The municipal gas utility's County Council and Chief Administrative Officer along with their Gas Utility Manager have reviewed and adopted the QMP in its entirety, and hereby accepts the responsibility for compliance of their distribution system with this plan.

This Quality Management Plan was reviewed at the County Council meeting held on: January 30, 2024

Dated

January 23, 2025

[Signature]
Reeve

I have read and will support the municipal gas utility in meeting compliance of this QMP:

Dated

January 23, 2025

[Signature]
Chief Administrative Officer

Dated

01/23/2025

[Signature]
Gas Utility Manager

This QMP must be adopted and signed by the municipal gas utility, represented by the Reeve, the Chief Administrative Officer and the Gas Utility Manager **on an annual basis and submitted by December 31st of each year.**

Failure to submit a signed QMP document may result in any or all of the following actions:

- (1) The annual 'Approval to Operate' will not be issued,
- (2) All planned/future construction must be approved by the Chief Officer prior to construction until the QMP is signed and submitted, and
- (3) Any construction done without prior approval of the Chief Officer will be in contravention of section 13 of the Gas Distribution Act and potentially subject to an offence (section 8) and/or order (section 9) under the Act.