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Policy Subject/Title: NATURAL GAS DISTRIBUTION SYSTEM INTEGRITY
MANAGEMENT PROGRAM

Signature of Approval by Authorized Personnel:


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Title & No. of Previous Policy if Applicable

PROCEDURES:

The Town of Wainwright (the Distributor) is committed to providing safe, environmentally responsible and reliable service as a natural gas distributor. (N1.1 & N.2. (i & j))

The Distributor is committed to the design of their pipeline system through the use of the professional engineering services of Hames Engineering Ltd. (N.2 (a))

The Distributor is committed to safe construction procedures by the use of qualified contractors with a minimum of \$5,000,000 liability insurance and current Workers' Compensation Board coverage. (N.2 (a))

The Distributor is committed to monitoring the condition of the distribution system by implementing a maintenance program and maintaining a detailed documentation of inspections and repairs. (N.2 (b & c))

The Distributor is committed to tracking 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 reporting all such incidents to the proper governing authorities. (N.2 (e to i))

The Distributor pipelines under AER license 7280 - 1 are included in the Pipeline Integrity Management Program. (N.4)

The Distributor's Mayor and Council ensure that the distribution system is designed, constructed, operated, maintained and funded in a manner that will ensure the safety of its customers, employees or the general public. This is ensured by the adoption of Alberta

Rural Utilities Quality Management Plan (QMP) and the adoption of the Operation and Maintenance Guidelines. (N.3.1)

The Distributor considers anything that disrupts the service of their distribution system as significant and will take preventative measures to mitigate future occurrences. (N.3.2)

The Distributor has assigned the responsibility of administering the Integrity Management Program to William Crews, Gas Operator. Those responsibilities shall include:

- Pipeline Integrity Management Program development and improvement
- Records management
- Pipeline Integrity Management Program planning and reporting
- Implementation of plans
- Integrity performance indicators
- Integrity program audits, reviews and evaluations. (N.3.3)

The Distributor is committed to preparing and maintaining a documentation system related to all new pipeline design, construction, operation and maintenance of their distribution system. Documentation will include the following:

- Location of all pipelines through a current and accurate mapping system
- Identification of pipeline class locations (Z662-15 Table 4.1)
- Properly designed pipelines including operating pressure maximums, load surveys and all other pertinent operating conditions
- All pipeline specifications, quality assurance documents, material inspection data sheet (MIDS), test reports, joining and inspection records, pressure testing reports, Cathodic protection system design and performance. (N.5.1)

The Distributor is committed to the upkeep of a documentation system and to also ensuring an effective means of retrieval of all information. (N.5.2)

The Distributor will employ qualified personnel or contract operators and support participation in training programs as may be required to safely operate and maintain the distribution system. The skill requirements are based on system requirements which may include but are not necessarily limited to: (N.7)

- Gas Utility Operator Training
- Gasfitter
- RMO Training
- Emergency Response Training
- First Aid & CPR
- H₂S
- WHMIS Confined Space Entry
- Transportation of Dangerous Goods
- High Energy Joining
- PE Fusion
- Olfactory Testing
- Ground Disturbance
- Defensive Driving

The Distributor will maintain documentation that tracks certification expiry dates and is committed to ensuring the level of training meets industry requirements. This training is

available through the Federation of Alberta Gas Co-ops and/or local accredited training facilities. (N.7)

The Distributor is committed to a process for managing change that can affect the integrity of the distribution system. This process includes: (N.6.1)

- Maintaining current records of foreign pipelines and other facilities through yearly updating of the mapping system
- Employment training and job shadowing to ensure a continuous qualified staff
- Staggered elections of Directors to ensure seamless policy direction
- Scheduled maintenance on piping and control systems to identify changes that could affect the integrity of the distribution system
- Maintain odorant levels through monthly olfactory testing
- Yearly self-audit of the Integrity Management Program and its records to ensure effective integrity management
- Scheduled right-of-way patrolling to monitor right-of-way conditions, adjacent land use and development
- A scheduled review of the Operation & Maintenance Guidelines to ensure compliance with changes in standards and regulations.

The Distributor is committed to tracking and implementing the following items in managing change process: (N.6.2)

- Training personnel to be aware of changes and circumstances that could affect the integrity of the system
- Through Council meetings, be able to report and receive approval on implementing changes
- Develop a list of criteria to follow when identifying changes that could affect the integrity of the system ie: land development, pipeline activity, change in agricultural practices, etc
- In conjunction with Hames Engineering Ltd. analyzing the implications of the changes and their effects on the integrity of the system
- Keep an open dialogue with all parties that are affected by the changes
- Implement changes in a timely manner.

The Distributor shall follow procedures set out in the Operations & Maintenance Guidelines 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 design, coating condition, cathodic protection status, external interference, joining method and volume release. An analysis of each incident shall be undertaken to seek improvements to the IMP on a per incident basis. (N.10)

The Distributor is committed to identifying hazards that can lead to a failure or external interference incident. The Distributor will keep records of all failure or external interference incidents for the life of its pipeline system. Using this historical data will allow the identification of hazards on a specific section of the distribution system as well as identification of any repeat external interference incidents. If one section of the distribution system shows an abnormal failure rate, that section will be monitored more frequently and replaced if deemed necessary. (N.8)

The Distributor is committed to reducing exposure to risk through preventative analysis, evaluation and refinement. The Distributor takes into account the frequency and consequences of incidents, the significance of the estimated risk and identifying, evaluating and implementing options for reducing risk. (N.9.1 & N.9.2)

If the Distributor deems the risk level to be significant, a more in-depth analysis will be undertaken. The Distributor will consult with a third-party specialist and undertake further investigation as may be required to lower the risk level to be not significant. (N.9.3 & N.9.4)

The Distributor is committed to reducing the frequency of failure incidents associated with improper operation and control system malfunction in the following manners: (N.10.1)

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

The Distributor is committed to reducing the frequency of failure incidents and external interference incidents in the following ways: (N.10.2)

- As a member of Alberta One-Call Corporation
- Maintain all above ground facilities for vegetation control on a semi-annual basis
- Perform right-of-way patrols on an annual basis
- Use of only qualified pipeline locators
- Erect fences and structures to protect its facilities.

The Distributor is committed to reducing the frequency of failure incidents due to manufacturing and/or construction defects by the following: (N.10.3)

- Participating in the quality assurance program
- Temporarily reducing operating pressures
- More frequent monitoring of cathodic protection
- Pressure testing
- Pipe repair and/or replacement.

The Distributor is committed to reducing the frequency of failure associated with natural hazards by the following: (N.10.4 & N.13.3)

- Inspection of critical watercourse crossings after flood events
- Performing right-of-way patrols on an annual basis
- Erect fences and structures to protect its facilities
- Relocate pipelines if necessary.

The Distributor is committed to reducing the consequences associated with failure incidents by the following: (N.10.5)

- Automatic meter reading on all sales taps to provide quick balancing discrepancies
- Pressure and temperature alarms on all sales taps to detect any variance in gas delivery pressures
- Following all emergency response procedures as adopted in the Operation & Maintenance Guidelines
- Participating in local mock disasters and public awareness campaigns.

The Distributor is committed to establishing plans and schedules related to pipeline system integrity management. (N.11.1)

The Distributor takes the following into consideration when planning its Integrity Management Program: (N.11.2)

- Known existing problems that could lead to a failure incident
- 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 Distributor and the pipeline industry as a whole.

The Distributor is committed to documenting all methods used to prioritize and schedule activities related to its IMP. (N.11.3)

The Distributor's management reviews its IMP annually to ensure its effectiveness and to identify any deficiencies in its program. Management will inform the appropriate personnel of any integrity issues. (N.11.4 & N.11.5)

The Distributor is committed to following all procedures set out in the Operation & Maintenance Guidelines for inspecting, patrolling, testing and monitoring its distribution system. The Distributor will adhere to all Z662 inspection frequencies and methods. This will include: (N.12.1)

- Verifying the satisfactory operation of the cathodic protection system annually through third party inspection or assessment by Corrpro Canada Inc.
- Monitoring of the internal corrosion control program through visual inspection and lab analysis of cut-outs
- Leak detection shall be performed 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
- Semi-annual block valve inspections
- Pressure regulators and reliefs will be inspected on a scheduled basis
- Pipeline patrolling on an annual basis.

If Z662 does not specify frequencies, the Distributor bases its frequency of inspections on historical data of its distribution system and industry standards. (N.12.2)

The Distributor uses Corrpro Canada Inc. to evaluate the condition of the cathodic protection of the system and follows corrective actions as recommended. (N.12.3, N.12.4 & N.12.6)

Where applicable, the Distributor will perform the necessary chemical analysis of the natural gas in its distribution system to ensure the absence of corrosive agents. Upon opportunity, inspect all coupon/cutouts on metallic pipelines for internal corrosion. The results of this inspection/analysis will be documented. (N.12.5)

The Distributor includes in its documents of inspections, testing, patrolling and monitoring the following: (N.12.7)

- Dates performed
- Methods and equipment used
- Results, observations and subsequent acceptability of those results
- Recommendations and implementation of those recommendations.

If inspections indicate the presence of imperfections that might lead to a failure incident, the Distributor follows the recommendations of Corpro Canada Inc. engineering assessment and takes corrective actions. (N.13)

The Distributor operates a small diameter sweet natural gas distribution system which is not conducive to failures of significant consequences. (N.14)

The Distributor annually reviews the Integrity Management Program to ensure its effectiveness. The Distributor implements the recommendations of the independent audit provided by the Federation of Alberta Gas Co-ops Ltd. (N.15.2)

REVIEW CYCLE:

This policy will be reviewed every year.