Background

Cathodic Protection (CP) is essential to maintaining system integrity for Gas Operations. The process of cathodic protection is used to control the corrosion of natural gas pipelines by either installing anodes or through the use of negative charges.

The Cathodic Protection program focuses on the maintenance review of the work completed on the natural gas systems. The CP group bases the program by the standards set forth by the American Gas Association (AGA). These standards also dictate the timing of the work on specific infrastructure.

The group also utilizes Asset Compliance Management (ACM) to manage the program data which has known gaps between ACM, SAP and GIS due to the cutover to SAP in 2018.

Additionally, the Company uses a third-party contractor (SiteWise) for work within PSCo and internal Xcel employees within NSP.

Lastly, the Cathodic Protection team has gone through several reorganizations since SAP was fully implemented in 2018.   
  
Objective and Scope

The objectives of this audit were to:

* Perform a full assessment of the Cathodic Protection process and program
* Validate the cathodic testing through site visits and observing reperformance by a trained technician
* Evaluate the accuracy and completeness of Cathodic Protection data between ACM, SAP and SmallWorld GIS

The scope of this engagement included the gas distribution and transmission cathodic data from April 2021 – April 2022 in NSP-MN, NSP-WI, and PSCo.

Overall Assessment

Internal Audit identified exceptions during the course of the engagement indicative of a moderate to high frequency (probability) of errors or a major or significant level of severity that could impair the Company’s ability to achieve its objectives, goals or reduce risk to an acceptable level. This might require re-deploying resources and implementing interim solutions until longer-term changes can be made as detailed in this report.

Specifically, during our validation of the cathodic testing results, we found multiple instances of inaccurate site descriptions and inaccurate test results. The outcome of our validation testing combined with the results of an internal investigation at the Boulder Service Center showed sufficient evidence to suggest that a lack of controls are in place to ensure proper testing and documentation occurs.

Additionally, during our review of the ACM system, we found that the system creates multiple data inaccuracies, inefficiencies in processes, and lacks the ability to connect with the Company’s main operational data sources (i.e. SAP and SmallWorld GIS). The lack of interconnection with the other operational systems prevented us from doing a full evaluation of the accuracy and completeness of ACM.

Within our process and program assessment, we found multiple inefficiencies around data entry, multiple data entry points that can lead to human error, and a lack of defined processes for creating new site data and resolving low reads that are out of compliance. We found that these issues affect both PSCo and NSP.

We appreciate the level of communication and cooperation that the Cathodic Protection group and Gas Operations provided during this engagement. We look forward to working with the teams to determine the best path forward to mitigate these risks presented in the report.

Observations and Management Responses

Inaccurate and Inconsistent Cathodic Protection Testing Results (PSCo)

During our validation of the cathodic testing results, we found multiple instances of inaccurate site descriptions and inaccurate test results. The outcome of our validation testing combined with the results of an internal investigation at the Boulder Service Center showed sufficient evidence to suggest that a lack of controls are in place to ensure proper testing and documentation occurs.   
  
Management Response: Summarize the management response received from the observation summary and provide the expected completion date (if there are multiple completion dates, use a range).

Lack of Technological Investment into ACM

During our review of the ACM system, we found that the system creates multiple data inaccuracies, inefficiencies in processes, and lacks the ability to connect with the Company’s main operational data sources (i.e. SAP and SmallWorld GIS).

Management Response: Summarize the management response received from the observation summary and provide the expected completion date (if there are multiple completion dates, use a range).

Process Gaps and Inefficiencies

Within our process and program assessment, we found multiple inefficiencies around data entry, multiple data entry points that can lead to human error, and a lack of defined processes for creating new site data and resolving low reads that are out of compliance. We found that these issues affect both PSCo and NSP.

Management Response: Summarize the management response received from the observation summary and provide the expected completion date (if there are multiple completion dates, use a range).

Report Distribution List

*Directions:*

* *LEFT COLUMN: list those who are directly involved with the audit (in hierarchical order). Leave a space and then list those who may have a need to know (in hierarchical order). See below (highlight) for examples.*
* *RIGHT COLUMN: list the Senior Management and individuals that are required on every audit report. Add EVPs/SVPs/OpCo Presidents, as necessary in the indicated space.*
* *REMOVE the highlight and these directions before the draft report is provided to the Audit Sponsor(s) and client(s).*

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