



Longhorn Pipeline System
2022 Annual System Integrity Plan
Self-Audit Report

October 17, 2023

Table of Contents

1.0.	Introduction.....	4
1.1.	<i>Pipeline Background</i>	4
1.2.	<i>Pipeline History.....</i>	5
1.3.	<i>System Integrity Plan</i>	6
2.0.	Self-Audit Methodology.....	7
3.0.	Significant Developments for 2022.....	8
4.0.	Summary of Findings.....	9
4.1.	<i>Synopsis of Integrity Issues.....</i>	9
4.2.	<i>Improved IMP Elements and Activities.....</i>	10
4.2.1.	<i>Training.....</i>	10
4.2.2.	<i>Public Awareness Activity.....</i>	10
4.2.3.	<i>Safety Management.....</i>	11
4.2.4.	<i>Incident Management and Near Misses</i>	11
5.0.	Process Element Findings	12
5.1.	<i>PE1: Magellan Commitment</i>	12
5.2.	<i>PE2: Training.....</i>	12
5.3.	<i>PE3: Contractor Management</i>	13
5.4.	<i>PE4: Project Management.....</i>	14
5.5.	<i>PE5: Safety Management.....</i>	14
5.6.	<i>PE6: Environmental Protection.....</i>	15
5.7.	<i>PE7: Asset Integrity</i>	16
5.8.	<i>PE8: Security.....</i>	19
5.9.	<i>PE9: Operations</i>	20
5.10.	<i>PE10: Community Relations.....</i>	21
5.11.	<i>PE11: Change Management</i>	23
5.12.	<i>PE12: Emergency Response and Preparedness</i>	24
5.13.	<i>PE13: Incident Management</i>	25
5.14.	<i>PE14: Compliance Management.....</i>	25
5.15.	<i>PE15: Commercial Operations</i>	26
6.0.	Considerations.....	27
6.1.	<i>Incident Investigations.....</i>	27
6.2.	<i>Program and Compliance Management.....</i>	27
7.0.	Conclusion.....	28
Appendix A	Acronyms.....	29
Appendix B	List of Key Documents and Interviews.....	31
B.1.	<i>Self-Audit Documents.....</i>	31
B.2.	<i>Personnel Interviews</i>	33

Appendix C Auditor Statements of Qualifications 35

- C.1. *William C. Bannister – Regulatory Compliance Practice Director 35*
- C.2. *Chris Bullock – Senior Integrity Management Consultant / Senior Regulatory Compliance Consultant 36*
- C.3. *Jomary Franqui – Senior Integrity Management Consultant 37*

Table of Figures

- Figure 1: Longhorn Pipeline System Operational Network4
- Figure 2: DayOne Logo..... 11

Table of Tables

- Table 1: History of the Longhorn Pipeline System5
- Table 2: 2022 Incident Investigations and Accidents 10
- Table 3: 2018–2022 Product Release Data 16
- Table 4: Historical Tool Use and Completed Repairs 17
- Table 5: 2022 Digs by Line Segment..... 17
- Table 6: 2022 FRA Inspection Recommendations 19
- Table 7: Completed Compliance Management System Tasks20
- Table 8: Historical Incorrect Operations / Near Miss Breakdown.....21
- Table 9: Summary of Brochure Mailers22
- Table 10: 2022 MOCR Status.....23
- Table 11: Incident Classifications25
- Table 12: Historical Incident Investigation Breakdown.....25

1.0. Introduction

This *Annual System Integrity Plan Self-Audit Report* documents the 2022 annual self-audit of the Magellan Midstream Partners, L.P. (Magellan) Longhorn Pipeline System (LPS) System Integrity Plan (SIP). As detailed in Section 1.3, the SIP specifies various requirements and protocols incumbent upon Magellan in the management and operation of the LPS.

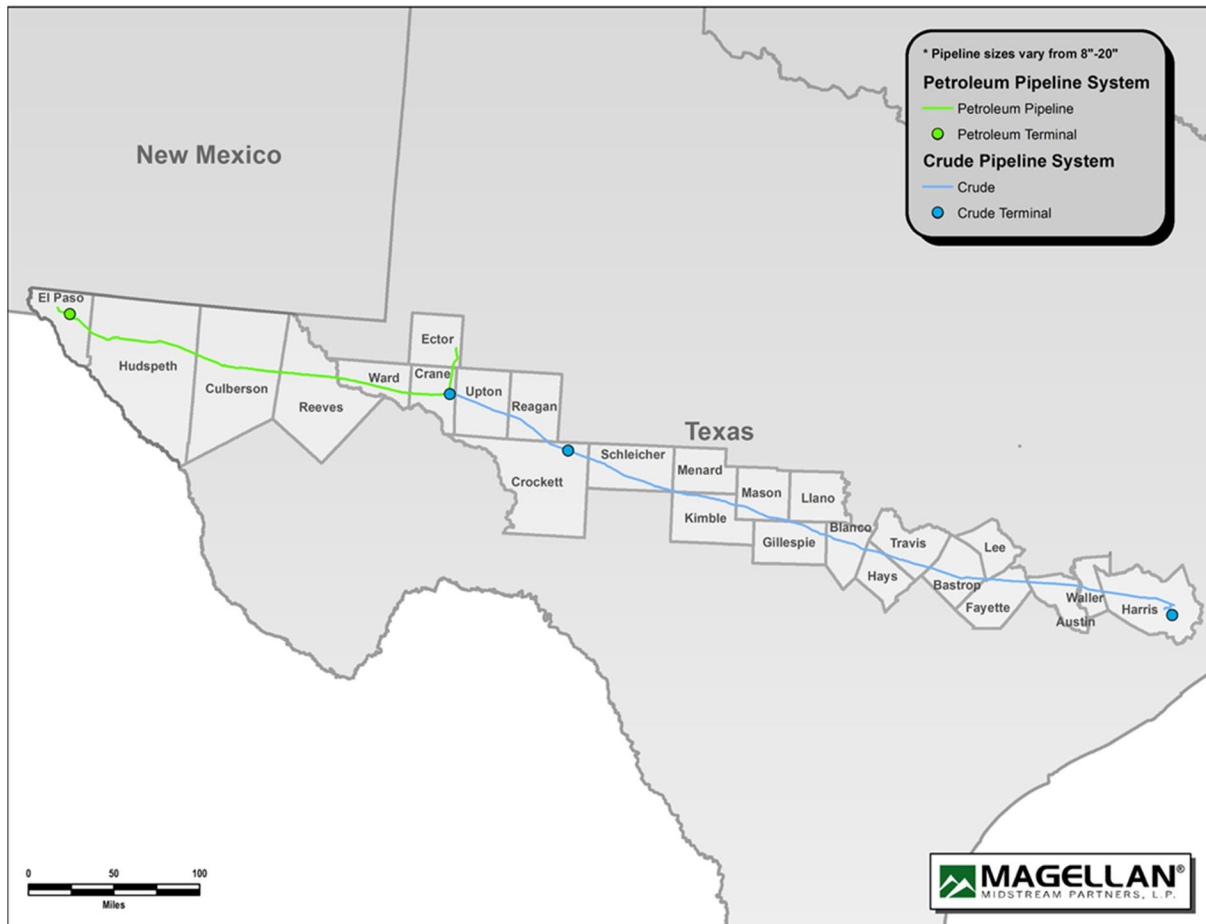
Appendix A provides a list of the primary acronyms used in this report.

1.1. Pipeline Background

The process that ultimately resulted in the operation of the current LPS began in the mid-1990s, when Longhorn Partners Pipeline, LP acquired the original, idled pipeline. Following several investigations and activities, the LPS was first returned to service in January 2005. Magellan took over operations in 2005 and ownership of the LPS in August 2009. Refer to Section 1.2 for additional details.

Originally, the LPS transported refined products westward across almost the entire breadth of Texas, from East Houston/Pasadena (in Harris County) to El Paso. Currently, refined products continue to flow westward from Odessa (in Ector County), first travelling south through Crane and then on to El Paso. The remainder of the LPS had its flow reversed (eastward, from Crane to Pasadena) and was converted to West Texas Intermediate crude oil service. Figure 1 shows the overall current product service for the LPS.

Figure 1: Longhorn Pipeline System Operational Network



1.2. Pipeline History

Table 1 summarizes the history of the LPS.

Table 1: History of the Longhorn Pipeline System

Year	Events
1949–1995	Exxon constructed the original, predecessor 18"/20" pipeline to transport crude oil from Crane, Texas to Baytown, Texas and operated and maintained it until the pipeline was idled and purged with nitrogen.
October 21, 1997	Longhorn Partners Pipeline, LP acquired the existing (idled) pipeline from Exxon, with the intent to place it back into service.
April 1998	National Environmental Policy Act (NEPA) lawsuit filed in federal court, Austin, Texas.
1998–1999	Cleaning and refurbishment of the existing pipeline. Construction of new pump stations (Galena Park, Satsuma, Cedar Valley, Kimble County, Crane, and El Paso). Construction of El Paso Terminal. Construction of pipeline extensions: <ul style="list-style-type: none"> • 18" Crane to El Paso • 8" Crane to Odessa • 20" GATX to Tie-In • 8" and 12" pipelines from El Paso Terminal to tie-ins with other systems
March 1999	NEPA Settlement Agreement requires an environmental assessment, which ultimately leads to issuance of the <i>Longhorn Mitigation Plan</i> .
November 2000	Finding of No Significant Impact issued and <i>Longhorn Mitigation Plan</i> published.
2001–2004	Pre-start-up Mitigation Commitment activities performed.
January 27, 2005	Official start-up date for the LPS.
August 2006	Flying J acquires Longhorn Partners Pipeline, LP.
August 27, 2009	Magellan purchases the LPS from Flying J.
March 2013	Flow direction of eastern two-thirds of LPS reversed, with product service in that portion of the line changed to crude oil (flows from Crane, Texas to East Houston).

1.3. System Integrity Plan

The Longhorn Partners Pipeline, LP's 1997 project to return the LPS to service was opposed by various groups, resulting in a lawsuit and eventual settlement in March 1999. Longhorn Partners Pipeline, LP agreed to implement the *Longhorn Mitigation Plan* as part of the original NEPA Settlement Agreement. Following two early revisions, the *Longhorn Mitigation Plan* includes 40 Mitigation Commitment tasks that address various integrity concerns on the LPS, both before and after start-up. The *Longhorn Mitigation Plan* also committed Longhorn Partners Pipeline, LP to implement an SIP, which is now Magellan's responsibility. Magellan's SIP includes three main elements:

1. Management Commitment tasks (14 total), addressing various elements of the integrity management program (IMP) for the pipeline system, including a commitment to conduct an annual self-audit of the Magellan SIP for the LPS
2. Magellan SIP process elements (15 total), addressing various operational management processes for the LPS
3. An Operational Reliability Assessment (ORA), providing an independent technical analysis of various integrity threats on the pipeline system

The Management Commitment tasks (except for IMP elements as noted below) and the ORA reports are addressed in separate reporting processes and are not included as part of this SIP self-audit. However, certain aspects of these (such as ORA feedback, as discussed in Section 5.7) are intertwined with the overall management of the SIP.

Magellan's SIP is designed to be consistent with the company's comprehensive Pipeline Safety Management System. The SIP was first issued in 2004 and has been updated on several occasions since then.

- The IMP elements included in the original 14 Management Commitment tasks—as well as the original 12 LPS SIP elements—have been consolidated in the 15 process elements in the Magellan SIP.
- The Magellan SIP contains a requirement for a formal annual review, validation, and updates, which also ensures compliance with current regulatory requirements. Process performance measurement, assessment, and continual improvement objectives are incorporated within the SIP.
- In 2015, the American Petroleum Institute (API) published API Recommended Practice 1173, *Pipeline Safety Management Systems* (API 1173). API 1173 provides operators with a framework to 1) identify and manage risk, 2) promote a learning environment, and 3) continually improve pipeline safety and integrity. Magellan's SIP is aligned with the objectives of API 1173 and Magellan has formally joined other pipeline operators in committing to implementation of API 1173.

In this report, the 15 LPS SIP process elements are referred to sequentially as PE1 through PE15. Section 5.0 presents the findings for these 15 process elements. Section 6.0 outlines the considerations resulting from this year's self-audit.

2.0. Self-Audit Methodology

Magellan's self-audit methodology is based on contracting a team of qualified outside consultants (herein referred to as the "auditors" or the "audit team") to conduct a review of the *Longhorn Mitigation Plan*, the SIP, and various associated documents and to interview relevant Magellan personnel. From this information, the auditors gain an understanding of the self-audit requirements and how Magellan has performed in relationship to those requirements—and all applicable regulatory requirements—during the audited year.

- Documents reviewed include policies and procedures; work activity reports; agreements with third parties; performance-tracking metrics; and other relevant compliance documents.
- Interviews included personnel from Magellan facilities in El Paso, Crane, Austin, and Tulsa, and included personnel from both field operations and the corporate office.
- Appendix B provides a list of the documents reviewed and the personnel interviewed for this year's audit.

The 2022 self-audit team was composed of three representatives from Integrity Solutions[®] Ltd, all of whom are skilled integrity management and regulatory compliance auditors with over 60 years of combined experience in the industry. Their statements of qualifications are presented in Appendix C. Using their best professional judgment and experience, the auditors developed the opinions and findings that are documented in this report.

Prior to finalizing this report, the auditors reviewed all interim findings with Magellan to ensure that the information documented herein is factually correct and considers all appropriate information; however, the findings and conclusions stated in this report are the independent work of the audit team based on requirements defined in the *Longhorn Mitigation Plan* and the Magellan SIP, as well as on the applicable pipeline safety regulations of the Texas Railroad Commission and the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA).

3.0. Significant Developments for 2022

During 2022, Magellan continued to implement system integrity activities as required by PHMSA pipeline safety regulations, the *Longhorn Mitigation Plan*, and the SIP. Due to the maturity of Magellan's programs, no significant system developments occurred on the LPS in 2022.

4.0. Summary of Findings

As described in Section 1.3, the *Longhorn Mitigation Plan* requires an annual self-audit of Magellan's LPS SIP. The *Longhorn Mitigation Plan* specifically requires that the self-audit address five core areas of system integrity, and their 15 supporting process elements, of Magellan's SIP.

4.1. Synopsis of Integrity Issues

The 2022 audit, conducted in May and June 2023, reviewed the activities and programs used to manage risk. These activities and programs are mature, functioning as designed, and are well understood by employees. The activities and programs used to manage risk on the LPS are addressed individually in Section 5.0.

In 2014, two minor, non-PHMSA-reportable release incidents occurred resulting from faulty valve stem coating applied during the manufacturing process. As a result, Magellan initiated a replacement program for all similar valve stems. Replacements are evaluated based on the following criteria:

1. Risk prioritization of a potential leak
2. Valve locations in relation to high consequence areas (HCAs)
3. Potential severity of valve stem leak

Magellan did not replace any valve stems in 2022. Until all the defective valve stems have been replaced, LPS personnel have placed a secondary containment system around each seeping valve stem and continue to inspect and monitor the remaining valves.

Magellan issued three company-wide Safety Alert bulletins and two lessons learned bulletins in 2022. The Safety Alert bulletins discussed suspicious photographers outside of Magellan facilities and two maintenance events—one that could have resulted in a significant leak and one lockout/tagout (LOTO) event that could have resulted in electrocution. The lessons learned were related to pipeline operations on non-LPS assets.

LPS personnel conducted three investigation events during 2022. All three incidents resulted from landowners reporting either a gas smell or ROW activity. These investigations included the following:

- A person living near the pipeline right-of-way (ROW) called due to construction activity near the pipeline. Magellan shut down the LPS, Operations investigated and determined that the activity was 300 ft away from the pipeline, and Magellan approved restart of the line.
- A homeowner called and indicated that she could smell gas in her home and was concerned because of recent pipeline repairs behind her home. Operations responded and determined that the gas smell originated from CenterPoint Energy line repairs a few blocks away.
- A homeowner reported smelling gas in her home and indicated she had no natural gas services at her residence. Local Operations personnel responded and determined that it was natural gas and not from any Magellan asset.

Table 2 summarizes the incident investigation classifications.

Table 2: 2022 Incident Investigations and Accidents

Cause	Classification					
	PHMSA Reportable	Hazardous Near Misses	Human Error	Equipment Failure	One-Call Violations	ROW Near Misses
Employee	0	2	0	0	0	0
Suspected Leaks	0	0	0	0	0	
Equipment Failure	0	0	0	0	0	0

4.2. Improved IMP Elements and Activities

4.2.1. Training

In years past, individual training plans (ITPs) were created for personnel and tracked in an Excel spreadsheet. During 2022, Magellan decided to track ITPs within their learning management system (LMS). Assigning and monitoring new employee ITP progress within the LMS provides a platform to ensure consistent assignments, monitor training progress, and provide better transparency for the training program. Operations supervisory personnel were impressed by the new system and look forward to utilizing it.

Additionally, a new Electrical Qualified Individual training program is being developed and should be implemented sometime in 2023.

4.2.2. Public Awareness Activity

Since third-party damage remains one of the biggest threats, Magellan's Public Awareness Group, along with the LPS ROW Group, continues to work to improve public awareness related to digging in LPS ROWs. The focused message is an effort to improve response time of local emergency response agencies (fire, police, etc.), along with LPS employee response time. The public awareness program focuses on the following public awareness elements:

- Annual mailings
- Emergency response/excavator meetings
- Door-to-door visits
- Face-to-face visits
- Emergency and public official email programs
- Public events and service announcements
- Industry alliances

During the 2022 self-audit, personnel discussed how Covid had reduced the effectiveness of the current school program. Magellan's public awareness program administrators researched options and developed a new alliance with The Smalley Foundation to further public awareness initiatives and increase public safety.

The Smalley Foundation focuses on community outreach, youth and school programs, and first responders. Its Texas School Safety Chapter offers resources such as pipeline safety toolkits, educational videos, workshops, and eLearning to—as described on the Smalley Foundation website—"transform attitudes and influence behaviors about pipeline safety through

learning methods delivered by today’s educators for continued/ongoing education and emergency preparedness.” Section 5.10 provides additional public awareness activity details.

4.2.3. Safety Management

To ensure that safety remains a top priority, Magellan created the DayOne program to promote starting each day thinking about the actions and choices personnel make and how those choices contribute to employees returning home safely. Designed as a life preserver, the “O” in the DayOne logo reflects how all personnel must work together, it is reflective of the company’s overall One Magellan safety program, and it should remind employees of the important role they each play in being safe at work and at home. Figure 2 shows the DayOne logo and the existing Magellan programs that dovetail into the new safety program.

Figure 2: DayOne Logo



4.2.4. Incident Management and Near Misses

As part of the 2020 self-audit recommendations, a refocus on the importance of near-miss reporting was suggested. In 2022, Magellan began the search for a new incident management system and in 2023 Magellan began testing a new third-party software called Enablon to replace an internal compliance management system. Enablon is an incident management system that tracks incidents as well as near misses. The new platform provides a centralized location and allows for incident action item assignments and tracking. Odessa was chosen as a pilot location for running Enablon on the LHP.

The general feedback received by the audit team during the 2023 field audits was positive and field personnel indicated that Enablon simplified managing incident investigations and helped ensure that action items were assigned and tracked to completion. The pilot program has been completed and a final decision on the program’s use will be made in the future.

5.0. Process Element Findings

The 15 process elements described in the *Longhorn Mitigation Plan* are addressed in the following subsections.

5.1. PE1: Magellan Commitment

The *Longhorn Mitigation Plan* defines the integrity assurance focus areas and specific commitments planned for the year. Progress against these commitments is monitored on a regular basis. The SIP Council (the "Council") is the approval body for significant planned improvements to the LPS, including the *Longhorn Mitigation Plan* commitments. The Council meets twice per year to review progress against the planned improvements.

The SIP is the foundation for Magellan's comprehensive Pipeline Safety Management System, which applies to all personnel and assets. The SIP was developed to build a pipeline culture that strives for continuous pipeline safety and integrity improvement. The SIP aligns with API 1173 and contains 15 process elements designed to support the Council's mission for the SIP. The LPS has Element Owners for each of the 15 SIP process elements who are responsible for monitoring performance against the element requirements and suggesting improvements to the requirements when needed.

Each year, the Council develops specific safety, environmental, and operational performance goals. These goals and objectives are documented in quarterly Operational Performance Reports. Magellan's commitment stems from the development of the goals, continuous improvement, a structured program governance, and thorough evaluation of program key performance indicators (KPIs) to determine SIP effectiveness. These goals include specific operational, environmental, and safety targets (e.g., pipeline volumes, operations and maintenance [O&M] task completions, abnormal operating conditions [AOCs], spill volumes, U.S. Occupational Safety and Health Administration [OSHA]-recordable injury rates, etc.). Performance against these targets is measured and documented.

During the interviews, management commitment was cited numerous times through the continued support of monthly safety engagement meetings (SEMs), financial support to ensure assets are maintained, and the empowerment provided to Magellan employees. In addition, many of the best practices utilized across the LPS are adopted across non-LPS assets, providing proof that practices are deeply embedded and supported by management.

5.2. PE2: Training

A comprehensive training matrix exists for all field/operational safety-critical positions in the company. The matrix includes safety-critical roles and the training requirements for each of those positions. Individual training plans (ITPs) for all LPS field personnel are managed in Magellan's Learning Management System (LMS). Completion of all training requirements is managed by the individual's supervisor.

In addition to personal ITPs, LPS employees are required to train and qualify on covered tasks according to Magellan's operator qualification (OQ) program. If covered tasks are performed incorrectly, the safety or integrity of the pipeline can be compromised. Prior to qualifying for a covered task, employees need to be trained on the task, trained on the local operating procedure, need to be able to react and respond appropriately to AOCs, pass a written exam and/or, practical evaluation that demonstrate the necessary skills and abilities to perform the work unsupervised. Covered tasks are assigned to LPS personnel based on position and operational need. Individual OQ task assignments are reviewed annually, and employee qualification records are documented and managed within ISNetwork.

New-hire Operations employees are required to attend Magellan's New Employee Orientation (NEO). NEO is a comprehensive 3-week program that occurs in the first 3 weeks for any brand-new field employee. The first week is in Tulsa, the second week is in the field for site-specific orientation, and the third week is in Tulsa. New LPS employees are assigned a senior mentor to provide information specific to the *Longhorn Mitigation Plan*. The key stakeholders responsible for sections of the *Longhorn Mitigation Plan* are included in the NEO. The stakeholders interact and provide presentations and information relevant to the implementation of the program to NEO attendees. In addition to the NEO program, control center personnel train for an additional six months alongside a qualified Controller to ensure that they are able to operate under normal, abnormal, and emergency conditions.

While a majority of the LPS operational areas are staffed with experienced employees who are familiar with the LPS and the *Longhorn Mitigation Plan*, the operating areas located throughout the numerous shale plays continue to experience more turnover. In 2022, seven new employees were hired for these segments of the LPS. During the 2023 audit team interviews, supervisory personnel acknowledged the challenge of employee turnover and understood that increased efforts were needed to ensure that these new employees are familiar with and fully understand the roles and responsibilities associated with satisfying the requirements of the *Longhorn Mitigation Plan*. Management indicated that senior mentors are specifically chosen to ensure proper knowledge-sharing with the new hires.

5.3. PE3: Contractor Management

Magellan uses contractors to execute many of the LPS work activities, including inspection services, ROW management, valve repairs, line locating, environmental assessments, and detailed engineering. All contractors are hired through Magellan's Contracting Group. Several factors are considered when selecting contractors, such as safety performance, operational experience, price, and work history. If safety performance concerns (experience modification rate [EMR], total recordable incident rate [TRIR], etc.) are too high or the contractor had a fatality, then either that contractor is not used or additional safety mitigation plans will be implemented.

All contractors are required to submit their drug and alcohol, safety programs, OSHA ratings (total incidence rate [TIR], incident rate [IR], EMR, etc.) and employee covered task qualifications through ISNetworld. ISNetworld's single location for these records allows for a comprehensive evaluation of the contractor's safety programs and the OQ records for individual contractor employees. All LPS Project Managers, Area Supervisors, and personnel that utilize contractors to perform covered tasks are required to verify covered task qualifications prior to the performance of each task.

Each operation area is required to perform a minimum of 6 contractor safety audits per year. Auditor interviews with LPS personnel confirmed that contractor qualifications for covered tasks are verified prior to the performance of each task and that the KPIs for contractor audits and jobsite inspections were exceeded during 2022. The audit and jobsite inspections, while designed to be behavioral based, allow LPS management personnel an opportunity to stay in touch with the activities across their assets as well as letting contractors know the expectations.

5.4. PE4: Project Management

Magellan utilizes contractors for all major construction or significant repair work on the LPS. Smaller projects may be managed by LPS regional staff; however, major projects are managed by Magellan's Technical Services Group, generally from Tulsa, Oklahoma. During 2022, Magellan completed a number of construction-related activities, including administering drag-reducing agents, installing pressure transmitters, replacing a mainline pump, and conducting numerous API 653 external inspections. However, there was no major construction work executed in 2022.

Standard engineering design packages are used for most pipeline modifications or additions on the LPS. Where standard designs are not available, designs based on industry practices and standards are used. If changes are made to any project-related standard, a Project Change Document is developed and approved before executing the work activity. Similarly, when project execution parameters change (cost, schedule, etc.) a formal Project Change Document is used to document the review and approval of the change. As part of the MOC process, LPS Regional Operations is able to review design packages and provide input for potential design changes to accommodate operational needs or safety.

Prior to utilizing any change in the field, a pre-start-up safety review (PSSR) is conducted. LPS personnel discussed the importance of the PSSR process when changes occur in the field. Interviewees indicated the PSSR was the last chance to get items corrected before putting something into operation. Actions from the PSSRs are captured and tracked to completion within the Operations organization. Operational leaders interviewed stated that, although no major projects were performed in 2022, this process continues to be sound and the cooperation across groups has improved significantly over the past few years.

5.5. PE5: Safety Management

LPS regional operations groups have designated safety committees responsible for hosting monthly safety meetings. The monthly SEMs are developed by Magellan's Environmental, Health, Safety and Security (EHS&S) Group and led by Operations personnel. The SEMs provide greater ownership of meeting content and allows local safety issues and concerns to be discussed. Based on interviews, the monthly SEMs remained a welcomed change vs previous SIP meetings. Operations personnel have fully embraced the last-minute risk assessment (LMRA) program that was implemented in 2021, and all Operations personnel interviewed believe the LMRA program increases employee participation and knowledge sharing across operational areas. Personnel indicated that the sharing of videos has increased safety awareness and the excitement of knowledge sharing.

LPS operational areas have authorization to work (ATW) processes in place for handling confined space entry, excavation safety, hot work, LOTO, and working at heights. Safe work practices are established using a combination of job hazard analysis (JHA) and daily ATW permits. JHAs define the work steps to be completed, the hazards associated with each work step, and the mitigative measures put in place to address the hazards.

Operations groups work with the contractors to ensure that site-specific safety concerns are communicated and that the contractor has an approved safety plan for the project. Local Operations personnel work with contractors to define accurate job scopes and the applicable job safety analysis (JSA) for each project and ensure buy-in on the mitigative steps needed.

Facility safety reviews (FSRs) are conducted annually at all staffed locations by local operational leadership and at least biannually at unstaffed locations. FSRs are designed to ensure that each facility's security, tools and equipment, safety systems, and materials storage protocols meet minimum inspection requirements. Any issues identified during these assessments are captured in CMS and work orders are created to track and close action items. From the FSRs conducted in 2022, no major findings were noted. The following is a list of common items that required attention:

- Missing and faded signage
- HAZMAT placard replacement
- Receptacle covers needed
- Windsock replacement

Employees feel empowered to safely manage, inspect/audit, or stop any work across the LPS. The goal and desired achievement of zero accidents or releases was repeatedly stated across all levels of the organization. The strong safety culture around the LPS is evident in the employee knowledge and execution of safe work processes and in management expectations. Culturally embedded safety concepts were evident during discussions regarding procedures, training, permitting, covered task performance, and jobsite management. Every employee interviewed indicated being comfortable with stopping any job over a safety concern, which provides evidence of a strong safety culture and management support.

5.6. PE6: Environmental Protection

Environmental expectations are clearly defined within SIP procedures. The SIP covers all environmental requirements for water, air, ground, and waste management according to federal and state regulations. In addition, certain designated areas along the LPS have special requirements exceeding regulatory requirements, especially around the Edwards Aquifer. Every employee interviewed demonstrated knowledge of site-specific requirements and each of the special considerations required by the *Longhorn Mitigation Plan*.

Operations groups are supported by corporate environmental subject-matter experts (SMEs). These SMEs help LPS asset owners remain compliant with regulations by conducting compliance reviews, training Operations and applicable Technical Services personnel on job-specific environmental requirements, and ensuring that all environmental compliance management system (CMS) tasks are completed in a timely manner.

Environmental compliance tasks are managed through the company's CMS. Compliance management reminders are sent to the responsible parties 30 days and 5 days ahead of the due dates. In general, compliance tasks are executed on time and in a comprehensive manner. To reduce possible future environmental impacts, Magellan continued or improved several safety practices and measures for 2022:

- Magellan receives numerous suspected release reports that are ultimately attributed to other pipeline operators or residential natural gas leaks. Despite the high number of false-positive reports, the LPS immediately shuts down operations upon receipt of such notice and Magellan dispatches personnel to ensure safety and to determine Magellan's responsibility.
- The LPS utilizes Pipeline Manager (PLM) advanced leak detection solution, monitored by the control center. PLM polls every 3 seconds to evaluate and compare volumes across short timeframes (i.e., 5, 10, and 30 minutes) and for slower leaks across longer timeframes (i.e., 6, 12 and 24 hours).
- PLM alarms and system performance indicators are evaluated monthly and compared to industry accepted KPIs.
- As a result of PHMSA's October 2022 regulations on rupture mitigation, procedures have been amended and created on the identification and notification of pipeline

ruptures. All control center personnel were trained on the new rupture detection and notification procedures.

- Magellan began encountering reliability issues with the existing leak detection cable used within the Edward’s Aquifer area. Numerous sections have been replaced, but Magellan is looking at other options and technologies that may offer better reliability with its leak detection cable requirement.

Magellan continually strives for zero environmental impacts. In 2022, the LPS had zero PHMSA-reportable releases. One minor release at the El Paso facility allowed a few gallons (0.10 bbl) of product into secondary containment, resulting from a nipple cracking due to excessive vibration. This total spill volume represents a minute amount when compared to the estimated 100 million plus barrels of product handled across the LPS during 2022, reflecting an excellent record.

Table 3 outlines LPS release volumes since 2018. The data provides evidence of LPS employee efforts to achieve zero releases.

Table 3: 2018–2022 Product Release Data

Year	No. of Releases	PHMSA Reportable Incidents	Volume (bbl)
2018	7	2	283
2019	1	0	0.07
2020	2	0	0.47
2021	1	0	0.50
2022	1	0	0.10

5.7. PE7: Asset Integrity

Magellan considers asset integrity to be a cornerstone of the overall risk program and IMP. Asset integrity issues are being managed by a variety of groups within LPS Operations and Magellan as a whole, with primary responsibility falling to the Pipeline Integrity Group and the Facility Integrity Group. The pipeline IMP meets the regulatory requirements. Non-pipe assets such as storage tanks and facility piping and equipment are included in the facility integrity management program (FIMP), which is a subsection of Magellan’s overall IMP. Magellan has an annual process to identify and evaluate new threats to the pipeline and associated facilities.

Magellan maintains pipeline data used in threat evaluation. This data is distributed across several groups within Magellan. Many attribute enhancements associated with the pipeline data are consolidated into the Magellan ArcGIS Portal System (MAPS), which is based on the overall company ArcGIS platform. Operations continues to utilize MAPS data during investigative events, Code Red events (as described in Section 5.12), and drills. Additional data layers and datasets continue to be identified for future inclusion in the system.

Magellan frequently utilizes "smart" in-line inspection (ILI) tools per the *Longhorn Mitigation Plan*, as well as per federal and state pipeline integrity regulations. Parts of the LPS were constructed with electric-fusion-welded (EFW) pipe, which Magellan recognizes could have potential manufacturing threats. Magellan is using its own company data, as well as industry data, to identify any trends for threats to the LPS, especially EFW pipe locations. In addition to utilizing tools capable of detecting threats to the longitudinal seam, mitigation item 9(b)(iv) requires periodic use of Hardspot Tools on a frequency established by the ORA. No Hardspot Tools were

required or used in 2022. As part of the mitigation commitment, Magellan also has to run deformation (DEF) integrity assessment tools every 3 years. There were three magnetic flux leakage (MFL) / DEF combination tools run in 2022 and one DEF-only tool. It is important to note that no pressure reductions were implemented in 2022. There were also no third-party-damage (TPD) repairs needed based on these assessments.

Table 4 summarizes ILI tool use from 2013 through 2022 and Table 5 provides the list of digs completed in 2022 by line segment name and ILI year.

Table 4: Historical Tool Use and Completed Repairs

Event	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Smart ILI Tool Runs ⁽¹⁾	3 (MFL and DEF), 1 DEF only	3 (MFL and DEF)	17 (UCD & MFL for 8 segments; 1 MFL-only segment)	6 (UCD & MFL)	12	7	2 (SMFL & MFL)	14 (TFI)	4 (SMFL & MFL)	13
Digs	38	196	249	31	19	0	0	0	0	0

1. Tool runs completed prior to 2018 had associated repairs that were completed prior to 2018

Table 5: 2022 Digs by Line Segment

Line Segment	ILI Tool	ILI Year	2022 Digs
18" Kimble County - James River	MFL/DEF	2020	2
8" Crane - Odessa	MFL/DEF	2021	1
18" Warda - Buckhorn	DEF	2022	0
18" Cottonwood - El Paso	MFL/DEF	2022	0
8" El Paso - Chevron	MFL/DEF	2022	0
8" Kinder Morgan Flush Line	MFL/DEF	2022	0
18" Texon - Barnhart	DEF/MFL/UCD	2020	26
18" Barnhart - Cartman	DEF/MFL/UCD	2020	3
18" Cartman - Kimble County	DEF/MFL/UCD	2020	2
18" Kimble County - James River	DEF/MFL/UCD	2020	4

Magellan completed four ILI assessments in 2022. No related repairs were completed in 2022; however, several digs (with repairs as needed) are scheduled for 2023. During the SME interviews, Magellan stated that all crack or crack-like anomalies are evaluated per the SIP. All crack and crack-like anomalies identified for field investigation are repaired with Type B sleeves, which is an approved repair type for such anomalies. This was also confirmed during the audit team's review of dig reports.

In addition to ILI assessments, Magellan performs hydrotests on certain lines. In 2022, one hydrotest was performed on the LPS with zero failures.

The *Longhorn 2012 Environmental Assessment* requires Magellan to conduct nondestructive or destructive strength tests for 50% of all annual pipe excavations associated with ILI anomaly evaluations or remediation where material documentation does not exist. In 2022, 37 of the 38 excavations were associated with ILI anomaly evaluations and where material documentation does not exist. Nondestructive positive material identification was completed on 19 of the

excavated locations, meeting the criteria for material testing per the material documentation requirement.

The *Longhorn Mitigation Plan* risk management commitment is to maintain pipeline-related failure rates at or below a probability level of 1 in 10,000 (0.0001) per mile year. The scenario-based risk-mitigation analysis (SBRMA) for the 2022 operating year was performed in 2023 and identified no areas along the pipeline exceeding the failure rate commitment.

The LPS had five water crossings surveyed in 2022. The results of these surveys indicated no mitigation needed. The water crossings surveyed included Cypress Creek, Live Oak Creek, Buffalo Creek, Main Line Canal, and an unnamed creek.

In 2020, Magellan implemented a new FIMP element of its Asset Integrity Plan. The FIMP requires completion of a detailed Facility Risk Assessment (FRA), which provides a risk analysis and reinspection interval recommendation based on an assessment of data from the various FIMP elements in place to protect the integrity of the facility. The FRAs are prioritized on a risk-based schedule. During 2022, Magellan completed 10 FRAs for the LPS. The FRAs were completed on LH MP148-194 valve sites.

Each completed FRA includes a detailed spreadsheet with the following elements:

- FRA score (total, risk probability assessment, and facility vulnerability assessment [FVA])
- Risk consequence assessment
- Risk likelihood assessment
- Field questionnaire
- FIMP questionnaire
- Threat analysis
- Compliance history
- Release history
- Abnormal operations history
- Incident history
- Management of change request (MOCR) history
- Action items

As a result of the FRA completed in 2022, it was recommended to conduct a limited scope FRA within 5 years of the last assessment.

The implementation of the FIMP FRA process to all LPS pipeline facilities exceeds the requirements of the *Longhorn Mitigation Plan* and applicable regulations. The FRAs are performed irrespective of HCA or risk tier for the pipeline and associated facility systems.

The ORA provides Magellan with an annual technical assessment of the actual effectiveness of the overall LPS SIP. The ORA provides feedback on the adequacy, frequency, and additional element criteria of the evaluation plan, which includes use of internal inspection devices, hydrotests, and other mechanical integrity assessment and confirming processes and technologies. The ORA results are factored back into the LPS SIP and integrated into the ongoing program. Prior to conducting the self-audit interviews, the 2022 ORA (covering 2021 operations) was provided to Magellan by the PHMSA-approved, independent, third-party ORA contractor, Kiefner and Associates, Inc. Magellan stated that the 2022 ORA report has been submitted to PHMSA.

Magellan continues its FIMP by conducting more rigorous integrity evaluations for its surface facilities and equipment. In 2022, six external API 653 inspections were conducted on storage tanks in El Paso. The tanks all passed the external inspections and required no remediations prior to the next scheduled 5-year inspections.

FRAs focused on leak detection, mechanical integrity, prime equipment, corrosion control, operating pressure programs, fire safety, and reinspection intervals. All findings from the FRAs are captured in a company database and any associated action items are tracked to completion. Results are used for updating and improving the FIMP each year.

In 2022, multiple FRAs were completed on the Eckert to Bastrop line segment. The line segment includes 10 valve sites. Table 6 summarizes the recommendations from the inspection.

Table 6: 2022 FRA Inspection Recommendations

Facility	Recommendation
Eckert to Bastrop line segments (MP 148, 167, 171, 172, 175, 176, 177, 185, 186, and 194)	No critical, time-sensitive, or prescriptive recommendations. The report indicated that the next inspection should occur in 5 years

In 2020 Magellan began research and testing to determine if alternative leak detection technology is available than the leak detection cables currently used. As of the end of 2021, no determination had been made and the research continued. However, in 2022, the leak detection cables began exhibiting a number of failures that required numerous section replacements. Consequently, Magellan's sourcing efforts have increased; however, alternative technologies will not be utilized unless they provide equal or better detection with increased reliability.

Based on the suggestions from the 2020 self-audit, Magellan's corrosion control team installed remote monitoring at 16 critical bond locations. In 2022, remote monitoring units were installed on non-critical bonds, ensuring that every bond on the LPS system has direct and continual access for monitoring all bonds, whether critical or not. The remote monitoring units (RMUs) allow corrosion personnel to know when a bond has malfunctioned or if current readings are outside normal operating parameters.

In 2022, a close-interval survey (CIS) was conducted on the LPS. There is approximately 700 ft of pipeline that does not meet any of the acceptable cathodic protection (CP) criteria. Corrosion personnel indicated that adjustments to CP systems have been made and testing is in progress. One area remains, then a final CP survey will be performed to demonstrate that acceptable levels of CP exist.

Emergency flow-restriction devices (EFRDs) are reviewed and analyzed after every risk analysis. Based on these reviews, Magellan determines whether a new EFRD needs to be installed. In 2022, the LPS did not have any new EFRDs installed.

In summary, Magellan has a very robust asset integrity program. The level of detail in documentation and being proactive in inspections and repairs show that Magellan personnel take safety very seriously and treat it as a high priority.

5.8. PE8: Security

The SIP separates security into three categories—physical pipeline assets, information, and documentation. Asset security is managed through site-specific Site Security Plans (SSPs) or Facility Security Plans (FSPs). SSPs and FSPs are reviewed and updated annually. Information and document security protocols provide the processes and guidelines to protect information technology assets and sensitive security documents from unauthorized access.

Asset security is also maintained by an increased presence on the pipeline ROW during typical O&M activities. During ROW inspections, any unusual or suspicious situation is immediately reported to the control center and then investigated by Operations personnel. Control center

personnel utilize remote cameras at pumping stations to monitor key equipment and ensure site security.

5.9. PE9: Operations

The three primary operational goals expressed by LPS personnel were zero health or safety incidents, zero spills, and zero releases. Operations personnel utilize the procedures contained in Magellan's SIP documents to complete the myriad of O&M tasks required by federal and state regulations and according to the more stringent requirements within the LPS SIP. All the Operations personnel interviewed were aware of their respective O&M tasks, inspection frequencies, and requirements. All LPS operational areas utilize site-specific work plans and the ATW processes for handling working at heights, hot work, confined space entry, and other dangerous work. All employees and contractors sign the ATW before the work begins.

Company-level and site-specific operating procedures are available through Magellan's intranet file sharing site, LiveLink, and are reviewed annually to ensure safety and effectiveness. Procedure effectiveness is evaluated during observed task performance or through OQ practical evaluations. A majority of the daily operational tasks are dedicated to protecting the integrity of the pipeline, including ROW inspections, facility inspections, line locating, excavation monitoring, encroachment monitoring, and basic corrosion control activities. In 2022, 7,992 preventive maintenance (PM) tasks were completed, with a 97.6% on-time completion rate. There were 192 PM tasks that were categorized as "completed overdue" but nearly all of these were completed before the end of the year—two tasks were classified as overdue and were completed in 2023. There were 102 additional work orders created in 2022. Table 7 shows the breakdown of all tasks assigned to operations in 2022.

Table 7: Completed Compliance Management System Tasks

Year	PM Tasks	Work Order Tasks	Action Item Tasks
2021	7,591	175	219
2022	7,992	102	81

One of the largest threats to the integrity of the LPS is third-party damage. Numerous sections of the pipeline run through highly populated areas and locations that are rapidly growing, which increases the number of third-party excavations in and around the pipeline ROW. As part of the mitigation commitment, each geographic region ensures Damage Prevention Operators (DPOs) continuously monitor One-Call tickets and active excavations around the pipeline. In addition, the DPOs not only walk the ROW but work closely with pilots, who fly along the ROW weekly, ensuring encroachments are minimized.

To provide some perspective, the LPS received 7,840 One-Call tickets in 2021 and 7,583 One-Call tickets in 2022, with zero third-party events related to One-Call tickets. In 2022, the LPS incurred some damage from a fencing contractor that did not make a One-Call. The ROW inspection pilot noticed some ground disturbance and activity in the ROW and subsequently notified local DPOs who responded, identified the fencing activity, and advised the contractor to shut the job down pending an investigation. After an initial investigation, Magellan determined that the fencing contractor had hit the LPS. The line was evaluated by qualified personnel and all necessary repairs were made.

Safe operating limits for all systems of the LPS are managed by the Operations Control Center and are available via LiveLink. Operations works in parallel with the Controllers who remotely operate the pipeline from the Tulsa Control Center. If unexplained AOCs occur, the Controllers contact field personnel to investigate the AOC.

Controller workload is evaluated annually to ensure that Controllers have sufficient time to analyze and respond to incoming alarms and that the workload is distributed among consoles. The workload analysis data indicates that Controllers are adequately engaged and not overloaded. As a part of the workload analysis process, the acknowledged alarms for each console are tracked and evaluated. Console 10, which contains the LPS assets, received a daily average of 366 alarms per day during 2022. The daily average for Console 10 over the last 2 years is slightly higher than other Magellan consoles but provides Controllers with sufficient time to analyze and react to incoming alarms.

Monthly operations and safety meetings are held to promote employee engagement, process ownership, and improvement. Results of recent AOC reviews are also covered during these meetings. A combined total of 41 AOCs and hazardous near misses were recorded in 2022. Most of these events occurred during start-up or shutdown of various systems. Each event was investigated to understand the root cause and to develop the necessary corrective actions to prevent the recurrence of similar events. In 2022, two lessons learned were developed and shared during the monthly SEMs (which are discussed more in Section 5.5).

Table 8 provides the number of abnormal operations events that have occurred over the past 9 years. The first hazardous near miss for 2022 resulted during a pigging operation when a vacuum truck driver reversed the flow and subsequently filled up the sump, causing H₂S vapors to expand and set off the alarm. Operations shut down the vacuum truck operation, determined the cause, and vacuumed out the remaining product in the sump, which eliminated the hazardous condition. The system was reset with no further issues. The second hazardous near miss resulted in the creation of a safety alert bulletin related to LOTO.

Table 8: Historical Incorrect Operations / Near Miss Breakdown

Event Type	2022	2021	2020	2019	2018	2017	2016	2015	2014
Abnormal Operations	41	14	18	21	18	12	14	44	75
Hazardous Near Misses	2	1	3	0	0	4	4	9	2

As seen in Table 8, the AOC count has remained relatively flat from 2016 through 2021. The increase from 2021 to 2022 is due to enhanced reporting of AOCs that are categorized as loss of communications, loss of power, and seal failure that were categorized differently in 2021. In 2022, there were 10 AOCs due to a component malfunction, 9 seal-failure AOCs, and 9 AOCs related to loss of communications / loss of power that account for the increase in AOCs from 2021 to 2022.

5.10. PE10: Community Relations

Magellan leverages its LPS Public Awareness and Damage Prevention programs to meet its commitments of promoting cooperation in protecting the pipeline and providing information to potentially affected communities about detection of and responses to well-water contamination. The pipeline information shared in 2022 was sent to the following:

- Affected public residences, general businesses, and schools within 1/2 mile of the pipeline for urban areas and within 2 miles of the pipeline in rural areas
- Excavators and farmers within 10 miles of the pipeline

- Emergency officials and local public officials in each county on the ROW or within 20 miles of the pipeline

Per 49 CFR 195.440, Magellan is required to perform a periodic effectiveness evaluation of its public awareness program. The audit team reviewed the effectiveness report, which affirms Magellan’s commitment to keep the public informed along with keeping the program green by adjusting delivery methods and messages year after year to ensure better contacts and messages to stakeholders.

Magellan participated in an outreach program with scheduled emergency responder and excavator meetings in all 25 counties of the LPS ROW (as shown in Figure 1 in Section 1.1) per its *Longhorn Mitigation Plan Annual Commitment Implementation Status Report*.

Based upon data provided in the 2022 Public Awareness Summary Report, the following highlights are noted:

- 123,796 bilingual brochures were distributed during the annual mailing, with only 471 returned. Table 9 provides a 2-year summary of the sent vs returned mailers.

Table 9: Summary of Brochure Mailers

Year	Number of Mailers Sent	Number of Mailers Returned
2020*	118,180	413
2021*	123,796	471
* 2020 data compiled in 2021 and 2022 data compiled in early 2023.		

- Made face-to-face contact with 132 emergency responders across all counties, providing maps and other information about the LPS in relation to public safety.
- Personal contact with 283 stakeholders along the LPS ROW via email, phone call, or face to face and posted several updates on the Magellan Facebook page.
- Made 21 face-to-face landowner contacts related to pipeline safety and land use.
- The “Safe at Home School Program” for the Houston area received participation from Bang Elementary School, Carroll Academy, Eiland Elementary School, Fonwood Elementary School, Gleason Elementary School, and Nitsch Elementary School—a total of six schools, with 20 kits requested and delivered.
- Magellan emailed the “Pipelines All Around You” presentation and a link to an online survey for parents and students to take together on March 29, 2022. Magellan targeted 115 teachers at 21 elementary schools in the Austin area.
- Continued operation of the Magellan kiosk program to distribute pipeline safety and damage prevention information, providing refills of promotional items for seven legacy stores, and setting up an additional eight kiosks.
- Participated in quarterly local emergency planning committee (LEPC) meetings in Nueces County.
- Attended TX 811 Damage Prevention Excavation Safety event to present the new Virtual Reality Excavator Simulator.
- Provided 5,691 pipeline educational door hangers to stakeholders who back up to the ROW in Tier I and Tier II class locations from Houston to El Paso.
- Maintained liaison by contacting 3,958 public officials and 13,632 additional emergency responders along the ROW via email (92% delivered) promoting pipeline safety, leak recognition, emergency response and pipeline awareness information.

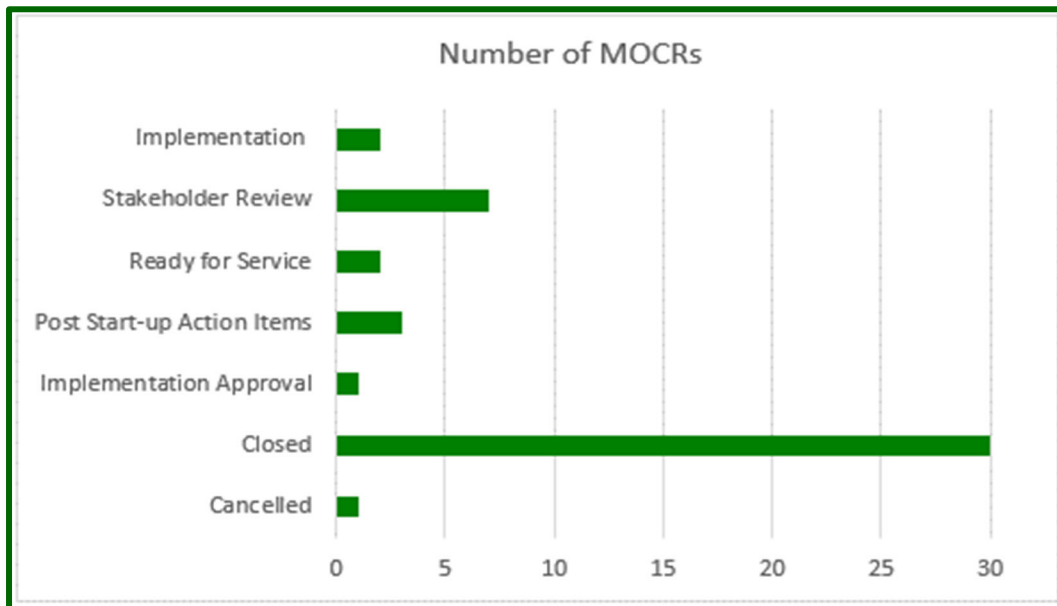
Magellan encourages individuals along the LPS ROW to contact Magellan if they suspect any pipeline leak. Due to the nature of the enhanced Public Awareness and Damage Prevention programs—including an increased mailing area and supplemental programs—Magellan receives a significant number of suspected release reports that are ultimately attributed to other pipeline operators or residential natural gas leaks. Despite the high number of false-positive reports, the LPS immediately shuts down operations upon receipt of such notice and Magellan dispatches personnel to ensure safety and to determine Magellan’s responsibility.

5.11. PE11: Change Management

Magellan utilizes a strong MOCR process, which includes an electronic tool (Velocity EHS) for developing and routing standard MOCR forms. The electronic tool allows for stakeholder assignment and approval. MOCRs are written for all changes to non-SIP operating procedures and equipment/facilities modifications. Emergency MOCRs utilize the same review and approval process as standard MOCRs. Emergency MOCRs are expedited by utilizing direct communication.

A total of 46 MOCRs were issued for the LPS in 2022 and none were identified as emergency MOCRs. Of the 46, 15 MOCRs were identified as impacting the *Longhorn Mitigation Plan*, six of which do not list an actual closure or cancel date and are considered to still be open. The audit team reviewed detailed reports for all 15 MOCRs identified as impacting the *Longhorn Mitigation Plan* and determined that they demonstrate the appropriate level of review by the impacted personnel and/or departments. Table 10 illustrates the current status for the 46 MOCRs along the LPS.

Table 10: 2022 MOCR Status



5.12. PE12: Emergency Response and Preparedness

The Emergency Response Plan (ERP) utilized across the LPS contains the necessary plans and procedures to support the unique, site-specific conditions along the length of the system. Magellan designated 120 different tactical sites along the LPS to ensure that adequate procedures, personnel, and equipment are available to respond in the event of a release. Since the Austin area contains the Edwards Aquifer, an oil spill response organization (OSRO) is located there. Personnel from the Austin OSRO are also embedded inside of local LPS operations to help with damage prevention and ROW inspection tasks. For example, OSRO-qualified personnel perform the required weekly foot patrol ROW inspections.

LPS employees have received the initial 24-hour OSHA Hazardous Waste and Emergency Response Standard (HAZWOPER) training, followed by annual refresher training. All qualified individuals (QIs) are required to take the Federal Emergency Management Agency (FEMA) ICS 100 and ICS 200 courses for an introduction to the ICS systems and the basic fundamentals of emergency management. Annual ERP training is mandatory for all Operations employees, along with required training program evaluations and emergency response effectiveness reviews.

Site-specific drills and/or tabletop exercises are conducted on an annual basis. All LPS drills involve local emergency response personnel and agencies. When a drill is completed, after-action reviews are conducted to determine if the procedures were correctly followed and if they are effective. The drill evaluations are shared across LPS operational areas for review and any action items developed are entered into CMS and tracked through closure.

A live drill, which involved boom deployment, was performed on the Pedernales River. The drill was supported by multiple area operations across the LPS, including the Texas Commission on Environmental Quality (TCEQ) and members of nearby LEPCs. A new boat and motor were used, and each performed satisfactorily. The drill was deemed a success and the only after-action item considered for improving performance was to purchase a new generator capable of handling all of the equipment loads.

In the event of a reported leak, Magellan initiates a program called Code Red. The program provides a standardized, focused response to protect the public, employees, and the environment quickly and safely. When a Code Red event is initiated, pipelines are immediately shut down, a multi-person, interactive "conference bridge" phone connection is established, and all designated Code Red responders access the conference bridge. As part of this, the control center divides Code Red response activities among four control center personnel ("4-on-the-floor") to allow the on-duty (or designated) Controller to focus on a controlled shut down. The 4-on-the-floor team manages reporting requirements, internal and external notifications, and leads the conference bridge. The Code Red procedure allows all essential company personnel to react and respond accordingly and initiates the Incident Command Structure (ICS). The employees interviewed displayed intimate knowledge of the Code Red processes and believed that the focused response to a Code Red event minimizes environmental impacts while ensuring public and employee safety.

5.13. PE13: Incident Management

Magellan’s incident management procedures, which elicit different investigation methods, utilize the classifications listed in Table 11.

Table 11: Incident Classifications

Classification	Description
Major	Events that result in a fatality, an injury requiring hospitalization, major news coverage, or property loss more than \$500M
Significant	Events that result in a fire or explosion with damage more than \$25M, gasoline product quality issues that are loaded out over the rack, or injuries and citations in excess of \$25M
Minor	Events that result in a fire or explosion with damage less than \$25M, non-gasoline product quality issues, and injuries or illnesses that require first aid
Near Miss	An unplanned, undesired event that did not result in significant harm or damage but which, under slightly different circumstances, could have resulted in a minor, significant, or major incident
Hazardous Condition	A hazard or any existing or potential condition in the workplace that—by itself or by interacting with other variables—can result in injury, property damage, and/or other losses
Repair	A temporary or permanent alteration made to the pipeline or its affiliated components that is intended to restore the allowable operating pressure or correct a deficiency that could result in a mechanical integrity failure

Magellan’s HSE Group and Regulatory Compliance Group review all incidents that occur on the LPS to determine if an incident investigation is needed. To ensure timely completion of action items, the action items are documented and tracked within CMS. Incident investigation results and lessons learned are shared across LPS operational groups and are typically discussed during monthly SEMs and with contractors during safety tailgate meetings. Table 12 provides a breakdown of incident investigations since 2013.

Table 12: Historical Incident Investigation Breakdown

Type	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Hazardous Near Misses	2	2	3	0	4	8	4	5	2	4
Incident Investigations	3	4	4	3	3	24	8	18	10	8

5.14. PE14: Compliance Management

Magellan uses CMS to document its compliance with regulatory requirements and completion of associated tasks. The CMS tasking system sends reminder emails to the task owners about upcoming task deadlines. Reporting functionality is also available to provide documentation of

compliance and *Longhorn Mitigation Plan* status. Magellan assigns personnel to oversee compliance at different levels within the organization.

Magellan conducts several types of internal audits or compliance reviews. CMS compliance reviews are conducted every 1 to 3 years and Magellan's internal audit group conduct environmental audits approximately every 5 years. There were no outside regulatory agency inspections in 2022.

In addition to 49 CFR 195 operational requirements, the LPS is subject to *Longhorn Mitigation Plan* conditions. Magellan publishes multiple reports to demonstrate compliance with these special conditions, including the *Longhorn Pipeline Mitigation Plan Scorecarding & Performance Metrics* and the *Longhorn Mitigation Plan Annual Commitment Implementation Status Report*. These reports are compiled manually from other internal system reports and from narrative related to the commitment requirement. These reports are updated on an annual basis in conjunction with Magellan's annual self-audit.

For the 2022 self-audit, numerous reports were reviewed both during onsite interviews and offsite. Appendix B lists the key documents reviewed in the preparation and execution of this self-audit. The reviews revealed a high level of commitment to compliance across the Magellan organization and among responsible personnel.

5.15. PE15: Commercial Operations

This SIP element is not covered under the 2022 self-audit, as it does not impact LPS operations.

6.0. Considerations

During the 2022 LPS SIP self-audit, the auditors concluded that the requirements and commitment to the LPS SIP are embedded within Magellan's company culture and are followed by employees. However, reinforcing and building culture continuously requires reevaluation and improvement. Consequently, the auditors provide the following considerations for the LPS SIP and process improvements.

6.1. Incident Investigations

During the 2022 interviews, Magellan personnel described varied incident investigation techniques and the audit team determined that not all of these personnel had received incident investigation training. As currently being tested with the Enablon project, Magellan should continue to consider adopting a single incident investigation method and train LPS personnel on those techniques to ensure consistency across the organization. Using a single, consistent methodology would also hopefully allow Magellan to develop a better understanding of root causes.

6.2. Program and Compliance Management

Magellan has been conducting annual third-party self-audits and ORA audits since 2005. The resulting process and procedure recommendations have been successfully used and improved upon by Magellan for 15 years. All personnel interviewed during the 2022 audit answered questions quickly and consistently, without needing extended thought, and in enough detail to clearly demonstrate that the LPS SIP protocols and requirements are part of the company culture. The auditors note that many of the items reviewed during the self-audit are also considered during the annual ORA.

Based on the history and success of the annual LPS SIP self-audits and ORA audits, Magellan should consider contacting PHMSA to seek a change in the frequency requirement for performing one or both audits.

7.0. Conclusion

The audit team's 2022 evaluation determined that LPS operational and support personnel have effectively managed the deliverables required by the LPS SIP. The program knowledge, attention to detail, and dedication in support of the LPS SIP displayed by personnel are evident. Personnel interviewed during the 2022 audit answered questions quickly, without extended thought, and in enough detail to show that the required LPS SIP protocols are part of the company culture. The records and documents reviewed demonstrate another layer of cultural acceptance of the LPS SIP. The supporting programs in place are comprehensive, mature and—notably—evergreen. In support of continuous improvement, and in addition to suggestions from the previous self-audits, the auditors for 2022 have provided some program considerations for Magellan as outlined in Section 6.0; however, the LPS SIP appears to be robust and properly implemented.

Appendix A Acronyms

Term	Description
API	American Petroleum Institute
AOC	abnormal operating condition
ATW	authorization to work
bbl	barrels
CFR	Code of Federal Regulations
CMS	compliance management system
DEF	deformation inspection tool
DOT	U.S. Department of Transportation
EFRD	emergency flow-restriction device
EFW	electric-fusion-welded
EMR	experience modification rate
ERP	emergency response plan
FIMP	facility integrity management program
FRA	facility risk assessment
FSP	facility security plan
FSR	facility safety review
FVA	facility vulnerability assessment
HAZMAT	hazardous materials
HAZWOPER	OSHA's Hazardous Waste Operations and Emergency Response Standard
HCA	high consequence area
HSE	Magellan's Health, Safety and Environmental (Group)
ILI	in-line inspection
IMP	integrity management program
IR	incident rate
ITP	individual training plan
JHA	job hazard analysis
KPI	key performance indicator
LEPC	local emergency planning committee
LMRA	last-minute risk assessment
LMS	learning management system
LOTO	lockout/tagout

Term	Description
LPS	Longhorn Pipeline System
MAPS	Magellan ArcGIS portal system
MFL	magnetic flux leakage
MOCR	management of change request
NACE	NACE International (formerly the National Association of Corrosion Engineers), now part of the Association for Materials Protection and Performance (AMPP)
NEO	new employee orientation
O&M	operations and maintenance
OQ	operator qualification
ORA	operational reliability assessment
OSHA	U.S. Occupational Safety and Health Administration
PE	process element
PHMSA	Pipeline and Hazardous Materials Safety Administration
PSSR	pre-start-up safety review
ROW	right-of-way
SBRMA	scenario-based risk mitigation analysis
SEM	safety engagement meeting
SIP	Magellan Midstream Partners, L.P. System Integrity Plan
SME	subject-matter expert
SMFL	spiral magnetic flux leakage
TFI	transverse field inspection
TPD	third-party damage
TRIR	total recordable incident rate
UCD	ultrasonic crack detection

Appendix B List of Key Documents and Interviews

B.1. Self-Audit Documents

No.	Document Name
1	Magellan System Integrity Plan
2	2021 and 2022 Mitigation Plan Score Card & Performance Metrics
3	2022 Mitigation Plan Commitment Implementation Status Report
4	2022 Incorrect Operations Spreadsheet
5	2022 Asset Integrity Report
6	2022 Action Item Spreadsheet
7	2022 API 653 Internal and External Inspections and issues identified
8	2022 Longhorn Year End Preventative Maintenances Tasks Summary (CMS summary provided)
9	2022 Abnormal Operating Condition (AOC) Report
10	2022 Incident Data Reports
11	2022 Incident Investigation Reports and actions taken (Investigation Events)
12	Facility Inspection Forms
13	2022 ILI Data <ul style="list-style-type: none"> • LMP 2022 Digs • LMP 2022 PMI • LMP 2022 Runs • Longhorn 2022 ILI and Digs
14	2022 IMP Performance Measures Annual Report
15	2022 Management of Change Data: <ul style="list-style-type: none"> • Selected MOCR Reports • Open MOCR list • Closed MOCR list • Pre-Start-Up Safety Reviews (PSSRs)
16	2022 Lessons Learned and Safety Alert Bulletins
17	2022 Scenario Based Risk Mitigation Analysis (SBRMA)
18	All correspondence to/from local, state, and federal agencies regarding incidents, drills, inspections, or other issues
19	2022 Valve Inspection Reports
20	2021 Operations Reliability Assessment Reports and actions summary

No.	Document Name
21	2022 Corrosion Control Records: <ul style="list-style-type: none"> • MPL Longhorn Rectifier Maintenance Activity Report • MPL Longhorn Test Point Exception Report • Atmospheric Maintenance Report • Close Interval Survey Results for Tier III • Coupon Test Results • Rectifier and Critical Bonds Records • And additional maintenance required reports
22	2022 Leak Detection Summary report
23	2022 Public Awareness Self-Assessment
24	2022 Public Awareness Summary & Effectiveness Report
25	April 2022 Public Awareness Newsletter
26	2022 Facility Risk Assessment (FRA) Spreadsheets
27	2022 Overpressure Inspection Records
28	2022 Emergency Response Drill and actions taken
29	Tank Overfill Setpoint Procedures (7.10-ADM-003-Tank Alarm Setting Process)
30	2022 ILI Pressure Reductions
31	Facility Safety Reviews
32	2022 Aerial Patrols
33	Examples of 2 Individual Training Plans
34	2022 Longhorn Year End Task Summary
35	2022 Longhorn Work Order Spreadsheet
36	Day One Program Introduction
37	2022 Facility Environmental Compliance Reviews
38	2022 3 rd Quarter Incorrect Operations Review
39	2022 Pre-Hydro Corrosion Assessment
40	2021 versus 2022 One-call Ticket Comparison Spreadsheet
41	Bastrop 3 rd Party Strike Action Plan
42	August 2022 email from PHMSA accepting mitigation plan commitments

B.2. Personnel Interviews

The following subsections list the personnel in attendance at each local-office interview that was conducted for this year's self-audit. In each case, Matt Argo was in attendance and supported the interview process.

B.2.1. Austin Interviews

Name	Title
Don Ford	Damage Prevention Operator
Luke Potratz	Manager Operations
Danny Stokes	Area Supervisor

B.2.2. Tulsa Interviews

Name	Title
Matt Argo	Supervisor Integrity Engineering
Ryan Rogers	Manager HSE
Amber Kistler	Safety Compliance Specialist, Sr.
David Darbonne	Manager Corrosion
Dennis Vasicek	Supervisor Asset Integrity (Pipeline)
Gracie Reese	Manager, Pipeline Integrity
Darian Thomas	Supervisor, Facility Integrity Engineering
McKinley Rincon	Facility Integrity Engineer
Dyan Gillean	Supervisor One-Call
Kasey Miller	Damage Prevention & Public Awareness Specialist
Zack Day	Damage Prevention Operator
Sean Forey	Damage Prevention Operator
Karrisa McCarty	Manager, Operations Control
Ryan Addison	Supervisor Operations Control Training
Terri Hollomon	Air & Environmental Manager
Monica Olason	Environmental Specialist

B.2.3. Crane Interviews

Name	Title
Jared Irvin	Area Supervisor, Crane
Kyle Rauch	Operations Supervisor

B.2.4. El Paso Interviews

Name	Title
Jason Flores	Operations Supervisor
Greg Melton	Damage Prevention Operator



Appendix C Auditor Statements of Qualifications

C.1. William C. Bannister – Regulatory Compliance Practice Director

C.1.1. Summary

William (Bill) C. Bannister has over three decades of management and training experience, primarily focused in the oil and gas industries where he has become an expert in corrosion management, PHMSA regulatory compliance, OQ, and safety management systems. Coupled with his expertise in operations, training, audit support, and project management, he has guided several industry companies in achieving safe, reliable, and compliant operations. One of Mr. Bannister's special interests is process safety management (PSM), which allows for leveraging his many other areas of expertise to perform risk analysis and hazard assessments from a coordinated, varied, and operational perspective. Mr. Bannister provides clients with expert guidance across all aspects of their regulatory compliance and operations requirements and offers insights into their training, OQ, workforce development, project management, and corrosion control programs.

C.1.2. Experience

Integrity Solutions[®] Ltd, 2019–Present

- Regulatory Compliance Practice Director

NuStar Energy, 2009–2018

- Director of Operations – East Region
- Senior Manager – Training and Development
- Corrosion Manager

BP U.S. Pipelines, 2000–2009

- OQ and Training Manager / Corrosion Specialist

Corrpro Companies, 1996–2000

- Project Manager and Construction Foreman

Lakehead Pipeline (now Enbridge), 1985–1996

- Operator and Corrosion Technician

C.1.3. Education

B.Sc. Organizational Leadership and Supervision – Purdue University (West Lafayette, Indiana)

C.1.4. Certifications / Training

- NACE International – Cathodic Protection II
- NACE International – Coatings Inspector-in-Training

C.1.5. Associations

- American Pipeline Institute – Operator Qualification Committee, 2003–2008

- American Society of Mechanical Engineers – ASME B31Q Pipeline Personnel Qualification Committee, 2005–2008

C.2. Chris Bullock – Senior Integrity Management Consultant / Senior Regulatory Compliance Consultant

C.2.1. Summary

Chris Bullock has over two decades of pipeline integrity management and regulatory compliance experience. He has held senior-level leadership and technical roles for a large pipeline operator and has been responsible for developing and implementing pipeline safety compliance programs; providing technical expertise in support of operations, design, and construction activities; driving innovations; and mitigating risk. Mr. Bullock has also provided the pipeline industry with years of support, with his involvement in organizations such as INGAA and SGA, and is a current member of the ASME B31.8 Committee. As a consultant, Mr. Bullock uses his exceptional regulatory compliance and technical knowledge to provide internal and external audit support and to help clients develop and integrate compliance programs, risk management programs, and integrity management plans.

C.2.2. Experience

Integrity Solutions® Ltd, 2015–Present

- Senior Integrity Management Consultant
- Senior Regulatory Compliance Consultant

Enable Midstream Partners, 1996–2015

- Director, DOT Compliance
- Manager, Integrity Technical Programs

C.2.3. Education

- MBA, Management – Louisiana Tech University (Ruston, Louisiana)
- MBA, Finance – Louisiana Tech University (Ruston, Louisiana)
- B.Sc. Mechanical Engineering – Louisiana Tech University (Ruston, Louisiana)

C.2.4. Certifications / Training

- Professional Engineer, Louisiana
- Mechanical Engineer, Reg. number E-26612

C.2.5. Publications and Presentations

- "Navigating the Requirement of Natural Gas Material Records Material Verification and MAOP Reconfirmation" for the Integrity Solutions *In The Pipeline* webinar series (presenter and content development).
- "How the New 49 CFR 195 Regulations May Impact Your Operations" for the Integrity Solutions *In The Pipeline* webinar series (presenter and content development).
- "49 CFR 192 RIN-1 Final Rule – How to Manage Integrity in HCAs, MCAs, and Other Areas" for the Integrity Solutions *In The Pipeline* webinar series (presenter and content development).
- Presented at PHMSA "Public Meeting on Improving Pipeline Risk Assessments and Record Keeping," representing gas transmission pipelines.

- Interstate Natural Gas Association of America (INGAA), regular attendee and participant.
- Assisted in developing INGAA response to PHMSA's "Mega Rule" Advanced Notice of Proposed Rule-Making for updates adopted October 2019, effective July 1, 2022.
- Member of the Southern Gas Association (SGA) Pipeline Integrity Management committee and Pipeline Regulatory Compliance committee.
- Facilitator for SGA Natural Gas Connect Academy's "Mega Rule Pipeline Integrity Overview Roundtable."

C.3. Jomary Franqui – Senior Integrity Management Consultant

C.3.1. Summary

Jomary Franqui has over 14 years of oil and gas pipeline integrity management program (IMP), regulatory compliance, incident assessment, audit support, and project management experience. She has experience using risk modeling software to calculate oil and gas pipeline risk of failure and has led teams investigating leak incidents, assessing root causes, and recommending preventive and mitigative (P&M) measures such as EFRDs and procedure enhancements. Ms. Franqui led the IMP team for a mid-size oil pipeline transportation and storage company, ensuring the timely completion of hydro and ILI assessments per ongoing analyses (HCA, threats, MOP, etc.), coordinating all PHMSA compliance activities and team analyses, and writing post-assessment reports. Ms. Franqui uses her intimate knowledge of 49 CFR 192/195 requirements and hands-on industry experience to advise clients regarding risk modeling, analysis, and reporting; the development and enhancement of IMP procedures; regulatory compliance and audit preparation; asset due diligence; and data management planning, gathering, and integration.

C.3.2. Experience

Integrity Solutions® Ltd, 2015–Present

- Senior Integrity Management Consultant

Enterprise Products, 2014–2015

- Senior Pipeline Integrity Engineer

NuStar Energy, 2009–2018

- Manager, Pipeline Integrity Engineering

C.3.3. Education

- B.Sc. Mechanical Engineering – Texas Tech University (Lubbock, Texas)

C.3.4. Certifications / Training

- Professional Engineer, Texas (#107306)

C.3.5. Associations

- American Pipeline Institute – Pipeline Integrity Work Group (PIWG), 2013