MAGELLAN®
MIDSTREAM PARTNERS, L.P.

Longhorn Pipeline System

2020 Annual System Integrity Plan Self-Audit Report

December 6, 2021

INTEGRITY SOLUTIONS

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1.0. Introduction

This *Annual System Integrity Plan Self-Audit Report* documents the 2020 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.

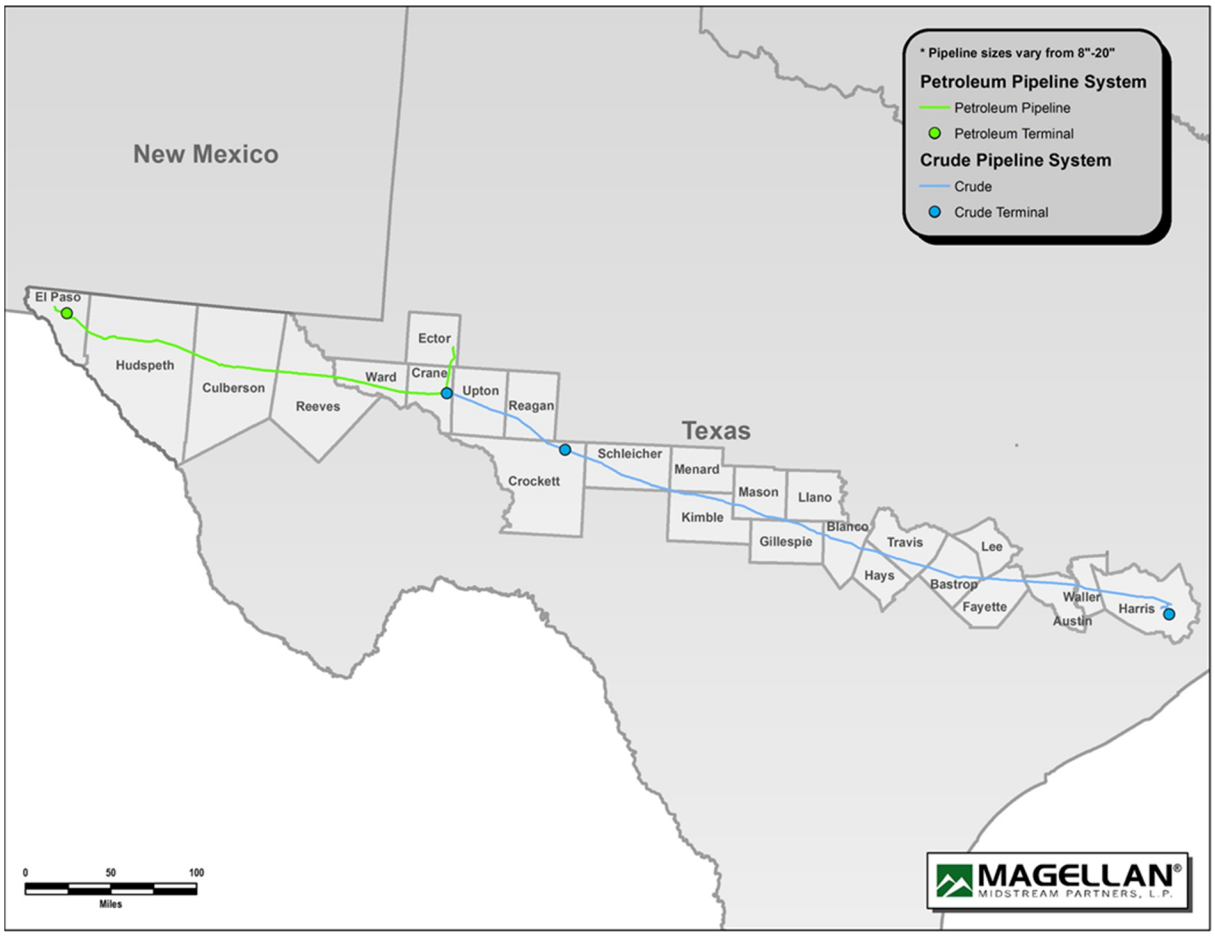
Appendix A provides a list of the primary acronyms used in this report.

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 placed into service in January 2005. Magellan took over operations 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 through Crane 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: • 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 *Longhorn Mitigation Plan*.
November 2000	Finding of No Significant Impact issued and *Longhorn Mitigation Plan* 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).
July 2017	Crude oil spill (approximately 50,000 gallons) in pipe section in Bastrop County.

1.3. System Integrity Plan

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 of this document presents the findings for these 15 process elements. Section 6.0 outlines the recommendations to address the findings 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 2020 self-audit team was composed of two representatives from Integrity Solutions® Ltd, both experienced 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 2020

During 2020, Magellan continued to implement system integrity activities as required by PHMSA pipeline safety regulations, the *Longhorn Mitigation Plan,* and the SIP. However, due to the Coronavirus Disease 2019 (COVID-19) pandemic and the resulting reduction in face-to-face encounters industry-wide, Magellan utilized technology to develop approaches to limit the affect on the employee training and public awareness programs. Due to the maturity of MMP programs, no significant system developments occurred on the LPS in 2020.

4.0. Summary of Findings

As noted above, 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 2020 audit, conducted in 2021, reviewed the activities and programs used to manage risk. These activities and programs were mature, functioning as designed, and were well understood by employees. The activities and programs used to manage risk on the LPS are addressed individually in Section 5.0. Section 6.0 describes potential improvements for the programs.

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. Magellan replaced nine (9) valve stems in 2020 and will continue the replacements in subsequent years based on the following:

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

Until all the defective valve stems have been replaced, LPS personnel have placed secondary containment in conjunction with the leaking valves and continue to inspect and monitor the remaining valves.

Magellan issued two company-wide "Safety Alert" bulletins in 2020 (neither incident occurred on Longhorn assets). Both addressed incidents involving employees performing routine tasks. In each incident, human error—particularly complacency—was a contributing factor. Human error incidents remain a continued focus for the organization.

LPS personnel conducted four incident investigations during 2020. These investigations included the following:

- One incident associated with the discharge of a pipe plug during pipeline modifications, when a kinked drain hose allowed pressure to build up in the line. No injuries occurred.
- One incident related to a product quality issue, resulting from a valve not fully seating during a tank switch.
- Two small-volume release incidents, which zero were reportable, related to maintenance activities

Table 2 summarizes the incident investigation classifications.

Table 2: 2020 Incident Investigation and Accidents

Cause	Classification					
	PHMSA Reportable	Hazardous Near Misses	Human Error	Equipment Failure	One-Call Violations	ROW Near Misses
Employee	0	0	2	0	0	0
Other Personnel	0	0	1	0	0	0
Equipment Failure	0	0	0	1	0	0

4.2. New Integrity Management Processes or Technologies

ROW technicians assigned for part of the LPS began to meet quarterly in 2019 with their counterparts from other pipeline operators and continued to do so in 2020, as a group called the Permian Basin Damage Prevention Council. These meetings are used to share experiences about the pipelines in the areas where the operators share the same ROW corridor. These meetings also allow for the sharing of information about plans for upcoming ground disturbances and changes (such as cathodic protection changes) to their pipelines and how these plans could impact each other. These meetings are not occurring among personnel across the full length of the LPS, but other LPS personnel are considering adopting this practice. However, Houston was identified an area where it would be difficult to adopt this practice due to large number of pipeline operators.

Magellan enhanced its Facility Integrity Management Program (FIMP) in late 2018 and early 2019 and began conducting more rigorous integrity evaluations for its surface facilities and equipment in 2019. In 2020, Facility Risk Assessments (FRAs) were completed at 12 LPS facilities. FRAs focused on leak detection, mechanical integrity, prime equipment, corrosion control, operating pressure programs, fire safety and re-inspection intervals. Table 3 summarizes the recommendations from the 2020 inspections.

Table 3: 2020 FRA Inspection Recommendations

Facility	Recommendation
Bastrop	Install containment with a hydrocarbon sensing valve on the south side of the facility to prevent a leak from migrating into waterway.
Cartman	Relocate corrosion coupons to better ascertain corrosion rates.
Cedar Valley	Lock the hydrocarbon sensing valve closed and manually operate when needed to prevent accidental discharge in the event of a leak.
Warda	Install containment with a hydrocarbon sensing valve to prevent a leak from migrating into waterway.

All findings from the FRAs are captured in a company database and any associated action items are tracked to completion. Results go into updating and improving the FIMP each year.

Magellan is currently supporting research and performing tests to determine if better leak detection technology is available than the leak detection cables that are currently used. The results are still being reviewed and considered, and alternative technologies will not be utilized unless they provide equal or better detection with increased reliability.

In 2020, Magellan added uninterruptible power supply (UPS) backups to a select number of remote-operated valves on the LPS. The priority for the UPS installations was based on risk, with environmental impact acting as the primary driver. The inclusion of this battery backup provides additional reliability and availability for remote operating and reduced response time during power outages. Additional remote-operated valves will be considered for UPS backup in future years.

4.3. New IMP Elements, Improvements, and Activities

4.3.1. Monthly Safety Engagement Meetings

LPS personnel developed an enhancement to their previous monthly safety meeting format in 2019 and implemented it in January 2020. The Health, Safety and Environmental (HSE) and Operations groups jointly redesigned the safety meetings to be more interactive and more structured in nature. The meetings are now called Safety Engagement Meetings and encourage all attendees to actively participate.

For 2020, the HSE and Operations groups selected a total of 12 safety topics, with one of these topics discussed at each of the monthly Safety Engagement Meetings based on 2019 safety performance data. The HSE group provided structured videos, handout materials, etc. to be used in all safety meetings across LPS operational areas for the month. Leadership of the monthly Safety Engagement Meetings was rotated among HSE staff, operational leaders, and technicians. Examples of monthly topics include:

- Operational discipline
- Fatal assumptions
- Managing change
- Missing the obvious

During interviews conducted for this 2020 self-audit, feedback regarding the new monthly Safety Engagement Meetings was overwhelmingly positive. Personnel stated the meetings are more relevant and employees feel more engaged in the meeting and the process.

4.3.2. Public Awareness Activity

The 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 is advised that when an event/incident occurs they should call 911 first, followed by the LPS emergency number.

Primarily using company mail-outs due to limited public awareness events in 2020 (per COVID-19 protocols), LPS personnel worked to keep the public stakeholders informed about calling 811 One-Call prior to digging in LPS ROWs. In conjunction with that, LPS personnel worked to educate the public about reporting events/incidents. Audit interviews indicated that the number of calls from the public typically increased immediately following the company mail-outs. Section 5.10 provides additional details.

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 conducted as part of this audit, a common theme emerged. Even though many of the SIP requirements are more stringent than certain regulatory O&M and IMP requirements, LPS personnel have adopted many of the LPS specific SIP practices across non-LPS assets as best practices (though the frequency with which these practices are performed on non-LPS assets may differ in some instances). The adoption of SIP requirements across non-LPS assets provides evidence that the SIP practices are deeply embedded within the LPS operational culture.

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 ISNetworld.

New-hire Operations employees are required to attend Magellan's New Employee Orientation (NEO). NEO is a comprehensive 3-week program that occurs 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 LMP. The key stakeholders responsible for sections of the 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.

Traditionally, office-based positions are not included in the LPS training matrix, nor does Magellan have skills/competency profiles for these roles. Training and competency assurance for these roles are normally based on the job description's prerequisites and are managed by the individual and the respective supervisor. If regulations change to require qualifications and certifications, ITPs may become necessary for these roles.

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, the contractor is not considered. There is an exception process that requires approval from LPS senior management; however, this process is only used on rare occasions when an approved contractor is unavailable.

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. The single location for these records (ISNetworld) 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.

Auditor interviews with LPS personnel confirmed that contractor covered task qualifications are verified prior to the performance of each task.

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. There was no major construction work executed in 2020.

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. LPS Regional Operations is able to review design packages and provide input for potential design changes to accommodate operational needs or safety.

LPS personnel and procedures describe the standard Pre-Start-Up Safety Review (PSSR) process, which is conducted for all pipeline system additions or modifications. Actions from the PSSRs are captured and tracked to completion prior to beginning the pipeline system modifications. The PSSR process is identified as the handover process from project groups to the Operations organization. Operational leaders interviewed stated that, although no major projects were performed in 2020, this process has improved due to increased communication between Operations and the designated project manager. This evidence was based upon projects that were executed on other Magellan assets outside the scope of the *Longhorn Mitigation Plan*.

5.5. PE5: Safety Management

LPS Regional Operations groups have designated safety committees responsible for hosting monthly safety meetings. In 2019 Magellan realized an opportunity to improve employee engagement during safety meetings. The monthly safety meetings—retitled as "Safety Engagement Meetings"—are developed by EHS&S and led by Operations personnel. The safety meeting redesign provides greater ownership of meeting content and allows local safety issues and concerns to be discussed. Section 4.3.1 provides details of how these meetings were administered through 2020. Based on interviews, the redesign is a welcome change, and all Operations personnel interviewed feel that employee participation and knowledge sharing across the LPS has increased through 2020.

LPS operational areas have authorization to work (ATW) processes in place for handling confined space entry, excavation safety, hot work, lockout/tagout (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 the agreed safety measures are in place and evaluate on-the-job contractor safety performance through contractor safety evaluations and ATW spot audits. The quality of work performed is ensured through concise scope development and the use of applicable LPS/Magellan O&M procedures.

Facility safety reviews (FSRs) are conducted annually at all manned locations and at least biannually at unmanned locations. FSRs are designed to ensure that each facility's security, tools and equipment, safety systems, and materials storage meet minimum inspection requirements. Of the 11 FSRs reviewed for 2020, the James River facility was the only facility that required follow-up action items or compliance management system (CMS) work orders to be initiated. This suggests excellent due diligence during inspections and dedicated process ownership by LPS personnel.

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.

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 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 2020:

- The LPS utilizes Pipeline Manager (PLM) advanced leak detection solution monitored by the Control Center. PLM alarms and system performance indicators are evaluated monthly and compared to industry accepted KPIs. In 2020 the Odessa to El Paso line segment exhibited a few outliers due to some planned operational changes.
- The LPS shuts down immediately during any suspected leak events reported by third parties while Operations investigates. The pipeline remains shut down until the pipeline's integrity has been verified.
- In 2020, a containment well with drainage containing hydrocarbon sensors was installed at the James River Pump Station.

Site remediation work continues adjacent to the Bastrop Station from an oil spill that occurred in 2017. The work is being handled by a third-party contractor that specializes in site remediation cleanup work.

Magellan has a goal of zero environmental impacts. In 2020, the LPS had zero PHMSA-reportable releases. There was one minor release of 10 gallons of diesel fuel into secondary containment during maintenance work and another 10 gallons of gasoline released into secondary containment from a third-party truck driver's pump seal failure. This is a total spill volume of only 20 gallons out of approximately 107 million barrels of product handled across the LHP system during 2020, reflecting an excellent record. Table 4 outlines LPS release volumes over the last 3 years. The data indicate that the SIP and employee efforts drive a dedication to achieve zero releases.

Table 4: 2108–2020 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

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 Asset Integrity and Facility Integrity groups. The pipeline IMP meets the regulatory requirements. Non-pipe assets such as storage tanks and facility piping and equipment are included in the FIMP, which is a subsection of Asset Integrity. 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 attributes associated with the pipeline data are in the process of being consolidated into the Magellan ArcGIS Portal System (MAPS), which is based on the overall company ArcGIS platform. Previous self-audit reports indicated that, while all the pipeline data is available for use to all appropriate personnel, navigating inside MAPS was difficult and required assistance; however, personnel interviewed for the 2020 self-report did not make the same criticism. The development of MAPS was demonstrated and additional asset integrity information has been incorporated. Additional data layers and datasets have been identified for future inclusion in the system. Future improvements also include the ability to generate maps and alignment sheets from 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 2020. Table 5 summarizes tool use from 2012 through 2020 and Table 6 provides segment-specific details for recent tool runs and associated digs.

Table 5: Historical Tool Use and Outcomes

Event	2020	2019	2018	2017	2016	2015	2014	2012
Smart ILI Tool Runs[1]	15 (UCD & MFL for 8 segments)	6 (UCD & MFL)	3	4	2 (SMFL & MFL)	1 (TFI)	2 (SMFL & MFL)	1 MFL
2020 Resultant Digs	246	43	1	0	0	0	0	0

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

Table 6: Segment-Specific Inspections and Digs

Line Segment	ILI Tool	Date	2020 Digs
Crane to Texon	UCD	2018	1
Texon to Barnhart	DEF/MFL	May 5, 2020	1
Texon to Barnhart	UCD	May 15, 2020	4
Barnhart to Cartman	DEF/MFL	June 12, 2020	0
Barnhart to Cartman	UCD	June 16, 2020	0

Line Segment	ILI Tool	Date	2020 Digs
Cartman to Kimble	DEF/MFL	July 8, 2020	6
Cartman to Kimble	UCD	August 25, 2020	2
Kimble to James River	DEF/MFL	August 11, 2020	0
Kimble to James River	UCD	October 20, 2020	
James River to Eckert	DEF/MFL	March 4, 2020	13
James River to Eckert	UCD	March 11, 2020	
Eckert to Cedar Valley	DEF/MFL	February 4, 2020	25
Eckert to Cedar Valley	UCD	March 4, 2020	10
Cedar Valley to Bastrop	DEF/MFL	January 6, 2020	45
Cedar Valley to Bastrop	UCD	January 16, 2020	8
Bastrop to Warda	DEF/MFL	January 9, 2020	31
Bastrop to Warda	UCD	January 28, 2020	41
Warda to Buckhorn	DEF/MFL/UCD	2019	35
Buckhorn to Satsuma	DEF/MFL*	January 14, 2020	10
Buckhorn to Satsuma	UCD	2019	6
Satsuma to East Houston	DEF/MFL/UCD	2019	8

While the number of investigative digs listed in Table 6 may seem high when compared to previous years, the number of pipeline segments and total mileage inspected is the suspected driver for the increase. Based upon the evaluation and repair of dig LMP-6 on the Cedar Valley to Bastrop line segment, the evaluations are thorough, meet the requirements, and repairs are made appropriately.

The *Longhorn Mitigation Plan* 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 2020, 232 excavations were associated with ILI anomaly evaluations, and where material documentation does not exist. Nondestructive positive material identification was completed on 116 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 2018 operating year was performed in 2019 and resulted in no areas along the pipeline exceeding the failure rate commitment.

In 2020, Magellan implemented a new FIMP element of its Asset Integrity Plan. The FIMP requires a detailed FRA, which provides a risk analysis and re-inspection 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 2020, Magellan completed 12 FRAs for the LPS. 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

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 2020 ORA (covering 2019 operations) was provided to Magellan by the PHMSA-approved independent, third-party ORA contractor, Kiefner and Associates, Inc. Magellan stated that the 2021 Annual ORA report will be submitted to PHMSA.

During the interviews of the individuals who are responsible for the implementation of the Asset Integrity Program, there appeared to be a disconnect between the *Longhorn Mitigation Plan* risk tiers and assets covered under the Asset Integrity Program. When questioned about overlay of datasets, such as integrity excavations or designated HCAs with the *Longhorn Mitigation Plan* environmental assessment risk tiers, this information was not readily available. The explanation for this is that Magellan's implementation of the requirements of the Asset Integrity Program exceed the minimum requirements of the *Longhorn Mitigation Plan*.

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.

FVAs are conducted annually by local operational leadership using guidance from a formal FVA template. Any issues identified during these assessments are captured in CMS and work orders are created to track and close action items.

5.9. PE9: Operations

The three primary operation goals expressed by LPS personnel were zero health, safety, or environmental events, 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.

Company-level and site-specific operating procedures are available in Magellan's intranet file sharing site called 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 2020, 3,868 CMS tasks were completed, with a 98% on-time completion rate. 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. Table 7 shows the breakdown of the CMS tasks completed in 2020.

Table 7: Completed Compliance Management System Tasks

Year	Number of Tasks by Type				
	PM Tasks	SIP Tasks	Environmental Tasks	Work Order Tasks	Action Item Tasks
2020	2010	1439	175	151	93

Safe operating limits for all LPS systems 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 adequate time to react and respond to alarms and that workload is evenly distributed across all consoles.

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 21 AOCs and HNMs were recorded in 2020. Most of these events occurred during start-up or shutdown of various systems. The events were investigated tounderstand the base driver for the event and to develop the necessary corrective actions to prevent the recurrence of similar events. In 2020, two lessons learned were developed and shared during the monthly Safety Engagement Meetings (which are discussed in Section 4.3.1 and Section 5.5).

Table 8 provides the number of abnormal operations events that have occurred over the past 8 years. The three identified hazardous near misses for 2020 were a result of faulty fire-eye alarms; as a result, no true hazardous conditions actually occurred in 2020.

Table 8: Historical Incorrect Operations / Near Miss Breakdown

Event Type	2020	2019	2018	2017	2016	2015	2014	2013
Abnormal Operations	18	21	18	12	14	44	75	110
Hazardous Near Misses	3	0	0	4	4	9	2	4

As seen in Table 8, the AOC count dropped significantly from 2013 through 2015 and has remained relatively flat from 2016 thru 2020; indicating that strong processes and procedures are in place and used across LPS operations.

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, with regard to detection of and responses to well-water contamination. Annual mail-outs were conducted with increased mail counts and returned business reply cards. The pipeline information 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

Magellan participated in an outreach program with scheduled emergency responder and excavator meetings in all 25 counties (as shown in Figure 1 in Section 1.1) per its *Longhorn Mitigation Plan Annual Commitment Implementation Status Report*. Due to COVID-19 restrictions, most meetings were held remotely in 2020. The School Outreach Program was affected the most. Based upon data provided in the Magellan annual self-assessment of the Public Awareness program, attendance for the remote meetings did not statistically change from previous years. Highlights from 2020 include the following:

- Targeted contact with 133 emergency responders in all 25 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
- Co-sponsor of National Excavator Initiative (NEI) to target excavators with information and resources related to damage prevention, with several videos featuring Mike Rowe from the *Dirty Jobs* television series posted to the NEI website
- Continued operation of Austin area school outreach program, targeted at 4th and 5th grade students
- Continued participation in the Houston area Safe at Home school program, reaching 414 students and 17 teachers
- 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 10 new stores

- Placed several 811 One-Call banners and billboards along the LPS ROW, placed 811 One-Call newspaper ads in communities along the ROW, and sent Magellan representatives to Texas 811 One-Call chapter meetings
- Provided 7,614 Pipeline educational door hangers to stakeholders who back up to the ROW in Tier II and Tier II class locations from Houston to El Paso.
- Maintained liaison by contacting 4,592 Emergency Officials and 8,367 additional responders along the ROW via email with Pipeline Safety and Training information.

Magellan encourages individuals along the LPS ROW to contact Magellan if they suspect any pipeline leak. If the suspected release does not belong to Magellan, then Magellan personnel assist the caller in contacting the potentially correct pipeline operator or Magellan will contact the correct pipeline operator directly. 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 and Magellan dispatches personnel to determine if Magellan assets were the cause for the report. Approval to restart the LPS is leadership-led, including management personnel from Operations, Operations Control, and Asset Integrity groups.

Magellan has implemented a new ticket management system in 2019 for One-Call / 811 locate requests. The system allows LPS Operations personnel to better manage tickets with mobile technology capabilities while on the pipeline ROW.

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. 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 67 MOCRs were issued for the LPS in 2020 and none were identified as emergency MOCRs. Of the 67 total, 26 MOCRs were identified as impacting the *Longhorn Mitigation Plan,* 14 of which do not list an actual closure or cancel date and are considered to still be open.

Detail reports for all 26 MOCRs identified as impacting the *Longhorn Mitigation Plan* were reviewed and demonstrate the appropriate level of review by the impacted personnel and/or departments. Closure of MOCRs appears to be timely; of the 14 MOCRs still open at the end of 2020, all originated in September or after.

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.

ERP training is mandatory for all operations employees and is completed annually, along with training program evaluations and emergency response effectiveness reviews. Site-specific drills

and/or tabletop exercises are conducted on an annual basis. In 2020, multiple emergency response tabletop exercises were conducted and evaluated for each operating area and one live-leak drill for a scenario impacting a watershed was conducted. The live drill, which involved boom and skimmer deployment, was performed on the Colorado River. The drill was supported by multiple area operations across the LPS.

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. The after-action recommendation from the 2020 live-leak drill was to consider purchasing a larger boat and motor to more effectively maneuver and place booms on the Colorado River. The new boat and motor are budgeted for purchase in 2022.

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 room 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). All the employees interviewed as part of the 2020 self-audit displayed intimate knowledge of the Code Red processes and procedures. Many commented that the quick, concise, and 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 9.

Table 9: 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 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

Classification	Description
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 Safety and Regulatory Compliance Groups, review all incidents that occur on the LPS to determine if an incident investigation is needed. To ensure timely completion of action items, action items are entered and tracked within CMS. AOCs are classified and followed up on by Facility Integrity Engineering. Incident and AOC investigation results and lessons learned are shared across LPS operational groups and are typically discussed during monthly Safety Engagement Meetings and with contractors during safety tailgate meetings. Table 10 provides a breakdown of incident investigations since 2011.

Table 10: Historical Incident Investigation Breakdown

Type	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Hazardous Near Misses	3	0	4	8	4	5	2	4	3	7
Incident Investigations	4	3	3	24	8	18	10	8	9	13

Except for 2015 and 2017, the number incident investigations and hazardous near misses have exhibited a general downward trend since 2011. In 2020, a total of 18 AOCs occurred. Of the 18 AOC investigations, four resulted in full incident investigations. Three of these four incidents were categorized as minor and one as significant.

During review of the 2020 AOCs, an AOC occurred (April 2020) when a pig became stuck in the line, resulting in an activation of a safety related device and damage to the pig. The investigation determined that two previous pigs had become stuck and damaged in the same section of the line, so an investigation was initiated between the Asset Integrity group and local operational personnel. However, the completed incident investigation results were not available at the time of this report.

5.14. PE14: Compliance Management

Magellan uses a CMS to document its regulatory requirements and 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. In addition to headquarters compliance personnel, the LPS utilizes a Compliance Coordinator located at the Austin pipeline office. The current Compliance Coordinator has been in this position for 11 years and has provided consistency in LPS compliance management. The Compliance Coordinator also participates in facility inspections and audits for the LPS.

Magellan conducts several types of internal audits or compliance reviews. CMS compliance reviews are conducted on a 1-to-3-year cycle. The Magellan internal audit group conducts environmental audits approximately every 5 years. Additionally, regulatory agency inspections had been occurring more than once per year on a regular basis, but only one such inspection was conducted in 2020. This 2020 inspection included a PHMSA audit of Magellan headquarters, with

a field audit scheduled for 2021. Results of the audit have not been provided.

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 2020 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. It is obvious from review that a high level of commitment to compliance is prevalent within the Magellan organization and among responsible personnel.

5.15. PE15: Commercial Operations

This SIP element is not covered under the 2020 self-audit, as it does not impact LPS operations.

6.0. Recommendations

During the 2020 LPS SIP self-audit, the auditors concluded that the requirements and commitment to the LPS SIP are embedded within Magellan's employee and company culture. However, reinforcing and building culture continuously requires reevaluation and improvement. Consequently, the auditors provide the following recommendations for the LPS SIP and process improvements.

6.1. Integrity Management / Corrosion Control

Recommend installing remote monitors for critical bonds. While the corrosion program is mature and well-maintained, the LPS crosses numerous foreign pipelines and certain segments are situated within congested ROWs, resulting in 16 critical bonds. Although these critical bonds are monitored monthly, a faulty bond could have significant impact to the integrity of the pipeline. Magellan should consider installing remote monitors at the 16 critical bond locations so that AOCs can be addressed as they occur.

6.2. Risk Management

To ensure that Magellan personnel are fully aware of the designated risk tiers and to provide a one-stop-shop approach for LPS integrity information, recommend incorporating the risk tiers and other appropriate *Longhorn Mitigation Plan* elements into MAPS to facilitate data-gathering by risk tiers (e.g., the number of digs that have occurred in Tier 3 locations).

7.0. Considerations

7.1. Competency Management Program

If the regulations change to require qualifications and certifications, ITPs may become necessary for LPS engineers, managers, and other critical, office-based personnel. Consider enhancing the competency management program to include all LPS roles. Training and competency assurance for these roles are normally based on the job description's prerequisites and managed by the individuals and their respective supervisors.

7.2. Incident Notification

A reminder or small training module on the importance and need for near-miss reporting can serve as a great opportunity to reinforce the message and increase near-miss reporting. Employees may not always equate accidents in the workplace with incidents or near misses that require notification to management. Staying vigilant and reporting all incidents, accidents, and near misses (regardless of how minor) is a critical element of safety program oversight and maintenance. Having the right information about safety—especially around the LPS assets—is essential. While ISltd auditors did not specifically ask if reminders were occurring, consider providing employees with periodic reminders of the importance of incident notification.

7.3. Program and Compliance Management

Based on the history and success of the LPS SIP self-audits, consider contacting PHMSA to seek a change in the required frequency for performing them. Magellan has been conducting an annual self-audit and performing ORAs since 2005. Both of these assessments have been conducted by independent third parties. The resulting process and procedure recommendations have been successfully used and improved upon by Magellan for 15 years, as reflected by the fact that leak volumes, AOCs, and inaccurate operations have continually been trending in the right direction. In addition, the personnel interviewed during the 2020 audit answered questions quickly and consistently, without extended thought and in enough detail to clearly indicate that the LPS SIP protocols and requirements are part of the company culture. The auditors further note that many of the items reviewed during the self-audit are also considered as part of the annual ORA. Consequently, the auditors recommend continuing the annual ORA and approaching PHMSA about changing the frequency of the self-audit to once every other year.

8.0. Conclusion

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 2020 audit answered questions quickly, without extended thought, and in enough detail to support that the required LPS SIP protocols are part of the company culture. 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 2020 have provided some program recommendations for Magellan; 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
EFW	Electric-Fusion-Welded
EMR	Experience Modification Rate
ERP	Emergency Response Plan
FIMP	Facility Integrity Management Program
FSP	Facility Security Plan
FSR	Facility Safety Review
FVA	Facility Vulnerability Assessment
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
LMS	Learning Management System
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)
NEO	New Employee Orientation
O&M	Operations and Maintenance

Term	Description
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
SIP	Magellan Midstream Partners, L.P. System Integrity Plan
SME	Subject-Matter Expert
SMFL	Spiral Magnetic Flux Leakage
TFI	Transverse Field Inspection
TPDPP	Third-Party Damage Prevention Program Annual Assessment
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	2019 and 2020 Mitigation Plan Score Card & Performance Metrics
3	2020 Mitigation Plan Commitment Implementation Status Report
4	2020 Incorrect Operations Spreadsheet
5	2020 Asset Integrity Report
6	2020 Action Item Spreadsheet
7	2020 API 653 Internal and External Inspections and issues identified
8	2020 Longhorn Year End Preventative Maintenances Tasks Summary (CMS Summary provided)
9	2020 Abnormal Operating Condition (AOC) Report
10	2020 Incident Data Reports
11	2020 Incident Investigation Reports and actions taken (Investigation Events)
12	Facility Inspection Forms
13	2020 Longhorn Cedar Valley to Bastrop 18" MFL and UCD Dig Data
14	2020 Management of Change Data: • Selected MOCR Reports • Open MOCR list • Closed MOCR list • Pre-Start-Up Safety Reviews (PSSRs)
15	2020 Lessons Learned and Safety Alert Bulletins
16	2020 Scenario Based Risk Mitigation Analysis (SBRMA)
17	All correspondence to/from local, state and federal agencies regarding incidents, drills, inspections or other issues
18	2020 Valve Inspection Reports
19	2019 Operations Reliability Assessment Reports and actions summary
20	2020 Corrosion Control Records: • 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 • NACE Rust Test Results • Rectifier and Critical Bonds Records • And additional maintenance required reports

No.	Document Name
21	2020 Leak Detection Summary report
22	2020 Public Awareness Self Assessment
23	2020 Public Awareness Summary Report
24	2019 Third Party Damage Prevention Program (TPDPP) Annual Assessment (2020 not ready by the time of records review)
25	2020 Facility Risk Assessment (FRA) Spreadsheets
26	2020 Overpressure Inspection Records
27	Monthly Safety Related Alarms Reviews
28	2020 Emergency Response Drill and actions taken
29	2020 and 2021 Valve Stems Replaced and Pending Replacement
30	Tank Overfill Setpoint Procedures (7.10-ADM-003-Tank Alarm Setting Process)
31	2020 ILI Pressure Reductions
32	Facility Safety Reviews
33	2020 Aerial Patrols – Crane Station to MP 694
34	2020 Aerial Patrols – Galena Park to MP 528

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
Danny Stokes	Area Supervisor
Darcy Madsen	Compliance Coordinator

B.2.2. Tulsa Interviews

Name	Title
Nicole Bickford	Damage Prevention Program Public Awareness Specialist
Dyan Gillean	Supervisor One Call
David Darbonne	Corrosion Supervisor
Clyde Clausen	Manager Pipeline Integrity
Dennis Vasicek	Supervisor Asset Integrity (Pipeline)

Name	Title
Bryan White	Manager, Pipeline Integrity
Matt Miskelly	P/L Integrity Supervisor
Mike Sixsmith	HSE Manager
Rick Bondy	Emergency Response Program Manager
Pat McKenzie	Director, Operations
Buddy Cronk	Operations Manager
Joe Butler	Director Operations Control
Jeremy Martin	Manager, Operations Control
Ryan Addison	Supervisor Operations Control Training
Darian Thomas	Supervisor, Facility Integrity Engineering
Zach Howard	Director, Facility Integrity
Doug Mitchell	Environmental Manager
Terri Holloman	Air Compliance Manager
Monica Olson	Environmental Specialist

B.2.3. Crane Interviews

Name	Title
Mike Blankendaal	Manager, Operations
Jake Johnson	Area Supervisor, Odessa
Jared Irvin	Area Supervisor, Crane

B.2.4. El Paso Interviews

Name	Title
Cliff Bryant	Area Supervisor
Jason Flores	Operations Supervisor

Appendix C Statements of Qualifications for the Auditors

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.S. 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, 2020.
- 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."