

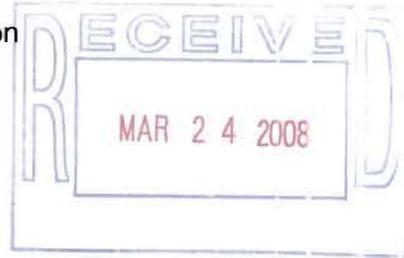
KINDER MORGAN

CO₂ COMPANY, L.P.

March 21, 2008

Via Certified Mail: 7005 1160 0001 7020 9632

Mr. R. M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration
8701 South Gessner, Suite 1110
Houston, TX 77074



RE: CPF 4-2008-5007M

Dear Mr. Seeley:

This letter is in response to your *Notice of Amendment (NOA)* letter dated February 15, 2008 and received by our office on February 22, 2008, regarding the pipeline safety inspections of Kinder Morgan CO₂ L.P.'s Cortez, Central Basin, Common Reef Carriers and Centerline CO₂ pipeline systems in Texas, New Mexico and Colorado. These inspections were conducted in Calendar year 2007.

Kinder Morgan CO₂ L.P. is in the process of consolidating the existing Kinder Morgan CO₂ (KMCO₂) O&M Manual with the Liquids Operations & Maintenance (L-O&M) manual. The L-O&M procedures were reviewed by a team of PHMSA and state inspectors the week of November 29, 2006. KMCO₂ intends to implement the updated consolidated manual by August 1, 2008, by which time necessary training will be complete.

We have addressed each alleged deficiency below. For your convenience, we have included the original proposed inadequacies identified in bold text and then followed by our response identified by italic text.

1. **195.5 Conversion to service subject to this part**
 - (a) **A steel pipeline previously used in service not subject to this part qualifies for use under this part if the operator prepares and follows written procedure to accomplish the following:**
 - (1) **The design, construction, operation, and maintenance history of the pipeline must be reviewed and, where sufficient historical records are not available, appropriate tests must be performed to determine if the pipeline is in satisfactory condition for safe operation. If one or more of the variables necessary to verify the design pressure under §195.106 or to perform the testing under paragraph (a) (4) of this section is unknown, the design pressure**

may be verified and the maximum operating pressure determined by-

- (i) **Testing the pipeline in accordance with ASME B31.9, Appendix N, to produce a stress equal to the yield strength; and**
 - (ii) **Applying, to not more than 80 percent of the first pressure that produces a yielding the design factor F in §195.106 (a) and the appropriate factors in §195.106 (e).**
- (2) **The pipeline right-of-way, all aboveground segments of the pipeline, and appropriately selected underground segments must be visually inspected for physical defects and operating conditions which reasonably could be expected to impair the strength or tightness of the pipeline.**
- (3) **All known unsafe defects and conditions must be corrected in accordance with this part.**
- (4) **The pipeline must be tested in accordance with the subpart E of this part to substitute the maximum operating pressure permitted by §195.406.**
- (b) **A pipeline that qualifies for use under this section need not comply with the corrosion control requirements of subpart H if this part until 12 months after it is placed into service, notwithstanding any previous deadlines for compliance.**
- (c) **Each operator must keep for the life of the pipeline a record of the investigation, tests, repairs, replacements, and alterations made under the requirements of paragraph (a) of this section.**

The Operator's procedures need to include a section on Conversion to Service or a statement specifying that Kinder Morgan CO₂ Pipelines do not have any facilities to which this regulation applies. At least one procedure described in Section 02.02.05 of the Kinder Morgan Operations Manual under paragraph V, is titled "PIPELINES THAT UNDERGO CONVERSION OF SERVICE" discusses pipeline coating and cathodic protection requirements for pipelines that undergo a conversion of service but this is not a complete Conversion to Service procedure, At the very least, it is inconsistent to address Conversion to Service for coating and cathodic protection and not address overall Conversion to Service procedures.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 271, Conversion to Service*

2. **195.52 Telephonic notices of certain accidents**

(a) At the earliest practicable moment following discovery of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in §195.50, the operator of the system shall give notice, in accordance with paragraph (b) of this section, of any failure that:

- (1) Caused a death or an injury requiring hospitalization;**
- (2) Resulted in either a fire or explosion not intentionally set by the operator**
- (3) Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000;**
- (4) Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or**
- (5) In the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this section.**

(b) Reports made under paragraph (a) of this section are made by telephone to 800-424-8802 (in Washington, D.C. 267-2675) and must include the following information:

- (1) Name and address of the operator.**
- (2) Name and telephone number of the reporter**
- (3) The location of the failure**
- (4) The time of the failure**
- (5) The fatalities and personal injuries, if any**
- (6) All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages.**

The Operator's procedures need to be modified to include the correct title and code reference for the prescriptive requirements of the telephonic reporting. Section 04.03.03 in the Operator's Operations Manual, paragraph III titled "ACCIDENT REPORTING §195.50," combines the requirements of accident reporting and telephonic reporting, but telephonic reporting requirements are cited in §195.52. In addition, the terms "telephonic notice" or "telephonic reporting" are not mentioned in the Operators Operations Manual.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 159, Incident Investigation and Reporting*

3. **195.120 Passage of internal inspection devices.**

- (a) **Except as provided in paragraphs (b) and (c) of this section, each new pipeline and each line section of a pipeline where the line pipe, valve, fitting or other line component is replaced, must be designed and constructed to accommodate the passage of instrumented internal inspection devices.**
- (b) **This section does not apply to:**
- (1) **Manifolds'**
 - (2) **Station piping such as at pump stations, meter stations, or pressure reducing stations;**
 - (3) **Piping associated with tank farms and other storage facilities;**
 - (4) **Cross-overs;**
 - (5) **Sizes of pipe for which an instrumented internal inspection device is not commercially available;**
 - (6) **Offshore pipelines, other than main lines 10 inches (254 millimeters) or greater in nominal diameter, that transport liquids to onshore facilities; and,**
 - (7) **Other piping that the Administrator under §190.9 of this chapter, finds in a particular case would be impracticable to design and construct to accommodate the passage of instrumented internal inspection devices.**
- (c) **An operator encountering emergencies, construction time constraints and other unforeseen construction problems need not construct a new or replacement segment of a pipeline to meet paragraph (a) of this section, if the operator determines and documents why an impracticability prohibits compliance with paragraph (a) of this section. Within 30 days after discovering the emergency or construction problem the operator must petition, under §190.9 of this chapter, for approval that design and construction to accommodate passage of instrumented internal inspection devices would be impracticable. If the petition is denied, within 1 year after the date of the notice of the denial, the operator must modify that segment to allow passage of instrumented internal inspection devices.**

The Operator's Operations Manual needs to be modified to include procedures or a reference to existing procedures meeting the requirements of §195.120.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 213, Leaks, Pipe and Weld Defects (Evaluation and Repair)*

4. **195.214 Welding procedures.**

- (a) **Welding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or**

Section IX of the ASME Boiler and Pressure Vessel Code (ibr, see §195.3) . The quality of the test welds used to qualify the welding procedure shall be determined by destructive testing

- (b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used. The Operator's Operations Manual, Section 02.09.01, addresses welder qualification not qualified welding procedures. The operator needs to have procedures or a reference to procedures that address qualified welding procedures.**

The Operator's Operations Manual, Section 02.09.01, addresses welder qualification not qualified welding procedures. The operator needs to have procedures or a reference to procedures that address qualified welding procedures.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 407, Welding Procedures*
- *L-O&M 407A, Welding Procedures and Selection Guide*

5. 195.222 Welders: Qualification of welders.

- (a) Each welder must be qualified In accordance with section 6 of API 1104 (ibr, see §195.3 or section IX of the ASME Boiler and Pressure Vessel Code, (ibr, see §195.3) except that a welder qualified under an earlier edition than listed in §195.3 may weld but may not requalify under that earlier edition.**
- (b) No welder may weld with a welding process unless, within the preceding 6 calendar months, the welder has:**
- (1) Engaged in welding with that process; and**
 - (2) Had one welded tested and found acceptable under section 9 of API 1104 (ibr, see §195.3).**

The Operator's Operations Manual should reference the correct standard, section, and edition (API 1104, 19th edition, rather than API 1103). A reference in this section of the procedures to the Operator's Operations Manual section on qualified welding procedures is recommended. Also, the Operator's procedures for a welder to maintain qualification are not consistent with the requirements of §195.222 and need to be modified.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 401, Welder Qualification and Testing*

6. **195.226 Welding: Arc burns.**

- (a) Each arc burn must be repaired.
- (b) An arc burn may be repaired by completely removing the notch by grinding, if the grinding does not reduce the remaining wall thickness to less than the minimum thickness required by the tolerances in the specification to which the pipe is manufactured. If a notch is not repairable by grinding, a cylinder of the pipe containing the entire notch must be removed.
- (c) A ground may not be welded to the pipe or fitting that is being welded.

The Operator's Operations Manual should be modified to include procedures or a reference to procedures that address the requirements of §195.226.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 213, Leaks, Pipe and Weld Defects (Evaluation and Repair)*

7. **195.228 Welds and welding Inspection: Standards of acceptability.**

- (a) Each weld and welding must be inspected to insure compliance with the requirements of this subpart. Visual inspection must be supplemented by nondestructive testing.
- (b) The acceptability of a weld is determined according to the standards in Section 9 of API 1104. However, if a girth weld is unacceptable under those standards for a reason other than a crack, and if Appendix A to API 1104 (ibr, see §195.3) applies to the weld, the acceptability of the weld may be determined under that appendix.

195.234 Welds: Nondestructive testing.

- (a) A weld may be nondestructively tested by any process that will clearly indicate any defects that may affect the integrity of the weld.
- (b) Any nondestructive testing of welds must be performed-
 - (1) In accordance with a written set of procedures for nondestructive testing; and
 - (2) With personnel that have been trained in the established procedures and in the use of the equipment employed in the testing.
- (c) Procedures for the proper interpretation of each weld inspection must be established to ensure the acceptability of the weld under §195.228.

- (d) During construction, at least 10 percent of the girth welds made by each welder during each welding day must be nondestructively tested over the entire circumference of the weld.
- (e) All girth welds installed each day in the following locations must be nondestructively tested over their entire circumference, except that when nondestructive testing is impracticable for a girth weld, it need not be tested if the number of girth welds for which testing is impracticable does not exceed 10 percent of the girth welds installed that day:
 - (1) At any onshore location where a loss of hazardous liquid could reasonably be expected to pollute any stream, river, lake, reservoir, or other body of water, and any offshore area;
 - (2) Within railroad or public road rights-of-way;
 - (3) At overhead road crossings and within tunnels;
 - (4) Within the limits of any incorporated subdivision of a State government; and,
 - (5) Within populated areas, including, but not limited to, residential subdivisions, shopping centers, schools, designated commercial areas, industrial facilities, public institutions, and places of public assembly.
- (f) When installing used pipe, 100 percent of the old girth welds must be nondestructively tested.
- (g) At pipeline tie-ins, including tie-ins of replacement sections, 100 percent of the girth welds must be nondestructively tested.

The Operator's Operations Manual should be modified to include procedures or a reference to procedures that address the requirements of §195.228 and §195.234.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 406, Weld Inspection and Testing

8. 195.234 Welds: Nondestructive testing.

- (a) A weld may be nondestructively tested by any process that will clearly indicate any defects that may affect the integrity of the weld.
- (b) Any nondestructive testing of welds must be performed
 - (1) In accordance with a written set of procedures for nondestructive testing; and
 - (2) With personnel that have been trained in the established procedures and in the use of the equipment employed in the testing.
- (c) Procedures for the proper interpretation of each weld inspection must be established to ensure the acceptability of the weld under §195.228.

- (d) **During construction, at least 10 percent of the girth welds made by each welder during each welding day must be nondestructively tested over the entire circumference of the weld.**
- (e) **All girth welds installed each day in the following locations must be nondestructively tested over their entire circumference, except that when nondestructive testing is impracticable for a girth weld, it need not be tested if the number of girth welds for which testing is impracticable does not exceed 10 percent of the girth welds installed that day:**
 - (1) **At any onshore location where a loss of hazardous liquid could reasonably be expected to pollute any stream, river, lake, reservoir, or other body of water, and any offshore area;**
 - (2) **Within railroad or public road rights-of-way;**
 - (3) **At overhead road crossings and within tunnels;**
 - (4) **Within the limits of any incorporated subdivision of a State government; and,**
 - (5) **Within populated areas, including, but not limited to, residential subdivisions, shopping centers, schools, designated commercial areas, industrial facilities, public institutions, and places of public assembly.**
- (f) **When installing used pipe, 100 percent of the old girth welds must be nondestructively tested.**
- (g) **At pipeline tie-ins, including tie-ins of replacement sections, 900 percent of the girth welds must be nondestructively tested.**

The Operator's Operations Manual should be modified to include procedures or a reference to procedures that address the requirements of §195.228 and §195.234.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 406, Weld Inspection and Testing*
- o *L-O&M 454, Non-Destructive Testing Requirements*

9. 195.230 Welds: Repair or removal of defects.

- (a) **Each weld that is unacceptable under 9185.228 must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipe lay vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.**
- (b) **Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld**

repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

- (c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with written weld repair procedures that have been qualified under §195.214. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

The Operator's Operations Manual should be modified to include procedures or a reference to procedures that address the requirements of §195.230.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 406, *Weld Inspection and Testing*
- o L-O&M 213, *Leaks, Pipe and Weld Defects (Evaluation and Repair)*

10. 195.302 General requirements.

- (c) Except as otherwise provided in this section and in §195.305(b), no operator may operate a pipeline unless it has been pressure tested under this subpart without leakage. In addition, no operator may return to service a segment of pipeline that has been replaced, relocated, or otherwise changed until it has been pressure tested under this subpart without leakage.
- (c) Except for pipelines converted under §195.5, the following pipelines may be operated without pressure testing under this subpart:
 - (1) Any hazardous liquid pipeline whose maximum operating pressure is established under §195.406(a)(5) that is-
 - (i) An Interstate pipeline constructed before January 8, 1971;
 - (ii) An interstate offshore gathering line constructed before August 1, 1977;
 - (iii) An intrastate pipeline constructed before October 21, 1985; or
 - (iv) A low-stress pipeline constructed before August 11, 1994, that transports HVL.
 - (2) Any carbon dioxide pipeline constructed before July 12, 1991, that-
 - (i) Has its maximum operating pressure established under 195.406(a)(5); or
 - (ii) Is located in a rural area as part of a production field distribution system.

- (3) Any low-stress pipeline constructed before August 31, 1994, that does not transport HVL.
 - (4) Those portions of older hazardous liquid and carbon dioxide pipelines for which an operator has elected the risk-based alternative under Sec. 195.303 and which are not required to be tested based on the risk-based criteria.
- (c) Except for pipelines that transport HVL onshore, low-stress pipelines, and pipelines covered under Sec. 195.303, the following compliance deadline apply to pipelines under paragraphs (b)(1) and (b)(2)(1) of this section that have not been pressure tested under this subpart:
- (1) Before December 7, 1998, for each pipeline each operator shall
 - (i) Plan and schedule testing according to this paragraph; or
 - (ii) Establish the pipelines maximum operating pressure under §195.408(a)(5).
 - (2) For pipelines scheduled for testing, each operator shall
 - (i) Before December 7, 2000, pressure test-
 - A. Each pipeline identified by name, symbol, or otherwise that existing records show contains more than 50 percent by mileage of electric resistance welded pipe manufactured before 1970; and
 - B. At least 50 percent of the mileage of all other pipelines; and
 - (ii) Before December 7, 2003, pressure test the remainder of the pipeline mileage.

The Operator's Operations Manual, Section 02.09.03, needs to be modified to state that the pipeline must be tested without leakage as required by §195.302(a). In addition, the Operator's Operations Manual needs to be modified to include procedures or provide reference to procedures that addresses the requirements of §195.302(b) and §195.302(c).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 1600, Strength and Leak Testing

11. **195.402 Procedural manual for operations, maintenance, and emergencies.**

- (c) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws (49 U.S.C. 60101 et seq.) with respect to the pipeline facility governed by an operator's plans

and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

- (c) **Maintenance and normal operations.** The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:
 - (1) **Making construction records, maps, and operating history available are necessary for safe operation and maintenance.**

The Operator's Operations Manual needs to be modified to include procedures or provide reference to procedures that addresses the requirements of §195.402(b) and §195.402(c)(1). More specifically, the procedures addressing §195.402(c)(1) need to state what company personnel will be provided access to operations and maintenance procedures, construction records, maps, and operating history, and how the access will be provided.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 000, Action Decision Committee*
- o *L-O&M 1404, Maps and Records*

12. 195.402 Procedural manual for operations, maintenance, and emergencies.

- (c) **Maintenance and normal operations.** The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:
 - (6) **Minimizing the potential for hazards identified under paragraph (c)(4) of this section and the possibility of recurrence of accidents analyzed under paragraph (c)(5) of this section.**
 - (8) **In the case of pipeline that is not equipped to fail safe, monitoring from an attended location pipeline pressure during startup until steady state pressure and flow conditions are reached and during shut-in to assure operation within limits prescribed by §195.408.**
 - (9) **In the case of facilities not equipped to fail safe that are identified under §195.402(c)(4) or that control receipt and delivery of the hazardous liquid or carbon dioxide, detecting abnormal operating conditions by monitoring pressure, temperature, flow or other appropriate operational data and transmitting the data to an attended location.**
 - (10) **Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles,**

and sealing abandoned facilities left in place to minimize safety and environmental hazards. For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways the last operator of that facility must file a report upon abandonment of that facility in accordance with §195.59 of this part.

- (11) Minimizing the likelihood of accidental ignition of vapors in areas near facilities identified under paragraph (c)(4) of this section where the potential exists for the presence of flammable liquids or gases.
- (13) Periodically reviewing the work done by operator to determine the effectiveness of the procedures used in normal operation and maintenance and taking correct the action where deficiencies are found.
- (14) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulation of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

The Operator's Operations Manual needs to be modified to include procedures or provide reference to procedures that addresses the requirements of §195.402(c)(6) and §195.402(c)(8). In addition, fail-safe needs to be defined as it is used by the Operator and procedures written as necessary to address the requirements of §195.402(c)(8) and §195.402(c)(9). The Operator rarely abandons pipeline facilities and instead chooses to place the pipeline facilities in "inactive status." The regulations recognize only active and abandoned pipelines, so the Operator's Operations Manual needs to be modified to include procedures for pipelines that have been placed in "inactive" status. Specifically, the Operator's procedures need to clearly state that all of the regulations for an active pipeline still apply to "inactive" segments with the possible exception of certain IMP requirements. The Operator's Operations Manual also needs to be modified to include procedures for abandoning pipelines that cross commercially navigable waterways or a statement that this regulation is not applicable to the pipelines operated from this manual. The Operator's Operations Manual does not currently include any procedures that address §195.402(c)(11) as CO₂ is not flammable. However, PHMSA noted during the inspection of the CO₂ pipeline facilities that Wink Pipeline, a crude oil pipeline, is also being operated from this manual. Consequently, the Operator's Operations Manual needs to be modified to include procedures to address the requirements of §195.402(c)(11). The Operator's Operations Manual also needs to be modified to include procedures to address the requirements of §195.402(c)(13) and §195.402(c)(14).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- L-O&M 003, Procedure Review

- L-O&M 119, *Flammable and Combustible Liquid Storage*
- L-O&M 134, *Confined Space Entry*
- L-O&M 159, *Incident Reporting and Investigation*
- L-O&M 226, *Abandoning, Inactivating and Reactivating Liquids Piping*
- L-O&M 272, *Facility Risk Analysis and Preventive and Mitigative Measures Evaluation*
- L-O&M 1101, *Response to Notice of Emergency or Abnormal Operations*
- L-O&M 1102, *Response to Abnormal Operations (Pressure and Flow Control)*
- L-O&M 1404, *Maps and Records*

13. 195.402 Procedural manual for operations, maintenance, and emergencies.

(d) Abnormal operation. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded;

- (1) Responding to, investigating, and correcting the cause of;**
 - (v) Any other malfunction of a component, deviation from normal operation, or personnel error which could cause a hazard to persons or property.**
- (2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.**
- (3) Notifying responsible operator personnel when notice of an abnormal operation is received.**

The Operator's Operations Manual needs to be modified to include procedures or provide reference to procedures that address the requirements of §195.402(d)(1)(v). In addition, the Operator's procedures need to include checking for variations from normal operation and include the phrase "to determine continued integrity and safe operations" as part of the procedures required to address the requirements of §195.402(d)(2). The Operator also needs procedures that address the maintenance of a contact list of key operations personnel and emergency responders at the control center and designated field locations as part of the requirements of §195.402.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- L-O&M 1101, *Response to Notice of Emergency or Abnormal Operations*
- L-O&M 1102, *Response to Abnormal Operations (Pressure and Flow Control)*

14. 195.402 Procedural manual for operations, maintenance, and emergencies.

(e) Emergencies. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when an emergency condition occurs;

- (1) **Receiving, identifying, and classifying notices of events which need immediate response by the operator or notice to fire, police, or other appropriate public officials and communicating this information to appropriate operator personnel for correct the action.**
- (2) **Prompt and effect the response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline fatality, accidental release of hazardous liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition, and natural disaster affecting pipeline facilities.**
- (3) **Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.**
- (4) **Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline in the event of a failure.**
- (5) **Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including possible intentional ignition in the cases of flammable highly volatile liquid.**
- (6) **Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroad in the affected area, or taking other appropriate action.**
- (7) **Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline transporting a highly volatile liquid.**
- (8) **In the case of failure of a pipeline transporting a highly volatile liquid, use of appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous areas.**

The Operator's procedure in Section 04.01.01 of the Operations Manual, paragraph IV titled "GENERAL" needs to be modified to include deaths/injuries in reporting details necessary to address the requirements of §195.402(e)(1). The Operator's procedures for Emergencies needs to address the prompt response requirements of §195.402(e)(2) and the type and location of emergency equipment available to meet the requirements of §195.402(e)(3). Also, the Operator's procedures need to specify the actions that will be taken to minimize a release to address the requirements of §195.402(e)(4), how a release will be controlled to minimize the hazards as required by §195.402(e)(5), how the risk of public exposure will be minimized as required by §195.402(e)(6), and procedures for evacuation, halting road traffic, and halting railroad traffic as required by §195.402(e)(6). Procedures for coordinating fire, police, and other emergency response

personnel are needed to address the requirements of §195.402(e)(7). The Operator has stated the intent to use the Incident Command System (ICS) to manage and coordinate emergency responses, but no mention of this is found in the procedures. While CO₂ is not considered an HVL according to the definitions in §195.2, a CO₂ vapor cloud can displace oxygen, causing asphyxiation. Consequently, procedures to address the requirements of §195.402(e)(8) to monitor the extent and coverage of a vapor cloud are recommended. Additional details on the characteristics of the transported commodities are also recommended. In addition, since Wink Pipeline, a crude oil pipeline, is also being operated from this manual, the Operator's procedures need to address minimizing potential ignition as required by the provisions of §195.402(e)(5) and §195.402(e)(6).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- L-O&M 1101, Response to Notice of Emergency or Abnormal Operations
- L-O&M 1900, Abnormal Operating Conditions and Emergency Response Plan
- L-O&M 1901, Assessment of Vapor Release at an Accident Site

15. 195.403 Emergency Response Training.

(a) Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to:

- (1) Carry out the emergency procedures established under §195.402 that relate to their assignments;**
- (2) Know the characteristics and hazards of the hazardous liquids or carbon dioxide transported, including, in case of flammable HVL, flammability of mixtures with air, odor vapors, and water reaction;**

(b) Each operator shall require and verify that its supervisors maintain a thorough knowledge of that portion of the emergency response procedures established under §195.402 for which they are responsible to ensure compliance.

The Operator stated during the inspection the intent to use the ICS to manage and coordinate emergency responses. However, no mention of this is made in the emergency response or training procedures. The Operator's Operations Manual needs to be modified to include training requirements for personnel in the ICS. Additional procedures related to training for specific responsibilities and assignments related to emergency response are recommended. The Operators Operations manual needs to be modified to include procedures for verifying supervisors knowledge of emergency procedures as required by §195.403(c).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 1900, Abnormal Operating Conditions and Emergency Response Plan*

16. 195.404 Maps and Records.

(b) Each operator shall maintain for at least 3 years daily operating records that indicate:

(2) Any emergency or abnormal operation to which the procedures under 195.402 apply.

(c) Each operator shall maintain the following records for the periods specified;

(1) The date, location, and description of each repair made to pipe shall be maintained for the useful life of the pipe.

(2) The date, location, and description of each repair made to parts of the pipeline other than pipe shall be maintained for at least 1 year.

(3) A record of each inspection and test required by this subpart shall be maintained for at least 2 years or until the next inspection or test is performed, whichever is longer.

The Operators Operations Manual, Section 03.03.02 titled 'ASSESSMENT OF ABNORMAL CONDITIONS,' needs to be modified to include procedures addressing all of the prescriptive items that define an Abnormal Operating Condition and the associated records as required by §195.404(b)(2). Also, the Operator's procedures need to specify the repair details that to be documented as part of the permanent pipeline repair record as required by §195.404(b)(2). It is recommended that the Operator include a reference to any standard forms specified by the Company to document these repairs. The Operator's procedures need to include the documentation requirements for the inspections and repair as required by §195.404(c)(3).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 1101, Response to Notice of Emergency or Abnormal Operations*
- *L-O&M 1102, Response to Abnormal Operations (Pressure and Flow Control)*
- *L-O&M 1404, Maps and Records*

17. 195.408 Communications.

- (a) Each operator must have a communication system to provide for the transmission of information needed for the safe operation of its pipeline system.
- (b) The communication system required by paragraph (a) of this section must, at a minimum, include means for:
 - (1) Monitoring operational data as required by §195.402(c)(9);
 - (2) Receiving notices from operator personnel, the public, and public authorities of abnormal or emergency conditions and sending this information to appropriate personnel or government agencies for corrective action;

The Operator's Operations Manual provides extensive details about the communication system for the Wink Pipeline but very little information about the communications system for the Kinder Morgan CO₂ pipelines. The Operator's procedures should clarify if the same communications system is used for both pipelines or provide additional information for the communications system used by the CO₂ pipelines.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 1101, Response to Notice of Emergency or Abnormal Operations
- o L-O&M 1900, Abnormal Operating Conditions and Emergency Response Plan

18. 195.410 Line Markers

- (a) Except as provided in paragraph (b) of this section, each operator shall place and maintain line markers over each buried pipeline in accordance with the following:
 - (1) Markers must be located at each public road crossing, at each railroad crossing, and in sufficient number along the remainder of each buried line so that its location is accurately known.

The Operator's Operations Manual procedure in Section 02.06.05 titled "PIPELINE MARKERS," has several items in the list of exclusions in paragraph V that states locations where line markers should be placed. This appears to be an error in the structure of the paragraph that needs to be corrected to ensure the procedures are consistent with the requirements of §195.410.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 205, Pipeline Markers and Cover

19. **195.412 Inspection of Rights-of-Way and Crossings Under Navigable Waters.**

- (a) Each operator shall, at intervals not exceeding 3 weeks, but at least 26 times each calendar year, inspect the surface conditions on or adjacent to each pipeline rights-of-way. Methods of inspection include walking, driving, flying or other appropriate mean of traversing the rights-of-way.
- (b) Except for offshore pipelines, each operator shall, at intervals not exceeding 5 years, inspect each crossing under a navigable waterway to determine the condition of the crossing.

The Operator's Operations Manual needs to be modified to include procedures that address the actions to be taken should the specified aerial patrolling not take place in time to meet the inspection interval required by §195.412(a). The Operator had occasions where the planned aerial patrol was not performed due to weather. The inspection interval was exceeded because an alternate form of inspection was not performed. Procedures are needed to specify that other forms of inspection must be implemented to meet the required interval should the aerial patrol not be performed. Also, operations personnel need to complete the required inspection documentation as specified by the Operator's Operations Manual (Form DOT-9) or modify the procedures to specify alternate forms of documentation. A procedure for inspecting underwater crossings is also needed or a statement included in the Operator Operations Manual that this type of inspection does not apply to the pipelines operated from the Kinder Morgan CO₂ Operations Manual.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 215, *Patrolling and Leak Detection*
- o L-O&M 217, *Underwater Crossing Inspection*

20. **195.422 Pipeline Repairs.**

- (a) Each operator shall, in repairing its pipeline systems, insure that the repairs are made in a safe manner and are made so as to prevent damage to persons or property.
- (b) No operator may use any pipe, valve, or fitting, for replacement in repairing pipeline facilities, unless it is designed and constructed as required by this part.

The procedure states that "all applicable safety procedures shall be practiced." The specific safety procedures should be identified and referenced. The hydrostatic test requirement in V, b, should reference the operator's hydrostatic test procedure that is to be used. If operator uses a standard pipeline repair form, it should be specified in

procedure. The procedures would be easier to use if the references to other procedures were contained in the procedural text in the appropriate locations such as in paragraph 4. Also the procedure should restrict the application of composite wraps, such as a Clock Spring, to appropriate applications.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 213, Leaks, Pipe and Weld Defects (Evaluation and Repair)*

21. 195.426 Scraper and sphere facilities.

No operator may use a launcher or receiver that is not equipped with a relief device capable of safely relieving pressure in the barrel before insertion or removal of scrapers or spheres. The operator must use a suitable device to indicate that pressure has been relieved in the barrel or must provide a means to prevent insertion or removal of scrapers or spheres if pressure has not been relieved in the barrel.

The Operators procedures should address the installation and movement of the portable pig launchers and catchers used on some parts of the CO₂ system, particularly related to the requirements of §195.426.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 235, Pigging Operations*

22. 195.428 Overpressure safety devices and overfill protection systems.

(a) Except as provided in paragraph (b) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, or in the case of pipelines used to carry highly volatile liquids, at intervals not to exceed 7½ months, but at least twice each calendar year, inspect and test each pressure limiting device, relief valve, pressure regulator, or other item of pressure control equipment to determine that it is functioning properly, is in good mechanical condition, and is adequate from the standpoint of capacity and reliability of operation for the service in which it is used.

(c) Aboveground breakout tanks that are constructed or significantly altered according to API Standard 2510 after October 2, 2000, must have an overfill protection system installed according to section 5.1.2 of API Standard 2510. Other aboveground breakout tanks with 600 gallons (2271 liters) or more of storage capacity that are constructed or significantly altered after October 2, 2000, must have an overfill protection system installed according to API Recommended Practice 2350. However, operators need not comply

with any part of API Recommended Practice 2350 for a particular breakout tank if the operator notes in the manual required by §195.402 why compliance with that part is not necessary for safety of the tank.

- (d) After October 2, 2000, the requirements of paragraphs (a) and (b) of this section for inspection and testing of pressure control equipment apply to the inspection and testing of overfill protection systems.**

The Operator's procedures should cover the application of thermal relief devices, when they are to be installed, where they are to be installed, as well as the testing and inspection as required by §495.428(a). The CO₂ system does not have breakout tanks, but since the Operator is using this manual for the operation of the Wink system the procedures need to address the requirements of §195.428(c) and (d).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 703, Pressure Limiting and Relief Devices and Inspections*
- *L-O&M 704, Overpressure and Overfill Protective Devices*
- *L-O&M 2101, Atmospheric Breakout Tank Inspection*

23. 195.430 Firefighting equipment.

Each operator shall maintain adequate firefighting equipment at each pump station and breakout tank area. The equipment must be-

- (a) In proper operating condition at all times;**
- (b) Plainly marked so that its identity as firefighting equipment is clear; and,**
- (c) Located so that it is easily accessible during a fire.**

While CO₂ is not a flammable commodity, the Operator's facilities may use electrical equipment, chemicals, and other flammable materials in the operation of the pipeline system and needs procedures that completely address the requirements of §195.430. In addition, the Wink pipeline which transports crude oil is being operated from the same procedures manual and also needs complete procedures for firefighting equipment.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 111, Fire Prevention*

24. 195.434 Signs

Each operator must maintain signs visible to the public around each pumping station and breakout tank area. Each sign must contain the name of the operator and a telephone number (including area code) where the operator can be reached at all times.

Operator needs to include procedures for signs in the Operations Manual or to provide a reference to procedures that address the requirements of 5195.434. The Operator's Operations Manual contains procedures for "Security of Facilities" and "Pipeline Markers" which reference the KMI/KMEP Security Plan. The KMI/KMEP Security Plan contains a section titled "Security of Facilities" that specifies signs are to be posted at "regular intervals" on perimeter fences. However the Operator's Operations Manual does not specifically mention signs or refer to the KMI/KMEP Security Plan for sign procedures.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 205, Pipeline Markers and Cover*

25. 195.442 Damage Prevention Program

(b) An operator may comply with any of the requirements of paragraph (c) of this section through participation in a public service program, such as a one-call system, but such participation does not relieve the operator of responsibility for compliance with this section. However, an operator must perform the duties of paragraph (c)(3) of this section through participation in a one-call system, if that one-call system is a qualified one-call system. In areas that are covered by more than one qualified one-call system, an operator need only join one of the qualified one-call systems if there is a central telephone number for excavators to call for excavation activities, or if the one-call systems in those areas communicate with one another. An operator's pipeline system must be covered by a qualified one-call system where there is one in place. For the purposes of this section, a one-call system is considered a "qualified one-call system" if it meets the requirements of section (b)(1) or (b)(2) or this section.

(1) The state has adopted a one-call damage prevention program under Sec. 198.37 of this chapter; or

(2) The one-call system:

- (i) Is operated in accordance with Sec. 198.39 of this chapter;**
- (ii) Provides a pipeline operator an opportunity similar to a voluntary participant to have a part in management responsibilities; and**
- (iii) Assesses a participating pipeline operator a fee that is proportionate to the costs of the one-call system's coverage of the operator's pipeline.**

(c) **The damage prevention program required by paragraph (a) of this section must, at a minimum:**

(1) **Include the identity, on a current basis of persons who normally engage in excavation activities in the area in which the pipeline is located.**

The Operator's procedures need to specify the one-call organization(s) that it is a member of and the contact numbers for this/these organization(s). Also, the location where excavator contacts are maintained needs to be specified in the procedures. The Operator's existing procedures include the terms "team member" and "team office" as well as "staff member" and "field office." The meaning of these terms should be made clear and the terminology should be made consistent throughout the procedures.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 232, Damage Prevention and Public Education*

26. 195.55 What are the qualifications for supervisors?

You must require and verify that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under Sec. 195.402(c)(3) for which they are responsible for insuring compliance.

The Operator's Operations Manual contains procedures for corrosion control responsibilities in Section 02.02.01. However, the qualifications for the supervisor responsible for ensuring compliance with corrosion control procedures have not been defined. In addition, the Operations Manual specifies a meeting will be held each calendar year for reviewing the status of the external, internal, and atmospheric corrosion programs with "responsible corrosion personnel." The procedures do not specify the meaning of the term "responsible corrosion personnel" and do not define the qualifications required for the supervisor or any of the "responsible corrosion personnel."

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 003, Procedure Review*
- *L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*
- *L-O&M 906, Internal Corrosion Control*
- *L-O&M 918, Inspecting for Atmospheric Corrosion*

27. 195.557 Which pipelines must have coating for external corrosion control?

Except bottoms of aboveground breakout tanks, each buried or submerged pipeline must have an external coating for external corrosion control if the pipeline is--

- (a) Constructed, relocated, replaced, or otherwise changed after the applicable date in Sec. 195.401(c), not including the movement of pipe covered by Sec. 195.424; or**
- (b) Converted under Sec. 195.5 and--**
 - (1) Has an external coating that substantially meets Sec. 195.559 before the pipeline is placed in service;**

The Operator's Operations Manual does not mention the specific dates in procedures cathodic protection procedures include in Section 02.02.05, "External Protective Coating & Cathodic Protection" mentions Conversion of Service procedures as it may relate to cathodic protection, but there are no overall procedures covering Conversion of Service in the Operator's Operations Maintenance manual.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*

28. 195.559 What coating material may I use for external corrosion control?

Coating material for external corrosion control under Sec. 195.557 must--

- (a) Be designed to mitigate corrosion of the buried or submerged pipeline;**
- (b) Have sufficient adhesion to the metal surface to prevent under film migration of moisture;**
- (c) Be sufficiently ductile to resist cracking;**
- (d) Have enough strength to resist damage due to handling and soil stress;**
- (e) Support any supplemental cathodic protection; and**
- (f) If the coating is an insulating type, have low moisture absorption and provide high electrical resistance.**

The Operator's Operations Manual needs to contain procedures that specify the required coating characteristics, specifications, and coatings approved for use. The procedures should at a minimum specify the coatings must meet the requirements of 195.559 and be suited for the specific application. If the Operator has additional procedures that pertain to coating materials, these procedures should be referenced in the Operator's Operations Manual.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 203, Coating Pipeline

29. 195.561 When must I inspect pipe coating used for external corrosion control?

(a) You must inspect all external pipe coating required by Sec. 195.557 just prior to lowering the pipe into the ditch or submerging the pipe.

(b) You must repair any coating damage discovered.

The Operator's Operations Manual needs to specify how coatings will be inspected, i.e. visually, electrically, etc. The procedures also need to specify that any damaged coating will be repaired using an approved coating and procedures.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 203, Coating Pipeline

30. 195.563 Which pipelines must have cathodic protection?

(b) Each buried or submerged pipeline converted under Sec. 195.5 must have cathodic protection if the pipeline--

(1) Has cathodic protection that substantially meets Sec. 195.571 before the pipeline is placed in service; or

(2) Is a segment that is relocated, replaced, or substantially altered.

(c) All other buried or submerged pipelines that have an effective external coating must have cathodic protection.(see Note below) Except as provided by paragraph (d) of this section, this requirement does not apply to breakout tanks and does not apply to buried piping in breakout tank areas and pumping stations until December 29, 2003

(d) Bare pipelines, breakout tank areas, and buried pumping station piping must have cathodic protection in places where regulations in effect before January 28, 2002 required cathodic protection as a result of electrical inspections. See previous editions of this part in 49 CFR, parts 186 to 199.

(e) Unprotected pipe must have cathodic protection if required by Sec. 195.573(b).

The Operator's Operations Manual In Section 02.02.05, Paragraph IV, 4, c states "All existing buried piping will have cathodic protection

applied that meets the requirements of III-01-05." The reference III 01-05 cannot be found in the Operator's Operations Manual, In addition, the procedures do not address the issue of effective coating and do not specifically state that all effectively mated pipelines will have cathodic protection according to 195.563(c). Also, the Operator's Operations Manual does not address the requirements of 195.563(6) or 195.563(e).

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*
31. **195.567(a) Which pipeline must have test leads and what must I do to install and maintain test leads?**
- (a) **General.** Except for offshore pipelines, each buried or submerged pipeline or segment of pipeline under cathodic protection required by this subpart must have electrical test leads for external corrosion control. However, this requirement does not apply until December 27, 2004 to pipelines or pipeline segments on which test leads were not required by regulations in effect before January 28, 2002.
 - (b) **Installation.** You must install test leads as follows:
 - (1) **Locate the leads at intervals frequent enough to obtain electrical measurements indicating the adequacy of cathodic protection.**
 - (2) **Provide enough looping or slack so backfilling will not unduly stress or break the lead and the lead will otherwise remain mechanically secure and electrically conductive.**
 - (3) **Prevent lead attachments from causing stress concentrations on pipe.**
 - (4) **For leads installed in conduits, suitably insulate the lead from the conduit.**
 - (5) **At the connection to the pipeline, coat each bared test lead wire and bared metallic area with an electrical insulating material compatible with the pipe coating and the insulation on the wire.**
 - (c) **Maintenance.** You must maintain the test lead wires in a condition that enables you to obtain electrical measurements to determine whether cathodic protection complies with Sec. 195.571.

Section 02.02.03 of the Operator's Operations Manual addresses the installation of conductors, Section 02.02.06 addresses corrosion control, but neither procedure specifically addresses the maintenance of test leads.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines

32. 195.571 What criteria must I use to determine the adequacy of cathodic protection?

Cathodic protection required by this subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE Standard RP 0169 (incorporated by reference, see §195.3).

NACE 169-96 is included in the referenced document list but no specific reference to this standard is included in the text of Section 02.02.06 of the Operator's Operations Manual. Consequently, Paragraph "b" without the "see definition in Section 2" note contained in NACE 169-96 could be misleading. This note refers the user to the definition of "Polarized Potential" that states this is "The potential across the structure/electrolyte interface.. .". Since it is difficult in most pipeline applications to measure the specific voltage, consideration of voltage drops other than those across the structure-to-electrolyte boundary must still be considered. Therefore this stated criterion cannot be correctly applied without including the appropriate definition of "Polarized Potential." Also, Paragraph 2 of Section 02.02.06 of the Operator's Operations Manual introduces the concept of excessive polarized potentials but does not discuss how this is to be determined or any limitations that should be placed on polarized potentials.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines

33. 195.573 What must I do to monitor external corrosion control?

(a) Protected pipelines. You must do the following to determine whether cathodic protection required by this subpart complies with Sec. 195.571:

- 2) Identify not more than 2 years after cathodic protection is installed, the circumstances in which a close-interval survey or comparable technology is practicable and necessary to accomplish the objectives of paragraph 10.1.1.3 of NACE Standard RP 0169 (incorporated by reference, see §195.3).**

Performance of Close Interval Survey's (CIS) is covered in Section 02.02.02 of the Operator's Operations Manual. However, the

procedures do not contain any criteria as to when or at what frequency CIS's should be performed.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*

34. 195.573 What must I do to monitor external corrosion control?

- (e) **Corrective action. You must correct any identified deficiency in corrosion control as required by Sec. 195.401(b). However, if the deficiency involves a pipeline in an integrity management program under Sec. 195.452, you must correct the deficiency as required by Sec. 195.452(h).**

The Operator's Operations Manual does not address the requirements of 195.401 (b) for conditions that could adversely affect the safe operation of the pipeline systems.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o *L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*

35. 195.575 Which facilities must I electrically isolate and what inspections, tests, and safeguards are required?

- (a) **You must electrically isolate each buried or submerged pipeline from other metallic structures, unless you electrically interconnect and cathodically protect the pipeline and the other structures as a single unit.**
- (b) **You must install one or more insulating devices where electrical isolation of a portion of a pipeline is necessary to facilitate the application of corrosion control.**
- (c) **You must inspect and electrically test each electrical isolation to assure the isolation is adequate.**
- (d) **If you install an insulating device in an area where a combustible atmosphere is reasonable to foresee, you must take precautions to prevent arcing.**
- (e) **If a pipeline is in close proximity to electrical transmission tower footings, ground cables, or counterpoise, or in other areas where it is reasonable to foresee fault currents or an unusual risk of lightning, you must protect the pipeline against damage from fault currents or lightning and take protective measures at insulating devices.**

The Operator's Operations Manual refers to the KMP Pacific Products Pipeline Operations Corrosion Manual, Chapters 2 and 7 in the list of Related Regulations and Standards. However, the Operations Manual procedures do not specifically refer to these chapters so it is unclear how the referenced material applies. In Paragraph IV, 3, the "Corrosion Manual, Appendix B" is referenced but this was not included in the list of Regulated Regulations and Standards. In addition, Paragraph IV, 3 states "Standard electrical isolation methods are outlined in the Corrosion Manual, Appendix B." From this statement it is not clear if the referenced isolation methods are required for the CO2 and Wink Pipelines. In addition, the Operator's Operations Manual procedures do not address the installation of insulating devices in a combustible atmosphere or provide a specific reference to procedures that cover the requirements of 195.575(d). While this may not be applicable to the CO2 pipelines, Wink Pipeline, which transports crude oil, was also being operated from this manual at the time of this inspection. The scope of this inspection did not specifically cover the Wink Pipeline, but the inspection does attempt to address gross omissions in the procedures due to knowledge that a crude oil pipeline being operated from the same manual.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines*

36. 195.577 What must I do to alleviate interference currents?

- (a) For pipelines exposed to stray currents, you must have a program to identify, test for, and minimize the detrimental effects of such currents.
- (b) You must design and install each impressed current or galvanic anode system to minimize any adverse effects on existing adjacent metallic structures.

The Operator's Operations Manual in Section 02.05.01, Paragraph IV, 3, states the following: "Parallel overhead transmission lines must be bonded to enable residual CP current to be eliminated ... Whenever they are separated or rejoined." The meaning of this statement needs to be made clear. In addition, the requirements for installation and grounding are included, but the Operator's Operations Manual procedures do not mention identification and testing for stray currents and the determination of the effectiveness of the grounding. Also the application of the diagrams labeled Figures 1 and 2 is not clear as they are not referenced in the procedures text. Because the Operator has operating conditions where high voltage overhead power lines may be inducing a current onto the pipeline, the Operator should have procedures that deal with testing for and minimizing the detrimental effects of such currents.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 903, External Corrosion Control for Buried or Submerged Pipelines

37. 195.585 What must I do to correct corroded pipe?

(a) General corrosion. If you find pipe so generally corroded that the remaining wall thickness is less than that required for the maximum operating pressure of the pipeline, you must replace the pipe. However, you need not replace the pipe if you--

- (1) Reduce the maximum operating pressure commensurate with the strength of the pipe needed for serviceability based on actual remaining wall thickness; or**
- (2) Repair the pipe by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.**

(b) Localized corrosion pitting. If you find pipe that has localized corrosion pitting to a degree that leakage might result, you must replace or repair the pipe, unless you reduce the maximum operating pressure commensurate with the strength of the pipe based on actual remaining wall thickness in the pits.

The procedures in the Operator's Operations Manual do not adequately address the requirements of 195.585. At a minimum the procedures should cover reductions in wall thickness, required pressure reductions, repairs to restore the serviceability of the pipe, localized corrosion pitting that may result in leakage, and remaining strength calculations.

As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- o L-O&M 213, Leaks, Pipe and Weld Defects (Evaluation and Repair)

38. 195.587 What methods are available to determine the strength of corroded pipe?

Under Sec. 195.585, you may use the procedure in ASME B31G, "Manual for Determining the Remaining Strength of Corroded Pipelines," or the procedure developed by AGA/Battelle, "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe (with RSTRENG disk)," to determine the strength of corroded pipe based on actual remaining wall thickness. These procedures apply to corroded regions that do not penetrate the pipe wall, subject to the limitations set out in the respective procedures.

The procedures in the Operator's Operations Manual do not adequately address the requirements of 195.587.

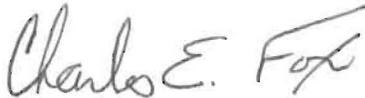
As part of the consolidation with the L-O&M Manual, Kinder Morgan CO₂ is implementing the following procedure(s) in response to this item:

- *L-O&M 213, Leaks, Pipe and Weld Defects (Evaluation and Repair)*

Kinder Morgan is committed to operating our pipelines safely, in respect of the environment and in compliance with all governmental regulations.

If you have any questions or need further assistance please contact me at 713.369.9198 or Danielle Stephens at 713.369.8016.

Sincerely,



Mr. Charles E. Fox
Vice President Operations and Technology
Kinder Morgan CO₂ CO., L.P.

Cc: Ken Havens
Jeff Layne
Scott Muston
Danielle Stephens
John Sales
Wayland Steele