



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

8701 South Gessner, Suite 1110
Houston, TX 77074

NOTICE OF AMENDMENT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 1, 2007

Mr Kevin C Weyer, President
UCAR Pipeline, Incorporated
1000 County Road 340
Angleton, TX 77515-7515

CPF 4-2007-1010M

Dear Mr Weyer

On March 20-22, September 11-15, and October 10, 2006, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected UCAR's operations and maintenance procedures as part of a standard inspection of the pipeline records in Grove, TX

As a result of the inspection, it appears that your written procedures are inadequate to assure safe operation of the pipeline as follows

1. **192.605 Procedural manual for operations, maintenance, and emergencies.**
 - (a) **General.** Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

The UCAR procedures for making revisions to the Operations, Maintenance, and Emergency manual seem to contain contradictory statements. One statement indicates that supervisory approval is not needed for an author to change a procedure and another specifies that supervisory approval is required. The explanation provided by UCAR personnel is that minor changes, such as grammar and punctuation, can be made without approval. UCAR should modify the procedures to clarify the requirements for making minor vs. major changes to the manual.

The operations and maintenance manual also has contradictory statements pertaining to the review process. One reference states that the review will take place every two years while another states that a review must take place annually. UCAR personnel explained that the two-year interval was based on Dow Chemical review requirements while the annual review requirement is for compliance with §192.605(a). UCAR should make appropriate modifications to clarify the procedures and eliminate any contradictions in the review requirements.

2. 192.605 Procedural manual for operations, maintenance, and emergencies.

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices.

(7) Starting, operating and shutting down gas compressor units.

The UCAR procedures contained in the Operations, Maintenance, and Emergency manual for starting up and shutting down the pipeline system consist mainly of information on hazardous air/fuel mixtures. While this is an important subject, it doesn't actually address any pipeline/compressor startup or shutdown procedures. UCAR personnel have stated that the system is completely automated and the field personnel do not need to have any information for starting or stopping the pipeline system. The UCAR procedures titled Startup/Shutdown of Pipeline Facilities should at least include some basic information about the required startup/shutdown processes and potential abnormal operating conditions.

3. 192.605 Procedural manual for operations, maintenance, and emergencies.

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.

Procedures for addressing a periodic review of work performed by operations personnel to determine the effectiveness were not found in the UCAR Operations, Maintenance and Emergency manual. The UCAR Operator Qualification program documents an effectiveness review but is not referenced in the Operations, Maintenance and Emergency manual.

Effectiveness review procedures or a reference to the procedures should be included in the UCAR Operations, Maintenance and Emergency manual under this subject heading

4. 192.609 Change in class location: Required study.

Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at hoop stress that is more than 40 percent of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine:

(a) The present class location for the segment involved.

(b) The design, construction, and testing procedures followed in the original construction, and a comparison of these procedures with those required for the present class location by the applicable provisions of this part.

(c) The physical condition of the segment to the extent it can be ascertained from available records;

(d) The operating and maintenance history of the segment;

(e) The maximum actual operating pressure and the corresponding operating hoop stress, taking pressure gradient into account, for the segment of pipeline involved; and

(f) The actual area affected by the population density increase, and physical barriers or other factors which may limit further expansion of the more densely populated area.

The UCAR procedure for updating class locations contains a description in Step 7 that states "Divide the zone into lengths, each containing one mile of pipeline." Taken literally, this is not a proper application of the sliding mile concept required by the regulations to correctly determine class density. Since UCAR can assign any one of several pipeline technicians to make class change determinations as part of their UCAR responsibilities it is important that the procedures for making the proper class density determination are correct and applied consistently. UCAR should modify its Class Locations/HCA Update Procedures to ensure that the required class density studies are correctly described.

5. 192.615 Emergency Plans.

(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:

(2) Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.

(3) Prompt and effective response to a notice of each type of emergency, including the following:

(i) Gas detected inside or near a building.

(8) Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.

(10) Beginning action under §192.617, if applicable, as soon after the end of the emergency as possible.

(b) Each operator shall:

(1) Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.

The UCAR procedures include a task list of items that should be performed during an emergency. However, the task list does not specifically mention the contact of public officials. UCAR personnel stated that all accidents are different and determining if and when public officials should be contacted is dependent on the type and severity of the specific accident. This variability is true for many accident tasks but they still are rightfully included in the procedures. The basis for establishing communications and determining when public officials should be notified as well as the type of public officials that should be notified needs to be included in the UCAR procedures according to §192.615(a)(2) and (8). Also, the UCAR procedures don't specifically address procedures for when the transported commodity is detected in or near a building according to §192.615(a)(3)(i), no time frame is specified for completing an accident investigation according to §192.615(a)(10), and no mention is made of providing responsible supervisors a copy of the latest emergency procedures according to §192.615(b)(1). All of these items should be addressed by the UCAR Operations, Maintenance, and Emergency manual.

6. 192.625 Odorization of Gas

A combustible gas in a distribution line must contain a natural odorant or be odorized so that at a concentration in air of one-fifth of the lower explosive limit, the gas is readily detectable by a person with a normal sense of smell.

(b) After December 31, 1976, a combustible gas in a transmission line in a Class 3 or Class 4 location must comply with the requirements of paragraph

(a) of this section unless: (1) At least 50 percent of the length of the line downstream from that location is in a Class 1 or Class 2 location; (2) The line transports gas to any of the following facilities which received gas without an odorant from that line before May 5, 1975;

(i) An underground storage field;

(ii) A gas processing plant;

(iii) A gas dehydration plant; or

(iv) An industrial plant using gas in a process where the presence of an odorant:

(A) Makes the end product unfit for the purpose for which it is intended;

(B) Reduces the activity of a catalyst; or

(C) Reduces the percentage completion of a chemical reaction;

(3) In the case of a lateral line which transports gas to a distribution center, at least 50 percent of the length of that line is in a Class 1 or Class 2 location; or

(4) The combustible gas is hydrogen intended for use as a feedstock in a manufacturing process.

The UCAR Operations, Maintenance and Emergency manual does not include any information on odorization or information as to why the UCAR gas is not odorized in Class 3 locations. The UCAR pipeline is transporting ethylene in a gaseous state and, according to operations personnel, is not odorized under the exemption specified by §192.625(b)(iv). The UCAR manual should contain some information or reference to the exemption claimed by UCAR as the reason for not odorizing the transported commodity.

7. 192.705 Transmission Lines: Patrolling

(b) The frequency of patrols is determined by the size of the line, the operating pressures, the class location, terrain, weather, and other relevant factors, but intervals between patrols may not be longer than prescribed in the following table:

Class location of line	Maximum interval between patrols	
	Highway and Railroad Crossings	At all other places
1,2	7 ½ months, but at least twice each calendar year	15 months, but at least once each calendar year
3	4 ½ months, but at least four times each calendar year	7 ½ months, but at least twice each calendar year
4	4 ½ months, but at least four times each calendar year	4 ½ months, but at least four times each calendar year

The specific patrolling intervals prescribed by §192.705(b) were not found in the UCAR procedures. The UCAR Operations, Maintenance and Emergency manual should be amended to include these patrolling intervals.

8. 192.717 Transmission Lines: Permanent field repair of leaks.

Each permanent field repair of a leak on a transmission line must be made by—

(a) Removing the leak by cutting out and replacing a cylindrical piece of pipe; or

(b) Repairing the leak by one of the following methods:

- 1. Install a full encirclement welded split sleeve of appropriate design, unless the transmission line is joined by mechanical couplings and operates at less than 40 percent of SMYS.**
- 2. If the leak is due to a corrosion pit, install a properly designed bolt-on-leak clamp.**
- (3) If the leak is due to a corrosion pit and on pipe of not more than 40,000 psi (267 Mpa) SMYS, fillet weld over the pitted area a steel plate patch with rounded corners, of the same or greater thickness than the pipe, and not more than one half of the diameter of the pipe in size.**
- (4) If the leak is on a submerged offshore pipeline or submerged pipeline in inland navigable waters, mechanically apply a full encirclement split sleeve of appropriate design.**
- (5) Apply a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.**

According to UCAR operations personnel, any damaged pipe segment must be repaired by cut out. However, there is a contradictory statement in the leak repair section that allows the damaged pipe to be repaired. UCAR operations personnel stated that this was sometimes used for other Dow facilities, but not for the UCAR pipeline system. The UCAR manual needs to be clear on the type of repairs allowed and contain an adequate description of the procedures allowed for making these repairs.

9. 192.739 Pressure limiting and regulating stations: Inspection and testing.

(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

- (1) In good mechanical condition;**
- (2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;**
- (3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a); and**
- (4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.**

(b) For steel pipelines whose MAOP is determined under §192.619(c), if the MAOP is 60 psi (414 kPa) gage or more, the control or relief pressure limit is as follows:

If the MAOP produces a hoop stress that is	Then the pressure limit is
Greater than 72 percent of SMYS Unknown as a percentage of SMYS	MAOP plus 4 percent A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP

The relief valve procedures in the UCAR Operations, Maintenance and Emergency manual mainly cover testing and do not adequately discuss sizing, mechanical condition, or installation. In addition, the UCAR operations personnel stated that they no longer have the equipment or technicians qualified to test relief valves and a contractor is used to perform these tasks. These considerations make it especially important that the UCAR procedures adequately cover these topics.

10. 192.743 Pressure limiting and regulating stations: Capacity of Relief Devices.

(a) Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected. Except as provided in §192.739(b), the capacity must be consistent with the pressure limits of §192.201(a). This capacity must be determined at intervals not exceeding 15 months, but at least once each calendar year, by testing the devices in place or by review and calculations.

(b) If review and calculations are used to determine if a device has sufficient capacity, the calculated capacity must be compared with the rated or experimentally determined relieving capacity of the device for the conditions under which it operates. After the initial calculations, subsequent calculations need not be made if the annual review documents that parameters have not changed to cause the rated or experimentally determined relieving capacity to be insufficient.

(c) If a relief device is of insufficient capacity, a new or additional device must be installed to provide the capacity required by paragraph (a) of this section.

The UCAR procedures for relief devices do not specify an annual review of capacity or a determination that flow conditions used for the original sizing have not changed. The UCAR Operations, Maintenance and Emergency manual should be amended to include these topics.

11. 192.745 Valves maintenance: Transmission Lines.

(b) Each operator must take prompt remedial action to correct any valve found inoperable, unless the operator designates an alternative valve.

The UCAR procedures state that if a valve problem is discovered during an inspection, the valve will be scheduled for repairs. There is no discussion about promptness or the immediacy of valve repairs, so the UCAR Operations, Maintenance and Emergency manual should be amended to cover this issue.

12. 192.227 Qualification of welders.

(a) Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 6 of API 1104 (ibr, see §192.7) or section IX of the ASME Boiler and Pressure Vessel Code (ibr, see §192.7). However, a welder qualified under an earlier edition than listed in appendix A of this part may weld but may not requalify under that earlier edition.

The UCAR welding procedures should refer to the correct edition of API 1104 and Section IX of the Boiler and Pressure Vessel Code. The UCAR procedures should be amended to specify the 19th edition of API 1104 and the 2001 edition of Section IX of the ASME Boiler and Pressure Vessel Code.

13. 192.245 Repair or removal of defects.

(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.

There appears to be a contradiction between references in the UCAR procedures as the repair section indicates that weld defects must be cut-out while the welding procedures seem to indicate that a weld defect can be repaired. UCAR operations personnel indicated that weld defects are cut-out on this pipeline and the procedures should consistently reflect this policy.

14. 192.243 Nondestructive testing.

(b) Nondestructive testing of welds must be performed: (1) In accordance with written procedures; and (2) By persons who have been trained and qualified in the established procedures and with the equipment employed in testing. (c) Procedures must be established for the proper interpretation of each nondestructive test of a weld to ensure the acceptability of the weld under §192.241(c).

UCAR's procedures do not specify the nondestructive procedures that are to be used. In addition, there are not any procedures for ensuring the acceptability of welds by nondestructive testing. The UCAR Operations, Maintenance and Emergency manual should be amended to cover or provide a reference for these topics.

15. 192.459 External Corrosion Control: Examination of buried pipeline when exposed.

Whenever an operator has knowledge that any portion of a buried pipeline is exposed, the exposed portion must be examined for evidence of external

corrosion if the pipe is bare, or if the coating is deteriorated. If external corrosion requiring remedial action under Secs. 192.483 through 192.489 is found, the operator shall investigate circumferentially and longitudinally beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.

UCAR's procedures do not specifically require the operator to investigate circumferentially and longitudinally beyond the exposed portion to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion. The UCAR Operations, Maintenance and Emergency manual should be amended to cover this issue.

16. 192.465 External Corrosion Control: Monitoring.

(d) Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.

UCAR's procedures do not contain any provisions requiring prompt remedial action if deficiencies are indicated by the monitoring. The UCAR Operations, Maintenance and Emergency manual should be amended to cover this issue.

17. 192.469 External Corrosion Control: Test Stations.

Each pipeline under cathodic protection required by this subpart must have sufficient test stations or other contact points for electrical measurement to determine the adequacy of cathodic protection.

UCAR's procedures do not specifically address test station spacing. The UCAR Operations, Maintenance and Emergency manual should be amended to cover this issue.

18. 192.479 Atmospheric corrosion control: General.

(c) Except portions of pipelines in offshore splash zones or soil-to-air interfaces, the operator need not protect from atmospheric corrosion any pipeline for which the operator demonstrates by test, investigation, or experience appropriate to the environment of the pipeline that corrosion will—(1) Only be a light surface oxide; or (2) Not affect the safe operation of the pipeline before the next scheduled inspection.

UCAR's procedures state that all above ground piping will be coated with a paint system and if any facilities are found to be in need of repair, appropriate action shall be taken to complete the maintenance or repair in a timely fashion. However, the procedures do not indicate any criteria to be used by operations personnel for making a determination of when the maintenance work is or is not needed such as the requirements in §192.479(c)(1) and (2).

19. 192.481 Atmospheric corrosion control: Monitoring.

(b) During inspections the operator must give particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbonded coatings, at pipe supports, in splash zones, at deck penetrations, and in spans over water.

(c) If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion as required by Sec. 192.479.

UCAR's procedures do not specifically address the soil-to-air interfaces or the protection that must be provided if corrosion is found. The UCAR Operations, Maintenance and Emergency manual should be amended to cover this issue.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.237. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b). If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order.

If, after opportunity for a hearing, your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.237). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within [number of days] days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

In correspondence concerning this matter, please refer to **CPF 4-2007-1010M** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



R M Seeley
Director, Southwest Region
Pipeline and Hazardous
Materials Safety Administration

Enclosure *Response Options for Pipeline Operators in Compliance Proceedings*