



U.S. Department of Transportation  
**Pipeline and Hazardous Materials  
Safety Administration**

1200 New Jersey Ave, SE  
Washington, D.C. 20590

JUL 28 2010

Mr. Edwin McIntyre  
Health and Safety Manager  
Wacker Polymers  
854 North Main Street  
Admin. Building  
Calvert City, KY 42029

Ref. No.: 10-0104

Dear Mr. McIntyre:

This responds to your May 4, 2010 letter and telephone conversation with a member of my staff regarding the requirements for unloading hazardous materials from rail tank cars under the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180). Specifically, you ask whether the electronic monitoring system you describe in your letter would be adequate to meet the requirements of § 174.67(i) and electronic rail car unloading monitoring outlined in a formal interpretation of the regulations, 87-4-RSPA. The unloading process monitored by the system you described in your letter occurs after the rail tank car has been delivered to the consignee.

The requirements in § 174.67 apply to transloading operations only. Transloading is the transfer of a hazardous material from one bulk packaging to another bulk packaging, from a bulk packaging to a non-bulk packaging, or from a non-bulk packaging to a bulk packaging for the purpose of continuing the movement of the hazardous material in commerce (see § 171.8). The requirements in § 174.67 do not apply to rail tank car unloading operations performed by consignee personnel after delivery of the tank car. However, the general requirements in § 173.31 for transporting hazardous materials in tank cars, including tank car loading and unloading requirements apply even when those operations are conducted by consignee personnel.

I hope this answers your inquiry. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Charles E. Betts  
Chief, Standards Development  
Office of Hazardous Materials Standards

Leary  
§174.67(i)  
Tank Car Unloading  
10-0104

**Drakeford, Carolyn (PHMSA)**

**From:** INFOCNTR (PHMSA)  
**Sent:** Wednesday, May 05, 2010 10:02 AM  
**To:** Drakeford, Carolyn (PHMSA)  
**Subject:** FW: Request for formal letter of interpretation

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**From:** McIntyre, Edwin [mailto:Edwin.Mcintyre@wacker.com]  
**Sent:** Tuesday, May 04, 2010 1:05 PM  
**To:** INFOCNTR (PHMSA)  
**Subject:** Request for formal letter of Interpretation

Dear Department of Transportation:

I would like to ensure that the project we have implemented confirms to the applicable requirements, specifically 49 CFR 174.67 (i).

Ethylene is listed as a hazardous material and, as such, the governing regulation for tank car unloading is HMR; 49 CFR Parts 171-180.

Specifically 49 CFR 174.67 (i), sub-section (i) defines the attendance requirements as follows:

Tank cars may not be allowed to stand with unloading connections attached after unloading is completed. Throughout the entire period of unloading, and while car is connected to unloading device, the car must be attended by the unloader. Further, interpretation 87-4-RSPA has been released which states in regard to 49 CFR 174.67 (i) that "it is acceptable to have a non-human monitoring system..." after which it defines a number of criteria that must be met:

- 1) An employee is made responsible for unloading and is familiar with the nature and properties of the material being unloaded;
- 2) the employee responsible for unloading is instructed in the procedures to be followed during unloading and in the event of an emergency and has the authority and ability to halt the flow of product immediately and take emergency action;
- 3) in the event of an emergency, the equipment used must be capable of immediately halting the flow of product or alerting the employee responsible for unloading;
- 4) the monitoring devices will provide immediate notification of its malfunction to the person responsible for unloading or the equipment may be checked hourly for malfunctions; and
- 5) in case of malfunction the device will no longer be relied upon and instead the individual responsible for unloading will constantly observe the unloading.

Please review our proposal below which incorporates the above requirements and comment as to compliance with the attendance requirements of 49 CFR 174.67 (i), interpretation 87-4-RSPA or other applicable regulations.

The unloading process will begin with a qualified unloading operator physically connecting the railcar to our unloading system. The operator will initiate the unloading process while in attendance. There are two video cameras that will monitor the railcar being unloaded and the immediate unloading piping. These cameras will send a video feed signal to a control room located outside of the ethylene unloading area. In this control room the video feed will be displayed on a black and white monitor. The video display will be monitored by an operator in the control room who is trained in the hazards of ethylene and in the emergency response necessary to react to leaks or other upsets during the unloading process. The operator in the control room has a switch that is hardwired to shutdown the unloading process. The switch will be tripped if the monitoring operator observes any unacceptable conditions. In addition to having an operator monitor the video feed, we have monitoring of the video feed signal from the unloading area, we have installed eight ethylene

vapor monitors (LELs-lower explosive limit detectors) around the unloading area. If these monitors detect a leak, the unloading process will be automatically shut down and the operator will receive an alarm indicating the leak condition.

The physical conditions of the unloading process (pressure, temperature, level) will also be monitored by the process control software. If any of these parameters deviate outside acceptable control limits, the unloading process will be shut down and the operator alerted to the process deviation.

The safety systems described above are all designed to be fail safe; all valves fail closed, pumps fail off, and sensors and instruments fail high. Any loss of power or monitoring on these devices will cause the unloading process to be automatically shut down and the operators alerted to the failure. If it is necessary to continue unloading following a malfunction of our proposed remote monitoring system, the unloading operator responsible for unloading will constantly observe the unloading locally at the railcar.

Our intent in implementing this project is to meet our interpretation of 49 CFR 174.67 (i) and 87-4-RSPA as well as the spirit of "ensuring that hazardous materials are safely unloaded and that ... unloading can be halted rapidly".

I appreciate your time in evaluating our proposal and look forward to hearing from you. Please contact me with any questions or for clarification on anything described.

Sincerely,

**Edwin McIntyre**  
Health & Safety Manager

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