



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

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

MAY 06 2013

Mr. Tom Forbes  
Public Utilities Commission of Ohio  
Transportation Department  
180 E. Broad St. 4<sup>th</sup> Floor  
Columbus, OH 43215

Ref. No.: 13-0037

Dear Mr. Forbes:

This responds to your February 5, 2013 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to intermediate bulk container (IBC) discharge valves. As an attachment to the letter, you included multiple pictures of an IBC with various views of the bottom discharge valves. You ask whether the IBC in the pictures meets the general requirements of § 178.704(e); specifically, that the open or closed position of each valve is readily apparent.

The answer is yes. As required in § 178.704(e), bottom discharge valves must be secured in the closed position and the discharge system suitably protected from damage. Valves having lever closures must be secured against accidental opening. The open or closed position of each valve must be readily apparent. For each IBC containing a liquid, a secondary means of sealing the discharge aperture must also be provided, e.g., by a blank flange or equivalent device.

In the pictures you provided, the position of the discharge valve is readily apparent and conforms to standard operating designs for quarter turn valves (e.g., ball valve, butterfly valve, plug valve, etc.). When the handle is perpendicular to the pipe axis, the indication is that the valve is closed. When the handle is in-line with the pipe axis, the indication is that the valve is open. Therefore, it is the opinion of this Office that the IBC discharge valve included in the pictures complies with the requirement that the open or closed position of each valve must be readily apparent pursuant to § 178.704(e).

I hope this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

*fu*  
T. Glenn Foster  
Chief, Regulatory Review and Reinvention Branch  
Standards and Rulemaking Division

Drakeford, Carolyn (PHMSA)

Nickels  
§178.704(e)  
IBC

**From:** INFOCNTR (PHMSA)  
**Sent:** Tuesday, February 05, 2013 3:49 PM  
**To:** Drakeford, Carolyn (PHMSA)  
**Subject:** FW: PHMSA Interpretation Request  
**Attachments:** 3213302191PIP 004.jpg; 3213302191PIP 006.jpg; The ball valve.pdf

13-0037

Hi Carolyn,

We received the following request for a formal letter of interpretation.

Thanks,  
Victoria

**From:** Forbes, Tom [<mailto:Tom.Forbes@puc.state.oh.us>]  
**Sent:** Tuesday, February 05, 2013 1:31 PM  
**To:** PHMSA HM InfoCenter  
**Cc:** [mdaniel@landstar.com](mailto:mdaniel@landstar.com); Forbes, Tom  
**Subject:** PHMSA Interpretation Request

Dear Sir or Madame:

I am requesting a written interpretation/clarification on the IBC discharge valve requirements under the Hazardous Materials Regulations (HMR 49 CFR Parts 171-180).

Specifically, 178.704(e) states the open or closed position of each valve must be readily apparent.

The IBCs in this case have no marking or other indication of the open/closed position (178.704(e) does not require such marking). It is the carriers/shippers position that the handle that is attached to the ball is in-line with the axis of the pipe when the valve is open; conversely, if it is at right angles to the pipe axis, this indicates that the valve is closed. They believe the position of the valve is readily apparent.

An inspection was conducted and a violation listed for 178.704(e) IBC bottom discharge valve; open/closed position not readily apparent.

Photos of the IBCs and bottom valve are attached.

Could you please provide some guidance on whether the valve position on the IBCs in these photos is readily apparent.

Thank you for your assistance on this matter.

Tom Forbes  
Public Utilities Commission of Ohio  
Transportation Department  
180 E Broad St 4<sup>th</sup> Floor  
Columbus, Ohio 43215  
Hazardous Materials Specialist  
(614) 644-0296  
[PUCO.ohio.gov](http://PUCO.ohio.gov)



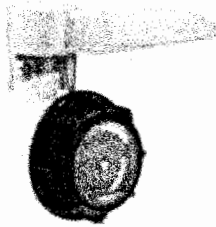
This message and any response to it may constitute a public record and thus may be publicly available to anyone who requests it.

The ball valve, along with the butterfly valve and plug valve, are part of the family of quarter turn valves. (Rotary movement) Rotary movement valves **tend to have a simple operating mechanism and are therefore easy to automate** and maintain. The body of ball valves may be made of metal or plastic, in our case these valves are manufactured of plastic.

**Conventionally, the handle that is attached to the ball is in-line with the axis of the pipe when the valve is open; conversely, if it is at right angles to the pipe axis, this indicates that the valve is closed.**

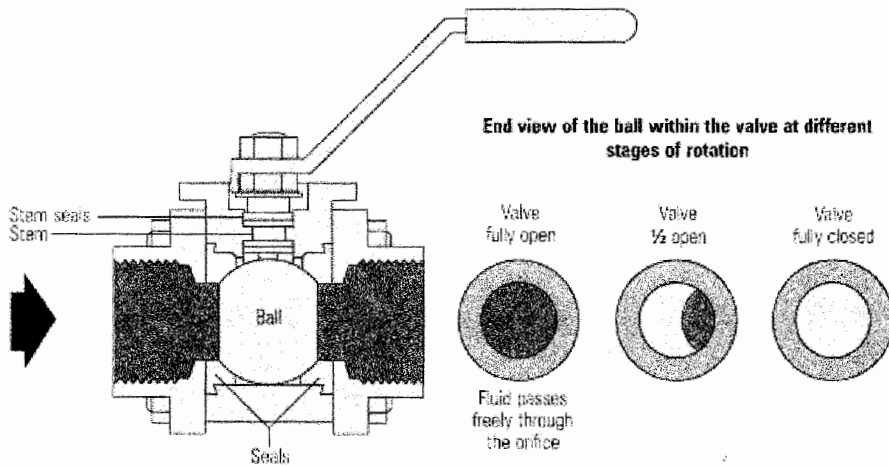
When the valve is closed, the hole and valve lever are perpendicular to the ends of the valve, and flow is blocked.

These valves are also equipped with a safety screw that must be removed before the valve can be opened.

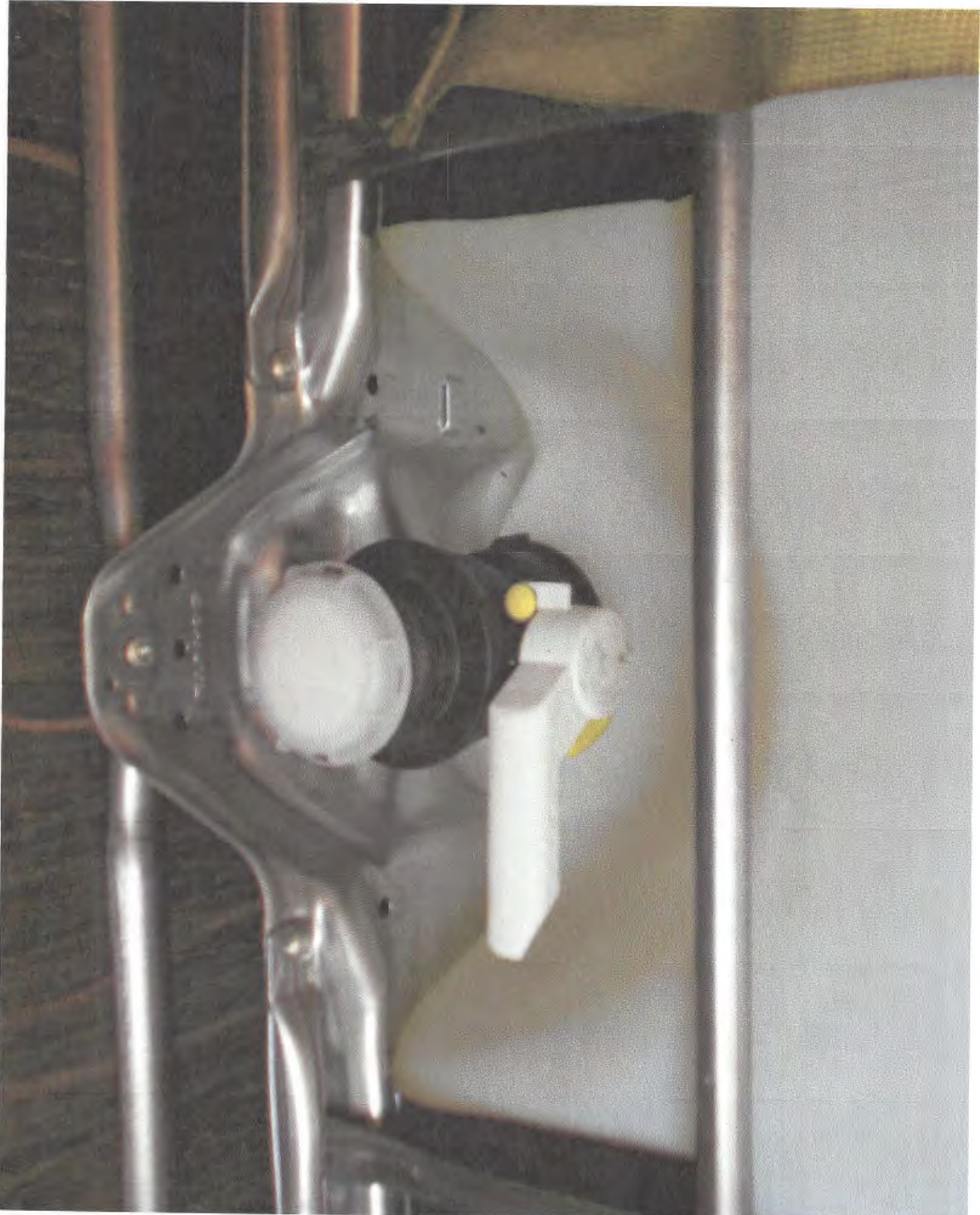


Handle perpendicular – Valve closed

When the valve is open the handle / lever is in-line with the axis of the pipe.



Ball valve (shown in its open position)





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