U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

DEC 19 2003

Mr. Terry L. Brittenham, President
Southern International, Incorporated
4200 Perimeter Center Drive, Suite 205
Oklahoma City, OK 73112-2391

Ref. No. 03-0217

Dear Mr. Brittenham:

This responds to your August 18, 2003, letter requesting clarification concerning requirements for manholes, latches, and ladders on Specification DOT 406, DOT 407 and DOT 412 cargo tank motor vehicles that transport petroleum crude oil under the Hazardous Materials Regulations (HMR;49 CFR Parts 171-180). Your questions are paraphrased ans answered below:

Q1. What DOT regulations apply to cargo tank hatch assemblies for DOT specification 406, 407, and 412 cargo tank motor vehicles?

A1. Section 178.345-5 of the HMR specifies the requirements for manhole assemblies on DOT 406, 407, and 412 cargo tank motor vehicles. The term "hatch assembly" and "manhole assembly" are synonymous for regulatory purposes. Generally, a manhole assembly mut be structurally capable of withstanding without leakage a static internal fluid pressure of at least 36 psig or cargo tank test pressure, whichever is greater.

Q2. Are there any DOT regulations that pertain to ladders on cargo tank motor vehicles?

A2. Under the HMR, ladders attached to cargo tank motor vehicles are regulated as appurtenances. An appurtenance includes any attachment to a cargo tank that has no lading retention or containment function and provides no structural support to the cargo tank, as defined in § 178.320 of the HMR. Design, construction, and installation requirements for such appurtenances are provided in § 178.345-3(f) for DOT 406, 407, and 412 cargo tank motor vehicles.

I hope this answers your inquiry.

Sincerely,

Susan Gorsky
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

030217

178.345-5

Southern International, Incorporated

4200 Perimeter Center Drive, Suite 205
Oklahoma City, OK 73112-2391
USA

Telephone: (405) 943-5288
Telefax: (405) 947-4149
E-Mail: SII@icnet.net

Boothe
§178.345-5
Cargo Tank
Ref#03-0217

August 18, 2003

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/RSPA (DHM-10)
400 7th Street S.W.
Washington, D.C. 20590-0001

Subject: Clarification concerning cargo tank motor vehicle requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

Dear Mr. Mazzullo:

Part 178.345 describes general design and construction requirements applicable to Specification DOT 406 (178.346), DOT 407 (178.347), and DOT 412 (178.348) cargo tank motor vehicles. Here, 178.345-5 describes requirements for manhole assemblies on a cargo tank. Is there any DOT regulation that describes requirements for a hatch assembly located on the top of a cargo tank used to transport crude oil? Also, if an operator needs access to a manhole or a hatch assembly located on the top of the cargo tank, in order to meet requirements for fall protection (please see the attachment), is there any DOT or OSHA or ASME regulation that describes requirements as to how such a ladder assembly shall be constructed?

If you should have any question, please call me at (405)-943-5288.

Thank you.

Sincerely,

Terry L. Brittenham
President

TLB/pam

attachment

fall protection systems described in Subpart M would create a greater safety hazard or is infeasible, i.e., impossible to construct or would prevent the performance of the required work, an alternate system may be used. The contractor must develop and implement a written fall protection plan meeting the requirements of §1926.502

Instances in which it is impossible to provide fall protection for workers are rare. Where an individual worker must rig the fall protection system, and it cannot be accomplished from an aerial lift or by tying-off to the existing structure, momentary exposure to a fall hazard may be unavoidable. It is essential that adequate planning of construction procedures minimize such occurrence of unprotected exposure to fall hazards. It is equally essential that the fall protection systems utilized actually enhance safety, rather than creating a secondary hazard.

The following table summarizes commonly encountered situations where fall protection is required, the heights at which fall protection must be provided, and the OSHA reference for that requirement.

Table 1. Fall protection requirements in commonly encountered situations.

Situation	Height Requiring Fall Protection	OSHA Reference
Scaffold (≥45 in wide)	10 ft (3.0 m)	1926.451(a)(4)
Scaffold (<45 in wide)	4 ft to 10 ft (1.3 - 3.0 m)	1926.451(a)(4)
Swinging scaffold (painter's scaffold)	6 ft (1.8 m)	1926.451 (l)(8); personal fall protection provided must satisfy criteria in 1926.502
Impalement hazard	Any exposure	1926.20(a)(1)
Bridge decks, unprotected sides and edges	6 ft (1.8 m)	1926.500(b)(1)
Bridge decks, form installation	6 ft (1.8 m)	1926.500(b)(2)
Tall steel bridges	6 ft (1.8 m)	1926.501(b)(1); 1926.502(c)
Form work and reinforcing steel	6 ft (1.8 m)	1926.501(b)(5)
Precast concrete erection	6 ft (1.8 m)	1926.501(b)(12)
Ramps, walkways, and runways	6 ft (1.8 m)	1926.501(b)(7)
Aerial lifts	All situations	1926.556(b)(2)(v); personal fall protection must satisfy criteria in 1926.502
Ladders	Varies	1926 Subpart X
Holes and floor openings	6 ft (1.8 m)	1926.501(b)(4)
Working above dangerous equipment	All situations	1926.501(b)(8)
Any situation with potential for tripping, impalement, or other severe hazard	Any height	1926.20(a)(1), 1926.28(a)

SECTION 3: ELECTRICAL