

Fall Protection on Stationary Trucks:

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**ISFP Symposium,
Las Vegas**

6 13 08

Fall Hazard Problems



- Climbing the load to detach a chain hoist

Flatbed Deck Fall Hazards



Gypsum/Wallboard/Drywall Tarping:

- Fall Hazard Exposure



Driver told to move to a dirt lot outside gate, then tie-down, then tarp. Fell on his head and died after stepping into a void.

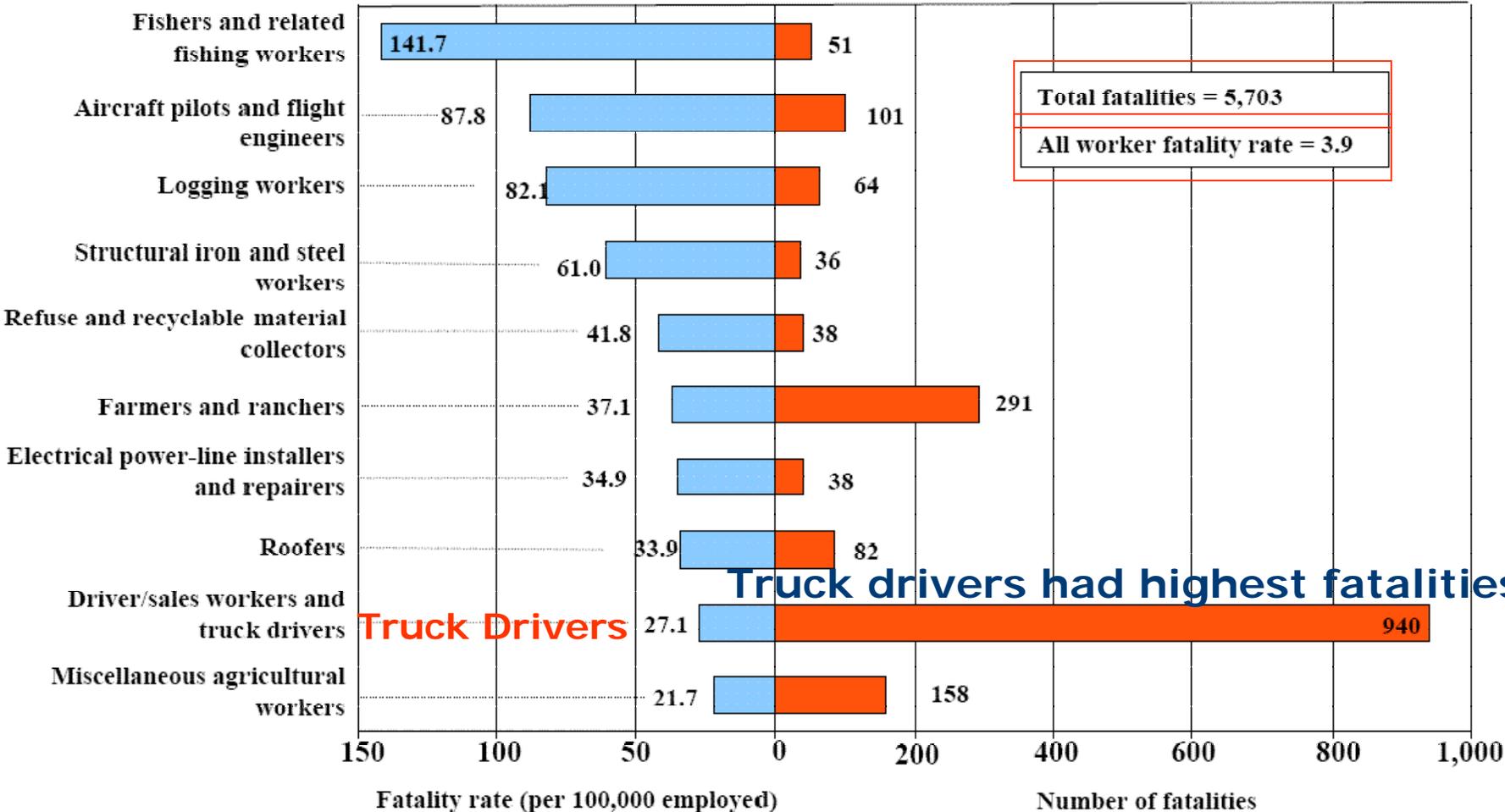
Loads requiring Tarping

- Drywall (sheetrock)
- Steel shapes and piping
- Aluminum shapes and packages
- Government shipments
- Glass
- Plywood/OSB
- Equipment

Approx 60% of flatbed shipments

Insurance underwriters pushing for more tarping

Selected occupations with high fatality rates, 2006



Fatal work injury rates were highest for fishers, aircraft pilots and flight engineers, and logging workers in 2006.

SOURCE: U.S. Bureau of Labor Statistics, U.S. Department of Labor, 2007

Occupational Fatal Fall Injuries 2006

ref BLS 8 10 07

	1996	1997-99 Average	2001-4	2005	2006
OSHA total	6,280	5704	5734	5703
All deaths	av 94-97				
Falls total	610	693	763	770	809
Lower level			669	664	728
- Ladders	97	107	125	129	129
- Roofs	149	155	154	160	184
- Scaffolds	88	92	87	82	88

Falls to	52	57	73	84	59
Same Level					

Truck Driver Fatal Falls est. 50 (2006) JNE

2005/6* Fall Statistics for 3.5 million Truckers

	All USA	All Truck Drivers	Falls to Lower	Falls to same level	Highway
Deaths*	5,703	793	18?	32	540
Injuries	1.23M	65,930	14,800	13,000	

Elevated Falls 22% (non-Highway)

All Trucker Falls 42% (non-Highway)

Ref: BLS.gov 10 11 07

ISFP – “Why so much FP investment and yet deaths go up?”

- Harness conversion occurred rapidly from belts
- Because FP is for show without internal enforcement – “looking good is the game”
- Because 80% of work fatalities are wearing harnesses when they hit the ground
- Because owners have not understood that FPS are engineered and not PPE
- Because FP is not planned in advance and is not continuous through transitions

OSHA jurisdiction over ships/vehicles: Mallard Bay Supreme Court decision 2002

- “US Coastguard v. OSHA”:
 - Uninspected Vessel deaths without remedy
- Lack of enforcement by DOT agency
- OSHA statutory rights under 4(b)(1)

4(b)(1): The OSHA Act shall not apply to working conditions of employees with respect to which other federal or state agencies that exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health.

OSHA now has right to inspect stationary vehicles

Hierarchy of Fall Protection

- Elimination – stay on the ground - **best**
- Prevention - railings
- Fall Arrest – harness systems
- Administrative controls alone - **worst**

Flatbed Access

4 - 5 ft height decks

Shipping:

b. Guardrails – temporary

Shipping/Receiving:

a. Ladders/Steps



www.garlockequip.com

Unique
handholds

reduce slide www.andersonladder.com



Tarpping with Shipper's help

- 13.5 foot fall hazard at max. height
- Fall Hazards
- Alternatives for shippers
- Alternatives for receivers



Request shipper fork lift operator to lift tarps or use Shippers Crane Spreader Bar (*)

Driver stays on ground

Fork Lift Help from Shipper: TarpSlinger®



Great for pipe loads

Other types of Stationary Vehicles with established FP

- Tankcars
- Tanktrucks



Standfast



Good for receiving

2 L flexible cable system

Tank cars portable alternative



Tank Car: Rack lowered



www.carbis.net

Vehicle Access w/Fall Protection % (JNE est.)

- Garbage/gravel trucks 90% (50% usable)
(Employees 100%)
- Tank cars 75% (Employees 100%)
- Tank trucks 50% (Employees 50%)
- Flatbed 5% (95% Fleet/independent truckers)

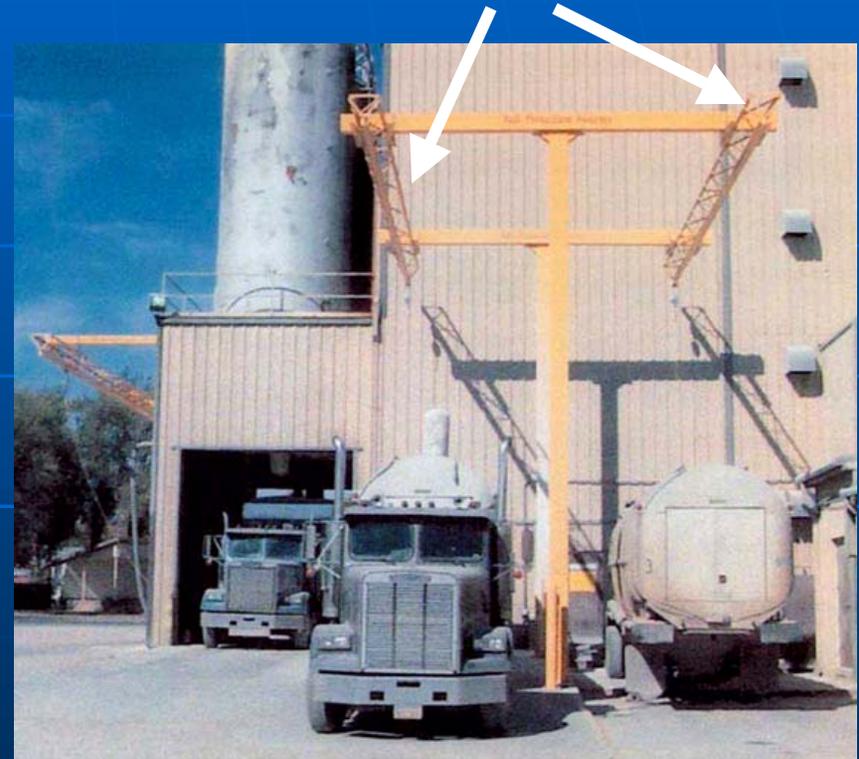
Tarp to contain
gravel, garbage
etc.



Tarp condition must be
enforced by State Police

Flip-arm tarp
(www.Cramarotarps.com)

Shipper T post
overhead rigid
rail/SRL system
over hopper trucks



Overseas solutions

- Australian: Soft sides
aka 1/2
Curtain sides

SRL (Self-
Retracting
Lanyard on sliding
bar anchorage



Edge
Protector



Most Popular in
Europe today

European Flatbed net prototype for Freight Lines loading by crane



Combination with guardrail one side is possible

Barrier on flatbed edge forklift loading or unloading

Rolling
Tarp



Net Solution: loading by crane



Possible by contract: Shipper and Receiver

BlueScope Steel Australia, New Zealand
and Alcoa, Louisiana

Rolling Tarp Fleet Solutions in USA

www.slidingtarpsystems.com



Guardrail
concept

Load by
crane or
forklift



Rolling Tarp



Rolling tarp is best Eliminates tarping fall hazards

www.cramarotarps.com



10
lbs

Shipping
Receiving

\$15,000 retrofit

HLL Fall Arrest Flexible Cable for Drywall



Shipper
T-Bars

Side Kits



Push-up
rack
platforms



For low
height &
heavy loads
& low cost
\$1000

Pull tarp over trailer by Shipper



Driver stays
on ground

www.carbis.net

Hard Hats ANSI Z89.1-2003, Type II, Class E & G

Hard Hats make sense

w/3-point Chin Straps
make better sense

Head injuries severe from 5 ft
flatbed; Swing Impacts?

Note: always provide fall protection

17 ft and below www.bullard.com



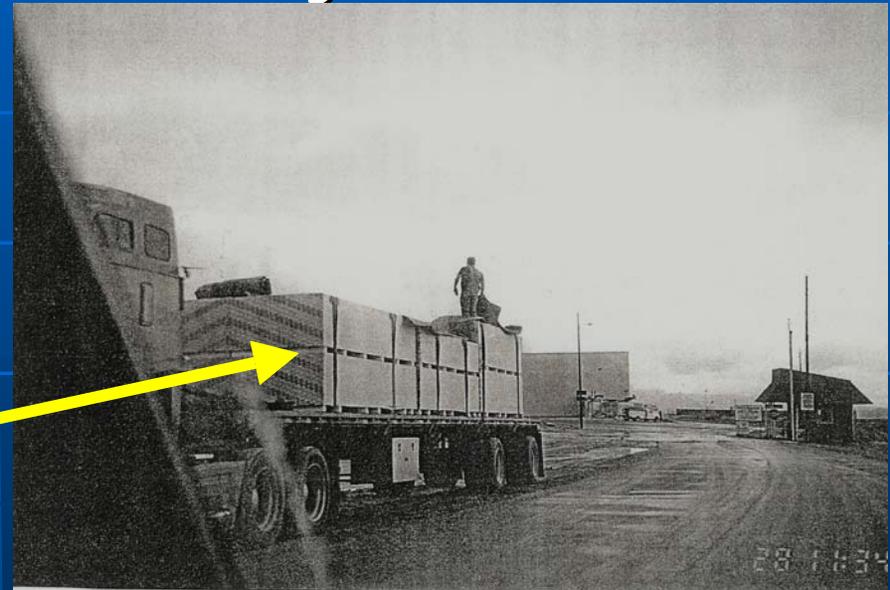
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OSHA jurisdiction and Law of Torts

- The effect of Mallard Bay Drilling?
- Recognition of fall hazards by Freight Lines?
- Example: dry wall flatbed truck driver catastrophe



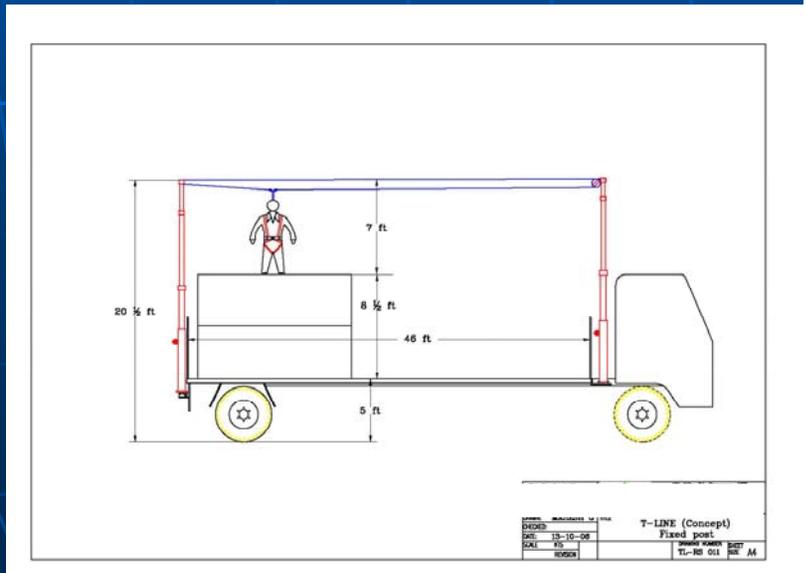
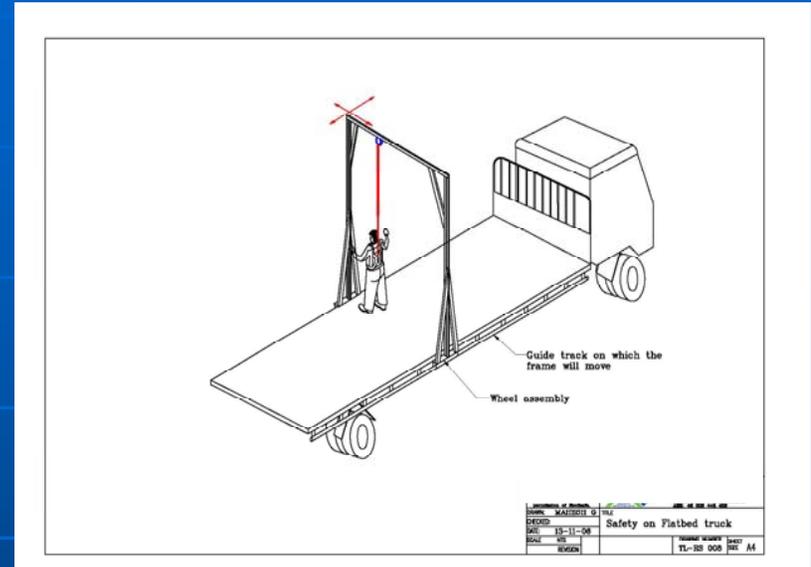
Drywall plant fatality:

Owner's Tarping Station had harness and chain lanyard suspended ten feet off the ground: "never used"; trucking line was cited by OSHA

On-board Truck Fall Protection

The challenge for trucking firms:

- How to provide fall protection in 5 mins?
- How to retrofit a fleet



Concept good for shipping and especially receiving

Flatbed Onboard Fall Protection



Deployed

Protection in 5 mins
using Double SRL system



Stowed

Goal for Flatbed Trailers

- 10% flatbeds have Fall Protection System in North America by 2020
- 100,000 on board fall protection systems
- Publicity from case histories
- Magazine articles
- DVD's
- Promote Rolling Tarps 150,000
- Promote soft sides 500,000

Questions?