

Driving Contractor Safety at the Company

Preventing falls

Driving Contractor Safety Improvement

Preventing falls

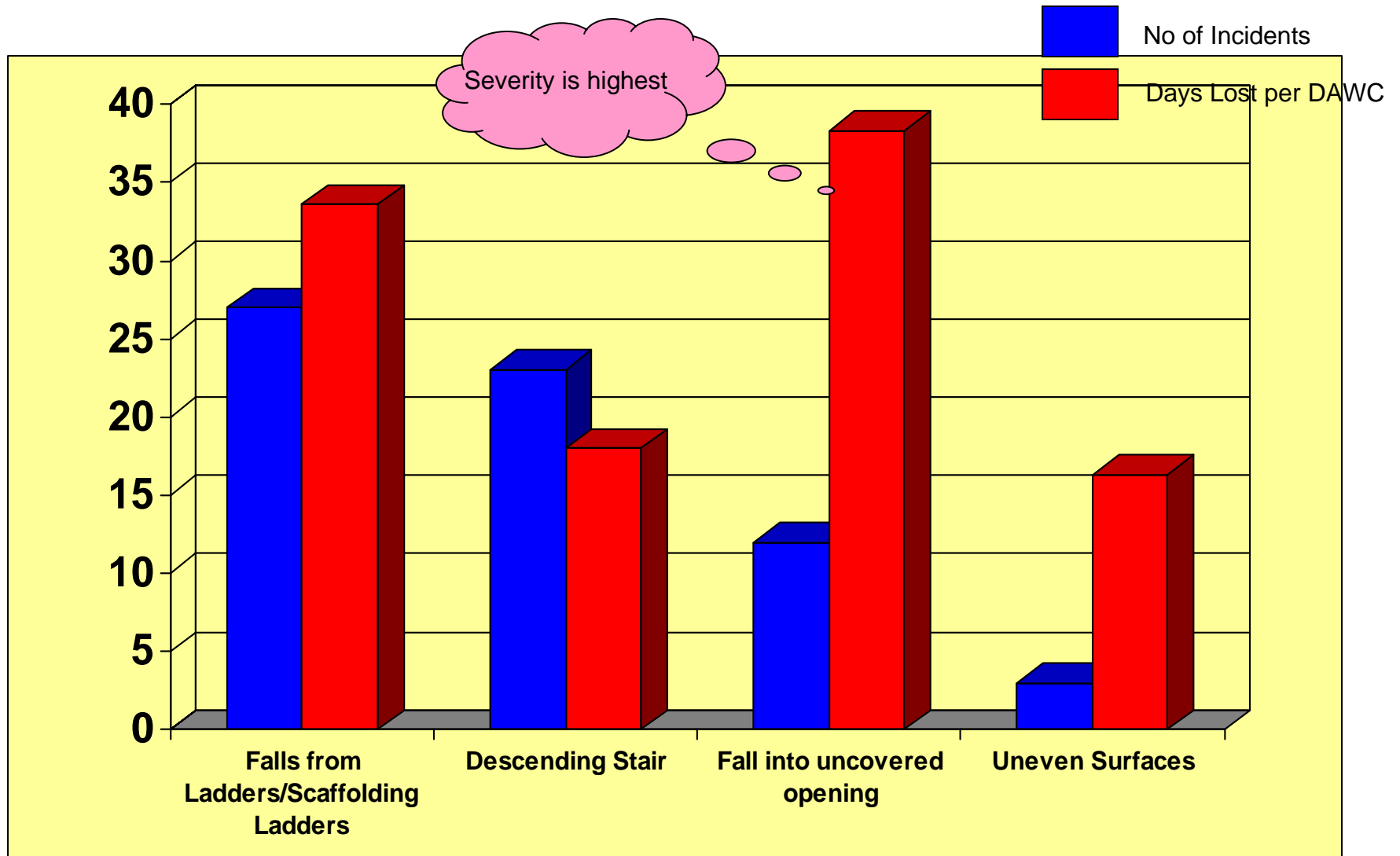
Preventing Falls to a lower level

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Days Lost Per DAWC*

*Day Away from Work case



Key Highlights: Falls to lower Level

- Contributing to 14.5 % of all DAWC.
- One of the largest contributor to fatalities.
- About 2202 lost work days from 2001 to 2006 YTD.

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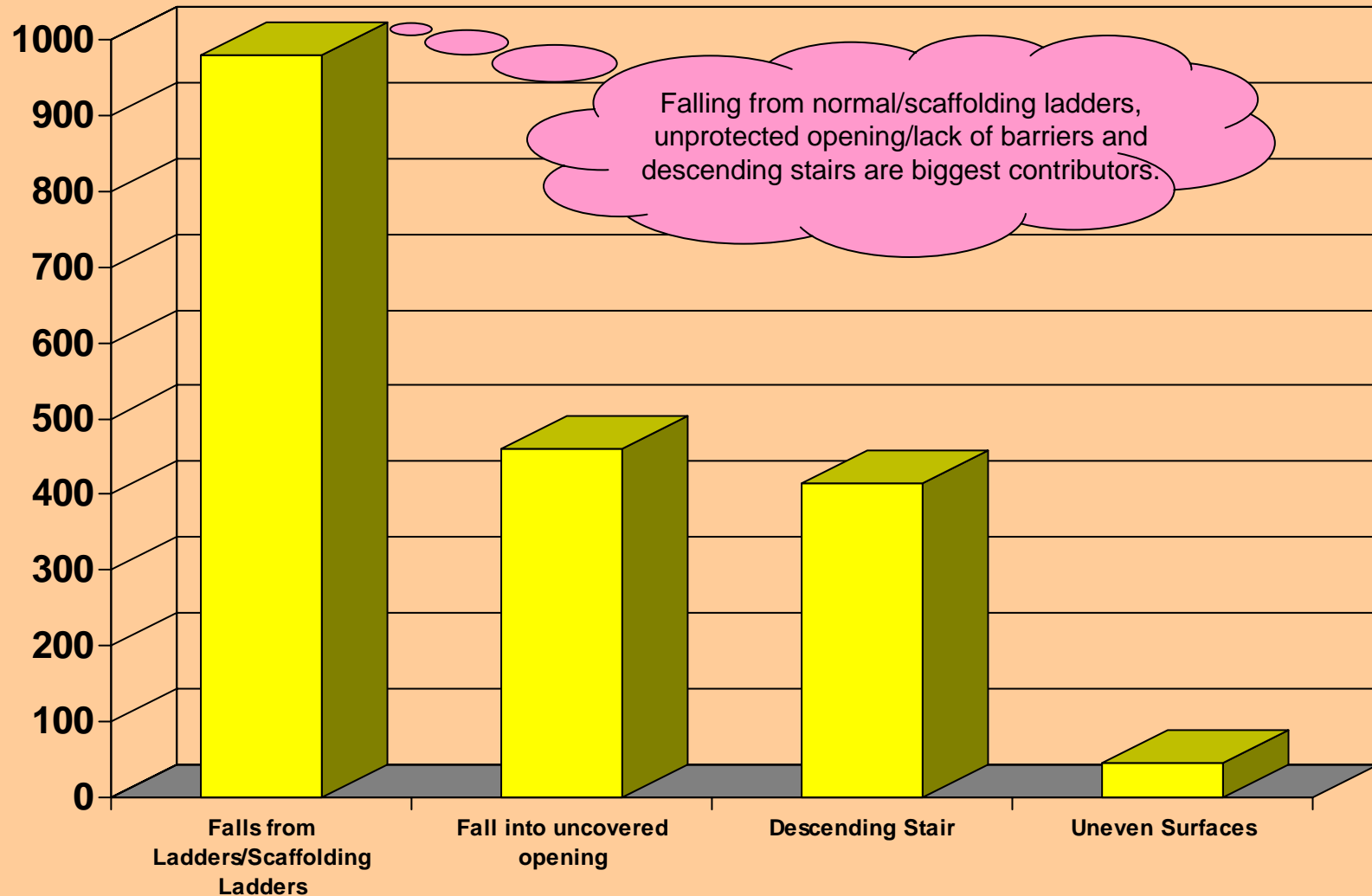
Where are the opportunities

	Where	% contributors DAWC on falls to lower level	Number of Incidents	No of days away from work
1	From ladders both scaffolding and normal ladders.	33.3	27	908
2	While descending stairs.	22.2	18	414
3	Into uncovered opening.	15	12	460
4	Uneven surfaces	4	3	46

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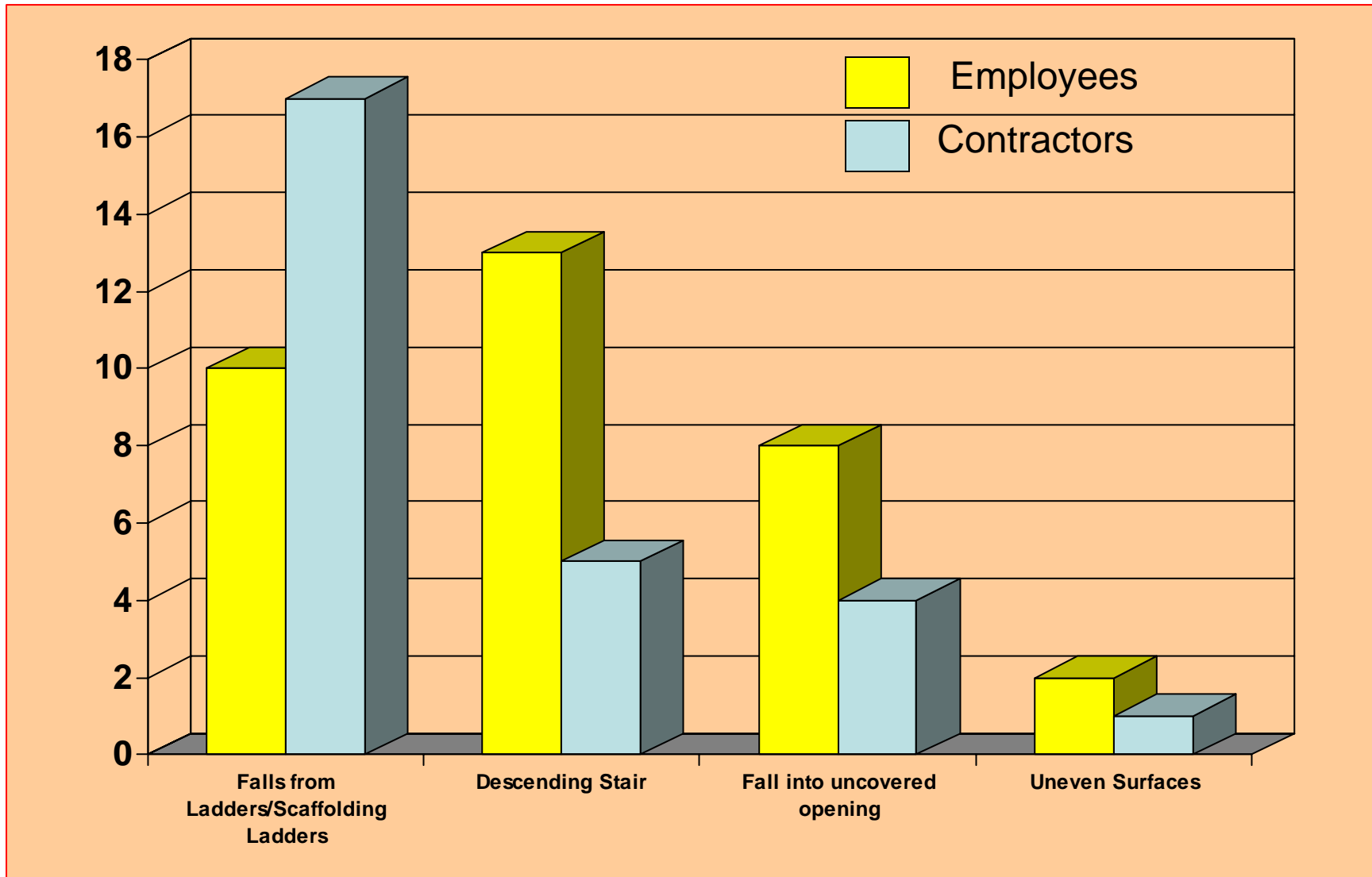
DAWC Total Lost Days - Falling to lower Level



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Falling to Lower Level – Employees vs. Contractors



Historical Incidents:

Falls from ladders and scaffolding ladders

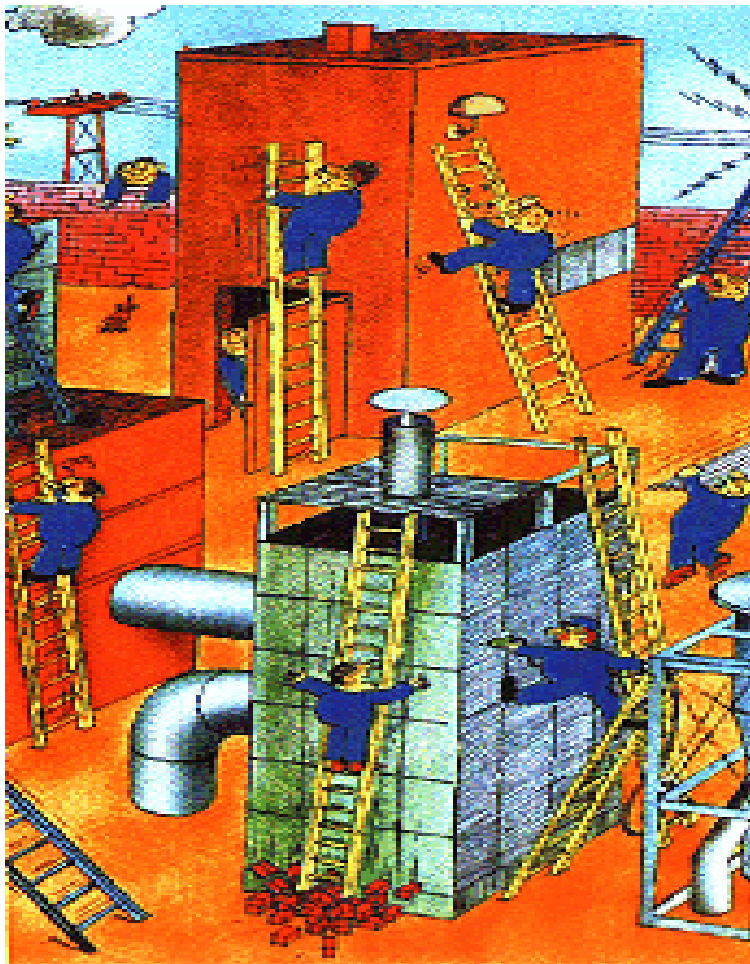
(potential corrective measure)

- **Containers, railcars, grain containers and caged ladders.**
 - While descending from a container ladder an employee missed the last two steps and fell. (3 point contact)
 - Employee was ascending a fixed ladder on a grain wagon when he fell onto the wagon tongue. (3 point contact)
 - Went down into the column, without connecting his safety belt to the dedicated line, and fell down.
 - While descending into a sump to perform maintenance work. The employee slipped on the caged ladder and fell (3 point contact)
- **Scaffolding ladders.**
 - Contractor fell from the ladder of a scaffolding. (3 point contact)
 - Contractor was climbing a 6 meter high scaffolding ladder to access a working platform when his hand missed a ladder rung and fell. (fall protection)
- **Normal ladders.**
 - Fall from ladder resulted in fracture Left heel (3 point contact)
 - After measuring PVC pipe, he began lowering his hands to the ladder. At this point he fell off the ladder approximately 4ft. to the carpeted floor. (3 point contact)

Behavior change to address falls from ladders and scaffolding ladders

- Increase use for 3 point contact when using all types of ladders.
- Ensuring safety harness is secured when needed.
- Do not rush when using a ladder or scaffolding.
- Consider use of fall protection even on permanently installed ladders if in higher risk use (e.g. area that contains oils or other slippery substances that could be on the bottom of your shoes, if the ladder is unusually small or long, etc.)
- Recognize high risk areas when climbing/descending on: -
 - Scaffolding ladders
 - Container ladders
 - Railcars
 - Wagons
 - Inside Vessels
 - Cage Ladders
 - Sumps etc.

Use of ladders



- Ladders are a hazard, the risk is use of ladders.
- Consider if ladder is the right tool for the job.
- Different ladders have different dimensions on them (rung to rung and side to side) and stairs – we need to adjust accordingly.

Ladder Safety

Obey the rule of

“Three Point Contact”

Two hands and one foot or two feet and one hand in contact with the ladder (Three contact points !) is the only safe way to mount and dismount.

Leaders need to set an example and be the change agent

If you can't maintain 3 point contact. Use fall protection.



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Safe use of ladders



- Assume safe standing.
- Avoid unsafe Conditions.

Recommended behavior change for fall from ladders

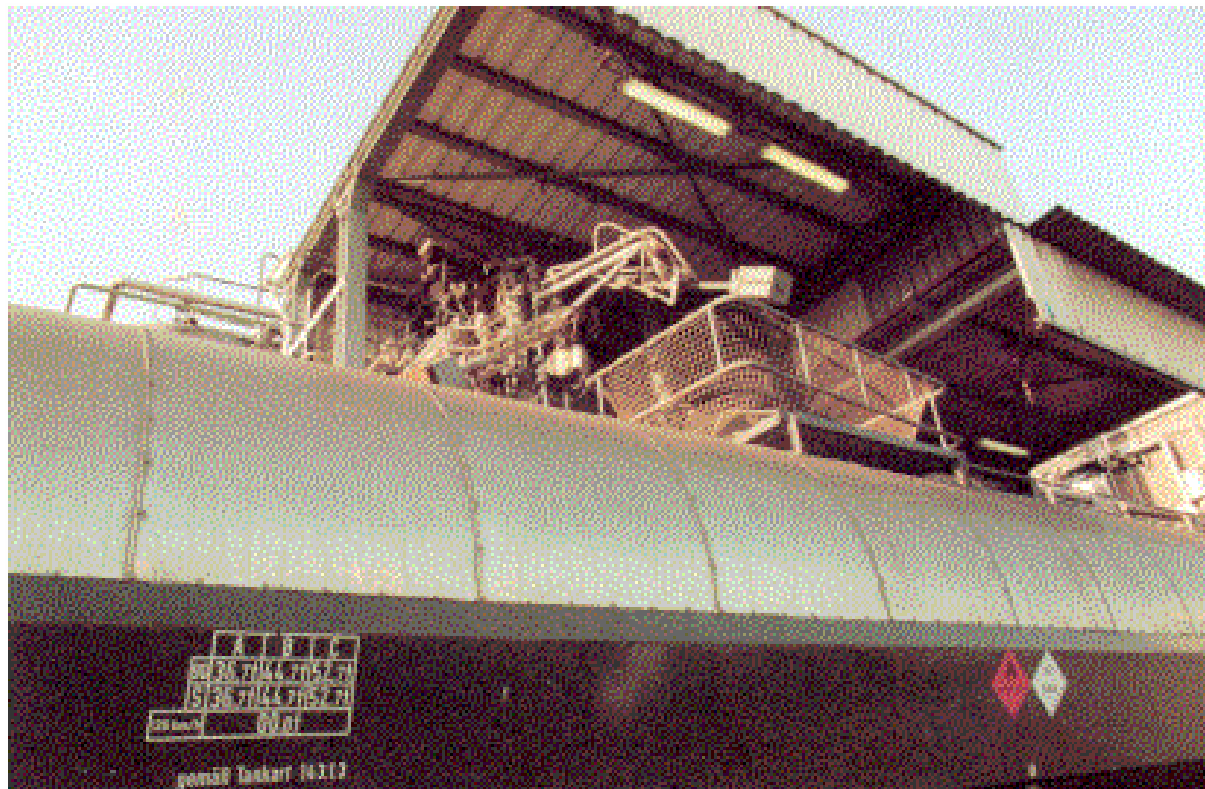
- Include safe use of ladders as ‘critical behavior’ in the safety observation program
 - Use of safety harnesses and it is properly secured when needed.
 - No rushing when using a ladder or scaffolding
 - Use of 3 point contact when using all types of ladders.
- Practice pre-task analysis discipline that requires the ladder user to do a risk evaluation

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An example of Rail car / tank car / container access

Loading bridge: safe access from-to with hand rails combined with safety nets (to bridge the gap)



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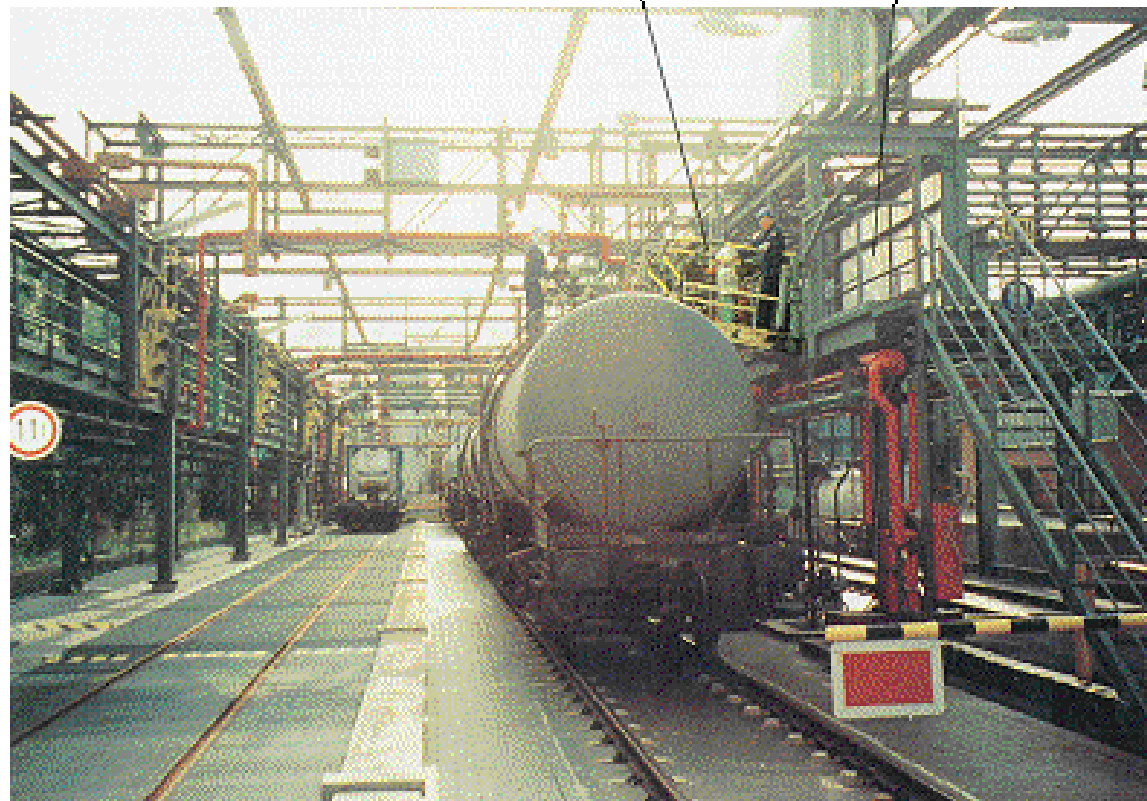
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An example of rail car / tank car / container access

Loading bridge with handrails attached to platform

Ladebrücke

Bühne



Loading bridge

Platform

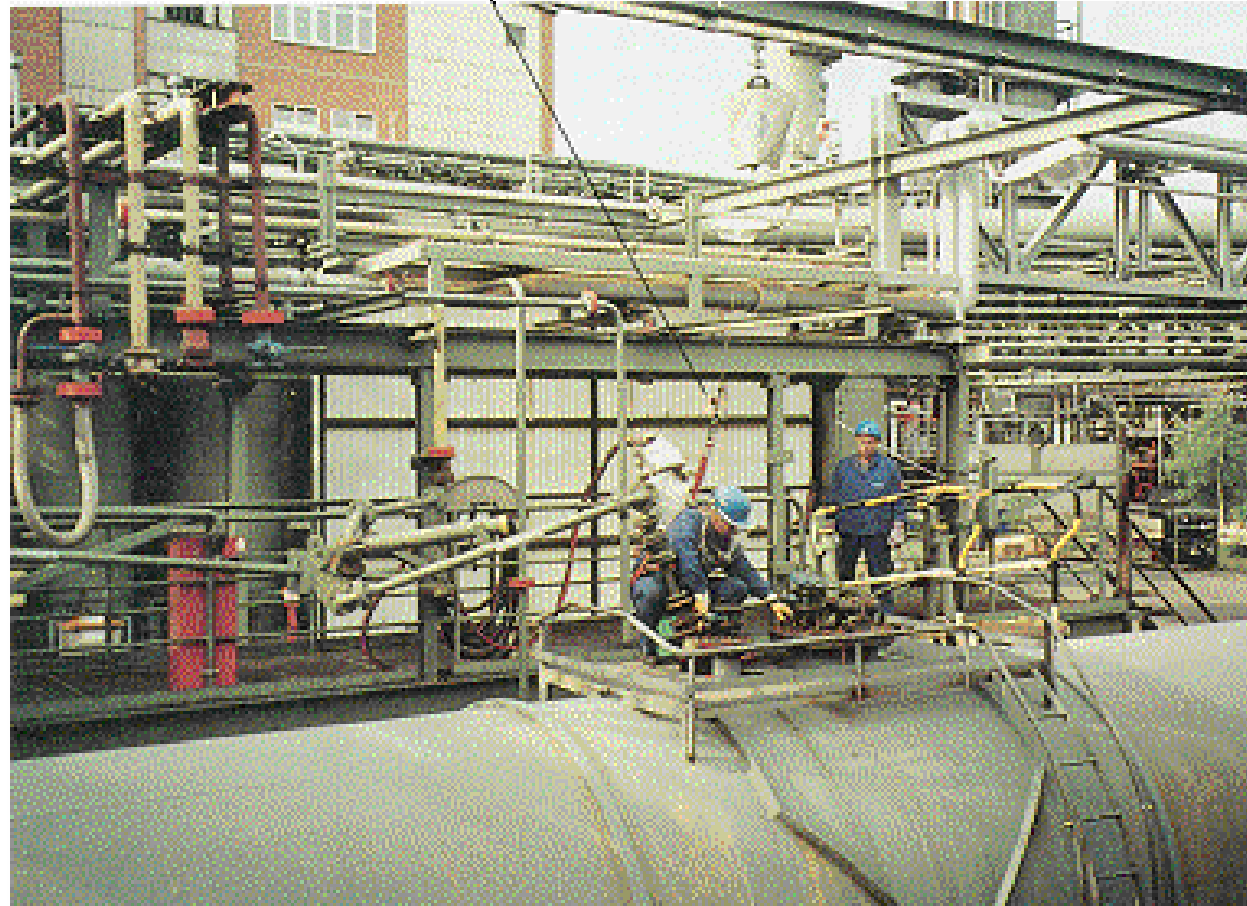
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An example of rail car / tank car / container access

Absturzsicherung

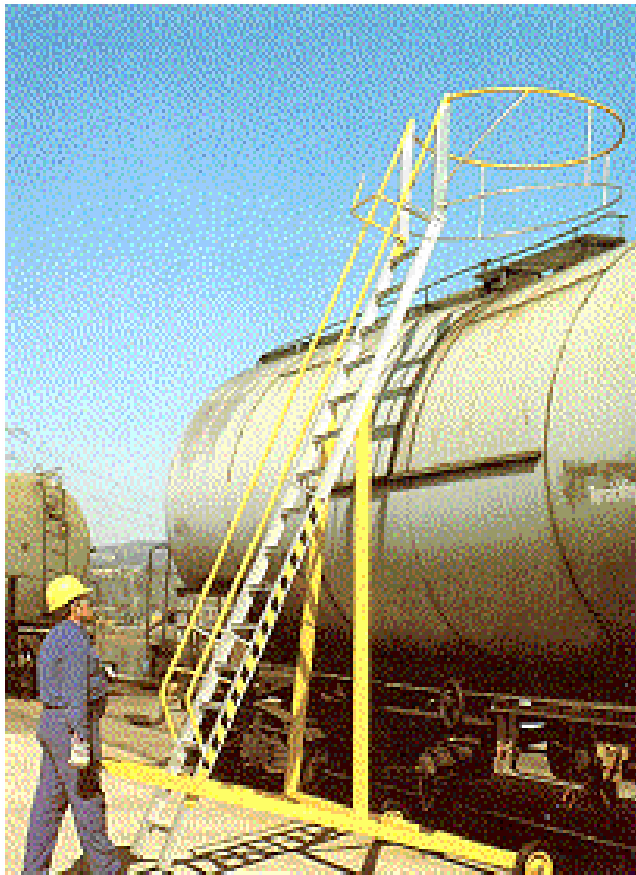
**Fall protection:
Harness with
self retractable
lanyard**



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An example of Rail car / tank car / container access



- **movable ladder with handrails: for non-frequent use**

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Scaffolding - Key Messages From Incidents

	Stage	Recommendations
1	Planning	<ul style="list-style-type: none">• The use of scaffolding must be properly planned.• Is it the best means for access?• Is this the safest means of access when considering construction and dismantling of scaffolding.
2	Designing	<ul style="list-style-type: none">• The scaffold size, location and loading capacity should be specific for the task.• The absence of scaffold components may be acceptable in one location and not another.
3	Reviews	<ul style="list-style-type: none">• The use of a “hanging’ or cantilevered or unusually tall scaffold should be treated as a “Critical Job.”• Cantilevered sections should trigger a higher level of review due to the hazards associated with constructing and dismantling
4	Construction	<ul style="list-style-type: none">• Material (poles and wood) must be inspected prior to use and periodically to ensure integrity.• Pre task analysis of moving scaffold poles and boards should be addressed in training and daily work.• Only approved and trained scaffold builders construct and modify scaffoldings

Scaffolding - Key Messages From Incidents

	Stage	Recommendations
5	<i>Labeling</i>	<ul style="list-style-type: none">• A scaffold's status should be labeled clearly and placed in clear view at entry points
6	<i>Fall Protection</i>	<ul style="list-style-type: none">• Tied off to an appropriate anchorage point.
7	<i>Changes</i>	<ul style="list-style-type: none">• The original intent of a scaffold determines the size, location and capacity.• Using it for another task is considered a scope change.
8	<i>Climbing</i>	<ul style="list-style-type: none">• Inspect ladder prior to use.• Face ladder/use 3 point contact while climbing

Falls while descending stairs

(corrective measure /behavior)

- Contractor was descending stair from the first floor - missed one step and fell. (handrail use)
- Contractor sprained an ankle while descending stairs - missed the last step and fell down (handrail use)
- While going down a flight of stairs, shoe caught front lip/tape on stair; tape stuck to shoe and employee fell down. (handrail use)
- Employee was descending a stairway. The heel of the employee's boot caught on a step. (handrail use)
- Customer service person missed step, lost balance and fell face down. (handrail use)

Behavior Change - Descending stairs

- Use the hand rail at all times when descending stairs.
- Consider installing reminders on stairs for handrail use.
- Consider inspecting stair installations and eliminate risks.
 - Lips on stair treads
 - Missing handrails
 - Non-standard step spacing

Recommended Role Specific Actions

- **Individuals:**
 - use handrails on stairs
 - use 3 points of contact for ladders
 - use fall protection when necessary
 - intervene with others based on observations
- **Supervisors / Leaders:**
 - set clear expectations relative to these behaviors
 - provide resources to maintain facility accordingly
 - hold people accountable for behaviors
 - model the right individual behaviors

Actions to drive improvement

- **Leaders:**
 - Share this data with employee at your site or area of responsibility.
 - Include any existing site initiatives.
 - Share incidents from your site to personalize this presentation.
 - Arrange for sustaining hazard awareness for handrails by installing reminder signs
 - Ensure control plan is in place as part of site self assessment or site hazard awareness program.
- **Safety personnel:**
 - Maintain hazard awareness by.
 - Placing posters on scaffoldings, all permanent ladders and handrails.
 - Include hazard in pre-task safety analysis
 - Training – Include this as part of the site training
 - Discuss during safety moment, safety meetings, tool box meetings to maintain awareness.

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Recommended Implementation Plan

No	Proposed Steps	Comments
1	Brief all employees and contractors to heighten awareness of this risk and drive 3 point contact behaviors.	Personally share this via group presentation or meeting.
2	<p>Inspect stair installations for risks and flag them.</p> <p>Identify group or personnel accountable for implementation of this recommendations and focus on action needed to address this risk at your site and using information from this presentation as a starting point.</p> <ul style="list-style-type: none">- Falls from ladders/scaffolding ladders- Falls when descending stairs- Falls uncovered openings.	
3	If your accident data analysis indicates that ladder use behaviors are a contributor to incidents, suggest that pre-task safety analysis include this risk when using ladders and iso container ladders, Railcars, Wagons, Inside Vessels, Cage Ladders and/or include this as a critical behavior in your safety observation program.	
4	Drive dialogue with work groups on this specific topics to flush out or brainstorm associated risks related to fall to lower level.	