Suspended loads
Safety / Compliance Tips

- Suspended load can come from several sources, such as a crane, forklift or even jib hoists.
- Also be aware strong backs, forklift mast and forks and sling can be suspended loads. When someone stands under any of these items they are at risk of injury.
- Consider initiating a ten foot rule. This requires that no one is allowed to be within ten feet of the area in which the load would fall if a failure occurred.

Additional safety tips for working around suspended loads:

- Be aware of loads that may swing when lifted. Stay out of the pinch point between the load and another object.
- Never turn your back on a load. Keep your eye on it until it is a safe distance.
- Never allow more than one person to control a lift or give signals to a crane or hoist operator except to warn of a hazardous situation.
- Never raise the load more than necessary, or leave the load suspended in the air.
- Never allow anyone to work under a suspended load.
- Be sure that everyone around a suspended load is wearing a hard hat. One in five employees killed in falling load accidents are struck by flying parts and pieces of rigging.

Note – Some of the above information was taken from the American Concrete Pipe Association web site
LIGHTNING 

Lightning doesn’t have to strike often to do a job on you. Just once usually is enough. And it’s the same with overhead loads. If one falls on you, it generally makes a permanent impression. That’s why we always should stay out from under cranes, booms, and buckets. This means concrete buckets as well as backhoe buckets. Your first accident may be your last.

USE YOUR HEAD

Use your head. Not to stop a falling object, but to make sure an object doesn’t fall on you. Don’t stand, walk, or work under crane booms, buckets, or suspended loads. And while using your head, keep it covered with a hard hat.

PLAN AHEAD

If you have anything to do with planning lifting operations, be sure the boom or bucket will not be swinging over workers. You may have to rope off or barricade the swing area, or schedule the lifting operations when the workers aren’t in the vicinity.

CONCRETING OPERATIONS

Did you ever get hit in the head with a piece of semi-harden concrete that dropped from a crane bucket? It hurt, didn’t it, even though you were wearing your hard hat. How do I know you were wearing your hard hat? If you weren’t, you wouldn’t be here. Laborers have to be especially careful to keep clear of the crane when the operator is loading and hoisting the bucket.

BACKHOES

So many times we think only in terms of crane booms, but the same thoughts apply to backhoe operations. A pipe crew gets so used to setting pipe with a backhoe that they get in under the load in a ditch. What is going to happen if a cable breaks or a hydraulic line blows? Look at the mechanics of the boom. If a cable breaks, will the load shift horizontally as well as drop? Think!

AVOID OVERHEAD HAZARDS

Remember: To avoid danger from crane booms, keep out from under them at all times. And wear your hard hat, just in case.

Safety Recommendations: __________________________________________________________

Job Specific Topics: ___________________________________________________________________

M & S & S Reviewed: __________________________________________________________________

Attended By: ________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________
ALWAYS USE STEEL WIRE ROPE SLINGS, UNLESS THE WIRE ROPE WILL DAMAGE THE OBJECT BEING HOISTED. WHEN USING NYLONS, MAKE SURE THAT THE OBJECT WILL NOT CUT OR DAMAGE THE SLINGS.

**INSPECTION OF WIRE ROPE SLINGS**

**PER ANSI B30.9**
ALL SLINGS AND ATTACHMENTS SHALL BE VISUALLY INSPECTED BY THE PERSON HANDLING THE SLING EACH DAY THEY ARE USED. IN ADDITION, A PERIODIC INSPECTION SHALL BE PERFORMED BY A DESIGNATED PERSON, AT LEAST ANNUALLY, AND SHALL INCLUDE A RECORD OF THE INSPECTION.

**INSPECTION CRITERIA**

- KINKING
- CRUSHING
- UNSTRANDING
- BROKEN OR CUT STRANDS
- STRANDING DISPLACEMENT
- CORE PROTRUSION
- CORROSION
- BIRD CAGING
- BROKEN WIRES

**BROKEN WIRES**
REMOVE FROM SERVICE STRAND LAYED AND SINGLE PART SLINGS IF TEN OR MORE RANDOMLY DISTRIBUTED WIRES IN ONE ROPE LAY, OR FIVE BROKEN WIRES IN ONE ROPE STRAND IN ONE ROPE LAY.

**DISTORTION OF WIRE ROPE**
REMOVE FROM SERVICE WIRE ROPE SLINGS THAT HAVE ANY DAMAGE RESULTING IN DISTORTION OF THE WIRE ROPE STRUCTURE SUCH AS KINKING, CRUSHING, UNSTRANDING, BIRD CAGING, STRAND DISPLACEMENT OR CORE PROTRUSION.
CONSTRUCTION SAFETY TOOL BOX TALK SERIES

#10 - RIGGING AND SUSPENDED LOADS

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>PROCEDURE</th>
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<tbody>
<tr>
<td>Sling failure</td>
<td>Always inspect slings before each use.</td>
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<td>Remove any damaged sling from service.</td>
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<td></td>
<td>Know the load capacity of the sling based on the hitch configuration.</td>
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<td></td>
<td>Understand that slings at angles have reduced lifting capacity.</td>
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<td></td>
<td>Provide softening for slings around sharp edges.</td>
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<td>Being hit by a swinging load</td>
<td>Always stay clear of suspended loads.</td>
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<td>Never stand under a load when guiding or receiving it.</td>
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<td></td>
<td>Keep you feet clear when guiding a load close to the ground.</td>
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<td></td>
<td>Use tag lines on all suspended loads.</td>
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<td></td>
<td>Never reach out and try to stabilize a swinging load.</td>
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<td></td>
<td>Always stay in view of the operator or signaler.</td>
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<tr>
<td>Load falling out of the rigging</td>
<td>Always be sure the load is centered and balanced.</td>
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<tr>
<td></td>
<td>Do a trial lift to assure proper balance.</td>
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<td></td>
<td>Do not attempt to lift too many pieces at one time.</td>
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<tr>
<td></td>
<td>Use double chocker hitches when lifting multiple pieces, such as pipe.</td>
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Talk Given By: ________________________________ Date: __________

Company: ________________________________ Location: ________________________________
Best Practices

Use whistle anytime flying overhead load.

Any time you hear the whistle be aware there may be a load overhead.

Click the Link below to view the video

Operator Error Fine Draft 3b-low res.mp4
Diamond - Crane Incident Report

Date: 08 May 2014 (4:15PM)
Make/Model (Equip #): Provincial / NA (15-9012)
Project Name: #14287- Lower Mattagami

District Name: Eastern Canada

Detailed Incident Description:

At approx. 4:15pm the subcontractor Moreau Electrical Services wanted to move a reel of electrical cable in the service bay area of the Kippling Generating Station. While relocating the reel, it came in contact with a bearing cover which sits approx. 3 ft. high pushing it off its stands.

Due to space constraints the reel could not be brought any further into the service bay. Also due to the fact the crane could not trolley any further there was not a straight lift. The workers rigging the load advised the workers in the area that the load may drift. The workers replied this could not happen due to the weight of the bearing cover being pushed off its stands. In spite of these issues, the operator did lift the load. The load was lifted, lowered back down to readjust the rigging and at that point made contact with the bearing cover pushing it off the stands.

Root Causes:

Operator continued with lift even though workers had raised concerns

Contributing Factors:

Space constraints
Risk tolerance
Improper lifting techniques

Corrective Measures/Maintenance:

Disciplinary actions
Alert to be reviewed with all personnel on project

Reconstruction Photos

Diamond - Crane Incident Report

Date: 04 Apr 2014 (5:59AM)
Make/Model (Equip #): Kone / 15 Ton (151160)
Project Name: #14328- Agrium Operations

District Name: Mining

Detailed Incident Description:

The mechanic was trolleying the crane to position the hook over a component on the motor grader. The mechanic was watching his hook and was not watching the bridge of the crane when it came in contact with the 785 haul truck bed in the next shop bay.

Root Cause(s):

• Watching block instead of bridge of crane, not following the JHA, inattention to surroundings, not having a pick plan started.

Contributing Factors:

• Bed of 785 in the air. No spotter watching the crane as the mechanic was watching the hook.

Corrective Measures/Maintenance:

• Had all the mechanics come to the site of incident and had a stand down. Talked to them about watching overhead when trolleying the crane and if needed use spotters.

Reconstruction Photos