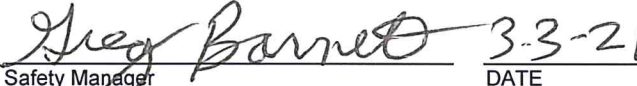





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ISSUED BY:  Safety Manager Coosa Pines Operations	APPROVED BY:  General Manager Coosa Pines Operations
INTERPRETATION AND PERIODIC REVIEW OF THIS PROCEDURE IS THE RESPONSIBILITY OF:	SAFETY MANAGER
DISTRIBUTION ALL MANAGERS ALL TEAM LEADERS	

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1.0 PURPOSE

- 1.1 This policy establishes Coosa Pines Mill minimum standards for the safe operation, maintenance and inspection of electric overhead cranes.
- 1.2 This policy is to be used in conjunction with all regulatory requirements for the safe operation and maintenance of electrical overhead cranes (ASME B30.2-2011 and OSHA Regulations 1910.179). This policy is to be used in conjunction with the Corporate Standard on Overhead Crane Maintenance & Inspection.

2.0 SCOPE

- 2.1 This policy applies to all Coosa Pines overhead electric cranes.
- 2.2 This policy requires all Coosa Pines employees and contractors strictly adhere to the standards outlined in this policy to ensure the reliability and safe operation of Electrical Overhead Cranes.

3.0 DEFINITIONS

- 3.1 **Authorized personnel** – Employee or contractor specifically trained in the maintenance and service requirements for the safe operation of the electrical overhead crane.
- 3.2 **Cab-operated crane** – Crane controlled by an operator in a cab located on the bridge or trolley.
- 3.3 **Floor-operated crane** – A crane that is pendant, wireless transmitter or nonconductive rope controlled by an operator on the floor or an independent platform.
- 3.4 **Light Service Overhead Crane** – This involves crane handling loads that may vary from no load to occasional full-rated loads of the rated capacity, with 2-5 lifts per hour, averaging 10 feet per lift.
- 3.5 **Moderate Service Overhead Crane** – This involves crane handling loads that average 50% of the rated capacity, with 5-10 lifts per hour, averaging 15 feet, per lift not over 50% of the lift at rated capacity.
- 3.6 **Overhead crane** – Means a crane with a movable bridge carrying a movable or fixed hoisting mechanism and traveling on an overhead fixed runway structure.
- 3.7 **Overhead Crane Operator** – Coosa employee designated and responsible to monitor this policy and the Corporate Standard on Overhead Crane Maintenance and Inspection.
- 3.8 **Qualified operator** – An employee specifically trained in the basic care and operation of the electrical overhead crane.
- 3.9 **Qualified Crane Inspector** – Person qualified as crane inspector as per ASME B30.2-2011 criteria.

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4.0 RESPONSIBILITIES

- 4.1 The Safety Manager is responsible for oversight of this policy, ensuring accuracy and compliance with regulatory and corporate requirements.
- 4.2 Overhead Crane Officer is responsible to monitor this policy and the Corporate Standard on Overhead Crane Maintenance and Inspection.
- 4.3 All supervisors and managers are responsible for ensuring that employees, contractors or visitors under their charge comply with this policy.
- 4.4 Every employee qualified through specific training is responsible for the safe operation of electrical overhead cranes and adherence to this policy and laws governing the operation and use of the cranes.

5.0 GENERAL

- 5.1 Equipment shall be operated only by a qualified operator or trainee that is under the direct supervision of the **qualified operator**. **Exception:** Maintenance and test personnel and inspectors, when in the performance of their duties, shall be allowed access only after permission has been granted by the operator;
- 5.2 The **qualified operator**, when operating the equipment, shall maintain full attention on the task being performed (e.g., no use of headsets, music, etc);
- 5.3 The **qualified operator** shall ensure that hand signals used during the lift are understood and followed by all involved (see Attachment 1);
- 5.4 No load in excess of the rated capacity shall be lifted, unless for test purposes, and the test shall be an engineered lift;
- 5.5 Before leaving the crane or carrier unattended, the **qualified operator** shall land any load, place the controls or master switch in the off position, and open the main line device of the specific crane or carrier;
- 5.6 If the crane or carrier has been locked out or tagged out, the operator shall not remove the locks unless the lock has been placed there by the operator. To remove someone else's lock, refer to the **Lockout** program (H.E.L.P.);
- 5.7 Employers must comply with local and state operator licensing requirements.

6.0 CRANE OPERATIONS

- 6.1 Attaching a Load
 - 6.1.1 Hoist chains or ropes shall be free of kinks or twists;

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- 6.1.2 Hoist chains or ropes shall not be wrapped around the load;
- 6.1.3 The load shall be attached to the load block; and
- 6.1.4 Prior to lifting the load, the **qualified operator** shall make certain that the load, sling, attachments, lifting devices and the load block are unobstructed.
- 6.1.5 Employers must use a qualified rigger for rigging operations during assembly/disassembly.
- 6.1.6 Rigging must be inspected prior to use. See Attachment 3: Inspection Form, Sling-Rigging. Any defective rigging must be tagged out of service and turned in to the Shift Team Leader or Supervisor.

6.2 Moving a Load

- 6.2.1 The person responsible for directing the lift shall make sure that the load is properly secured, balanced and positioned in the sling or other lifting device;
- 6.2.2 The person responsible for directing the lift shall make another visual inspection of the hoist chain or rope to make sure there are no kinks or twists;
- 6.2.3 The load block shall be brought over the load in a manner that will prevent swinging when lifting the load;
- 6.2.4 The chain or rope shall be inspected to ensure that it is properly seated in the chain sprocket or drum groove;
- 6.2.5 Lift equipment shall not be used for side pulls;
- 6.2.6 The **qualified operator** shall not lift the load over people and make sure that no one is located inside barricaded area from the reels and the winder area while the load is moving;
- 6.2.7 The **qualified operator** shall not lift, travel or lower a load while someone is on the load or hook;
- 6.2.8 If the load being lifted approaches the rated load to be handled, the **qualified operator** shall test the brakes by lifting the load a few inches and applying the brakes;
- 6.2.9 Always keep hands, fingers, and body out of the line of fire (see 360° Risk Analysis);
- 6.2.10 The load shall not be lowered below the point where there is less than three wraps of rope on the hoisting drum, unless a lower limit device is provided. If a lower limit device is provided, no less than one wrap shall remain;
- 6.2.11 Never stand under a suspended load; and,

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6.2.12 Always use a distancing tool (tag line, push pole, etc.) when loads are being lifted or moved until set in position (see SAF-1.39 Hand Free Suspended Load Guiding).

6.3 Parking a Load

6.3.1 The **qualified operator** shall not leave a suspended load unattended;

6.3.2 The load block or lifting/rigging devices of the hoist shall be raised above head level when not in use.

6.4 Hand Signals

Hand signals shall be used (see Attachment 1).

7.0 CRANE INSPECTIONS AND MAINTENANCE

7.1 Operational Inspection

Visual examination shall be recorded in a log book or inspection form by the **qualified operator** or designated person with findings of deficiencies at the minimum following intervals for the **Light Service Overhead Crane** - monthly basis and for the **Moderate Service Overhead Crane**- weekly basis.

7.1.1 Inspect all functional operating mechanisms;

7.1.2 Check for damage to or leaks from lines, tanks, valves, drain pumps, and air or hydraulic systems;

7.1.3 Check the load hook for deformities or cracks;

7.1.4 Check all hoist chains for excessive wear, including end connectors;

7.1.5 Check all chains for kinks, twists and distorted links and stretches that are beyond what is recommended by the manufacturer; and

7.1.6 Inspect the rope for damage such as kinks, cracks, cutting, bending, broken wires, unraveling, corroded or improperly connected end connections.

7.2 Periodic Inspections

7.2.1 Visual examination of equipment shall be conducted by a **Qualified Crane Inspector** making a record of apparent conditions from semi-annually to annually interval for the **Light Service Overhead Crane and Moderate Service Overhead Crane**.

7.2.2 As a minimum, the items defined at the section 4.4.5.3 of the ASME B30.2-2011 shall be examined by the **Qualified Crane Inspector**.

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7.2.3 The qualified crane inspector shall document and provide the owner with a copy of the findings who will in turn provide copies to **Overhead Crane Officer** designated at the mill in accordance with the Corporate Standard on overhead crane maintenance/inspection work.

7.3 Maintenance

Preventive maintenance shall be performed as prescribed by the manufacturer as detailed in the owner's manual. Maintenance of the units shall be performed by an **outside contractor or maintenance employees qualified to perform crane maintenance as per the manufacturer instructions.**

7.4 Periodic Rope Inspection

7.4.1 The inspection frequency shall be determined by a qualified person and shall be based on such factors as:

- 7.4.1.1 expected rope life as determined by experience on that particular installation or similar installations
- 7.4.1.2 severity of the environment
- 7.4.1.3 percent of capacity lifts
- 7.4.1.4 frequency rates of operations
- 7.4.1.5 exposure to shock loads

7.4.2 Inspections need not be at calendar intervals and should be more frequent as the rope approaches the end of its useful life.

7.5 Adjustments and Repair

Any unsafe condition noted during the inspection of the crane shall be repaired before the crane is used.

8.0 TRAINING

Employees required to operate overhead cranes shall be required to participate in and successfully complete at a minimum the following topics of a training program before assuming their responsibilities. Copies of the training curriculum, qualifications of the trainer, competency assessment and attendance rosters shall be documented in the Learning Management System (LMS) by each area and available for review.

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8.1 Minimum Training Topics

- 8.1.1 Wire rope;
- 8.1.2 Slings;
- 8.1.3 Crane Operation and Maintenance Standards as per local application;
- 8.1.4 Hoisting equipment manual and power;
- 8.1.5 Operation and safety awareness including lock-out procedures;
- 8.1.6 Basic rigging;
- 8.1.7 Field training and trials; and
- 8.1.8 Inspection procedures.

8.2 Retraining

Employees shall be required to participate in annual refresher training. Retraining may also be deemed necessary when it has been documented that the operator has failed to operate the crane in a safe and appropriate manner as directed by this policy and according local regulations. Curriculum for retraining shall cover the same topics as the initial training.

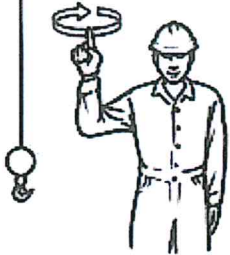

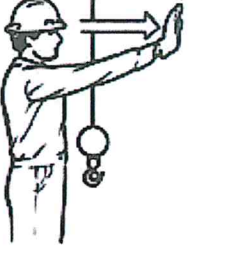
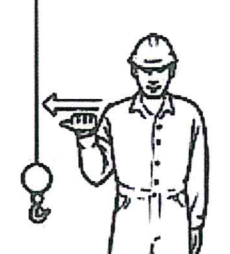
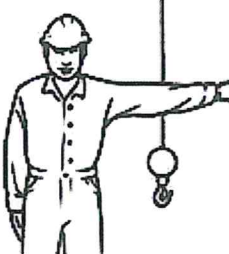
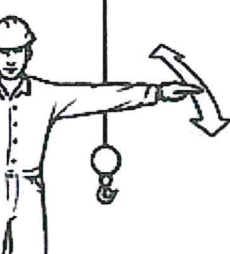
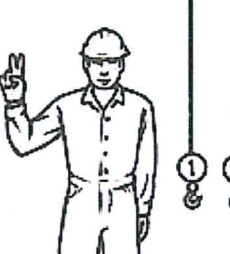

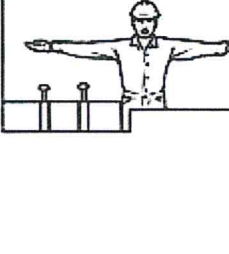
8.3 Training shall be documented in accordance with mill policy.

9.0 ATTACHMENTS

- 9.1 Crane Hand Signals
- 9.2 Record of Revisions
- 9.3 Pre-Use Inspection Form – Sling/Rigging
- 9.4 Permanent Mount Overhead Crane Pre-Use Inspection Form

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Attachment 1

		
<p>HOIST With forearm vertical, forefinger pointing up, move hand in small horizontal circle.</p>	<p>LOWER With arm extended downward, forefinger pointing down, move hand in small horizontal circle.</p>	<p>BRIDGE TRAVEL Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.</p>
		
<p>TROLLEY TRAVEL Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.</p>	<p>STOP Arm extended, palm down, hold position rigidly.</p>	<p>EMERGENCY STOP Arm extended, palm down, move hand rapidly right and left.</p>
		
<p>MULTIPLE TROLLEYS Hold up one finger for block marked "1" and two fingers for block marked "2". Regular signals follow.</p>	<p>MOVE SLOWLY Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal.</p>	<p>MAGNET IS DISCONNECTED Crane operator spreads both hands apart, palms up.</p>

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**ATTACHMENT 2
RECORD OF REVISIONS**

Section	Revision Number	Effective Date	Description Of Changes
		06/23/2014	New document
Title Page	1	03/22/2016	Updated Management Titles; Added Attachment 1 – Crane Hand Signals Chart.
Title Page	2	07/08/2016	Updated for new management signature
All	3	11/15/2019	General Review. Defined Overhead Crane Officer and responsibility; Addition of Attachment 3 Inspection Form, Sling-Rigging and Attachment 4 Permanent Mount Overhead Crane Pre-Use Inspection Form.
All	4	03/03/2021	Period Review; SWP conversion to 360° Risk Analysis.

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ATTACHMENT 3 (Front)

Pre-Use Inspection Form - Sling/Rigging (Front)



Note: If any items are marked "Fail", tag out of service, and report for replacement.

		Pass	Fail
Alloy Steel Chain Slings ID No: _____	Wear		
	Defective welds		
	Nicks, cracks, breaks, gouges, stretch, bends, discoloration due to excessive heat		
	Excessive pitting or corrosion		
	Throat opening of hooks		
	Missing or illegible sling identifications		
	Other conditions that cause doubt as to continued safe use of the sling		
Wire Rope Slings ID No: _____	Broken wires		
	Severe localized abrasion or scraping		
	Kinking, crushing, bird caging, or any other damage to the rope structure		
	Evidence of heat damage		
	Crushed, deformed, or worn end attachments		
	Severe corrosion of the rope, end attachments or fittings		
	Missing or illegible sling identifications		
Synthetic Web Slings ID No: _____	Other conditions that cause doubt as to continued safe use of the sling		
	Missing or illegible sling identifications		
	Acid or caustic burns		
	Melting or charring of any part of the sling		
	Holes, tears, cuts, or snags		
	Broken or worn stitching in load bearing splices		
	Excessive abrasive wear		
	Knots in any part of the sling		
	Discoloration and brittle or stiff areas on any part of the sling		
Pitted, corroded cracked, bent, twisted, gouged, or broken fittings			
Synthetic Round Slings ID No: _____	Other conditions that cause doubt as to continued safe use of the sling		
	Missing or illegible sling identifications		
	Acid or caustic burns		
	Evidence of heat damage		
	Holes, tears, cuts, abrasive wear, or snags, that expose the core yarn		
	Broken or damaged core yarns		
	Welding splatter that exposes core yarns		
	Knots in the round sling body, except for core yarn knots inside the cover		
	Discoloration and brittle or stiff areas on any part of the sling		
	Pitted, corroded cracked, bent, twisted, gouged, or broken fittings		
	Other conditions that cause doubt as to continued safe use of the sling		

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ATTACHMENT 3 (Back)



Pre-Inspection Use Form - Sling/Rigging (Back)

Note: If any items are marked "Fail", tag out of service, and report for replacement.

		Pass	Fail
Metal Mesh Slings ID No: _____	Broken wires in any part of the mesh		
	Broken weld or broken brazed joint along the sling edge		
	Reduction in wire diameter of 25 percent or more due to abrasion or 15 percent or more due to corrosion		
	Lack of flexibility due to distortion of the mesh		
	Distortion of the choker fitting so that the depth of the slot is increased by more than 10 percent		
	Distortion of either end fitting so that the width of the eye opening is decreased by more than 10 percent		
	A 15 percent or more reduction of the original cross-sectional area of any point around the hook opening of the end fitting		
	Visible distortion of either end fitting out of its plane		
	Cracked end fitting		
	Sling in which the spirals are locked or without free articulation		
	Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken		
	Missing or illegible sling identifications		
	Other conditions that cause doubt as to continued safe use of the sling		
Natural and Synthetic Fiber Rope Slings ID No: _____	Missing or illegible sling identifications		
	Cuts, gouges, areas of extensive fiber breakage along the length and abraded areas on the rope		
	Damage to 10 percent or more of the ropes diameter		
	Uniform fiber breakage along the major part of the length of the rope in the sling such that the entire rope appears covered with fuzz or whiskers		
	Fiber breakage or melted fiber inside the rope that appears along the length at the same relative position and involves damage estimated at 10 percent of the fiber in the strand at that point		
	Discoloration and brittle or stiff areas on any part of the sling		
	Excessive dirt and grit in the interior of the rope structure		
	Foreign matter that has permeated the rope and attracts and holds grit		
	Kinks, distortion or other damage in the rope structure		
	Melted or charred areas that affect more than 10 percent of the diameter of the rope or affect several adjacent strands along the length to more than 10 percent of their individual diameter.		
	Poor condition of thimbles or other fittings manifested by corrosion, cracks, distortion, or localized		
Other conditions that cause doubt as to continued safe use of the sling			

I certify that I have conducted an inspection of the referenced sling(s) and that the conditions of the inspection items are accurately reported.

Comments: _____

(Date) _____ (Print Name) _____

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ATTACHMENT 4 (Front & Back)

PERMANENT MOUNT OVERHEAD CRANE PRE-USE INSPECTION FORM Equipment: _____

WEEK OF:		S = Safe U = Unsafe													
Component	Inspection Criteria	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Tagged Crane or Hoist	Check that crane/hoist is not tagged out of service.														
Control Devices	Test run and check that all motions agree with control device markings.														
Brakes	Verify proper brake operation (all motions), no excessive drift & stopping distance is normal.														
Hook	Visually inspect for deformation, wear, safety latch operation.														
Hook Latch	Verify proper operation of hook latch.														
Wire Rope	Visually inspect for damage or wear. Check for broken wires, broken stands, kinks, any damage to rope structure.														
Hoist Chain	Visually inspect for damage or wear. Check for cracks, nicks, gouges, wear, and stretch. Ensure chain is in upper & lower sprockets and in chain guide.														
Reeving	Visually inspect for proper reeving and that rope parts are not twisted about each other.														
Limit Switches	Verify proper operation of upper limit devices and that they are not striking any part of the hoist/crane.														
Oil Leakage	Visually inspect for signs of oil leaks on crane and on floor beneath crane.														

Component	Inspection Criteria	Mon		Tue		Wed		Thu		Fri		Sat		Sun	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Unusual Sounds	Check for any unusual sounds from the crane or hoist mechanism while in operation.														
Warning / Safety Labels	Check that all warning and other safety labels are not missing and are legible.														
Miscellaneous	Check for pendant strain relief, labels, warning devices, capacity signs. Area Barricaded/Safe for Work														
Housekeeping	Check area for accumulation of material to prevent tripping or slipping.														
Safety Equipment	Strobe Light Motion Alarms														
Inspected by:															
COMMENTS:															