Starting with Safety

Our journey to a safe start-up

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Where to start???

- Our Opportunities
  - New team
  - New Process
  - Variety of backgrounds
  - Different skillsets
- Our Challenges
  - New team
  - New Process
  - Variety of backgrounds
  - Different skillsets

Culture

- Safety driven mindset
- One team
- High level of ownership

Pre-job Brief

WorkTask:

1. **Secure Work Area:**
___ Inform others in vicinity
___ Set up Barricades /Warning Tape
___ Display Signage
___ Establish Fall Zone Protection Plan
___ Secure Protective Barriers/ Tie-Offs
___ Determine if HOT WORK Plan Req'd.
___ Determine if Confined Space applies
___ Determine appropriate PPE for all jobs
___ Determine if Safety Observer Req'd.
___ Complete "Pre-Work Safety Checklist"
2. **Review JSA with each and sign below:**

Verification of Understanding

I confirm that the work being done will be performed as specified and that all safety requirements have been met and will be maintained for duration of job:

CONTRACTOR/EMPLOYEES

PRINT NAME: SIGN NAME: Date / Time

(IF MORE LINES NEEDED USE BOTTOM OF FORM)

3. **Nucor Teammate work authorization:**

I have walked the job with the teammates listed above and identified all work area hazards.
I authorize work to commence:

Nucor Job Lead Signature: Date / Time

4. **Area Notification:**

Work area Supervisor(s) notified of work in their area

Supervisor: Date / Time

PRE-JOB BRIEF SHEET

PRE-WORK SAFETY CHECKLIST

	Yes:	No:
Personal Protective Equipment		
Steel Toed Boots	☐	☐
Safety Glasses with side shields	☐	☐
Hearing Protection	☐	☐
Long Sleeved Shirts/jacket	☐	☐
Hard Hat	☐	☐
Goggles/Face Shield	☐	☐
Gloves (specify type) _____	☐	☐
Special Boots/Garments/Suit	☐	☐
Respirators (specify type) _____	☐	☐
Full body Harness w/5k hooks	☐	☐
Shock Absorbing Lanyard	☐	☐
Inertia Ratchet Lanyard	☐	☐
Welding Shield &Hardhat	☐	☐
Welding Gloves	☐	☐
Welding Leathers	☐	☐
Welding PAPR (Stainless)	☐	☐
Welding Curtain	☐	☐
Energized Equipment Isolation		
All Energy Sources Identified	☐	☐
All Energy Sources Isolated	☐	☐
All Energy Sources Locked & Tried	☐	☐
Locks ID for each worker & applied	☐	☐
Fire Protection		
Fire Watch Required?	☐	☐
Proper Fire Extinguisher for job	☐	☐
Flammable Materials Removed	☐	☐
Fire Blankets Required?	☐	☐
Barricades Required? (also below)	☐	☐
Housekeeping		
Work Surface Level	☐	☐
Aisles, Stairs, Floor Clean	☐	☐
Materials Stored Properly/Neat	☐	☐
Miscellaneous		
Ladders in Good Condition	☐	☐
Scaffold Inspected & Tagged	☐	☐
Rebar/Bolts Protected	☐	☐
Pinch Points Accounted For	☐	☐
Purge/Flush Required	☐	☐
Power Cords Free From Cuts	☐	☐
Ground Pins and GFCI's present	☐	☐
SDS available upon request	☐	☐
Spills reported to Environmental	☐	☐
Waste will be disposed of properly*	☐	☐
*Contact Environmental		

	Yes:	No:
Tools		
Proper Tools for Each Job	☐	☐
All Tool Guarding in Place	☐	☐
Hand Tools Clean & Good Condition	☐	☐
Ladders Inspected with Labels	☐	☐
Air/Oxy/Torch Hoses Inspected	☐	☐
Hoses Tied Off – As Required	☐	☐
All GFCI Protectors in Place	☐	☐
Fuels and Flammables Stored	☐	☐
Permits		
Underground Work/Dig	☐	☐
Lockout Checklists Completed	☐	☐
Crane Interference	☐	☐
Confined Space	☐	☐
Hot Work	☐	☐
Excavation/Trenching	☐	☐
Energized Work	☐	☐
Barricade Placards Posted	☐	☐
MSDS On Site/ Available	☐	☐
Material Handling / Mobile Equipment Inspection		
Mobile equipment pre-use inspection complete:	☐	☐
Rigging equipment pre-use inspection complete:	☐	☐
Fall protection system pre-use inspection complete:	☐	☐

This space for Special Instructions and/or additional signatures:

LOTOTO:

1. Identify Hazards
2. Perform Job Brief
3. Notify all affected personnel
4. Shut down the equipment by the normal process
5. Isolate all energy sources and lock out and/or tag out
6. Relieve all stored energy
7. Try out
8. Perform work
9. Ensure all personnel and tools are clear of the equipment, all guards are back in place, and the area is clear of all debris
10. Notify all affected personnel
11. Remove locks and tags and restore all energy sources
12. Start equipment by normal means and perform a function test to verify proper equipment operation
13. Return equipment to operation

Creating an Electrically Safe Work Environment

1. Determine all possible sources of electrical supply. Check drawings, on-lines, etc.
2. Interrupt the load current by normal means and open the disconnecting device for each source.
3. Visually verify disconnecting device are fully open or that drawout-type circuit breakers are fully withdrawn (where possible).
4. Apply locks in accordance with NSFL's lockout policy/procedure.
5. Test each phase conductor or circuit part to verify it is de-energized. Test phase-to phase and phase to ground. Use live-dead-live testing to verify proper operation of test equipment.
6. Allow time for stored electrical energy to dissipate if necessary.
7. Release or block stored mechanical energy (charging springs).
8. Ground phase conductors or circuit parts before touching them where the possibility of induced voltage, stored electrical energy, or re-energization exists.

Rev. 2

LOTO

- LOTO Training
- OJT time for further understanding
- No prefilled out LOTO sheets
- Understanding our equipment

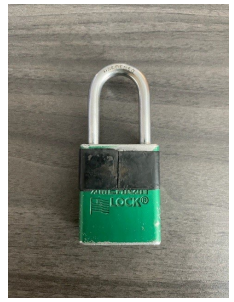
LOTO Authorization Process

- Proficiency colored bands to clearly indicate TM's level of training.

- First level – Yellow band

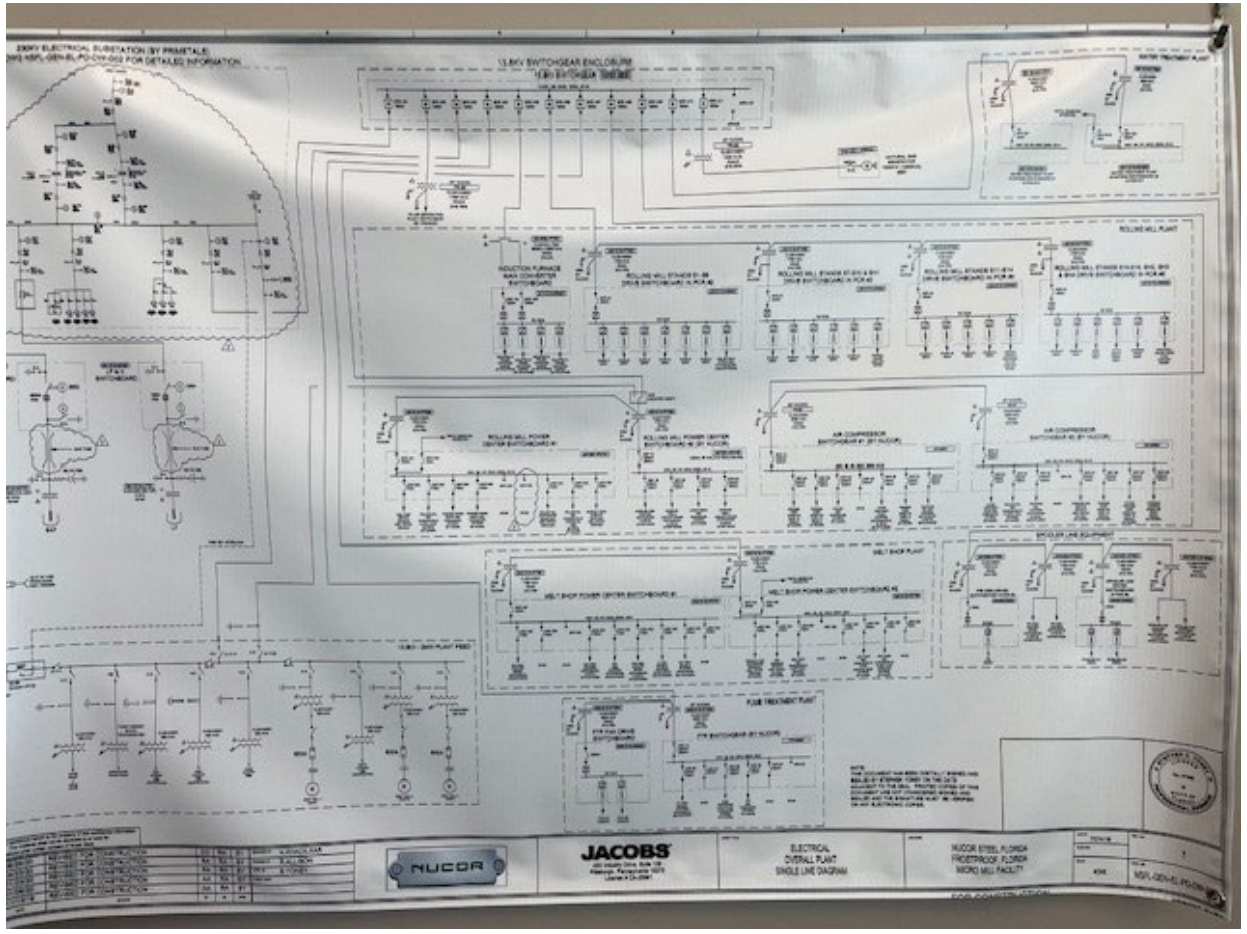
- Second level – Bare lock(no band)

- Third level – Black band



LOTO Training Aids

- Blown up schematics (3’x4’) of our electrical, water and hydraulic systems to learn and understand correct LOTO points and what it affects.



Personal LOTO

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PERSONAL LOCKOUT TRACKING FORM

Teammates Involved	Teammates Involved

Date: **Area:** **Scope of Work:**

	Perform These Steps	Teammate Initials
1	Identify Hazards	
2	Perform Job Brief	
3	Notify all affected teammates	
4	Shut down the equipment by the normal process	
5	Isolate all energy sources and lock out and/or tag out	
6	Relieve all stored energy	
7	Tryout	
8	***Debrief Supervisor on all step to this point and get permission to start work****	****Supervisor Signature***
9	Perform work	
10	Ensure all teammates and tools are clear of the equipment, all guards are back in place, and the area is clear of all debris.	
11	Notify all affected teammates	
12	Remove locks and tags and restore all energy sources	
13	Re-test work conducted to verify proper operation	
14	***Debrief Supervisor on all step to this point and get permission to return equipment to operations****	****Supervisor Signature***
15	Return equipment to operation	

Return Completed Form to your supervisor

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Job Hazard Analysis

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Job Analysis

Name(s):

Scope of Work:

Check all the Actual and Potential Risks

Possible Permits

- ☐ Confined Space
- ☐ LOTO
- ☐ Crane Interference
- ☐ Hot Work
- ☐ Energized Electrical
- ☐ Grating Removal

- ☐ Fall Protection
- ☐ Mobile Equipment
- ☐ Spills/Leaks
- ☐ Dust/Particles
- ☐ Cutting/Welding
- ☐ Drowning/Engulfment
- ☐ Lacerations
- ☐ Pinch Points
- ☐ Struck By
- ☐ Stored Energy
- ☐ Heat Stress
- ☐ Overhead Work
- ☐ Hot Surfaces
- ☐ Slip Trip Hazards
- ☐ Ladders
- ☐ Compressed Gas
- ☐ Fire Hazard
- ☐ Access/Egress
- ☐ Guarding
- ☐ Electrical
- ☐ Inert Gases

Any Risks / Hazards not listed above

How were the identified HAZARDS eliminated

Hands on Suspended Load Authorization

Load	Supervisor Signature

Valve/Switch/State/Position Changes

Device	Returned to Original Position ☐
Device	Returned to Original Position ☐

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Group Lockout Tagout

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GROUP LOCKOUT TRACKING FORM

Lockout Leader (Print)	Signature	Date/Time
Verifier (Print)	Signature	Date/Time

Shift Change

Follow Group Lockout Shift Change Procedure

Oncoming Leader (Print)		Sign		Date/Time	
Oncoming Leader (Print)		Sign		Date/Time	
Oncoming Leader (Print)		Sign		Date/Time	
Oncoming Leader (Print)		Sign		Date/Time	

Area: **LockBox ID:** **Scope of Work:**

	Perform These Steps When Establishing a Group Lockout	Group Lockout Leader Initials	Verifier's Initials
1	Lockout Leader will clearly Identify Work Scope and Hazards		
2	Lockout Leader will perform Job Brief		
3	Notify all affected personnel		
4	Shut down the equipment by the normal process		
5	Lockout Leader will isolate all energy sources and lock out and/or tag out. Once the Lockout Leader verifies all locks are hanging, the Lockout Leader will place the group lock key in the group lock box and place their personal lock on it		
6	The Lockout Leader will hand the group lock box to the Verifier. The Verifier will confirm all locks are properly hanging.		
7	The Lockout Leader will relieve all stored energy		
8	The Lockout Leader and Verifier will TRY OUT the equipment and ensure the group lockout form has been completed		
9	Debrief Supervisor on all step to this point and get permission to start work		< Supervisor Signature
10	The Group Lockout Leader will allow people to join the lockout		
11	Perform Work		
12	Lockout Leader will verify guards are in place, personnel and tools are clear of equipment and the area is clear of debris		
13	Lockout Leader will notify all affected personnel		
14	Lockout Leader will ensure all locks and tags are removed and restore all energy sources		
15	Lockout Leader will ensure re-tests were conducted to verify proper operation		
16	Debrief Supervisor on all step to this point and get permission to return equipment to operations		< Supervisor Signature
17	Return equipment to operation		

Locks/Equipment Isolated on page 2

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Lock ID	Equipment Isolated	Isolation Name and Type	Isolation Location	Position	Leader Initials	Verifier Initials	Locks Removed

Turn in completed forms to your Supervisor

Immobilizations

- Similar to LOTO however, it is limited to a small number of routine tasks.
  - Pass changes, stand change, adjustments, etc.

- Routine - Happens frequently.
- Repetitive – Performed same way, every time.
- Integral – Part of the process.

Immobilizations

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IMMOBILIZATION TRACKING FORM

Teammates Involved	Teammates Involved

Date: **Area:** **Scope of Work:**

	Perform These Steps	Teammate Initials
1	Perform Job Brief	
2	Notify operator of need to immobilize equipment.	
3	Ask operator to shut down equipment.	
4	Once equipment is off, turn LCS switch to Immobilize and apply lock.	
5	Try out equipment (any hyd functions need to be tried out from LCS).	
6	Put Upstream Protection in place and apply lock.	
7	***Debrief Supervisor on all step to this point and get permission to start work****	****Supervisor/Lead Signature***
8	Perform work.	
9	Ensure all teammates and tools are clear of the equipment, all guards are back in place, and the area is clear of all debris.	
10	Remove Locks.	
11	Remove Upstream Protection	
12	Return immobilization switch back to auto mode.	
13	Notify operator work is complete and he is in control.	

Return Completed Form to your supervisor

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Next challenge…

- Get off the mill
- Get off the sump in the Melt Shop

How did we do it?

As **ONE** Team, buy in by showing the Team the value

The Result…

Mill Approaches

- Dec 21 – 554
- Jan 22 – 363
- Feb 22 – 118
- March 22 – 2
- April 22 – 0
- Since - 0

Newest Level of Protection

Melt Shop off the Sump

- Added a gunning position on the alloy deck.
- Built an extended reach shaft that will manipulate into taphole to clear debris.

The best part???

All Team driven solutions

Any Questions?

Thank you for your time and attention!!