



THE BELT RAILWAY COMPANY OF CHICAGO
Office of the Engineering Department

**ENGINEERING GENERAL ORDER
#2020-003**

Effective 0001, Wednesday, April 1, 2020

To: ALL CONCERNED

Subject: 2020, Engineering Summary General Order

Engineering General Order #2020-EN0002 is void.

This Document Contains Changes to:

- **System Safety Rules, SAF-1**
 - SAF-1 17.8 Power Supply Turned Off (Paragraph 2 REVISION)
 - SAF-1 17.9 Handling Electrical Power Supply Wires (SUPERSEDE)
 - SAF-1 17.10.1 Lock Out Tag Out; LOTO Definitions (ENGR) (ADDITION)
 - SAF-1 17.11 Power Supply System Knife Switch/Disconnect Securement (ENGR) (ADDITION)
 - SAF-1 19.21.1 Signal Mast Inspections (ADDITION)

- **On-Track Safety Manual, OTS-1**
 - OTS-1 4.4 Train Approach Warning (Lookout) (ADDITION)

BRC Safety Rulebook, SAF-1, Effective January 1, 2017

Replace the following rules as noted below:

SAF-1 11.2.5 Hump Retarders: (SUPERSEDE)

Change rule reference from 50' to 150'.

SAF-1 11.6 Proper Attire (SUPERSEDE)

Under portion entitled When Working Outside, replace the second bullet:

- Engineering Department employees are required to wear a reflectorized torso covering.

SAF-1 11.7.3 Footwear PPE Requirements: (SUPERSEDE)

When working in areas where this is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole of the foot or electrical hazard; protective footwear as defined in OSHA Standard 29 CFR 1910.136 is required.

All footwear worn as safety footwear for the purpose of complying with Rule 11.7 must meet the requirements of ASTM 2413.11 which specifies requirements for built in safety devices and safety toes.

Individual departments may specify additional requirements.

Compliant footwear is required for employees in the following departments:

- Transportation
- Mechanical
- Engineering
- IT (Communications)

SAF-1 11.7.5 Winter Footwear: (NEW) (TRANS)

BRC Transportation Department in train and engine service are required to wear approved winter footwear whenever snow or ice is present on the ground or forecast to occur during the assigned work shift.

Employees subject to this rule are required to have approved studded overshoes readily available for use during the period November 1 thru March 31.

Two types of winter footwear are approved for use while performing train, yard, and engine service:

- LaCrosse Two Buckle Overshoe, Item
00367130
- LaCrosse Four Buckle Overshoe, Item
00367190

Information regarding the procurement or replacement of winter boots can be obtained from the Chief Clerk, Transportation or the Trainmaster-Operations.

SAF-1 17.8 Power Supply Turned Off (Paragraph 2 REVISION)

When performing work near a 2,400 volt or greater power line that will not permit the clearance outlined, notify the electrician to switch power off to that portion of line. Do not start work until electrician says that the power has been switched off. Make sure the electrician understands not to switch power on again until advised by the supervisor in charge of the work.

SAF-1 17.9 Handling Electrical Power Supply Wires (SUPERSEDE)

Immediately report electrical wires found broken crossed or on the ground to the train dispatcher or proper authority. Do not consider any electrical wire dead until positive information has been received that is safe to handle.

SAF-1 17.10.1 Lock Out Tag Out; LOTO Definitions (ENGR) (ADDITION)

Add the following:

In the application of Lock Out/Tag Out rules, the following definitions apply:

Authorized Employee – An employee who utilizes LOTO equipment for protection to service or maintain equipment.

Affected Employee – An employee who is required to utilize machines or equipment on which servicing is performed using LOTO, also applies to an employee who is in the vicinity of the equipment while servicing is being performed.

Other Employee – An employee who is within the area where LOTO is being used and within 25' of any equipment being protected by LOTO.

Lock Out Tag Out (LOTO) – A system to isolate electrical current. When an electrical panel is equipped with a disconnect device, it must be locked out. When an electrical panel is not equipped with a disconnect device, a tag may be utilized.

Lock Out Tag Out (LOTO) Device – a required multiple lock hasp, and associated tags, providing a space for each individual employee to apply a lock and tag.

SAF-1 17.10.2 General Control of Electrical Energy (ENGR) (ADDITION)

Prior to utilizing LOTO Procedures, understand the following:

1. Type and size of energy sources to protect against.
2. Whether proper multiple hasp LOTO devices are present to allow for effective isolation.

SAF-1 17.10.3 Lock Out/Tag Out Procedures (ENGR) (ADDITION)

When an employee is working on any 120, 240, or 480-volt equipment connected to a potentially energized circuit, and there is any possibility of a portion of the power feeds becoming energized, LOTO must be used.

To utilize LOTO, do the following:

1. Identify all sources of electrical energy.
2. Notify other employees within the work group of the status of power and the need for LOTO.
3. Shut down affected equipment. Assure circuit breakers and Main Disconnect are off.
4. Isolate affected equipment using available disconnect devices.

5. Apply LOTO protection, utilizing a BRC authorized LOTO Kit (refer to SAF-1 17.10.3)
6. Release any stored energy remaining in the machine.
7. Verify isolation, APPLY METER TO VERIFY THE ABSENCE OF ELECTRICAL CURRENT.
8. Service Equipment. Do not bypass any LOTO protection during the process.
9. Release LOTO upon completion.

When utilizing LOTO with more than one employee, use an LOTO device equipped with multiple locks. Each member of the work group utilizing LOTO must apply their own lock to the multiple lock device.

The pulling of fuse, the powering off of a circuit breaker, or other means of isolation not employing LOTO are not alternatives to following LOTO procedures.

Employee names must be affixed to LOTO tags.

Employees are responsible to maintain the LOTO keys personally, these must not be shared or given to other employees.

Employees may not utilize LOTO tags or keys belonging to another employee.

SAF-1 17.10.4 Temporary Release of LOTO for Testing (ENGR) (ADDITION)

When necessary to test equipment being protected by LOTO, do the following:

1. Ensure tools and materials are clear of equipment to be tested.
2. Ensure other employees are clear of the equipment.
3. The Authorized Employee only can now remove the LOTO protection.
4. The Authorized Employee may now energize the equipment.
5. If any adjustments are required, after the removal of LOTO protection, LOTO protection must be reapplied by the Authorized Employee prior to conducting any additional repair or adjustment.

SAF-1 17.10.5 Group Lock Out/Tag Out Procedures (ENGR) (ADDITION)

When utilized, group LOTO protection must afford protection for each employee in the group. Protection must be equivalent to the protection that would be afforded if individual protection was used for each employee.

Each Authorized Employee must affix a personal LOTO device before work begins and remove it when work is completed. Application and release of LOTO devices must be done individually.

When a group elects to utilize Group LOTO Procedures, one Authorized Employee must be designated for the purposes of LOTO protection.

If necessary, due to emergency or other circumstance, and after notifying a supervisor of the facts, the Authorized Employee in charge of LOTO for the group, may remove the LOTO of a missing employee.

1. When this occurs, all remaining members of the workgroup must be present.
2. When necessary to utilize this procedure a written statement of facts must be provided to the supervisor at the earliest opportunity.

SAF-1 17.10.6 Transfer of LOTO Protection (ENGR) (ADDITION)

When necessary to leave the area where LOTO is provided, and transfer LOTO to another employee, LOTO protection for the new employee must be applied prior to removing the original protection.

SAF-1 17.11 Power Supply System Knife Switch/Disconnect Securement (ENGR) (ADDITION)

All Power Supply System Knife/Disconnect Switches used on signal equipment must be left in the ON position, except in emergency situations.

When equipped, Power Supply System Knife/Disconnect Switches must be locked.

When electrical cases are equipped with a master circuit breaker, that breaker will be left in NORMAL (ON) position, except when maintenance is required, or in an emergency.

Signal Department employees will ensure that snow blower and cal-rod equipment is powered ON or OFF using the individual circuit breakers in the signal cases or bungalows.

SAF-1 19.21.1 SIGNAL MAST INSPECTIONS (ADDITION)

Prior to climbing a signal mast, inspect the junction box at the base of the signal for cracks, and the ladder for damage.

Focus inspection to identify any stress cracks around the junction box, any damage to bolts connecting the mast to the foundation, and the area connecting the mast pole to the junction box/base.

Inspect the ladder for damage and ensure that brackets securing the ladder to the signal pole are not broken.

In the event that damage is found on either the signal junction/mounting box or the ladder, it must be marked with a red tag/tape on the ladder's terminal lock.

The Signal Supervisor will be notified immediately of the location, signal name and location of the damage.

Shift turnover must include information about any location identified as having damage.

When red tag/tape are observed on a signal ladder, the ladder must not be used.

SAF-1 20.1.2 Precautions near Passing Trains and Equipment (ADDITION)

Add the following bullet:

- Engineering Department employees may stand on one track, when a train is passing on another track, only when the track they are standing on has been identified as a Designated Place of Safety in the On-Track Safety Briefing. (ENGR)

SAF-1 20.2.1 Step Over Rail (ADDITION)

Add the following additional instructions:

Before walking across any track, ensure that there is the appropriate amount of time required to do so to allow the employee to be safely across and clear of the track before a train or on-track equipment would arrive at the crossing point.

When walking across any track, move directly and promptly across the track.

SAF-1 20.2.3 Sufficient Distance (Classification Yards) (SUPERSEDE)

In Classification Yards, and other locations where cars are likely to roll together, additional safeguards are required to work between or on the end of equipment.

When necessary to open a knuckle do the following:

- If necessary to physically manipulate any component, except the uncoupling lever, ensure not less than 50 feet of separation is provided.
- Utilize the uncoupling lever and minimize the time that any portion of the body is in the foul of the equipment.

In Classification Yards, or other locations where cars are likely to roll together, when necessary to work on the end of a car, such as when adjusting a drawbar, do the following:

- Separate cars by at least 50 feet.
- When necessary, apply sufficient hand brakes or secure equipment to prevent movement of the unattached portion.

When working on the ends of cars, employees must continuously watch the cars on the unattached portion of the cut, and, if movement is detected, immediately proceed to a point of safety to avoid being struck by rolling equipment.

SAF-1 20.4.2 Moving Equipment (TRANS) (APPLICATION)

Transportation Department employees, in switching and transfer service, may board and detrain from moving equipment when the following conditions are met:

- *Equipment is moving at not more than 4 MPH.*
- *The ground, at the point of boarding or detraining, is clear of snow, ice, or other debris.*
- *The employee is wearing safety footwear as prescribed by SAF-1 11.7 Footwear.*

Transportation Department employees must only entrain or detrain from moving equipment when it is safe to do so.

When weather conditions require the use of winter footwear, employees are not permitted to board or detrain from moving equipment.

All conditions and precautions for boarding and detraining moving equipment safely, as shown in SAF-1 Rule 20.4.2, Moving Equipment, apply to Transportation Department employees who board and detrain from moving equipment.

Employees must be trained and qualified in order to get on and off moving equipment in other than an emergency by the Manager of Operating Practices, or his designee.

SAF-1 20.7.7 Riding Locomotive Cranes and Work Equipment (ENG) (SUPERSEDE)

Replace entire rule with the following:

Operate equipment only if you are authorized and trained. Operators are responsible for machine safety and machine maintenance.

When working on or about equipment and machines:

- Read and understand the machine's operating manual before using the equipment.
- Use lockout/tag-out procedures.
- Lower all suspended loads and attachment before leaving the machine.
- Do not sit or lie underneath a machine, except when inspecting or repairing the machine.
- Do not overload equipment.
- Be aware of power lines overhead and underground.
- Secure unattended equipment from movement and potential theft.

Never place yourself under a raised machine, supported only by a jack.

SAF-1 20.7.8 Separation During Travel (ENG) (ADDITION)

Add new rule:

Follow these minimum guidelines when working with multiple machines to travel and perform work related to Engineering Department projects and tasks:

- When necessary to slow or stop any machine during travel, the operator must signal adjacent machine operators either by radio, if equipped, or hand signal.

- If using radio to give advice to adjacent machines, the operator must assure that the transmission has been received and is understood.
- Hand signals, when used, must be continuous, until it has been verified that the adjacent machines have observed, and understood that the movement will be stopped or slowed.
- When multiple machines are being used in the performance of normal tasks, which is identified as "Work Mode", the spacing between machines will be maintained to prevent contact between machines or personnel, but not less than 50 feet apart.
- When work conditions or travel conditions dictate that spacing be less than 300 feet while traveling, or 50 feet while working, the machine operators and the supervisor responsible for the work group must have a thorough understanding of the specific task and conditions under which the task will be performed.
- When machines are bunched, fueling or tie up as examples, or when making movements across railroad crossings at grade or interlockings, all employees must stay clear of the track. When bunching of machines is required, the lead machine operator of the movement will dismount his machine and position himself so that he is visible to the following machine operators and anyone else who has the potential to stop in the path of the approaching machine. The lead machine operator will spot the following machine using hand signals. Each successive operator in the consist will be responsible for spotting the following machine in the same manner.
- When employee's tasks required them to occupy the center of the track during work mode operations, they must not position themselves less than 15 feet from the nearest on track machine. Certain machines, including adzers, mowers, brush cutters, and other may require an increased distance.
- Before making a reverse movement, the machine operator must ensure that the backup alarm, when equipped, is activated and/or the appropriate whistle signal is sounded. Additionally, the operator must ensure the track is clear of men and equipment before the reverse movement is made.

On-Track Safety Manual, OTS-1, Effective March 20, 2017

**On-Track Safety Manual, OTS-1, Rule 4.4 Train Approach Warning (Lookout)
(ADDITION)**

At Clearing Hump, when performing maintenance on retarders and other hump field devices, and utilizing Train Approach Warning, OTS-1 Rule 4.4 for purposes of Roadway Worker Protection, supplemental protection will be provided in coordination with the Hump Conductor.

Supplemental protection will require that the Signal Employee place, after receiving permission from the Hump Conductor, blocks in the points of the switch ahead of the area to be protected. When work is performed on the retarder at the top of the hump, a fixed derail will be applied.

The application of supplemental protection does not remove any of the responsibilities for the use of lookouts, which is required under OTS-1 Rule 4.4, Train Approach Warning (Lookout), unless the track is made inaccessible and another method of on-track safety is used.

M. J. Grace, President
The Belt Railway Company of Chicago

Engineering General Orders in Effect:

<u>Year of Issuance</u>	<u>Numbers</u>
2019	EN002, EN003, EN006, EN010,
2020	EN003