

# STANDARD OPERATING PROCEDURE HAUL TRUCK TIE LINE STANDARD

Effective Date: 09-08-2017

Document Number: MNSOP160-0042

Rev: 1

## PURPOSE:

This document serves to detail standards and practices for creation and operation of tie lines at RTKC.

## SCOPE:

This procedure applies to all pedestrians, light vehicle operators, HME operators and contractors who operate or are present in or around haul truck tie lines at RTKC

## RESPONSIBILITY:

It is the responsibility of all Operations Supervisors, RTKC Employees and contract employees to adhere to this standard.

## QUALIFICATIONS, TRAINING, OR EXPERIENCE REQUIRED:

- A. RTKC Pit License or qualified escort.
- B. Appropriate equipment qualification for any maintenance/HME used upon tie area.
- C. Mine Planning with Operations, is responsible for design and location of new tie areas based upon this standard.

## PROCESS:

### 1. OPERATING ON TIE LINE / DEPARTING TIE LINE

- **Tie Lines are a Designated Slow Zone. Speed Limit is 5 MPH**
- On a non-segregated tie line, an operator must establish positive communication (visual/verbal) with operators of haul trucks in their immediate vicinity (i.e. adjacent parking stalls) prior to any movement of their own haul truck (this includes when performing a brake test). If there does not appear to be anyone on the truck on either side of the operator, confirmation must first be obtained from the facilitator that no one is on that truck before the operator can leave.
- On a segregated tie line, operators must verify that the area they are exiting is clear of personnel and or equipment before leaving their stall.

# STANDARD OPERATING PROCEDURE

## HAUL TRUCK TIE LINE STANDARD

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- Operators will honk twice and then pause momentarily before exiting their stall.
- The operator will give blind side right of way and yield appropriately while operating in the tie area.

### 2. ARRIVING AT THE TIE LINE

- Upon arriving at a tie line, the operator will follow the established traffic pattern.
- The operator will park in the farthest available parking stall as determined by the traffic pattern.
- The operator will not park so as to leave vacancies in the tie line.
- An operator will not back into a stall with a truck on their blind side.
- In the event a truck must back into a stall with a truck on their blind side, this can only occur with a **proficient spotter**.
- Upon arrival at their stall, the operator must confirm their parking stall is clear of hazards and that there is sufficient space to park. In event the space available appears potentially insufficient; the operator will not park in that stall.
- The operator must honk three times prior to any backing.
- The operator will back at reduced speed (**<5 mph**), and must leave sufficient space for a walk around inspection to the rear of the HME.
- The HME must be placed in park; **the wheel lock brake will not be used for parking at a tie line.**
- Upon placing in park, the HME should be de-energized (if applicable for model of truck) and the key turned off.
- Upon dismounting their truck, the operator must place the wheel chock appropriate to grade when a wheel ditch has not been incorporated into the tie line design.
- Unless segregated, operators should not attempt to dismount their truck if any HME is in movement in their immediate vicinity (i.e. adjacent stall, directly in front of their truck).
- The operator must use the "good" side of their HME when walking to the pedestrian walkway.

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Rev: 1

## 3. MISCELLANEOUS

- GENERAL TIE LINE STANDARDS
  - Light vehicle access roads / pedestrian walkways should be a minimum of 17' in width, to accommodate light vehicles, portable lavatories, and pedestrians.
  - Portable lavatories will only be placed in areas segregated from both active tie and light vehicle traffic.
  - All haul truck tie lines should have a designated entry and exit.
  - Tie lines should have adequate lighting
  - Whenever possible a wheel ditch should be included to function as a built in wheel chock
  - Whenever space is available, a segregated tie line is preferred.
  - Tie lines should be designed so that oncoming operators can approach on the good side of the Haul truck from behind. Operators should verify that the area is clear, the haul truck they are intending to board is fundamentally stable parked, and that there is no moving HME in close proximity before approaching the truck.
- NON SEGREGATED TIE LINES
  - Suggested Layout:
    - The rear berm for a 90° tie line stall should be 35' in length,
    - No less than 4' in height, with berm width of 15' (measured on top surface of the berm), flattened at the top.
    - Access points between rear berms shall be 12' in width.
  - Haul truck parking stalls will be designed so that trucks can be parked fundamentally stable.
- SEGREGATED TIE LINES
  - When space is available, segregated tie lines should have pull thru lanes
    - Backing up on pull thru tie lines is not permitted

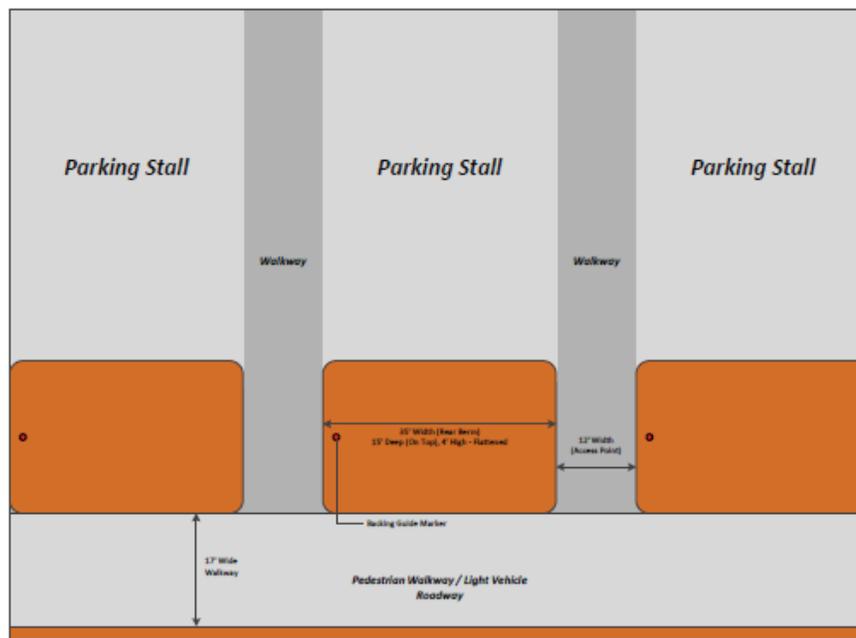
# STANDARD OPERATING PROCEDURE HAUL TRUCK TIE LINE STANDARD

Effective Date: 09-08-2017

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Rev: 1

- The tie line must be segregated by a minimum of 2 segregation berms or barriers (Haul truck tires) that sufficiently isolate the haul truck so that it cannot feasibly come into contact with another
- Trucks coming into a pull-thru tie line must park sequentially according to the traffic pattern. A truck is not permitted to pass behind a truck parked out of sequence at a -thru tie line unless the truck has been identified as either being unmanned or broke-down because of the potential for HME and personnel interaction. If a Haul truck has to pass behind a truck that has been identified as being unmanned or broke-down, a proficient spotter must be used so that any HME and personnel interaction can be avoided.
- When possible, the stalls should be made to enter on the driver's good side
- Operators must verify that the area they are exiting is clear of personnel and or equipment before leaving their stall
- TIE LINE EXAMPLES
  - Examples #1 and #2 illustrate the suggested lay out for a non-segregated tie line, and an existing tie line built to this standard.



**Example #1**

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Effective Date: 09-08-2017

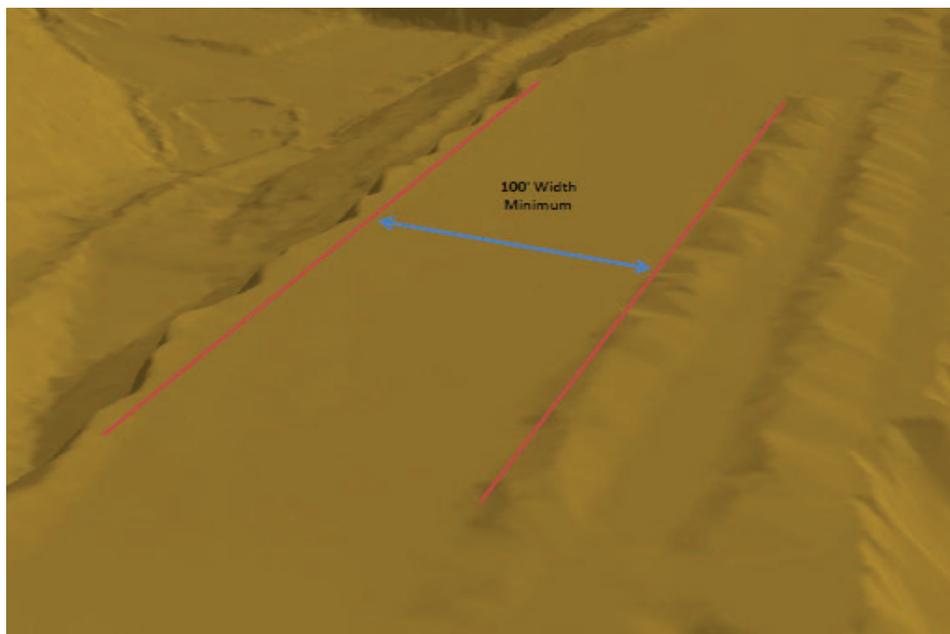
Document Number: MNSOP160-0042

Rev: 1



**Example #2**

- A single-sided, non-segregated tie line should have a minimum width of 100', from parking berm to crest berm; a double-sided, non-segregated tie line should have a minimum width of 160', from parking berm to parking berm. See examples #3 and #4 below.



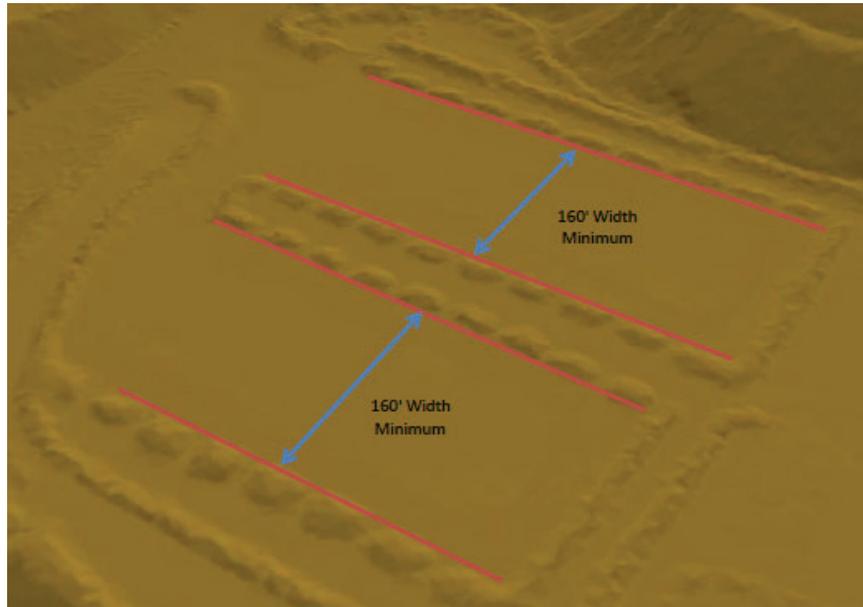
**Example #3**

# STANDARD OPERATING PROCEDURE HAUL TRUCK TIE LINE STANDARD

Effective Date: 09-08-2017

Document Number: MNSOP160-0042

Rev: 1



## Example #4

- Example #5 shows the preferred stall design of a segregated tie line complete with a wheel ditch, segregation berms, pedestrian walkway with a cutout for the operator to approach from the good side, and suggested dimensions.
- Example #6 is an example of what a segregated tie line might look like.

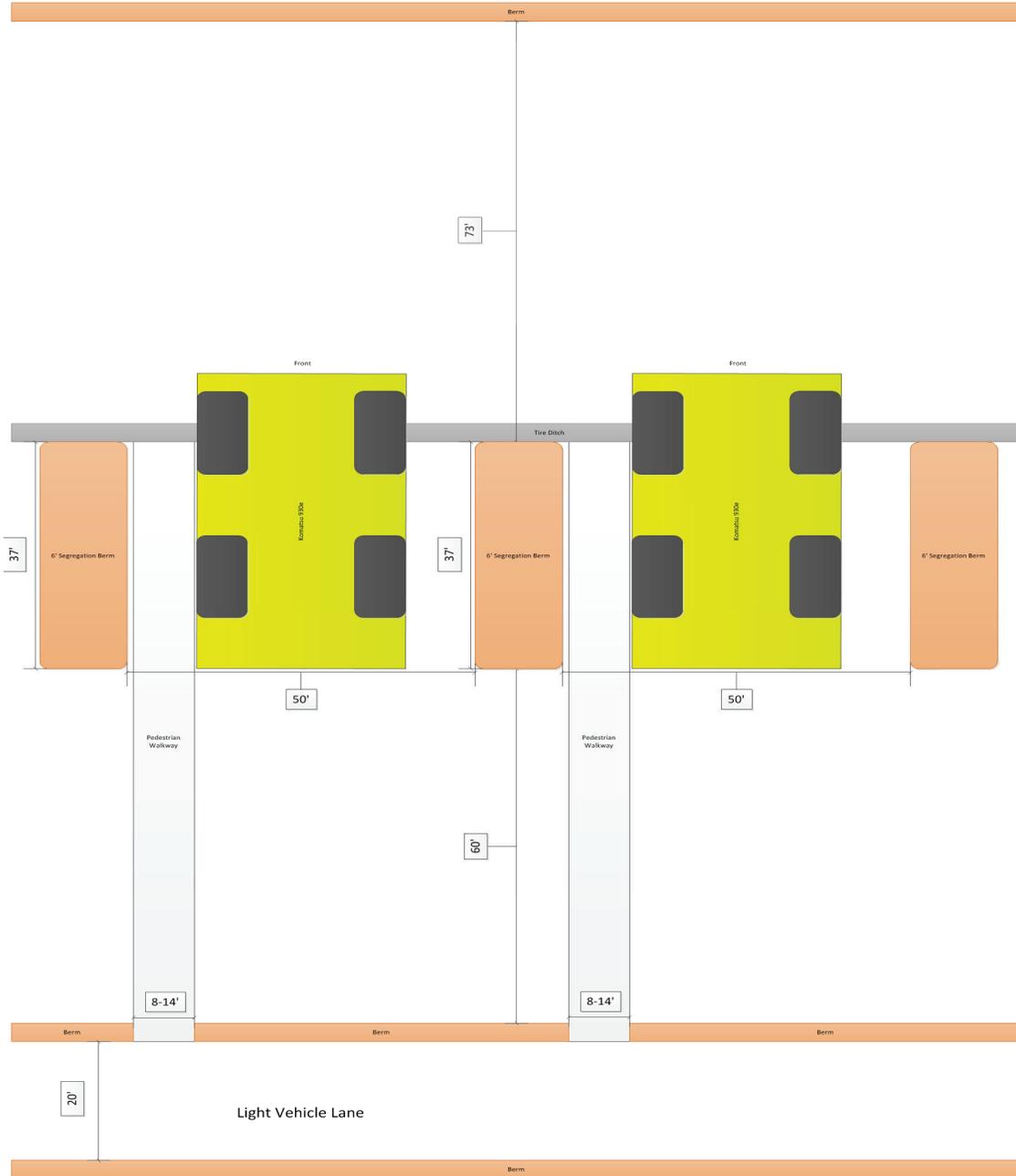
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Rev: 1

- In place of 6' berms, haul truck tires can be used to reduce the segregation berm width from ~12-15' down to ~4'.
- As shown the stall width is 50' but can be reduced to 46' when tires are used.
- Tire ditch is shown as 3' width, but can be slightly wider or more narrow.
- Segregation berm / tires must be in contact with the tire ditch.
- Whenever possible tie-lines should be built on a slight grade to allow for drainage.
- Light vehicle lane should be behind the haul truck, with an access to the haul truck's "good side".



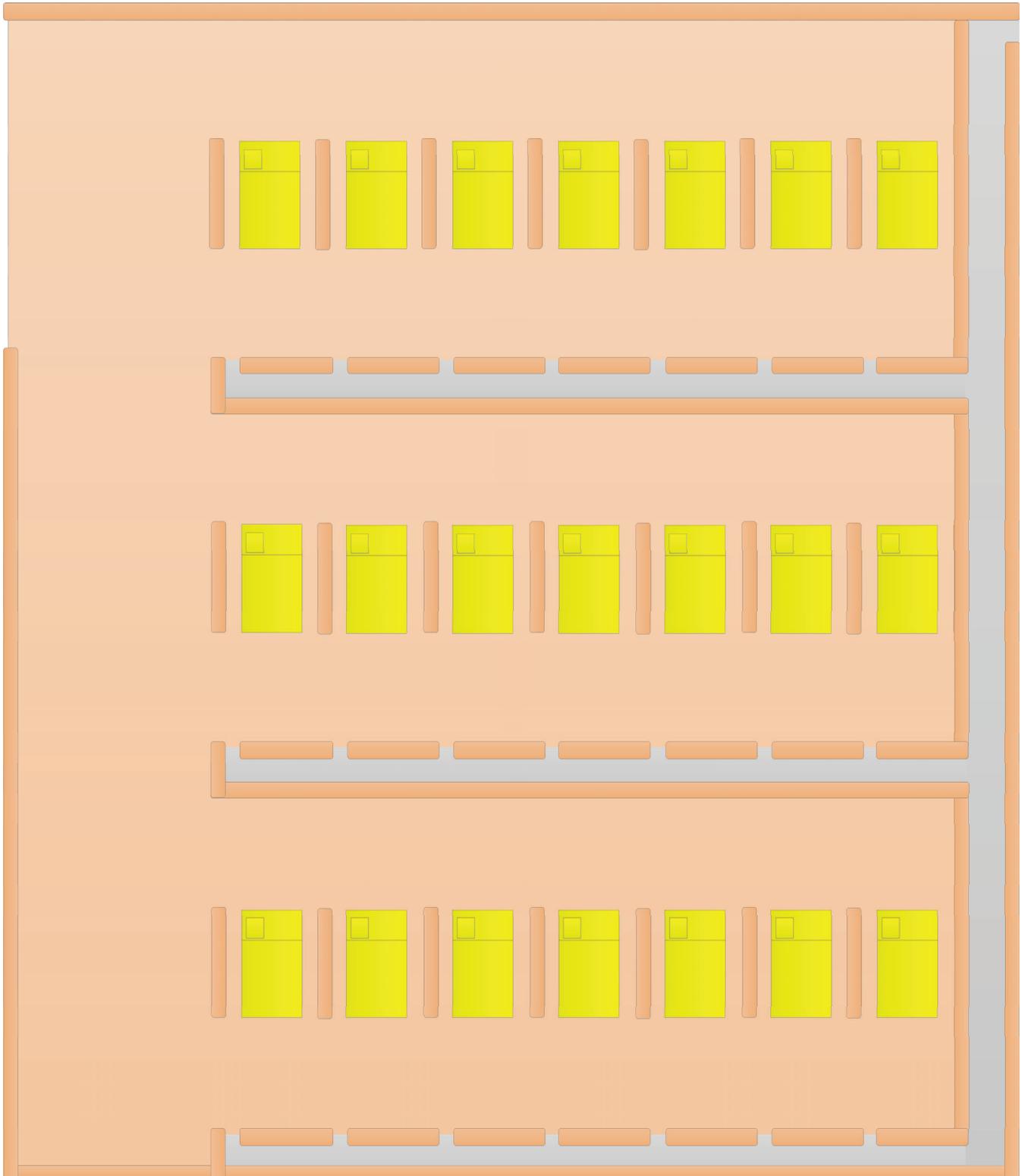
Example #5

# STANDARD OPERATING PROCEDURE HAUL TRUCK TIE LINE STANDARD

Effective Date: 09-08-2017

Document Number: MNSOP160-0042

Rev: 1



Example #6

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Rev: 1

- HAUL TRUCK TIE LINE CARDINAL RULES
  - Follow the established traffic pattern.
  - Don't back in with a truck on your blind side.
  - Never approach a moving haul truck.
  - Establish positive communication with neighboring haul truck operators before moving your haul truck.
  - Always properly secure, de-energize, and chock your tires if you're dismounting your haul truck.

## DEFINITIONS:

- **RTKC** – Rio Tinto Kennecott Copper
- **HME** – Heavy Mobile Equipment
- **SOP** – Standard Operating Procedure
- **Tie Line** – Designated parking area for a defined type of equipment (i.e. haul trucks, road equipment, light vehicles, etc).
- **PPE** – Personal Protective Equipment
- **Active Tie Line** – Designated HME or haul truck tie up/park area that is presently open for the purpose of parking haul trucks and other HME during mine operations.
- **Proficient Spotter** – Mine employee who has been trained in haul truck spotting
- **RA** – Risk Assessment

## REFERENCES:

MNSOP160-0001 - General Haul Truck

MNSOP103-0005 - Driving in the Mine

MNSOP160-0029 - HME Haul Truck Isolation

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MNSOP160-0032 – LOTO MT 5300 Haul Truck

MNSOP160-0036 – LOTO 930E SE4 Komatsu

KUC RA #9587 – Exclusion Zone

KUC RA #11103 – Creation of Tie Line Standard

KUC RA #13815 – New Tie Line Design

## REVISION/REVIEW HISTORY:

MOC#	Description of Change	Prepared By	Date
31371	Implementation.	Drew Smith	2-2016
45305	Updated. Next review by 8-2022.	Eric Wilde	8-2017