

# Communication and Visibility Standards for Service Vehicles and Heavy Mobile Equipment

## I PURPOSE

The purpose of this policy is to assure positive communications between all types of service vehicles and heavy mobile equipment in order to reduce the risk of collision due to drivers and operators being unaware of the actual presence or intended movements of other vehicles and equipment. The policy also includes the standard for improving the visibility and identification of service vehicles and heavy mobile equipment where their interaction exists.

## 2 DEFINITIONS

**Service vehicle** — wheel mounted light and medium duty vehicles of various sizes which are primarily used in the transportation of people, supplies, tools and fuel or lubricants. They include but are not limited to lube trucks, pickup trucks, SUVs, welding trucks, vans or buses used as employee haulers, tire mounted cranes, and forklifts, etc.

**Heavy mobile equipment** — includes coal and waste material haulers, rubber tire loaders, scrapers, dozers, water trucks, graders, low loaders, cable reelers, draglines, shovels, backhoes, drills and like equipment. Heavy mobile equipment is equipment that transports or engages coal, overburden or reject.

**Positive radio communication** — the successful 2 way radio confirmation of understanding between the drivers/operators of service vehicles or heavy mobile equipment of an intended interaction. That communication must include the use of both service vehicle/heavy mobile equipment identification numbers to avoid misunderstanding.

**Site-prescribed minimum approach distance** — the site prescribed minimum distance that a vehicle or heavy mobile machine may approach other vehicles and mobile equipment without completing the positive radio communication process. The distance may be different for operating and parked vehicles and heavy mobile equipment.

## 3 GENERAL REQUIREMENTS: SURFACE MINES IN AREAS WHERE HEAVY MOBILE EQUIPMENT OPERATES

### Positive Radio Communications

Positive radio communication must be completed prior to the following circumstances:

- **Overtaking** heavy mobile equipment travelling in the same direction (if overtaking is permitted on site and it is safe to do so). This excludes overtaking a working grader when the blade is engaged on the ground.
- Entering within the **site-prescribed minimum approach distance** of operating service vehicles and heavy mobile equipment – this excludes interactions between loaders/excavators and trucks engaged in their normal loading activities at a mining face

- Entering within the **site-prescribed minimum approach distance** of service vehicles and heavy mobile equipment that are parked in heavy mobile equipment operating areas if unable to visually confirm that the vehicle or machine is not manned – this excludes those parked in formally designated parking areas
  - **If positive radio communication** with the heavy mobile machine is not successful, contact must be made with the area supervisor to determine the status of that machine, and then approach the heavy mobile machine slowly and cautiously from the operator cab side.
- Entering into areas that are posted as requiring positive communication.

#### **Example of Positive Radio Communication:**

- “Light Vehicle 23 to Grader 05 , I want to overtake”
- “Grader 05 to Light Vehicle 23 , that is OK by me”
- “Light Vehicle 23 to Grader 05, I will be passing on the left side”
- “Grader 05 to Light Vehicle 23 , come ahead”

#### **Site-Prescribed Minimum Approach Distance**

Specific minimum approach distances for the heavy mobile equipment and service vehicles on the site shall be determined for each site. These distances shall be:

- Reviewed on a corporate level for consistency,
- Posted at strategic locations throughout the mine site,
- Reviewed regularly in mine safety meetings,
- Included in mine hazard/induction training for vendors/contractors.

#### **Service Vehicle and Heavy Mobile Equipment Mandatory Equipment**

Mandatory equipment for heavy mobile equipment and service vehicles (including contractor vehicles) that enter heavy mobile equipment operating areas on mine property **must be equipped with:**

- Effective 2-way radios
- Simple identification numbers that are a high visibility color and reflective, or have reflective backgrounds, that are clearly legible from beyond the site-prescribed minimum approach distance.

#### **Service Vehicles**

Strobe lights mounted above the cab level of service vehicles for added visibility during night time or wet condition driving.

A buggy whip and high visibility orange flag that is a minimum of 9 feet (2.74m) above the ground (or greater as determined by the largest haul truck on site). The flag size must be a minimum of 100 square inches (645 sq cms.) of high visibility material with reflective material

on the flag. If any portion of the service vehicle is higher than 9 feet (2.74m) in height, a flag will not be required. However, additional lighting and strobes on the cab are still required. Small utility equipment such as a bobcat, which is used in the prep plant or under conveyors and interacts with heavy mobile equipment must have a whip with flag installed in such a manner as to prevent damage when the equipment is used in close quarters.

Equipment numbers will be on a high visibility yellow background on of 196 sq in. (1264.5 sq.cms.) minimum with bold black numbers 10 in. (25.4 cms.) minimum. On larger equipment larger high visibility reflective numbers on a black background may be used.

### **Rubber Tired Heavy Mobile Equipment**

Heavy mobile equipment must have high visibility/reflective tape installed in prescribed patterns for that piece of equipment. (Exceptions: Draglines, Excavators and Shovels)

Examples of equipment meeting these requirements are found in the Appendix.

### **Compliance Assistance for Contractor Vehicles**

Company mines will need to maintain flags, vehicle numbers, strobes and radios to equip short term contractors if they are required to drive on mine roads and do not have the required vehicle identification equipment when they are on the mine site.

If the contractor is not equipped with these items and the mine cannot provide them, the contractor must be escorted to and from the work site by a service vehicle which has the required equipment.

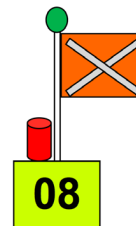
## **4 APPENDIX**

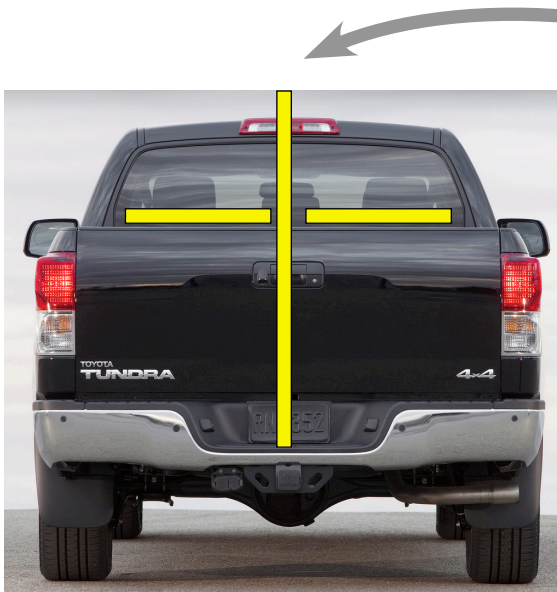
### **Examples of Best Practice Equipment Identification:**

Service vehicles must have equipment which includes two-way radio, high visibility marking and number, buggy whip with high vis flag and strobe light.



Shape of sign, numbers on three sides.





Miner owned Service vehicles must have equipment which includes triangular high visibility sign mounted to a high visibility pole extending above roof line, bold number, additional strobe light which will be activated with the directional signals or when the vehicle is stopped. Additional high visibility material may be required on the sides of the vehicle.

### Heavy Mobile Equipment Numbering



Heavy mobile equipment must be equipped with high visibility reflective numbers on all sides.



Heavy mobile equipment with limited flat surfaces for numbering may use roof mounted triangular or square high visibility reflective numbers, which can be seen from all directions.

## Heavy Mobile Equipment High Visibility Marking



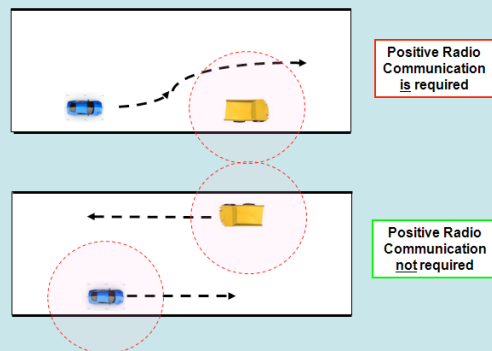
For Heavy Mobile Equipment such as haul trucks, graders and dozers the 3M Diamond Grade Tape in a 4 inch width should be placed in a manner which identifies the height, length and width of the vehicle. Numbers should be either high visibility lime/yellow and reflective on a black background or black numbers on a high visibility lime/yellow reflective background.



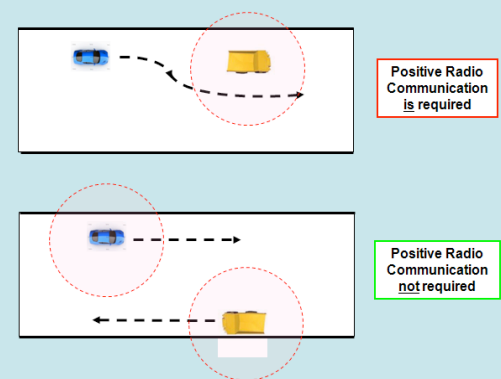
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## Scenarios for Positive Radio Communication:

### Scenario (1) - Overtaking (Right Hand Traffic)



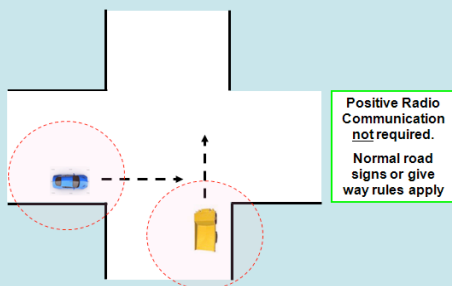
### Scenario (1) - Overtaking – (Left Hand Traffic)



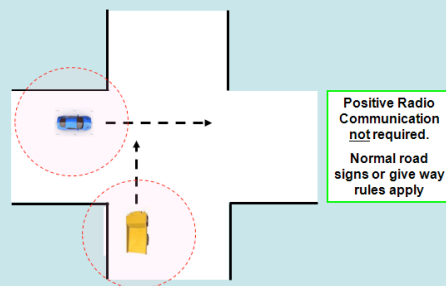


## Scenarios for Positive Radio Communication (Cont.):

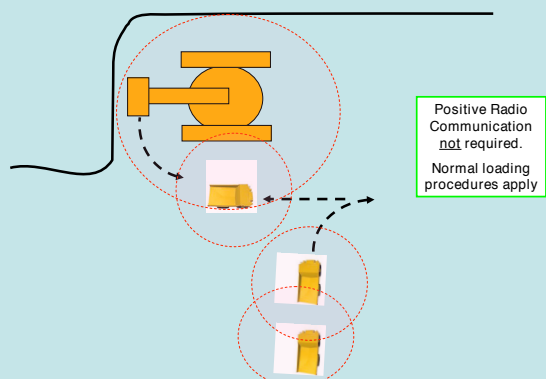
Scenario (2) - Intersection of any type – (Right Hand Traffic)



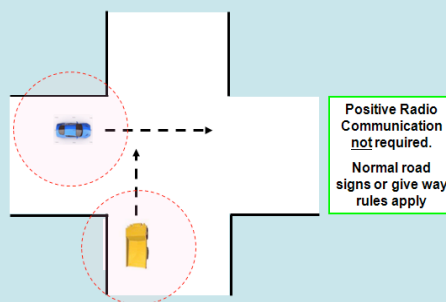
Scenario (2) - Intersection of any type – (Left Hand Traffic)



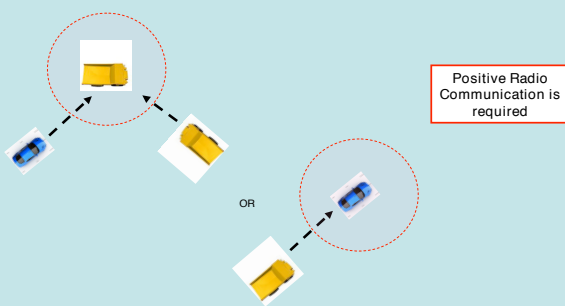
Scenario (3) - Excavator/loader & truck involved in loading



Scenario (2) - Intersection of any type – (Left Hand Traffic)



Scenario (5) - Approach to within the site-prescribed minimum approach distance of vehicles and operating heavy mobile equipment



Scenario (6) - Approach to within the minimum prescribed approach distance of parked heavy mobile equipment outside of a designated parking area

