

Night Lighting – Best Practices to Ensure Safety

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Night Work Safety – Work Zones



Safe work practices for night work consist of much more than just PPE. It's our whole attitude and approach to the range of issues surrounding night work and the belief that we can continuously improve our safety processes to protect human life.

This powerpoint is intended to get you to thinking about the possibilities for improving the level of safety where you are at now.....



Safe Work Practices

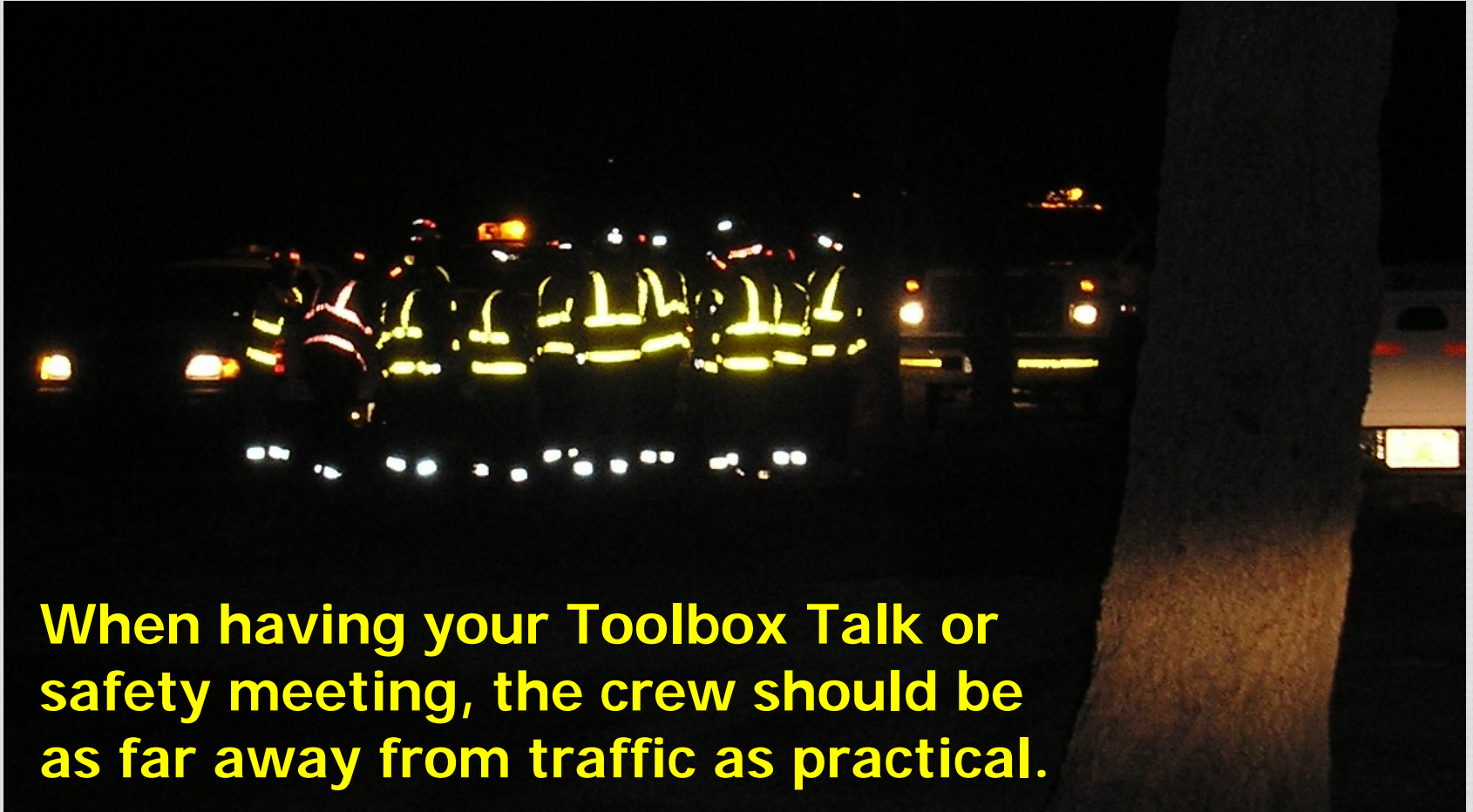
The facts dictate that:

More drivers will be impaired and/or confused by workzone activities at night than during the day

For these reasons, workers must always *act in a manner that lowers their risk of contact* with such drivers to the lowest level practical.

Safe Practices – Night Work

Pedestrian Workers



When having your Toolbox Talk or safety meeting, the crew should be as far away from traffic as practical.

Everyone crew member should be wearing appropriate retro-reflective apparel.

Safe Practices – Night Work

Pedestrian Workers

- Visibility of the worker is paramount. Always wear high quality PPE that highlights the worker - high visibility traffic vest, hard hat with retro-reflective stickers, retro-reflective arm & leg bands and performance class III pants as necessary and/or required.



Safe Practices – Night Work

Pedestrian Workers

- Hard hat lights are a great addition for employees who often find themselves having to perform tasks away from equipment and workzone lighting

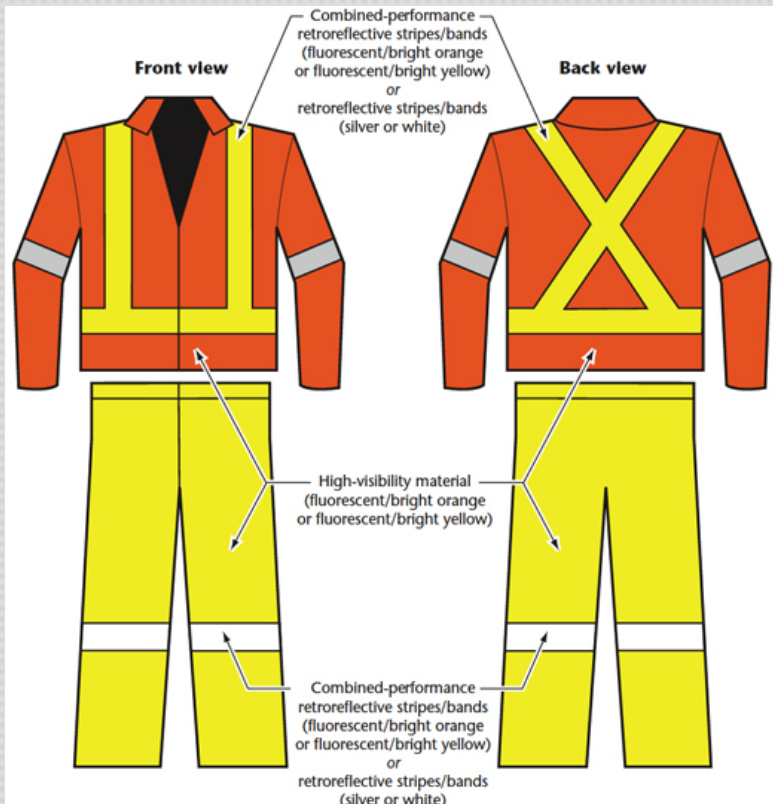
*Keep extra
batteries
available!*



Safe Practices – Night Work

Pedestrian Workers - Flaggers

- Flaggers should wear full retro-reflective gear including retro-reflective pants.



Safe Practices – Night Work

Pedestrian Workers - Flaggers

- Establish a nighttime flagger kit:

- Flashlight with cone
 - Extra Batteries*
 - Flashlight belt holder/pouch*
- Traffic Control Flag
- Air Horn
- Hi Visibility Gloves
- Appropriate PPE



Safe Practices – Night Work

Pedestrian Workers - Flaggers

Standard:

At night, flagger stations shall be illuminated, except in emergencies.

Dude, get out of the middle of the road!



While the flagger station is well lit, this flagger is not properly positioned and does not have all required PPE for flagging at night.

Could the position of the light plant have anything to do with the improper position of the flagger?

Safe Practices – Night Work

Pedestrian Workers

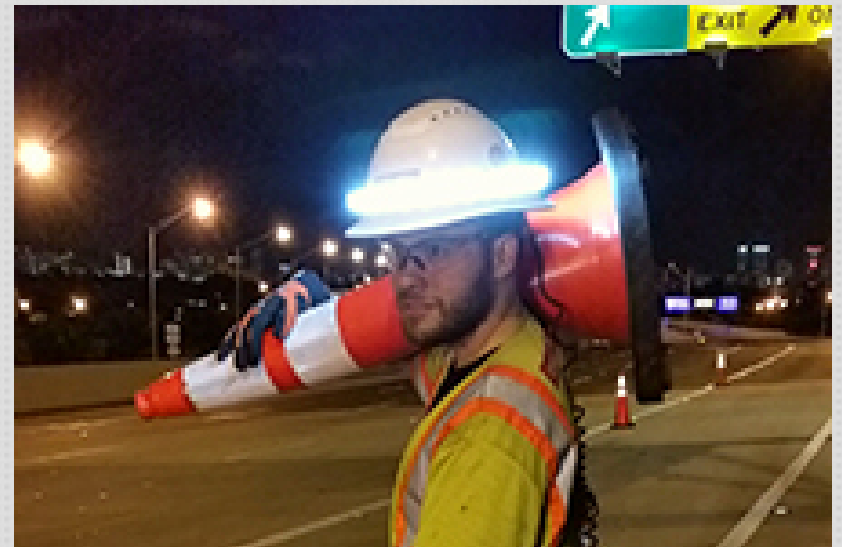
Full retro-reflective gear *should not be limited to flaggers only* but should also be worn by those who are working away from main work areas for better visibility.



Safe Practices – Night Work

Pedestrian Workers

The Halo light is another personal lighting option to enhance both the user's vision in the nighttime environment as well as their visibility to third party motorists and construction drivers and operators.



Safe Practices – Night Work

Retro-reflective Signage

**There is a BIG difference between
Retro-reflective vs. Non-retroreflective Signs**



NOT

vs

Retro-reflective

6F-1. SIGNS

All signs used at night shall be either retroreflective, with a material that has a smooth, sealed outer surface, or illuminated to show similar shape and color both day and night. Sign illumination may be either internal or external. Roadway lighting does not meet the requirements for sign illumination.



What's on your jobsite?

Safe Practices – Night Work

Using Unmanned Flagging Stations (Day or Night)

More companies are using these automatic devices to keep flaggers out of harm's way and to control traffic where the use is allowed and can be effective.

Will this work for some of your operations?



Safe Practices – Night Work

Condition of Devices

Devices must be cleaned for night work.

CLEAN can be seen - CLEAN commands respect



Safe Practices – Night Work

Use of Devices

If barrier wall can be used, it should be considered. *Speak with the DOT about requiring it in the design so all bidders are on a level playing field.*

Depending upon the work, its duration as well as state and local requirements, there are newer products available that can be installed and removed more rapidly for night work applications.

LOOK INTO IT.



Safe Work Practices

Equipment Maintenance

- **Equipment undergoing maintenance for breakdowns should be moved as far from the travel lanes as possible.**
- If equipment is immovable and must undergo maintenance near the travel lanes, park an attenuator truck or the biggest roller you've got behind the unit being fixed. Park rollers at an angle which will redirect an errant vehicle back toward the travel lane.

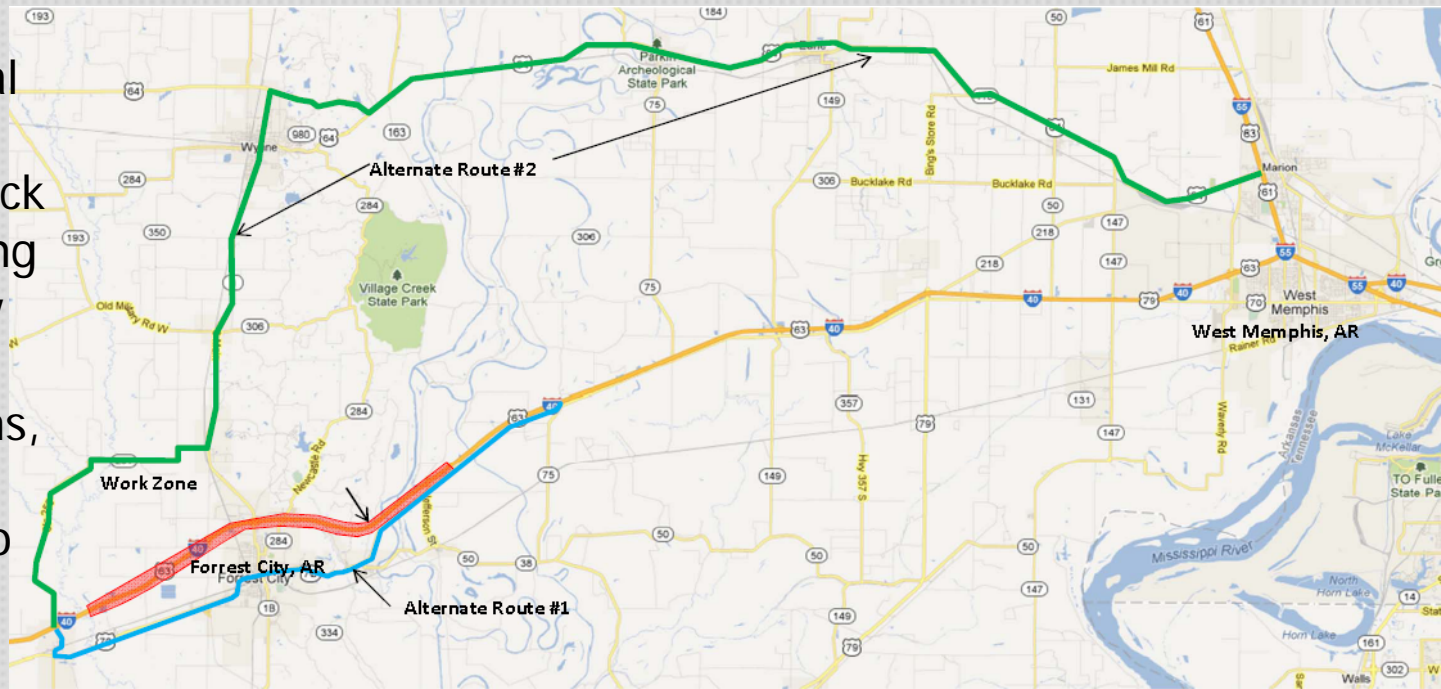
Rollers that get struck by cars don't move much and will protect the workers performing the maintenance.



Safe Work Practices

Workzone Information

Create informational flyers and post or provide them at truck stops, major trucking companies, primary fuel sources, state trucking associations, etc. These provide great information to truckers and other drivers to warn of the construction and seek alternate routes.



WORK ZONE

ALTERNATE ROUTES OR

WORK ZONE FROM MILE MARKER 240 TO MILE MARKER 248 on I-40 EAST ARKANSAS

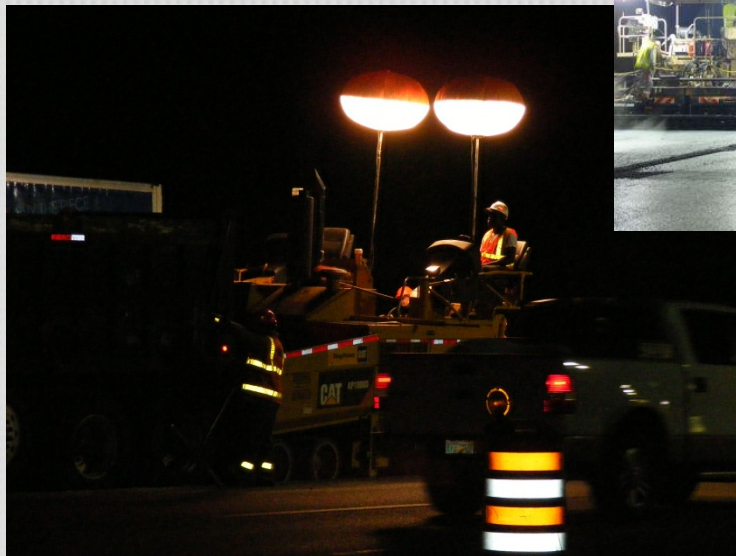
CONSTRUCTION STARTS JUNE 9TH, 2013 FOR APPROXIAMATELY ONE (1) YEAR.

Lengthy delays are expected as BOTH East bound & West bound traffic will be reduced to **one (1)** lane. Alternate routes are available to avoid Work Zone.

Safe Work Practices

Workzone & Equipment Illumination

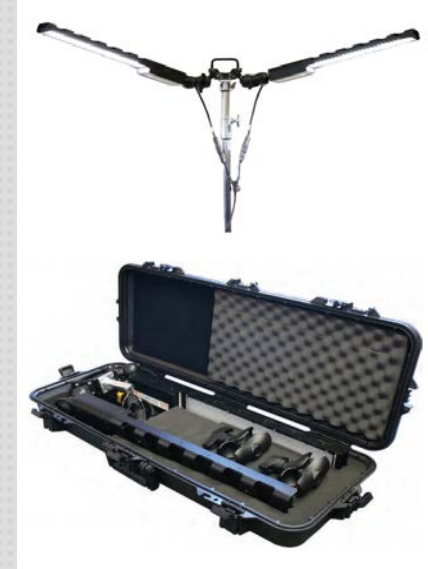
Many lighting system options and variations exist to brighten your projects and equipment.



Safe Work Practices

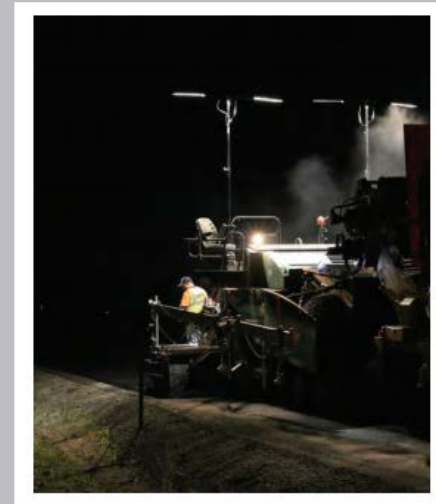
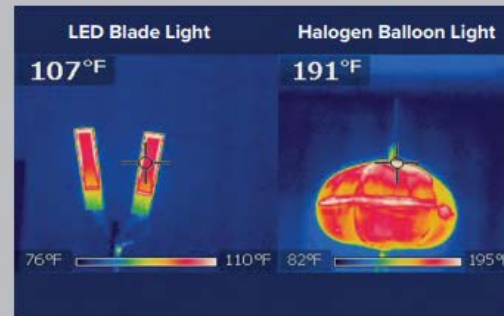
Workzone & Equipment Illumination

Continue to explore new products from vendors and manufacturers



Specifications

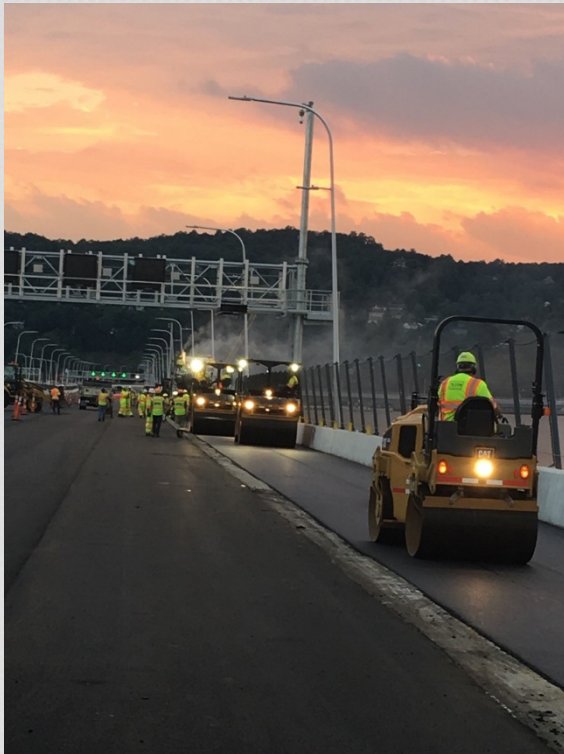
Power: 110/240v AC 50/60Hz and 12/24v DC
Configurations: Single and Dual Head
Cool-Down Time: None
Lifespan: 50,000 hours
Heat Output:



Safe Work Practices

Workzone & Equipment Illumination

Ensure that lights on equipment, drums, vehicles and other devices are all working and visible. **Clean or repair them as needed.**



Safe Work Practices

Workzone & Hazard Illumination

Take additional steps to delineate above ground hazards with devices and/or lighting as necessary. All equipment parked at night near the workzone should be delineated by appropriate traffic control devices.



Use Care in Aiming Lights to Avoid Glare and Temporary Blindness



Safe Work Practices

Workzone & Equipment Illumination

- Equip Trucks with police style white spotlights (*mounted and/or handheld*)
- Adequately light staging areas and equipment parking areas.
- Designate and light clean-out areas for haul trucks



Safe Practices – Night Work

Equipment Visibility

Ensure that all construction equipment is outfitted with a flashing white or amber strobe light that is visible to approaching traffic.

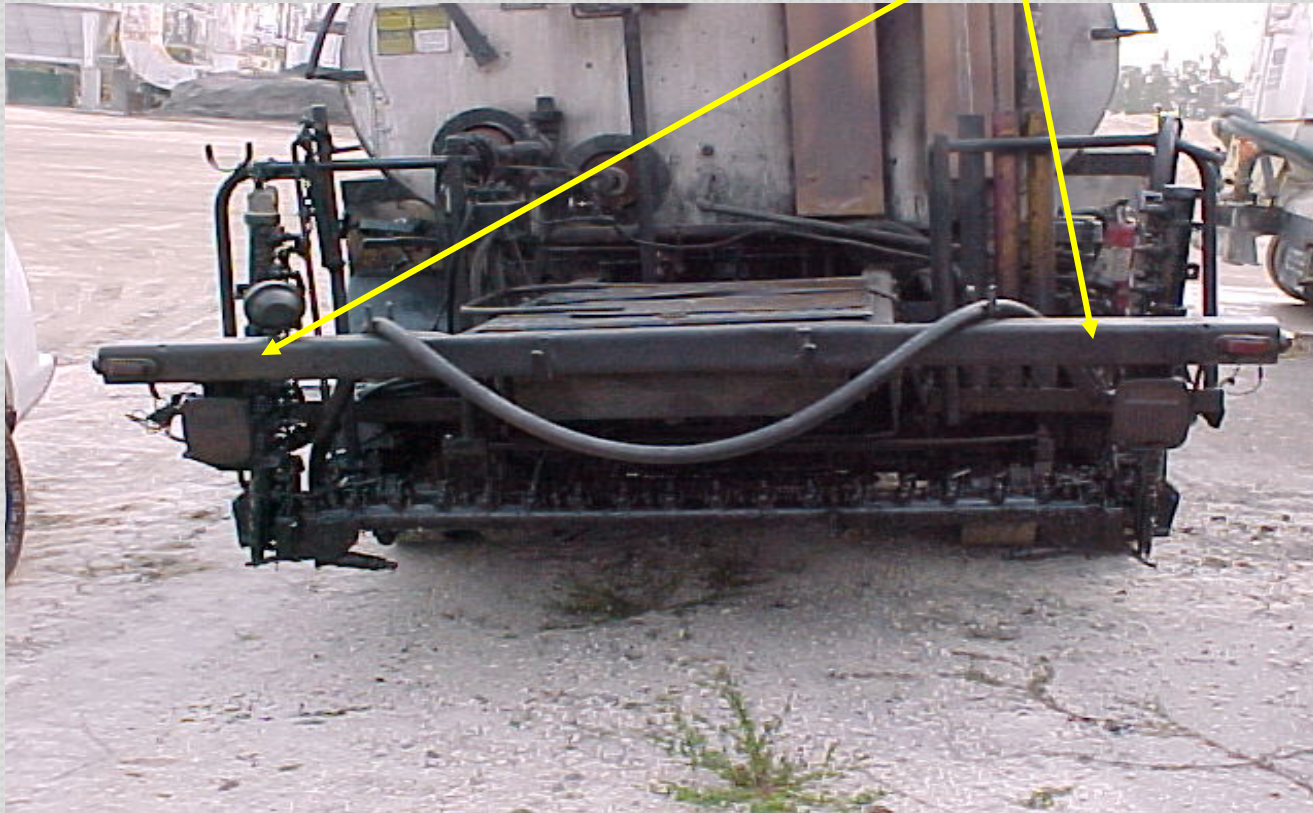


All equipment that is exposed to traffic should have an orange/red Slow Moving Vehicle (SMV) triangle installed on the rear of the unit.



Brake light, tail lights, mirrors, retro-reflective tape, windshields all need to be cleaned!

Where is the DOT Tape???



Can the rear lights be seen???

Safe Work Practices

Equipment Visibility – Distributor Trucks



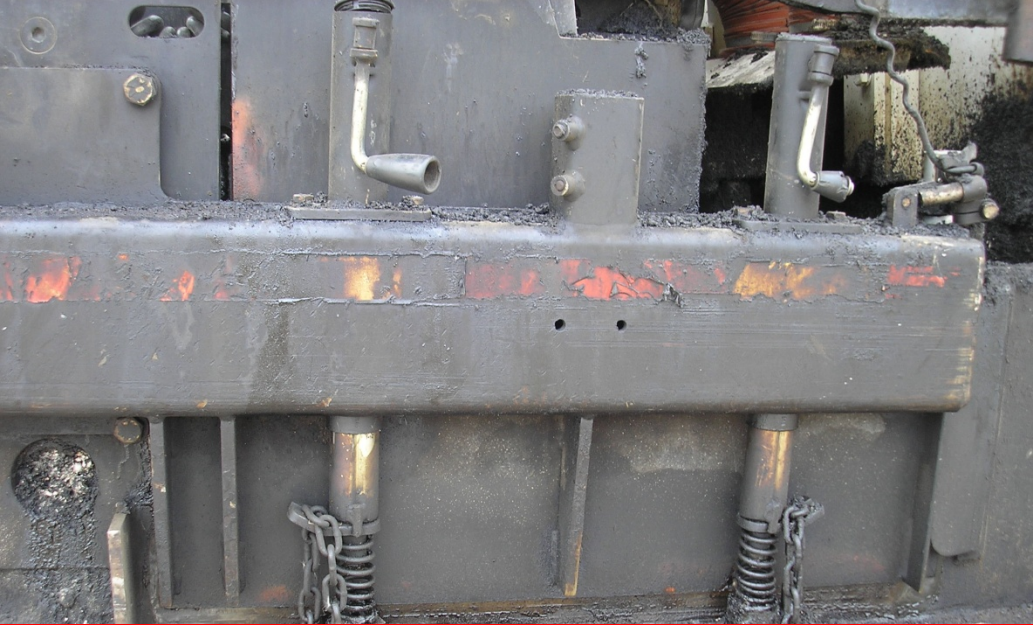
This truck looks well cared for and visible to motorists

Go look at the back of your distributor trucks right now.....

Do they have sufficient retro-reflective tape?

Can you see the rear markers, spot lights and brake lights?

Clean it up!



These lights and reflective tape on this equipment would not be seen well, if at all, at night. Wipe the lights and tape with a clean rag.



Safe Work Practices

Equipment Visibility



A little GOJO soap on a rag works wonders for cleaning the grime off of lights, and reflective tape or sheeting.

USE IT



Safe Work Practices

Equipment Visibility

Retro-reflective tape, lights, reflectors, SMV triangles, reflective sheeting and KEEPING IT ALL CLEAN



Safe Work Practices

Equipment Visibility

- For some vehicles and specialty equipment, *for example QC trucks operating at a distance from other equipment*, it might be appropriate to equip these units with additional lighting, arrowboards or signage.
- However, please ensure that drivers/operators use additional lighting and devices in accordance with all traffic control requirements.



Safe Work Practices

Equipment Visibility

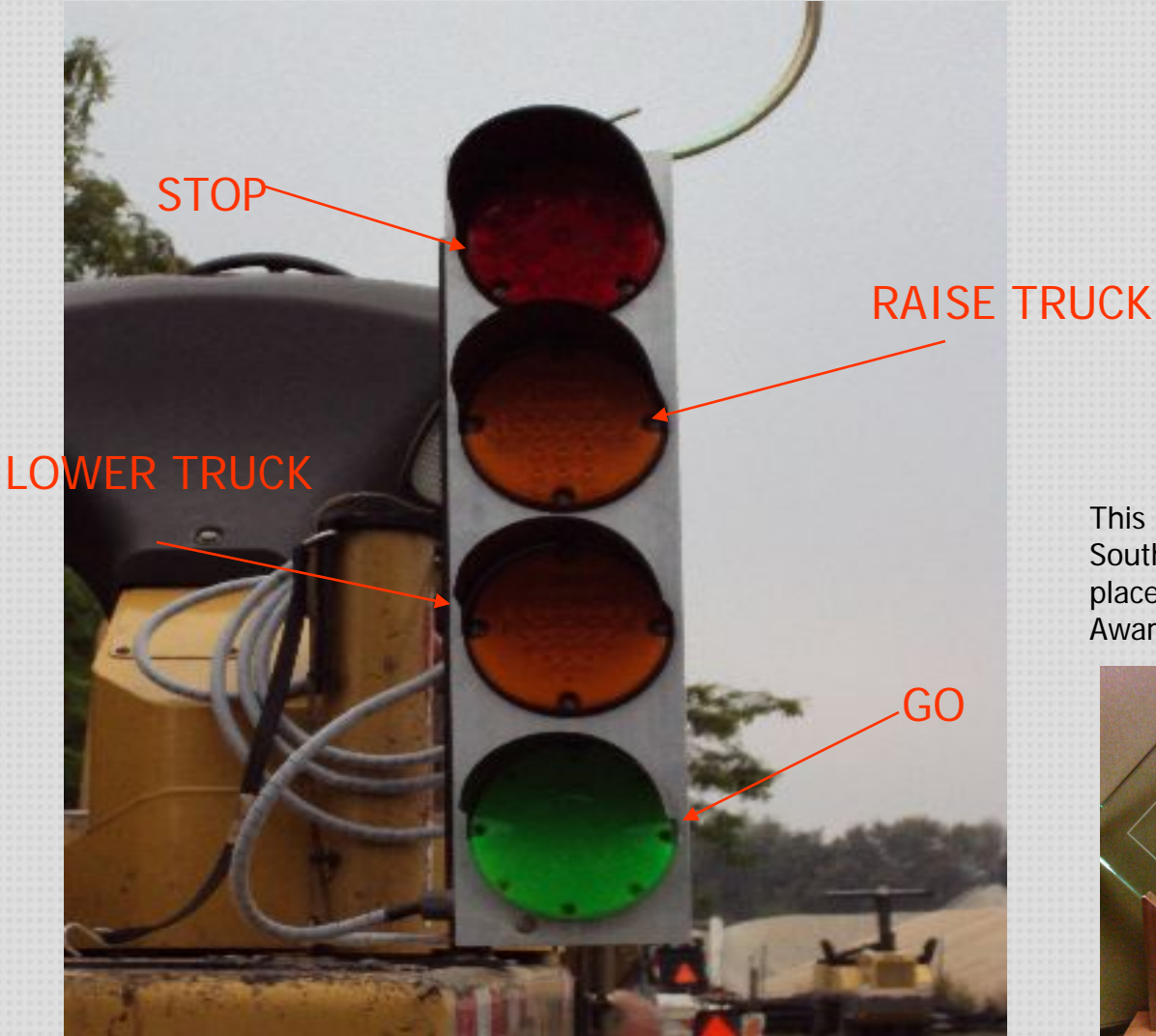
**Stop and Go lights for dump truck
Operations. (Backing Safety)**

This is a best practice in some locations



Safe Work Practices

Equipment Visibility



This idea won APAC Southeast an ARTBA 1st place Workzone Safety Award in 2012



Safe Work Practices

Equipment Visibility

In addition to vehicles and equipment, another Best Practice is Retroreflective Paint & Tape on Lute Handles and straight edges!



Avoid trip and fall injuries over the straight edge. *Yes, it has happened*



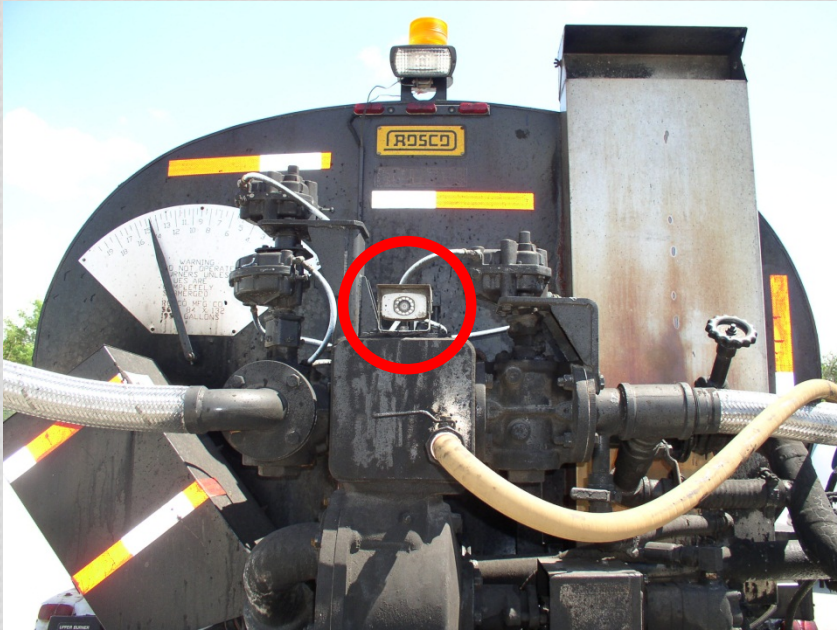
Safe Work Practices

Equipment - Operator Vision

Camera and monitor system:

<http://www.rvcams.com/>

\$350-400 range



Rearward facing camera with **night vision (infrared) technology** and color monitor installed in the cab

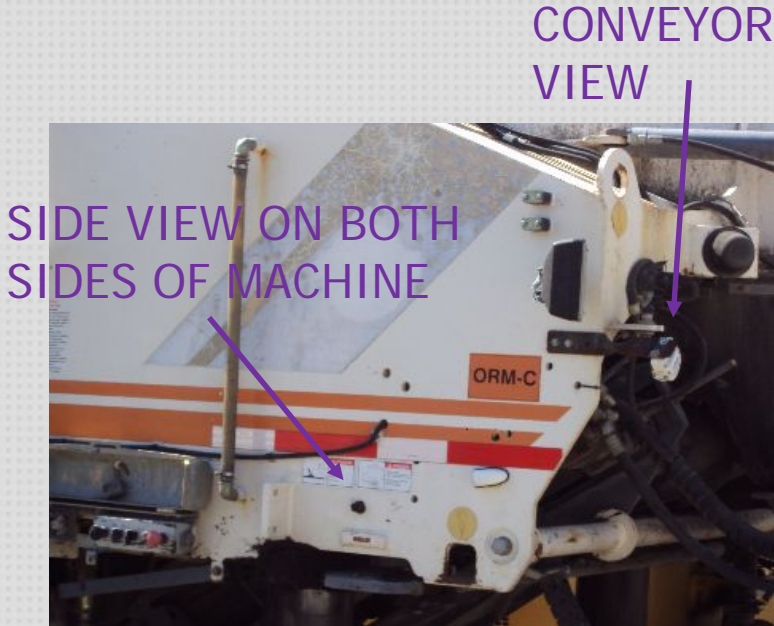


Safe Work Practices

Equipment - Operator Vision

Milling Machine Camera System

Works on a Shuttle Buggy Too



Safe Work Practices

Equipment – Attenuator Trucks

Where we have truck mounted attenuators available for night work, use them in more situations and/or more locations to protect personnel.



On a night project, attenuators should not be parked in the staging area. **Put them to use!**

Safe Practices – Night Work

Employee Engagement



Oldcastle Materials

AT WORK and AT HOME
**MAKE SAFETY OUR
FAMILY BUSINESS**

When I **SEE**
something,
I will **STOP**
and **DO**
something.

The poster features a silhouette of a worker in a hard hat holding a red octagonal stop sign. A small photo in the top left shows a worker in a hard hat holding a young child. An orange traffic cone is at the bottom right.