# Major Projects, Connect Plus Services:
# Traffic Management Vehicle Good Practice

**What happened?**

- The M25 DBFO contract has received delivery of the first of its new TM fleet.
- There are a number of safety innovations and features that will benefit our operatives.

**What are the benefits?**

- The new vehicle includes an industry first, a sliding access system to the cone well, reducing working at height and trapping risks.
- A night owl lighting system – illuminating working areas and vehicle bed and 360 CCTV recording

**What can we learn?**

- During vehicle procurement or plant specification, use previous incidents, industry good practice and workforce engagement to specify and innovate safety features.

# Major Projects, Highways, M5:
## Works Access Gate Good Practice


**What happened?**

- During a client audit it was recognised that there was an industry problem with working in closed accesses behind a line of cones through which an errant vehicle may gain access.

**What were the details?**

- Assett International and the Balfour Beatty / Vinci Joint Venture have been working on and developing a moveable barrier system that can temporary close works access/exit points to enable construction works to be undertaken at these points.
- The Works Access Gate (WAG) is based on Asset's Solarguard temporary barrier system. It can be moved and positioned manually by "jacking" the system up on to fixed trolley types wheels. This allows the system to be moved in and out of place at any works access/ exit point.
- The barrier can be slid into position at any time without affecting the traffic flows (lane closures) as it is assembled behind a safety zone within the works. Once the WAG is in place it is secured by drilling specifically sized holes and bolts dropped in place.

**What can we learn?**

- Lane closures are not required for installation and the barrier gives the workforce increased confidence when working as it offers greater protection than cones.
- The barrier can be installed by the trained operatives within 30 minutes



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# UKCS Scotland SBU, Central DU, Crystal Rig Sub-Stn: High Potential Incident – ADT Overturn – 16/08/16

**What happened?**

- A fully loaded Articulated Dump Truck overturned when travelling from site to a borrow pit along the wind farm access road. The driver swerved to avoid sheep that had run out onto road and ran into a ditch.

**What were the details?**

- The driver had not initially noticed the proximity of the sheep as he had been looking at the road ahead to ensure no vehicles were coming towards him as there are few passing places on the road.
- The front left wheel clipped the edge of verge, the driver attempted to turn back out onto the road but the rear tyres were too close to the verge and the back box slid into the ditch. The back box tipped over in the ditch and the front remained upright.
- The incident happened 100yds just after the top of a steep hill after a right hand turn on a shallow incline so the ADT could not have been travelling at speed.

**What can we learn?**

- The Driver was D&A tested and returned a negative result.
- It was concluded that the incident was caused due to driver error who should have attempted to stop as opposed to swerve out of the way. Drivers should not be putting their own safety at risk to avoid livestock on the road.

# Major Projects, Highways, M3 Smart Motorway:
# High Potential Incident – Falling Object – 22/08/16

**What happened?**

- During the loading of concrete and waste material into an 8 wheeler tipper a lump of concrete dropped over the side of the lorry body, bouncing onto the Barrierguard and falling onto the edge of live carriageway.


**What were the details?**

- A 13 ton excavator using a grading bucket was loading an 8 wheeler tripper situated 1 meter behind the Barrierguard when a piece of concrete about the size of a football fell onto the Barrierguard and subsequently onto the edge of the live lane on the M3 motorway slip.
- This resulted in 2 vehicles sustaining punctures to front nearside tyres. The local Highways England Traffic Officers implemented a rolling block to allow the safe recovery of the piece of concrete.

**What can we learn?**

- A full investigation is currently being carried out. All loading of waste material behind Barrierguard without an adjacent lane closure in place is suspended until the actions from the investigation are in place.



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# UKCS Scotland SBU, Central DU, Clyde Wind Farm:
# RIDDOR Specified Injury – Fractured Rib – 25/08/16

**What happened?**

- Whilst cleaning the welfare facilities the cleaner exited the toilet unit at Access 1 on Clyde Ext Wind Farm stepped onto a 450mm polypropylene foul drainage inspection chamber cover which then inadvertently tipped/slipped out of the frame seating.
- This resulted in the IP's left leg & torso entering the inspection chamber (900mm deep) resulting in personal injury i.e. fractured rib on left side.

**What were the details?**

- Physical environment - the tipping of the cover was due to the cover being inadequately secured plus the inspection chamber was full of fluid/excrement due to the outlet to the septic tank being blocked.
- The investigation team's perception is that the flushing of toilets or use of hand basins within both the office and welfare temporary accommodation units had the adverse effect of causing an upsurge on the inspection chamber cover i.e. partially removing it from its seating within the frame.

**What can we learn?**

- Light duty inspection chamber cover to be adequately secured to inspection chamber frame i.e. insertion of screws.
- Inspection chamber maintenance regime to be implemented to prevent any build up from future blockages i.e. weekly inspection

**INSPECTION CHAMBER AT ACCESS 1 WELFARE AREA (Post –incident)**



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# Major Projects, Highways, Norwich Northern Dist. Rd:
# High Potential Incident – PPI Incident – 30/08/16

**What happened?**

- A 32t excavator slewed round striking a T&M Fuel Bowser with its counterweight. This resulted in some minor damage to the bowsers side rail and mud guard (the excavator sustained paint scratches).

**What were the details?**

- Following refuelling activities the fuel bowsers driver had returned to his cab, walking between the excavator counterweight and the bowser (approximately 30 seconds before the excavator started to slew).
- Although the excavators 'blindside' mirror was found to be defective, the excavator driver would have had sight of the bowser from his cab. However he had made an assumption that the bowser had left the area and proceeded to slew round.

**What can we learn?**

- The bowser driver had removed the excavator's key from the ignition whilst he was fuelling the machine, and had returned these just before walking back to his bowser
- The plant operator did not get positive visual confirmation that the bowser was clear of the area recommencing operations.
- Additional controls are now being considered to specify the location of the bowser when it parks up prior to refuelling ( in clear line of sight)
- All plant operators have been reminded about the need for daily plant checks to ensure safety critical equipment is in good working order


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# Aberdeen Western Peripheral Route:
# High Potential Incident – Rebar Collapse – 30/08/16

**What happened?**

- A rebar wall collapsed at structure PS54 (North Section). No one was working at the time at the location and no one was  injured

**What are the details?**

- Rebar cage comprising generally of 32mm and 20mm high tensile reinforcement. Cage size of circa 40m (L) x 7.5m (H) x 1.2m (W) – weight 65 Tonne, located in cofferdam collapsed unexpectedly on 30th August 2016 towards Goval Burn.
- A scaffold erected to the rear of the rebar remained in place but sustained some damage – potentially from energy of rebar collapse.

**What can we learn?**

- Rebar design should always be checked to ensure it has been designed to free stand or adequate Temporary Works installed.
- Industry Guidance regarding the stability of Re-Bar should be re-read and understood by all relevant Temp Works Coordinators.
- Post installation inspections are necessary to ensure the cage structure has been installed correctly and is stable.
- The Project Director held a Safety Stand down to reinforce his Zero Harm commitment and make it clear to everyone that nothing is so important that it cant be done safely.

# Major Projects, Highways, M60 MSM:
# RIDDOR Specified Injury – PPI Incident – 31/08/16

**What happened?**

- An operative was struck by a reversing welfare unit at low speed (<3 mph) causing injury to his left hand and leg.


**What were the details?**

- The vehicle arrived at what they believed to be the works location. In the vehicle were the driver and a plant operator.
- The plant operator exited the vehicle and walked behind it standing with his back to the van.
- After approximately 1-2 minutes the driver decided to reverse back and in doing so struck the operative at low speed knocking him to the ground
- The IP was then sent to A&E as a precautionary measure where it was discovered he had broken a metacarpal bone in his left hand

**What can we learn?**

- The site reversing policy was not followed. Failure to follow the project reversing policy increases the likelihood of reversing accidents
- The driver failed to positively identify that the person, which he knew was in the vicinity, was in a place of safety before moving the vehicle
- The reversing alarm was not audible above the background noise level
- The welfare vehicle has no visibility immediately to the rear, nor is it equipped with a rear facing camera. This is now being mandated by the site team.

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# UKCS London SBU, Miles Street:
## RIDDOR, >7 days – Lifting Incident – 02/09/16

**What happened?**

- During the lift of a 750kg sheet pile to its final location and before being driven into the ground by an excavator mounted vibrator, the chain with which it was suspended from broke causing the sheet pile to fall approximately 1m.
- Upon hitting the ground, the sheet pile bounced back towards the cab of the excavator, with the sheet pile striking diagonally the windscreen/front of the cab, striking one of the travel levers, and a brake lever, which in turn struck the IP's leg

**What were the details?**

- The IP left the cab of the machine by his own means, and was found with a minor cut to his right leg, he did not appear to have sustained significant injury, he was taken to hospital for further examination. He received stiches, and was discharged on crutches, to return for further assessment when the swelling had subsided.
- The chain, a 8mm pitching chain of 27 links 8mm grade 8 chain- with kupler – 5/8 safety pin bow shackle-with chain tag, is used as part of the system for lifting the sheet piles, The chain arrived on site 31/8/16(record of it's delivery annotated in the Daily Site Diary, is a new chain and came with a manufactures certificate & EC declaration of conformity dated 29/7/16 and has a SWL of 2tonne

**What can we learn?**

- The Subcontractor and the Site team have arranged for an extra hole to be made in each sheet pile to allow the insertion of a 'safety' chain, which is to be attached to the main excavator lifting anchor point
- The damaged chain has been returned to the manufactures for the steel to be analysed in the Laboratory for defects.



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# Aberdeen Western Peripheral Route:
## RIDDOR, >7 days – Tyre Fitter Incident – 05/09/16

**What happened?**

- In the AWPR Centre Section a tyre fitter was injured whilst changing an ADT tyre and has not yet returned to work.

**What are the details?**

- The tyre fitter had been called onto site to replace a punctured tyre on an Articulated Dump Truck. He had been on site several times before.
- A portable hydraulic jack was being used by the fitter to take the rim off the wheel. During this operation, the jack slipped and flew off under pressure, hitting the fitter on his forehead.
- He sustained a cut to his head. He was taken to hospital where he received 5 stiches and glue.

**What can we learn?**

- A joint investigation has been carried out between Kal Tire and AWPR
- Tyre changing equipment to be reviewed to ensure it is fit for purpose and in good working order.
- Approved Procedure and Safe System of Work to be reviewed and guidance re briefed and re issued to all fitters.
- All BB projects to review their fitters ‘SSoW’

# Aberdeen Western Peripheral Route:
## High Potential Incident – Excavator Overturn – 05/09/16

**What happened?**

- An Excavator overturned into a ditch on the South Section of AWPR.

**What are the details?**

- A drainage team had encountered hard ground so a machine with a breaker attachment was called in to assist.
- The excavator was operating within an exclusion zone.
- The machine had to straddle the trench at 90 degrees, with its tracks positioned across trench.
- When the driver slewed around, the edge of the tracks slipped into the trench resulting in the excavator toppling into the trench.
- The driver was shaken but unharmed.

**What can we learn?**

- A full investigation has been completed.
- Change and unplanned improvisation is causative – If anything changes ‘Stop’
- All drivers were stood down and made aware of this and other recent events.

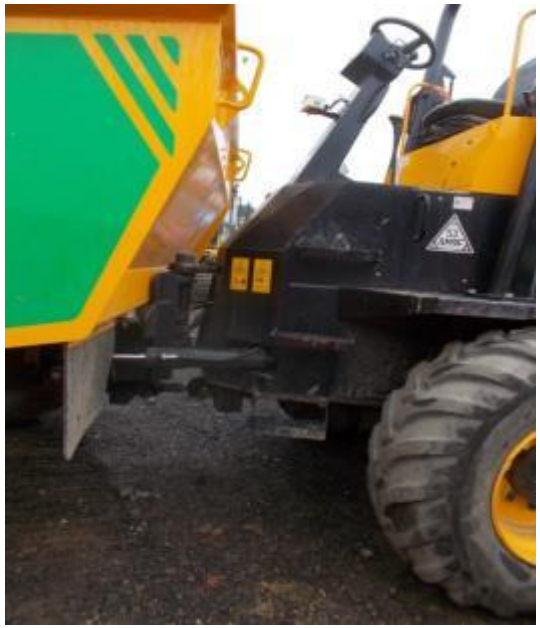
# UKCS North & Midlands SBU, East DU, Haigh Lane:
# RIDDOR Specified Injury – Fractured Ankle – 12/09/16

**What happened?**

- A BB Operative misjudged his footing when climbing down from a 9t dumper and missed the bottom step. The Operative landed awkwardly on the ground and fracture his right ankle.

**What were the details?**

- The Operative was working on night shift and was using the dumper to tow a tower light unit in the project compound.
- Ground conditions were good, appropriate boots were being worn, the compound was illuminated and the operator was descending the steps in the approved way.
- The bottom dumper step is offset to the left compared to the one above (see picture to right). The steps are also painted black with no contrast against the black dumper body they are fixed to. It is considered that these two factors may have contributed to the Operative missing the bottom step.
- During interview the Operator advised that he had recently missed the step on another occasion but had not been injured or thought enough of it to raise the issue as an observation.



**What can we learn?**

- Operators should be briefed on this incident to raise awareness, the colour of steps should be reviewed with suppliers to make them more prominent, especially where dumpers are to be used in low light / shadow conditions.
- Steps must be kept clean and ground conditions reviewed at locations where Operators will be required to dismount dumpers and boots must be fastened to offer good ankle support.

# Major Projects, Ground Engineering, Battersea:
# High Potential Incident – Falling Object – 13/09/16

**What happened?**

- During a pile casing installation, a bow shackle fell to ground (approx. 4 to 5m) within the exclusion zone.
- The Site Supervisor reported the incident to the Senior Contracts Engineer and explained that no operatives were in the exclusion zone at the time of the incident.
- A little later a second incident occurred. Both the section engineer and the senior contracts engineer were out on site and observed the second shackle falling and that the operative and supervisor were within the10m exclusion zone.

**What were the details?**

- Steel tying wire used to secure the shackle pin snapped and the pin worked loose due to the vibration.
- A 10m exclusion zone was not put in place that operatives had previously been instructed to do.
- A previous incident had occurred and alternative methods of work had been trialled without success

**What can we learn?**

- A Principal Investigation is currently underway but early signs are that the site operatives did not comply with instructions to maintain a 10m exclusion zone.