

Principal Designer Working Group

Root Cause Analysis – Capture & Application of Lessons Learnt

Supporting Home Safe and Well

21st July 2022

Safety Alerts - Recent

- Within the period since we last presented our Safety Alerts review back on the 19th May 2022 we have received 9 and reviewed 8 safety alerts within our safety team (Principal Designers / H & S Practitioners) at our monthly Safety, Design and Designers meetings.

National Highways Safety Alert	Topic	Date Received
NHa295	Lantry Awards Validity Checks - Link	12 th May 2022
NHa296	MEWP Hoist Potential Separation - Link	12 th May 2022
NHa297	Safe Use of the Bitumen Boiler - Link	25 th May 2022
NHa298	A358 – Drone Incident Update - Link	7 th June 2022
NHa299	Siemens Energy Catastrophic Failure of MEWP – Link	21 st June 2022
NHa300	Working on Verges – Link	29 th June 2022
NHa301	S19 Fire Hydrants – Immediate Stop of Use – Link	14 th July 2022
No. 011	Ringway Infrastructure Services – Mini Digger Overturned – Link	15 th July 2022
Region Bulletin	Avoidance of Crossing over Safety Barrier Z Posts – Link	July 2022

Available at <http://www.highwayssafetyhub.com/alerts.html>

Categorising – Safety Alerts

Discipline*	Number of SA / NM	Check Sheet	C/S - CPP	Services	Access - Red Line Boundary	Incursion	RAMS	For Information	Design Change	Totals
All (TLG)	96	16	6	4	7	4	36	58	0	131
Structures (TLG)	22	6	2	0	0	0	4	9	11	32
Highways (TLG)	29	7	8	2	6	0	8	9	16	56
Geotech (TLG)	13	6	2	0	2	0	2	2	0	14
Tech (TLG)	6	2	1	2	0	0	1	3	1	10
Environment (TLG)	9	2	0	0	0	0	6	5	0	13
N/A	26	9	4	2	2	0	17	4	1	39
Totals	201	48	23	10	17	4	74	90	29	295
Percentage of total		16.3	7.8	3.4	5.8	1.4	25.1	30.5	9.8	100.0

Key	Col G, L & M
Check Sheet (RAG) Required	
Check Sheet (RAG) / Input to CPP	
Services	
Access / Working Area/RLB	
Incursion	
RAMS - Check Sheet (RAG)	
For Information	
Design Change (MB to approve)	

National Highways H & S Alerts – Arcadis Summary

NHa295 – Lantra Awards Validity Checks

Lessons Learned:

- A quick 3 step check to ensure that Lantra Certificates (Competence in Temporary Traffic Management) are legitimate.
 - 1. Is there a Unique Code?
 - 2. Are all the Learner, Trainer/Assessor and Provider details completed?
 - 3. Is the sheet valid within the time granted?
- Lantra covers competence in a number of areas, not limited to temporary traffic management.
- In future the NH passport should cover this.
- This alert is relevant to PCs but has little relevance to designers.

National Highways H & S Alerts – Arcadis Summary

NHa296 – MEWP Hoist Potential Separation

Lessons Learned:

- There should have been a pre-shift in addition to 6 monthly inspections under LOLER.
- The extent of the damage, with a number of fixings exhibiting severe cracking/ fatigue damage, would seem to indicate either that the MEWP had been abused or that pre inspection checks had not been undertaken as rigorously as might be desired.
- Raised with Project teams. Importance of pre-use checks
- Forwarded alert to Arcadis NEC supervisors to review with PC's.
- Is it possible there might have been a design fault with this equipment?



National Highways H & S Alerts – Arcadis Summary

NHa297 – Safe Use of the Bitumen Boiler

Lessons Learned:

- This is a case of failure to adhere to RAMS or wear appropriate PPE.
- In the construction industry we continue to specify hot bitumen coatings in the absence of viable alternatives. Cold lay materials are generally not as effective.

National Highways H & S Alerts – Arcadis Summary

NHa298 – Drone Incident Update

Lessons Learned:

- One of the rotor arms was apparently not correctly locked in place. Damage to one drone arm suggests that the supporting collar may not have been fully locked, and had become loose during the flight. With a single arm not locked in place, it is possible this would have resulted in variable thrust causing the UA to become uncontrollable.
- Presentation on drone survey requirements may offer a useful topic for discussion by the PDWG.
- NH requirements for drone surveys (right).
- For those looking to undertake drone operations on behalf of National Highways, please also be aware that we have a Drones Portal Page for Activity Managers to refer to when producing a GG104 SRA. Unfortunately at this time, the page is only accessible to NH employees, however NH are in conversations to create something similar on the Supply Chain Portal.
- If you have any further questions, feel free to contact Drones@NationalHighways.co.uk

National Highways Drones Policy at present

- From Q3 2022, GG 954 will detail our requirements for the safe operation of drones whilst working for or on behalf of the Company within proximity to the network or using our property to operate above current CAA regulation. Two notable types of drone operational exclusions are:
 - Beyond Visual Line of Sight (>1500m from the Remote Pilot)
 - Drone Swarms
- All requests to operate are subject to safety risk assessment as defined within GG 104 which details parameters that must articulated, considered to inform a preferred option subject to acceptance by the relevant group.
- All operations must complying by the relevant and most up to date CAA regulations in place as well as GG 954 or CHE 471/20.
- National Highways have no authority over any third parties operating over or in the vicinity of the network (as long as they are comply with CAA regulations), however we request they inform the Drone Governance Hub (DGH) via the Drones Inbox if and when these operations are undertaken.

National Highways H & S Alerts – Arcadis Summary

NHa299 – Catastrophic Failure of a Mobile Elevated Working Platform

Lessons Learned:

- It is not clear why the MEWP didn't descend slowly from working level: it appears to have dropped to ground instantaneously.
- MEWP access is the safest option for the installation of cladding panels being undertaken here.
- This was a hired machine. Such machines do tend to get abused. Nevertheless it should have undergone a 6 monthly LOLER check and a pre-use visual inspection. A visual inspection might (or might not) have identified a hydraulic hose failure? There is no indication that any faults were identified pre-use.
- Check that a daily inspection has taken place. There have been numerous MEWP issues in recent past. On M4 outriggers were not extended when a failure occurred.
- All MEWPs of this type and manufacturer are to be removed from service immediately and formal inspections are to be performed by competent personnel in accordance with the manufacturer's instructions.
- This alert has little relevance to highways designers.



National Highways H & S Alerts – Arcadis Summary

NHa300 – Working on Verges

Lessons Learned:

- A visual inspection prior to start of work, and use of protection measures to any obstructions thus identified, noted within the site RAMS and briefed to workforce prior to commencement of works. These measures may have helped avert this accident. More frequent verge cutting would also help. Noted that this is now undertaken less frequently by councils, particularly on remote rural roads.
- Arrange for vegetation to be cut back and debris collected before any works on the verge commence.
- If working at night provide suitable task lighting.

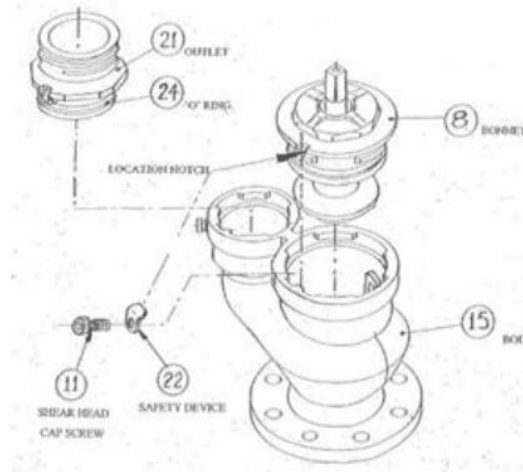


National Highways H & S Alerts – Arcadis Summary

NHa301 – S19 Fire Hydrants – Immediate Stop of Use.

Lessons Learned:

- Civils designers don't typically get involved with the design of hydrants. Water companies are responsible for providing hydrants, fire authorities for maintenance. This alert may be relevant to contractors who need to draw water from a standpipe occasionally for soakaway tests or the like. Hydrants are essentially a simple design: it is not clear why a single pin the sole ground fixing. Hydrants are required to be installed at certain spacings depending on the situation. Schools need at least 2 hydrants. Replacing a large number of hydrants in this way will be expensive. They are normally identified by an 'H' with the diameter of the main appended.
- Detail on how to identify a S19 Hydrant is detailed fully within the Safety Alert [Link](#)



National Highways H & S Alerts – Arcadis Summary

No. 011 – Ringway Infrastructure Services / Mini Digger Overturned

Lessons Learned:

- It is not clear why the mini excavator was tracking on top of the broken up footway rather than the road adjacent to it. The 'B' road on which the works were taking place was of sufficient width for the excavator to track along it, next to the footway. There appear to be vehicles parked outside the barrier here, the working arrangement does not look to be well thought out. RAMS issue?



Q&A