

**National Highways  
Principal Designer Working Group  
Meeting No.24**

**Thursday, 11<sup>th</sup> November 9.15 am – 12.30 pm.  
(Teams Call)**

**Attendees**

<b>Name</b>	<b>Initials</b>	<b>Position</b>	<b>Organisation</b>
Richard Wilson (Chair)	RW	H&S Director (Major Projects) C&P	National Highways
Doug Potter (Secretary)	DP	TA HSW Lead - Principal Designer Manager	Arcadis
Nina Warminger	NW	H&S Manager SWAD	National Highways
Mark Lamport	MLa	Technical Director / Principal Designer Manager	Arcadis
Pav Singh	PSi	Technical Director / Principal Designer Manager	Arcadis
Tim Bowes	TB	Principal Designer Manager	Atkins
Greig Houghton	GH	Design HSE Lead	Jacobs
Paul Brown	PB	Technical Manager	WSP Group
Roger Swainston	RS	PD / CDM Advisor	Jacobs
Mike Boyland	MB	Project Manager	National Highways
Tim Goddard	TG	Principal Designer Manager	Arcadis
Toria Thomas	TT	Principal Designer	Arup
Sulagna Ghosh	SG	Ass. H&S Rep Leeds	WSP Group
Abbey Featherstone	AF	Technical Lead	Connect+
Patrick McNulty	PM	BIM Lead LTC	Arcadis
Mark Lawton	MLo	Head of Engineering Surveying and GIS	Skanska
Josh Hicks	JH		Mott Macdonald
Sam Allin	SA	CDM Manager	LTC
Paul Watson	PW		Amey
Darren Allen	DA		Tellent
Tony Lewis	TL	P Designer Man. YNE	Costain
Dave Olorenshaw	DO	Area Manager	Keir

Liz Brathwaite	LB	H&S Lead	Skanska
Jon Webster	JWe	Safety Lead	Kier
Malcolm Shaw	MS	Principal Designer Manager	Arup
Samuel Hogan	SH	Principal Engineering Man.	Balfour Beatty
Richard Delaney	RD	Senior H&S Consultant	Capita
John Quarless	JQ	Safety Manager	Kier
Simon Wilkinson	SWi	Technical Director	AECOM
Dave Avery	DA	H&S Manager	Arcadis
David Riley	DR	H&S Business Partner	Amey
Tom Bolton	TB	Principal Designer Manager	Amey
Liam Burns	LB		National Highways
Robert Butcher	RB	Technical Director CDM	Jacobs
Dave Owen	DO	Regional Director	Galliford Try
Elizabeth Bennett	EB	Director	Safety in Design
Andrew Finch	AF	Director of Operations	Jacobs
Ed French	EF	Principal Designer Manager	Arcadis
Katie Harman	KH	YNE Safety Lead	National Highways
Ken Harrison	KH	Principal Engineer	Amey Consulting
Ian Nixon	IN	Hub Lead	Costain
Jonathon Giles	JG	Principal Designer Manager	Rambolt
Joseph Cluett	JC		
Euan McRobie	ER		Capita
Helen Richardson	HR	NH Regional Lead	National Highways
Steve Willoughby	SW		
<b>Guests:</b>			
Christous Christou	CC		Skanska
Gordon Crick	GC	BIM Safety Lead	HSE
Graham King	GC	LTC Safety Lead	National Highways
<b>Apologies:</b>			
Paul Boddy	PB	Director	Interserve

Stephanie Goldsmith	SG	Senior H&S Advisor	Skanska Infrastr.
Katie Swanick	KS	Contracts Manager	Motts
Aimee Blay	AB	Design Manager	Galliford Try
Thomas Merry	TM	H&S Lead	National Highways
Ronan Finch	RF	Principal Designer	WSP
Shaun Pidcock	SP	Director LTC	National Highways
Paul Claydon	PC	H&S Manager	WSP Group
Phil Samms	PS	Engineering Man. (Area 3)	Kier
Kevin Morgan	KM	PD / CDM Advisor	Jacobs
Mark Riordan	MoR	Principal Engineering Man.	Amey
Paul Wilkins	PW	Ass. Tec. Director Structures	Arcadis
Dave Townsend	DT	H&S Team Standards	National Highways
Jon Horrill	JH	Principal Designer / H & S	WSP Group
John Migoski	JM	Technical Manager	Network Rail
Suryakant Patel	SP	Principal Designer Manager	Costain
Amy Williams	AW	HE SES Data Link	National Highways
Chris Gee	CGe	Head of Utility Diversions	National Highways
Steve Ristow	SR		Transport for London
Sean Connon	SC	Principal Designer Manager	Costain
Ben Moul	BM	Safety Lead	Balfour Beatty
David Lumb	DL	Health and Safety Business Partner – RIP North	National Highways
Natalie Mansell	NM	Head of Safety – SR, H&LT	Atkins
Mark Bridges	MBr	Former H&S Hub Lead	Galliford Try
Jordan Flint	JF		Kier
Lawrence Weller	LW	Safety Manager	TfL
James Washington	JWa	Safety Lead	Kier
Owaiz Khan	OK	Technical Manager	MGF
Nicola Tweedie	NT	SA – Road User Safety	National Highways
Richard Horan	RH		Telent
Glen Matthews	GM		Kier

Robert Mullen	RM	Asset Information Group	National Highways
Marcus Anning	MA		National Highways
Jim Gallagher	JG	Prin Struct. Advisor (SES)	National Highways
Martin Partington	MP	Principal Engineering Man.	Jacobs
Nick Boyle	NB	Technical Manager	Balfour Beatty
Jim Tod	JT	Temp Works Designer	Tony Gee/Twf
Jason Glasson	JG	Asset Information Manager	National Highways
Clare Brown	CB	Safety Lead	Link Connex (Bam Nuttall)
Tarandeep Atwal	TW	Associate Director	Arcadis
Robert Legg	RL	Highways Safety Co.	Motts
Alexandra Koutsouki	AK		
Rob Eagles	RE	Temp Works Designer	MGF
Charlotte Taylor	CT		Morgan Sindall
David Owens	DO	Data Manager	Costain
Russell Brookes	RB		National Highways
Ali Chaudry	AC	Principal Designer	Galliford Try
Paul Dennis	PD		Arup
Chris Griffin	CG	Design Innovation Manager	National Highways

## 1.0 (9.15 – 9.30) Welcome and Introductions (Richard Wilson)

### Wellbeing, Health and Safety Moment

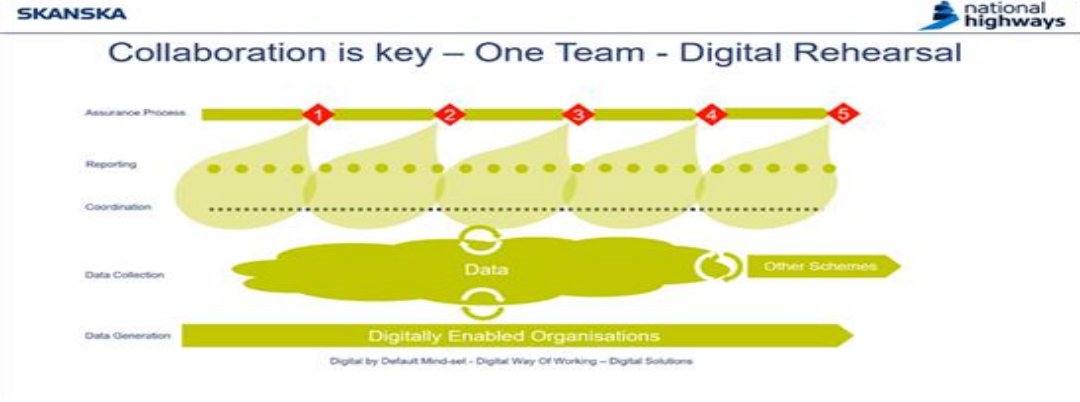
- Link Shared - [Amey Video](#) - discussion about an incident which led to a fatality on an Amey scheme and how this affected individuals. It was noted the importance of taking care whilst using vehicles. Designers to consider the movement of vehicles on schemes and particularly could reversing be minimised?

### Key Actions and matters arising from PDWG 22 – 9/09/21.

#### Minutes

- 1.1 Suicide Prevention Safety Hub Webpage – Ian Nixon indicated that this had not yet been progressed. Suicide Safety Share. <https://vimeo.com/597358738>
- 1.2 Temporary Works guidance update arrangements – meeting to be arranged to discuss. – RW indicated that this and not been progressed he would take away as an action.
- 1.3 Design Close Calls – AF would provide an update later in the meeting.

RW

<p>1.4 Utilities Deep Dive Research Project – Paul Doney/Graham King would present at the next working group in January.</p> <p>1.5 Incursions Working Group. – General awareness - RW would have further discussions with Bob Watson and Richard Long and provide feedback.</p> <p>1.6 CAP Awareness and Workshops – MLo confirmed that funding issues would stay within the CAP initiative.</p> <p>1.7 Safe Gantry Access Design – DR had provided feedback to Paul Brown who would present later on this matter.</p> <p>1.8 Development and deployment of HART – RW confirmed that launch dates would be provided shortly – (Post meeting: Launch now expected on 17<sup>th</sup> January).</p> <p>1.9 Awareness of National Underground Register – CG confirmed that he had been in discussions with the team delivering the initiative.</p> <p>1.10 Launch of GI and Archaeology RtB's – RW confirmed that the documents were due to be issued for comment on 12/11 both to the Working Group and wider supply chain, with an aspiration that they would be launched by January.</p> <p>1.11 Incursions new Abuse Heat Map – DA confirmed that the mechanism for capture of the relevant incident information should be via AIRSweb (and subsequently HART). Liz Brathwaite clarified that this was not set out in GG 128, so felt most incidents would not be logged. RW expressed concern over the potential quantum of data. DA to take comments back.</p> <p>1.12 Passport Scheme – Reference Point would provide an update at the next PDWG.</p> <p>1.13 RtB 26 Safety by Design. Document had been launched in October and Paul Brown had produced an article for the next Safety Hub Newsletter.</p> <p>1.14 New SCSLG Chair – Adam Green MD for FM Conway had taken up the post and RW noted that a number of new members had been invited. The updated membership list would be issued shortly.</p> <p>1.15 NH Internal CDM Process and Procedures. RW confirmed that these had now been launched and that a Webinar briefing to the supply chain would take place on 7<sup>th</sup> December. David Lumb and David Harris would be reviewing the implications that this would have for PCF.</p> <p>1.16 RW noted that Jim Gallagher was looking into a recent incident on the M6 where a weld/coupling had failed – a Safety Alert would be issued shortly.</p> <p>1.17 DP noted that feedback from the Chat Room had been issued with the previous minutes.</p>	<p>GK</p> <p>RW</p> <p>DA</p> <p>DL/DH</p> <p>JG</p>
<p><b>2.0 ((9.30 – 10.25) Presentations for Learning Opportunities</b></p> <p><b>2.1 3D REPO – WHS Design Risk Tracking – Christos Christou (Skanska)</b> (Presentation attached) CC provided a presentation on the capabilities of 3D REPO.</p>	
 <p>The slide content includes:</p> <ul style="list-style-type: none"> <li>Logos for SKANSKA and national highways.</li> <li>Title: Collaboration is key – One Team - Digital Rehearsal</li> <li>Process flow diagram with five numbered steps (1-5) connected by a horizontal line.</li> <li>Labels on the left: Assurance Process, Reporting, Coordination, Data Collection, Data Generation.</li> <li>Central text: Data</li> <li>Right side text: Other Schemes</li> <li>Bottom text: Digitally Enabled Organisations</li> <li>Footer: Digital by Default Mind-set - Digital Way Of Working - Digital Solutions</li> </ul>	

Technical Integration Management

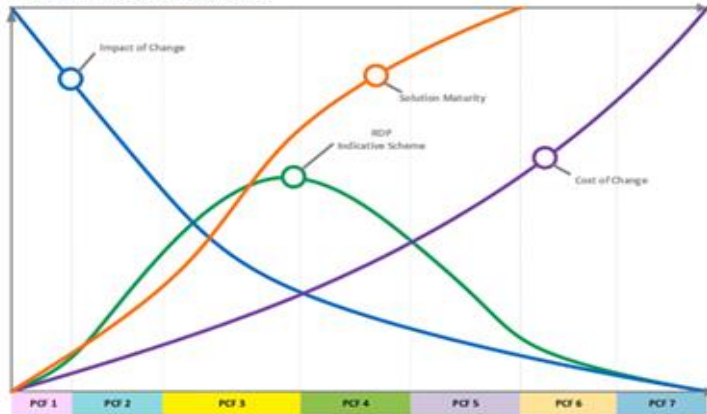


Month Year

Name of presentation

2

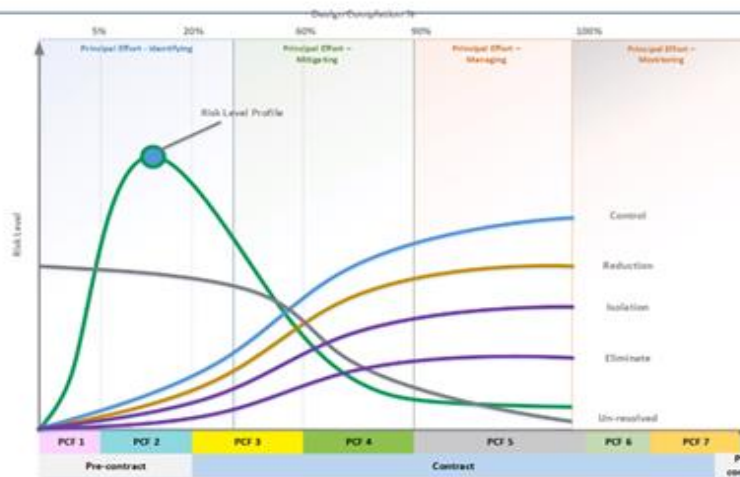
Solution Development  
Managing maturity and confidence



Month Year

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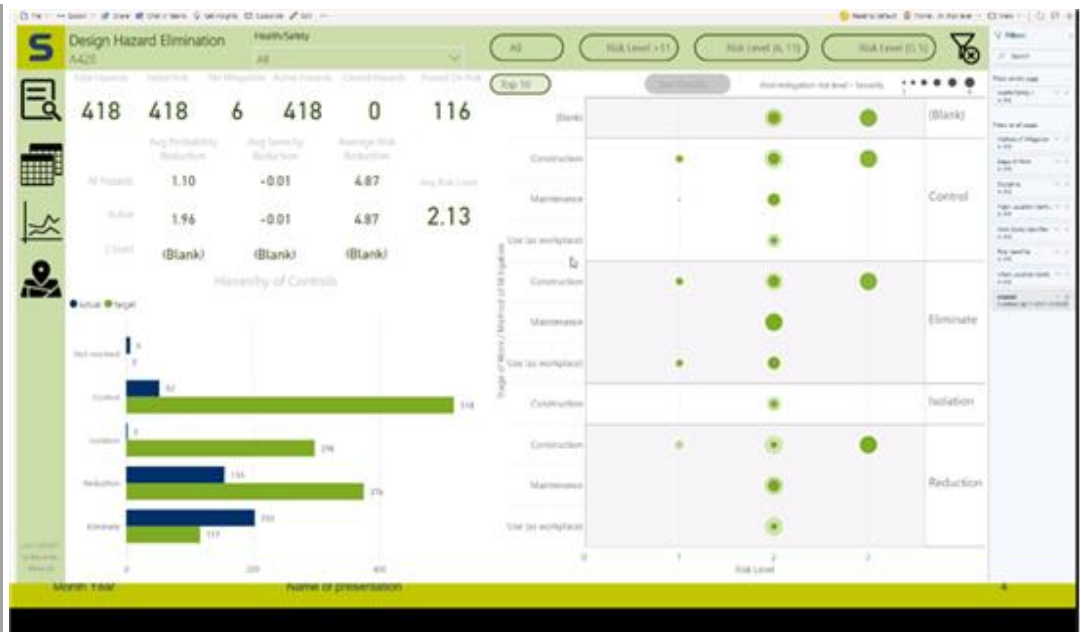
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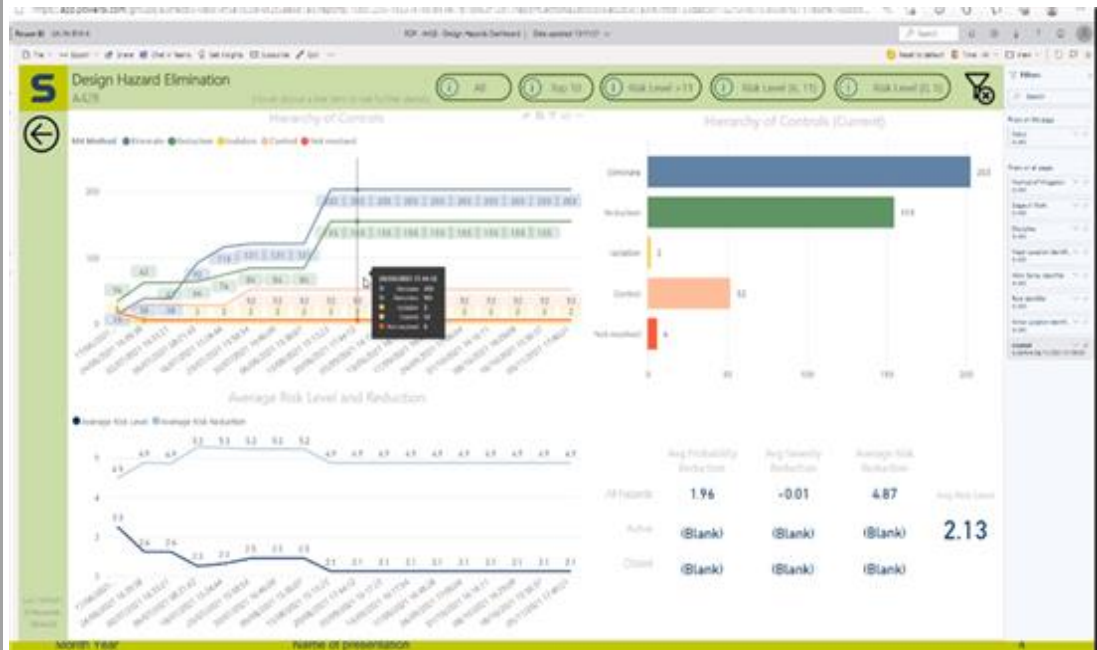
Month Year

Name of presentation

4



The software provides a live report of setting out current CDM Hazards across the live scheme.



The software allowed performance to be monitored with a record provided on the status of hazards.

### Next Steps

- Establish benchmark information
- Increase links between design and construction
- Utilise GIS to improve availability of information
- Increase integration of CDM hazards with asset codes



### 3.0 (10.35 – 11.40) T&F Group Updates - (SCSLG – H&S Hub Support)

#### 3.1 Health in Design – C/ Intent (Progress update) – (Natalie Mansell – Atkins)

- NM was unable to attend but confirmed that the CI had been prepared and was with SCSLG for review.

#### 3.2 Utilities Avoidance – (Chris Gee - NH)

- CG provided an update – he is currently looking to reach out to the Utility companies currently working with NH. His focus is trying to encourage Utilities companies to understand they are a supplier.

15 September 2021

### Progress Update (2021 activities)

(Since Exec Nov '20 presentation)

- Worked with Arcadis to define data ask
- Recruited 2 Team members
- Refining the strategic utility approach
- Continuing the Utility relationship build
- Mitigating / escalating matters as requested from across the business
- Establishing data availability from within our programmes
- Establishing Tier 1 / 2 / 3 Utilities groupings (based on spend)
- Providing visibility of cost / programme / risk back to some of these Utilities.
- Developing efficiency opportunities.



- Requirement to understand Cost, Programme and Costing of Utility work

### Benefits (including some of):

- Partial collation of Utilities spend / programme / risk established.
- Openreach / NG / UKPN / WPD / Cadent escalations
- Selected Tier 1, 2 & 3 Utility engagement commenced
- Reminded NH community of the availability of Linesearch
- NDA's now in place with a number of Utility Co's
- Project Speed dialogue with DfT on Utilities opportunities
- Mapping our S1 Directors to key Utility Exec's (eg David Haines, Chris Taylor, etc). The current escalation with Cadent is causing me to re-consider this at the moment. It's needed, but am reflecting on the appropriate levels of engagement.



- Can NH gain a better understanding of what the utility assets are? - Ongoing discussions

### Future development (1)

- Relationship build – Strategic relationship (some initial Utility reluctance).  
Continued roll out engagement with Tier's 1, 2 & 3 Utilities (as needed).
- Supplier Relationship Mgt.  
Simon Smith (in C&P) is leading a team for National Highways on SRM engagement with the Supply Chain (Keir's, Balfour's, Aecom, etc) – looking to manage their performance, maintain senior engagement, etc – I'm looking to align some of that thinking into the Utilities dialogue that we are building.
- We are looking to implement (via SES / Lean) Deep Dive 2 - establishing the baseline of how Utilities have been historically performing.
- Phase 2 of our strategic relationship build (after we've got mature engagement happening) is to start to measure the performance of the Utilities, to drive improvements. This is an external focus into the Utility companies.
- Other Initiatives:  
Project Speed / Net Zero Carbon / Efficiency initiatives / H&S initiatives / Asset records, etc





## Future development (2)

Utility Service Provision back to NH (& community).

- Design offer
- Better cost estimating
- Better cost control
- Better programme mgt.
- (Health warning: 70+ Utilities | Team of 3 | factual)

PDWG challenge:

- Design engagement
- UKPN (Ian Arnold [ian.arnold@ukpowernetworks.co.uk](mailto:ian.arnold@ukpowernetworks.co.uk)) & Anglian Water (Teresa Jeffcoat [tjeffcoat@anglianwater.co.uk](mailto:tjeffcoat@anglianwater.co.uk)) are nominated leads.



### 3.3 Graham King (NH) provided an update on 2no. Utility Incidents on LTC

#### Recent Utilities Incident – High potential High Pressure Gas Pipe Strike

**Incident:** High Potential Utility Service Strike  
**Location:** Lower Thames Crossing, Rods North of the Thames, Package A  
**Date of incident:** 2<sup>nd</sup> November 2021

- Trial pit's original location had been designed over a known gas pipe. This was relocated ~8.5m away.
- Five months later, site was moved again due to proximity of overhead power lines. Now 29m from gas pipe.
- PAS 128 surveys were carried out at these two locations.
- Permit to Break Ground, incorporating the correct information, was issued to the Site Engineer.
- The Site Engineer set out the site. The excavation commenced with mechanical shallow scrapes and Cat and Genny scanning.
- The excavator bucket contacted the gas pipe at 2.4m.

#### Key Investigation Findings

- The original design had specified a trial pit over a high pressure gas main.
- The site Engineer had used a GPS pre-loaded with the original location of the trial pit.



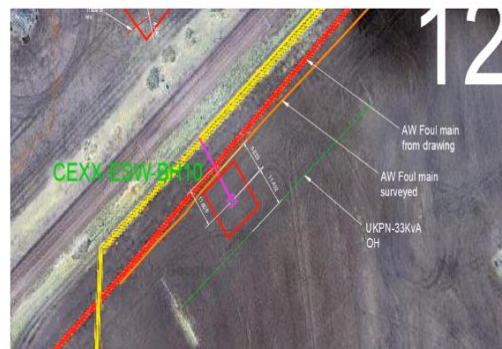
#### Recent Utilities Incident – Foul Sewer Pipe

**Incident:** Utility Service Strike  
**Location:** Lower Thames Crossing, Land Parcel 12 – BH 10  
**Date of incident:** 27<sup>th</sup> July 2021

- Whole area was GPR surveyed.
- Pipe identified (Amber) marked on surface.
- Assumption made that this was the 'Red' pipe.
- Trial pit hand dug to 1.2m.
- Trial pit scanned with Cat & Genny. (Information received was that the pipe was of a ferrous metal construction).
- No further indication of buried services found.
- Pipe was struck at 1.6m depth.
- Local interface took place between contractor and Anglian Water following the incident.
- The 'amber' pipe found by GPR was in fact the 'yellow' pipe. The pipe struck was the 'red' pipe.
- Pipe struck was of ACM construction.

#### Key Investigation findings

- Contractors processes align with HSG 47 but services were not positively identified through trial pits.
- GPR equipment did not identify ACM pipe.
- Drawings provided by the asset owner were inaccurate.



- Foul Sewer Pipe 1
- Foul Sewer Pipe 2
- GPR survey results
- Bore Hole location

**Actions taken at LTC are the following:**

**LTC Client's Response**

- Main Works Contractor scope requirements strengthened to require:
  - Dedicated 'Breaking Ground Team' to be established within contractor's organisation;
  - Role specific training and competency requirements for dedicated 'Breaking Ground Team';
  - Membership of the Utility Strike Avoidance Action Group and utilisation of toolkits;
  - Establish a practical training programme based on the principles of HSG 47, PAS 128 and other applicable guidance for the staff involved with breaking ground activity.
- Develop a HSW in Design Assessment Tool to monitor and assess design performance. (Application of PoP).
- Require contractors to positively identify buried services prior to breaking ground.
- Require the Statutory Undertaker's Asset Protection staff to be engaged during the planning and execution of works.
  - Dedicated team seconded to LTC contractor.
- Introduce the LTC Fatal Risks
  - Enhanced assurance against standards, Common Intent and Raising the Bar.

**"Sufficient time and resources are allocated"**



Key actions captured - Requirement to reference PAS 256 as well as PAS 128 and need to add in a utility co-ordinator who is competent. The importance of having only trained personnel using Utility tracing equipment was stressed.

All

**3.4 H&S File Digital Development – T&F Group (Mark Lamport – Arcadis)**

- Links to AMDG and OD – update



**Steering Group Meetings**

- Asset Information - H&S Improvement in Data Management Steering Group Meetings:
  - Last meeting on 23/9/2021
  - Next meeting on 18/11/2021



**Steering Group Attendees**

- Steering Group Meeting attendees include:
  - Richard Wilson – National Highways (NH), Head of Home Safe and Wellbeing, C&P SES
  - Jason Glasson – NH, Head of Asset Management
  - Sarah Bull – NH, Operations Data and Strategy Lead
  - Antony Firth – NH, Head of Planning and Development
  - Andrew Smith – NH, Head of Digital Engineering
  - Russell Brooks – NH, SES (custodian of ADMM, GG182, EIR)
  - Neal Symmons – NH, Head of Lean
  - Doug Potter – Arcadis, Principal Designer Manager
  - Mark Lamport – Arcadis, Principal Designer Manager
  - Mark Lawton – Skanska, Head of Engineering Surveying and GIS

### Current Status

- New Highways England CDM Standard (which contains a H&S File template) still to be launched
- IAN 105/08 still current but likely to be withdrawn and not replaced
- Discussion on transition of H&S Files to GIS-based platform already underway within National Highways
- Ongoing discussions with Neal Symmons around integration of Lean into the digital handover process

### Next Steps

- Steering Group to agree how the H&S Files T&F Group can support the ongoing National Highways GIS-based development work for H&S Files
- PCF product guidance and templates for H&S File and Civils Maintenance (AD/MAC/ASC) Handover Document and Certificate to be brought into alignment with the new CDM Standard
- Need to align with the group being led by Gordon Crick (HSE) on integration of H&S into BIM

## 3.5 Gantry Access Design T&F Group – (Paul Brown - WSP)

Gantries – What's the Issue with Access?

**Inconsistency**  
**Inappropriate**  
**Inadequate**



**EXAMPLES OF RECENT GANTRIES**





# EXAMPLES OF RECENT GANTRIES



# EXAMPLES OF RECENT ACCESS PROVISION



# EXAMPLES OF RECENT ACCESS PROVISION

# Gantries – What’s Happening?

- Dave Riley raised the issue at last PDWG
- SMP Alliance already looking at issues with gantries
- Safety risk Assessment already undertaken considering retention of non-accessible concrete gantries against replacement with fully accessible steel gantries
- Commission now in progress to look at SMP Alliance Programmatic Review of Maintenance Access Requirements for Gantries
- assess the suitability of gantry design from a road worker maintenance access and road user safety perspective. The task will also consider the impact on the traffic officer service.
- PDWG will be on list of stakeholders to engage with this piece of work
- Names for those who want to be engaged as reps of PDWG to Doug

RW had spoken to Jo Goulding on this matter with respect to review of the original GG104 and related risk assessments and the change in applicable standards over time.

PB indicated that T&F Group meetings were due to be set up prior to Christmas who would examine existing document as part of their remit. He anticipated representatives of the PDWG community would be drafted onto this group. PB would also review items posted in the chat post meeting.

PB

## 3.6 Eliminating Risk from the Outset (Paper) – (Mike Boyland – NH)

- SPATS project nearing completion - Results to follow, potentially at next PDWG in January 2022 – TT to feed back
- Mike Boyland - Leaving to join Defra

TT

## 3.7 Design Close Calls – (Update) – (Andrew Finch – Jacobs)

### PDWG Task Group - Design Close Calls - 13<sup>th</sup> October 2021

#### Summary on a page

Purpose of the Meeting - to investigate whether a Design Close Calls process similar to that used by Network Rail might provide learning and sharing benefits for health, safety and wellbeing considerations for the National Highways community

#### Attendees

- Andrew Finch (Jacobs) - Chair
- Simon Westwood (Arup)
- Tim Bowes (Atkins)
- Natalie Mansell (Atkins) [part only]
- Pav Singh (Arcadis)
- Katie Harman (National Highways) [part only]

#### Apologies

- Toria Thomas (Atkins)
- Rob Butcher (Jacobs)
- Mark Lamport (Arcadis)
- Doug Potter (Arcadis)
- Tom Merry (National Highways)
- Adam Porter (National Highways)
- Richard Wilson (National Highways)



Andrew Finch ran through his presentation outlining the principles of the DCC concept (previously given to PDWG#22 at the May 2021 meeting). He then presented additional material captured by Jacobs new internal DCC process to demonstrate how it can work in practice; and some sample Jacobs DCCs raised to date. This was followed by a group discussion about the pros and cons of introducing a DCC process for the National Highways community.

#### Issues raised

- Significant concerns from the supply chain about exposure to reputational and commercial risks by divulging the circumstances of a DCC issue
- Requires active engagement to report and regular circular feedback in order to deliver value to the design community and to National Highways staff
- Benefits could be from Root Cause Analysis – and lessons learnt being shared
- Essential that it functions in a truly 'no blame culture'
- Wider benefits should be emphasised - such as those that are gained when contractors share their issues through Safety Alerts
- O&M contracts have an NCR process that enables lessons learnt to be extracted – something similar in MP could possibly provide a way of harvesting issues
- Need to consider Whole Life Design issues as a part of any DCC reporting process
- What lessons can be learnt about allowing sufficient space for temporary works including access?
- How do we make a database practical in terms of searchability? E.g. generate pan-industry/inter-industry learning (via ORR?) on a regular basis (similar to CROSS reports)
- What design-related issues might be shareable from AirsWeb reports?
- What are the practical implications of DFMA when site conditions don't turn out to be in accordance with design assumptions?

#### Outcomes and Next Steps

- It was concluded that a DCC process would add value for health, safety and wellbeing across the National Highways community
- To be effective it would require buy-in and resourcing from National Highways
- Katie Harman took an action to report back to her National Highways colleagues to determine what support there might be to develop a communal DCC process for NH
- Andrew Finch undertook to notify the Task Group when Katie reported back and would arrange a subsequent TG meeting if appropriate

KH provided feedback that an internal discussion had taken place with Shaun Pidcock as to how this could be taken forward. Discussions still ongoing. KH to feedback.

KH



**3.8 Whole Life Design Safety Shares – (Martin Partington – Jacobs)**

- MP not able to attend but had confirmed that an Action Tracker had been set up - The intention is to progress at next meeting.

**4.0 (11.00 – 11.55) BIM Risk Library / CDM Developments – (Gordon Crick- HSE)**

Health and Safety Executive



**The Risk Library Project and CDM**

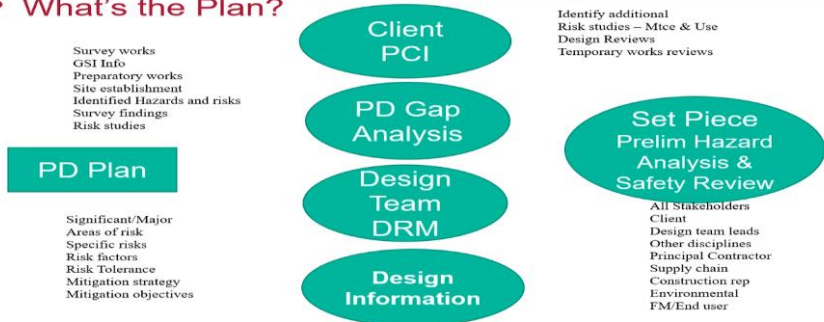
**National Highways  
Principal Designer Working Group**

Gordon Crick HSE Construction Sector,  
11<sup>th</sup> November 2021

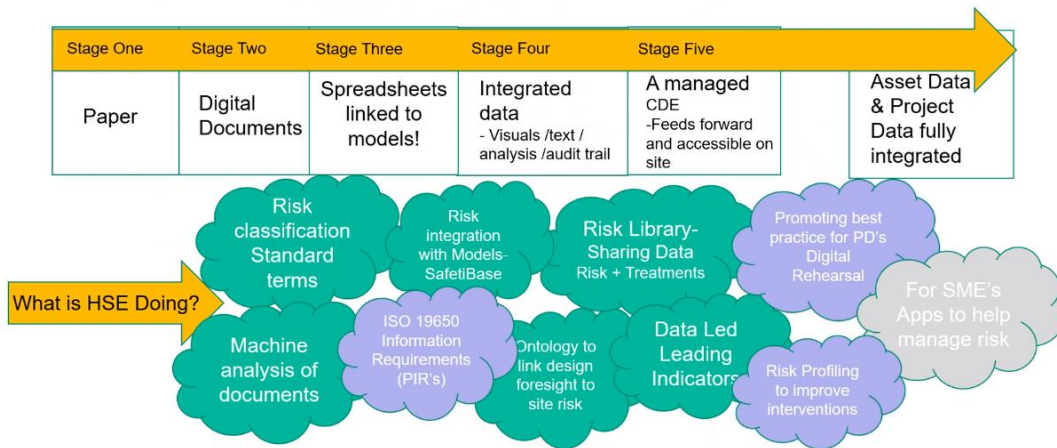
**Plan, Manage, Monitor – the PD Role  
The beginning**



• **What's the Plan?**

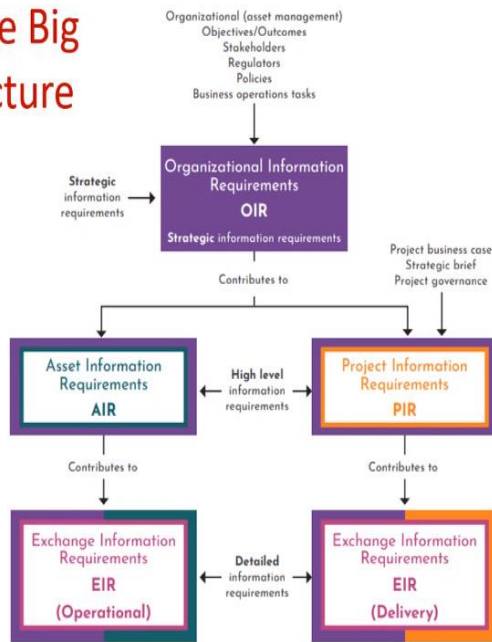


**A digital journey**



Lilac bubbles note the work the HSE BIM team are currently reviewing.

# The Big Picture



1. To enable seamless transfer of risk information into an Asset Model at the end of a project.
2. To empower a Client to ask for exactly what they need to manage H&S in their projects and their assets.
3. To co-ordinate the high level PIR's that may apply to different risk topic disciplines. This counters silo working.
4. To provide tools for the Principal designer to fulfil their CDM duties, and a clear line of sight for feedback to Client.
5. To enable the Exchange Information Requirements to be built up from the PIR's. In this way a clear line of sight and strategy is preserved between the Client needs and the project delivery.
6. Using PIR's in this way brings clarity on how geometrical models, alphanumeric information and documents should all be integrated in the same system.

Figure 16: Hierarchy of information requirements extended

Noting the 6 points to potentially improve design risk information

BIM 4 Health & Safety Working Group  
Guidance Note to be published by  
Christmas

Examples of PIR's to be published by UK  
BIM Framework as Annex to Guidance D on  
ISO 19650 for DCW 24/25<sup>th</sup> Nov

In draft form, BIM 4 H&S Working Group  
has developed a suite of PIR's to cover key  
risk topics;

1. General Requirements (PAS1192:6 2018)
2. Asbestos Risks
3. Structural Safety Risks
4. Temporary Works
5. Fire Safety
6. Lifting Operations

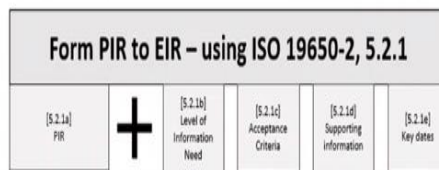




# ISO 19650 – Information Requirements (Client empowerment) To achieve exemplar status in managing elevated risks using digital techniques




- Our Policy Statement : To be an exemplar organisation for Health & Safety
  - Organization X aims to put into place “class leading” standards of H&S Information management in order to demonstrate that project risks are to be managed using digital techniques.
- Organisational Information Requirement (OIR) -The organization needs to maintain information systems that enable the identification and tracking of foreseeable elevated risks in design, installation and operation at the earliest opportunity, and subsequent treatment and management of these risks, to an exemplary standard.
- Organization X has reviewed this OIR and has identified the following Asset Information Requirements (AIR) as a result:
- AIR To require the asset information model (AIM) to contain current elevated risk information complete with an audit trail, in a way that integrates structured and unstructured information with geometrical models. The information must include health & safety information that significantly affects the safe and healthy operation of the asset.
- Organization X has reviewed its OIR and has identified the following PIR as a result:
- PIR To require the project information model (PIM) to contain current elevated risk information complete with an audit trail, in a way that integrates structured and unstructured information with geometrical models. The PIM shall enable sharing and collaboration in risk management in order to optimise risk treatment in the project.
- Organization X has reviewed its AIR and PIR related to health and safety compliance and has determined the EIR (operational and delivery) and associated information purposes. Note that because it is likely that multiple appointments may hold elevated risk information, this EIR will appear multiple times (i.e. for each relevant appointment).
- EIR Exchange information requirements



**Edit risk**

2. Struck by hydraulic stabilizer leg  
GordonCrick 08 Nov 2021 Clone



Edit Image

Risk Likelihood <b>High</b>	Level of Risk 
Risk Consequence <b>Very High</b>	<b>Very High</b>
Risk owner <b>Main Contractor</b>	Category <b>Struck-By machinery or ✕</b>
Associated Activity <b>Install construction</b>	Element type <b>Lorry mounted crane</b>
Risk factor <b>Between moving leg and ve</b>	Construction Scope <b>Transport logistics</b>
Location <b>Unloading area</b>	

**Edit risk**

2. Struck by hydraulic stabilizer leg  
GordonCrick 08 Nov 2021 Clone

RISK **TREATMENT** SEQUENCING SHAPES ATTACHM >

Treatment Suggest

Those involved in lorry loader operations should risk assess the crushing hazard from stabiliser deployment and stowage and include control measures in all lorry loader procedural documentation, such as lift plans.

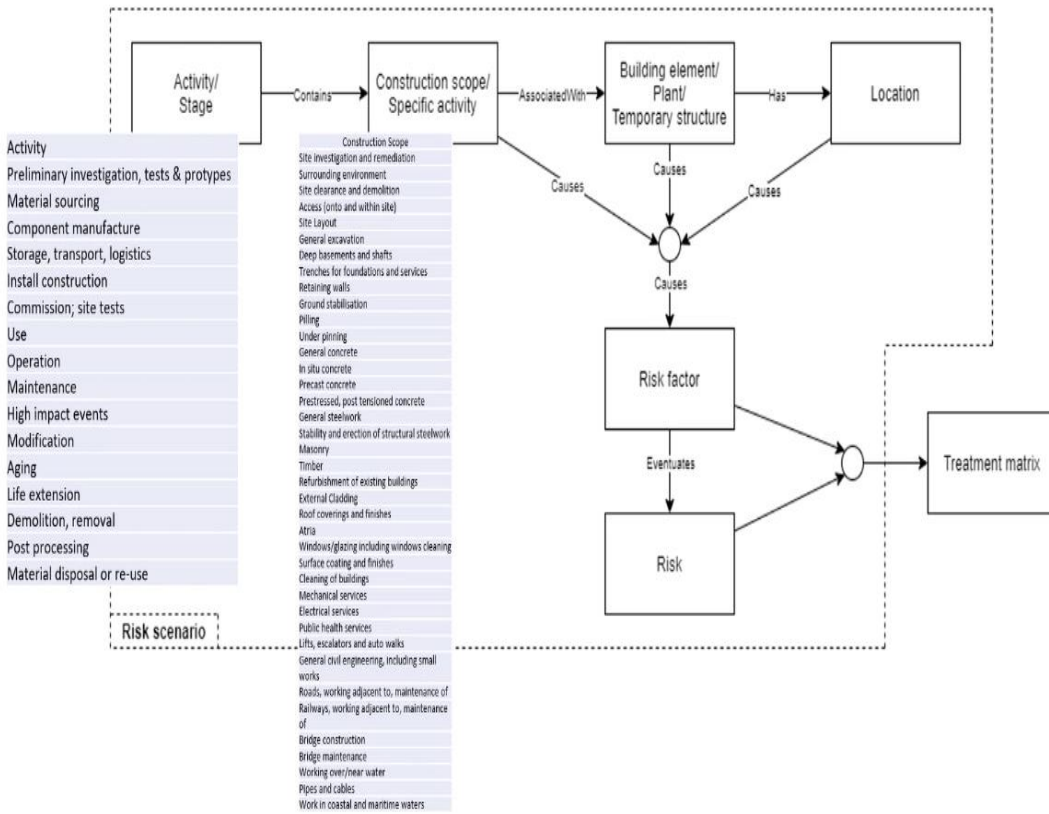
Treatment Details

Stage	Type
Site operations	Information
Treatment Status <b>Proposed</b>	
Treated Risk Likelihood <b>Moderate</b>	Treated Level of Risk 
Treated Risk Consequence <b>Moderate</b>	<b>Moderate</b>
Residual Risk	

**Noting below HSE Risk Treatment Matrix**

	Scenario		Risk	Construction Scope
	Element	Location	Activity	Risk Factor
	Eliminate	Reduce	Control by subsequent design	Inform
Preliminary Design				
Detail Design				
Pre construction				
Site work, Temp Works, Change control				

← (P) (L) (R) (U) (D) (F)



**Construction Scope has been taken from CIRIA C755**

### Edit risk

3. Protruding Expansion joint studs

GordonCrick 08 Nov 2021 Clone

Protruding stud      Removed Bolt

Edit Image

Risk Likelihood: **Moderate**

Risk Consequence: **Very High**

Level of Risk: **High**

Risk owner: **Structural Engineer**

Category: **Struck-By moving vehicle**

Associated Activity: **Install Construction**

Element type: **Expansion joint**

Risk factor: **Physical protusion above c**

Construction Scope: **Bridge maintenance**

Location: **Carriageway**

### Edit risk

3. Protruding Expansion joint studs

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RISK **TREATMENT** SEQUENCING SHAPES ATTACHM >

Treatment Suggest

During routine Safety Inspections, Inspectors should be aware of this issue and lookout for protruding bolts. ■ Any signs of deterioration, to the material surrounding the bolts at road level, should be picked-up during the principal Inspections and flagged for action. ■ The specification for all resin fixings for new Type 5 bridge expansion joint installations, to be checked and agreed with joint manufacturer, prior to installation. ■ Records should be kept during installation of new joints to record the condition of the deck below the joint, the bolt embedment depths and any torque requirements for the fixing.

Treatment Details

Stage: **Control/Inform**      Type: **Control/Inform**

Treatment Status: **Proposed**

Treated Risk Likelihood: **Moderate**      Treated Level of Risk: **Moderate**

Treated Risk Consequence: **Moderate**

This has been reviewed against the proposed Risk scenario with the added examples in the risk matrix below

	Scenario	Risk	Construction Scope
	Element	Location	Activity
	Risk Factor		
	Eliminate	Reduce	Control by subsequent design
	Inform		
Preliminary Design			
Detail Design			
Pre construction			The specification for all resin fixings for new Type 5 bridge expansion joint installations, to be checked and agreed with joint manufacturer, prior to installation.
			Records should be kept during installation of new joints to record the condition of the deck below the joint, the bolt embedment depths and any torque requirements for the fixing.
Site work, Temp Works, Change control			Any signs of deterioration, to the material surrounding the bolts at road level, should be picked-up during the principal inspections and flagged for action.
			During routine Safety Inspections, Inspectors should be aware of this issue and lookout for protruding bolts.

## Developments with CDM 2015

- There are no planned changes at this stage
- Detailed integration with Building Safety Bill requirements is a key goal for next 12 -18 months
  - Please do engage with and respond to industry consultations
- The PD Research completed earlier this year by MWPR Associates will be published in due course – Designer Led Design Risk Management
- Keeping abreast of digital innovation is a key role for Construction Division – benefits include;
  - Visualisation and 4D modelling
  - Integration and analysis of H&S Information with models for co-ordination across teams
  - How to transfer technological benefits to SME's, smaller projects

GC noted the importance of encouraging Designer Led Design Risk Management - Rather than the Safety Specialist

## Conclusions

- Digital progress is very rapid
- We are only scratching the surface of how best to integrate coded and alphanumeric risk information into models
- Consider adoption of PIR's or a similar framework
- How to deliver H&S Information to the worker at point of need

## Challenges

- Can National Highways PD Group help to identify Risk Scenarios and Treatments
  - Using the Relevant Construction scopes from CIRIA C755 (i.e. CE. Roads, Bridges etc. )
  - A Top Ten risk scenarios approach- keep a focus on health
- Sharing Data Saving Lives – New RPF Project to look at design risk data across the industry
- **REQUEST FROM HSE - PDWG to help complete the Challenges as above**
  - **Top 10 Risk Scenarios and Treatments for Highways sector - These will be added to the HSE Library.**
  - **Sharing Data Saving Lives – Post meeting Note: Workshop (23/11/21) invite forwarded to all on PDWG mailing list – feedback at next meeting**

All

All



## 5.0 Break (11.55 – 12.25) Information and Discussion

### 5.1 Update from SCSLG – (Ian Nixon – Highways Safety Hub)

IN provided an update on the restructuring of the Hub, with Conway, Carnel and Rambol now represented.

The plan is that CI's will now have a leading metric, which can be used to measure embedded.

#### Principal Designers Update Nov 2021



- SCSLG
  - Revised membership
  - 2022 strategy
  - HART implementation & GG128 revision
  - iP3 Utility Avoidance Update
  - LLW Common Intent Presentation
- Safer Highways
  - Emerging Talent
  - Fatal Risks – Stamp It Out
  - Suicide Prevention
  - Hearing Protection and links to dementia/mental ill health.
- IN indicated the release of the LLW Common intent will be the next document to be published as this is currently going through final revisions.
- He still awaited a date for the release of the NH Suicide Prevention Web page

#### Principal Designers Update Nov 2021

Hub updates - recently Published document links:

- RtB 12 Fitness to work
  - [b12\\_fitness\\_to\\_work\\_sept\\_2021.pdf \(highwayssafetyhub.com\)](#)
- RtB Safety by Design
  - [b26\\_safety\\_by\\_design\\_oct\\_2021.pdf \(highwayssafetyhub.com\)](#)
- RtB Service Avoidance – October 2021.
  - [b9\\_utility\\_avoidance\\_oct\\_2021.pdf \(highwayssafetyhub.com\)](#)
- RtB IPV Inspection & Testing – October 2021
  - [b38\\_ipv\\_inspection\\_and\\_testing\\_oct\\_2021.pdf \(highwayssafetyhub.com\)](#)
- Common Intent – Vehicle Roadworthiness
  - [common\\_intent\\_-\\_vehicle\\_roadworthiness\\_v1\\_mb.pdf \(highwayssafetyhub.com\)](#)
- Common Intent – Ground Investigation
  - [common\\_intent\\_-\\_ground\\_investigation\\_v1\\_3\\_.pdf \(highwayssafetyhub.com\)](#)

#### Principal Designers Update Nov 2021



Hub Updates – work in progress:

- Health by Design Common Intent
- B1 Plant & Equipment. Consultation on update completed.
- B29 Supervision. Consultation completed.
- B27 Prevention Incursions.
- Bxx Traffic Safety & Control.
- Safe gantry access/egress – designing safe parking locations to inspect and maintain gantries – Amey.
- Digitising Health & Safety – 3D Repo

December Hub Meeting

- Predictive Safety being invited to discuss fatigue management system being used by VolkerFitzpatrick

**5.2 Traffic Man. / Incursions – Temporary and Permanent Design issues - Thoughts  
- Main topic to be moved to Jan 2022**

DA gave a brief update on the latest incursion stats.

**Incursions Report - Headline**

To date, the total number of incursions recorded since October 2017 is **10358**

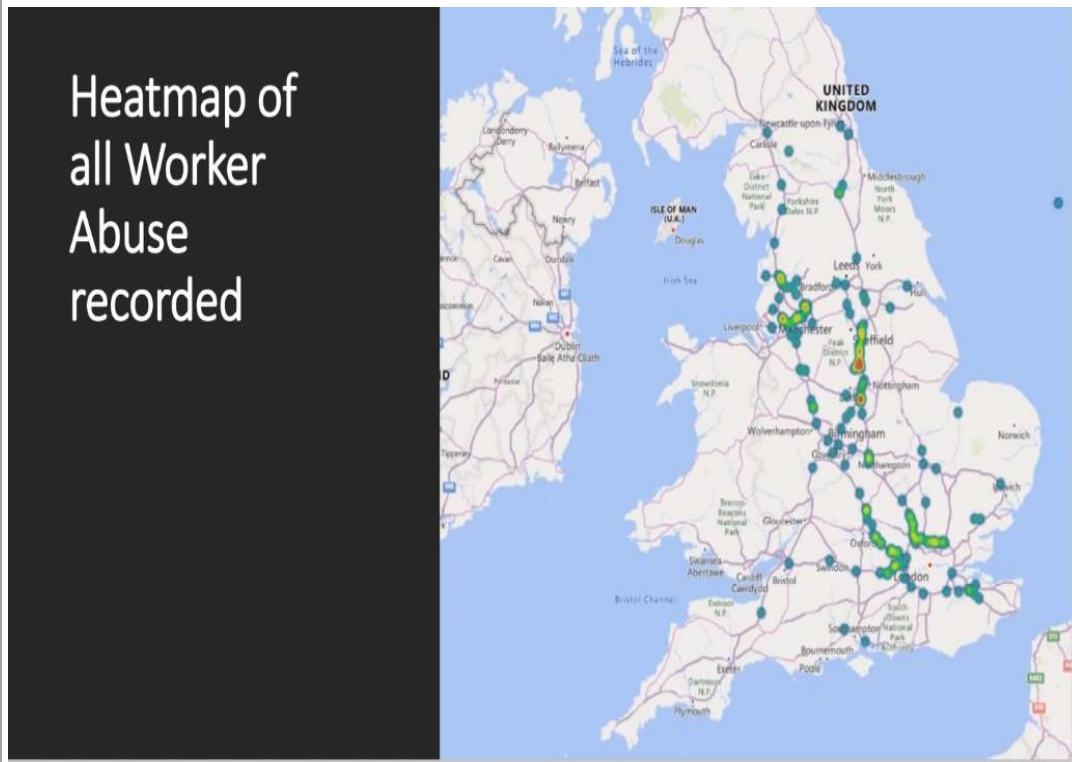
Kind of Event	Directorate					Grand Total
	Major Projects	Operations Directorate	Outstation	DBFO	Other	
Incursion; Intentional - To seek benefit	381	681	327	333	91	1813
Incursion; Intentional – Because of breakdown	3015	141	133	78	81	3448
Incursion; Intentional – To seek information	30	38	25	17	9	119
Incursion; Intentional – Breach of Rolling Road Block (TOS)	1	13	816	3	14	847
Incursion; Unintentional - Driver confused	541	293	221	43	61	1159
Incursion; Unintentional - Follow in	94	64	13	36	4	211
Incursion; Unintentional - Result of accident	194	102	54	18	18	386
IPV Strike	10	17	4	3	5	39
Incursion to seek information or benefit	233	901	156	112	108	1510
Incursion unintentional - confused or follow in	181	314	198	53	80	826
<b>Grand Total</b>	<b>4680</b>	<b>2564</b>	<b>1947</b>	<b>696</b>	<b>471</b>	<b>10358</b>

Table 1: Breakdown of incursions numbers by category and directorate



KH indicated there had been a number of issues in the YNE region with pedestrian incursions. KH asked if designers actually considered desire lines when developing diversion routes. This is not well recorded currently, so it is unclear what the scale of the problem is like. KH is organising a WHS Forum which will be looking at Incursions.

All  
KH



**5.3 Passport Scheme – (Dave Avery on behalf of Claire Brown – Bam Nuttall)**



In line with the SCSLG's [Common Intent document](#) Passport is being adopted in its entirety within the first three months of start of works (construction phase) on any National Highways projects, scheme or contracts.

This quick guide is aimed at Access Controllers and Card Checkers, so you can learn how best to use the Passport System and start benefiting from this common standard approach straightaway by checking workers' Passport smartcards on site.

DA indicated that whilst the uptake in obtaining Passports is good, there are limited numbers currently actually using the Passport to swipe in on entry to site. DA has created a presentation on how to use the Passport as a swipe card (attached). Points to note detailed below.

All



**Points to Note.**

**Passport Steering Group** – HCI issue ref permit to dig states obtain a PtD, reuse your CAT every 200mm this is not in line with RtB9 or HSG47 which states every 300mm.  
 Discussing a Refresh of HCI to integrate change of branding from HE to NH  
 Approved training providers can now update Passport electronically with outcomes passed instantly to Passport record holders. Employer admins would not need to record these themselves or upload certs, which would save considerable amount of time. Companies that have signed up to Passport need to provide Reference point with list of approved training providers. – please pass this information onto [claire.brown@linkconnex.net](mailto:claire.brown@linkconnex.net)

**6.0 (12.25 - 12.30) AOB**

- 6.1** An offer from Keeping Pace with Change Working Group has been received by Andrew Finch to present at a forthcoming meeting. AF will coordinate a 15 min slot if a suitable date can be arranged.
- 6.2** Safety Alert Review presentation has been developed by TG and will be provided within the Minutes pack.
- 6.3** RW thanked all for contributions in the year and wished all well for Christmas.

DP/AF

**7.0 Date of Next Meeting – 27<sup>th</sup> January 2022 – Teams Meeting**