

## Annual Report on Accident Statistics and Analyses for Public Works Contracts 2023

This report summarizes the accident statistics and analysis of the accidents occurred in public works contracts in 2023.

### Accident Statistics (Appendices A to F)

2. Some key accident statistics and their trends are summarized below –

	<b>Key Statistical Data</b>	<b>Remarks</b>
(a)	Accident rate (fatal + non-fatal)	The accident rates for 2022 and 2023 were 0.16 and 0.18 accidents per 100,000 man-hours worked (or equivalent to 5.6 and 6.3 accidents per 1,000 workers per year respectively). An increase of about 13% was observed.
(b)	No. of reportable accidents (fatal + non-fatal)	The total numbers of reportable accidents for 2022 and 2023 were 197 and 233 respectively. An increase of about 18% was observed. The numbers of man-hours worked for 2022 and 2023 were 125,706,003.1 and 132,470,707.3 respectively. An increase of about 5% was observed.
(c)	Fatal accidents	Six fatal reportable accidents occurred in public works contracts in 2023. A total of 20 fatalities in various industrial accidents were recorded in the whole construction industry in 2023.

3. The brief account of six fatal accidents happened under six public works contracts is given below –

<b>Date of Accident</b>	<b>Accident Nature</b>	<b>Brief Description of Accident</b>
14/2/2023	Fall of person from height	A worker fell from height for more than 10 metres onto the ground while assisting in erecting a hoisting frame at the landing of an escalator to be installed.  The incident happened under ArchSD Contract No. SS G511 – Construction of Columbarium at Cape Collinson Road in Chai Wan.

<b>Date of Accident</b>	<b>Accident Nature</b>	<b>Brief Description of Accident</b>
16/5/2023	Trapped in or between objects	<p>A worker was trapped between a broken down power-operated elevating work platform (PEWP) and a forklift truck when he was engaged in the preparation work for towing away the PEWP.</p> <p>The incident happened under HyD Contract No. HY/2018/08 – Central Kowloon Route – Central Tunnel.</p>
4/7/2023	Asphyxiation	<p>Two workers were assigned to carry out touch up hand painting work inside a tank of a desalination plant under construction. The D/P somehow fell from a place near the 2nd landing platform to the bottom of the tank.</p> <p>The incident happened under WSD Contract No. 13/WSD/17 –Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant.</p>
7/8/2023	Fall of person from height	<p>While a worker was using a PEWP to carry out works near the ceiling of a sport centre, the PEWP suddenly overturned and the worker fell out of the PEWP onto the ground.</p> <p>The incident happened under ArchSD Contract No. TC H941 – Term Contract for the Alterations, Additions, Maintenance and Repair of Buildings and Lands and Other Properties for which Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area : Sham Shui Po, Tsuen Wan and Kwai Tsing].</p>
10/10/2023	Fall of person from height	<p>A worker, while carrying out electric cable installation work inside a building under construction, fell from height from the cable tray onto the ground.</p> <p>The incident happened under ArchSD Contract No. SS D510 – Construction of Supporting Operational Facilities of Tsim Sha Tsui Fire Station Complex at To Wah Road, Kowloon.</p>
10/11/2023	Struck by falling object	<p>A worker, while he was walking out of a room on G/F, was hit by a falling architectural fin.</p> <p>The incident happened under ArchSD Contract No. SS J501 – Design and Construction of Hospital Authority Supporting Services Centre in the North Lantau.</p>

4. The accident rates of Works Departments in 2023 are summarized below –

Works Departments	No. of Fatal Accident	Accident Rates (Fatal + Non-fatal)	
		No. of accidents per 100,000 man-hours worked	No. of accidents per 1,000 workers per year
ArchSD	4	0.21	7.4
CEDD	0	0.10	3.7
DSD	0	0.12	4.5
EMSD	0	0.14	5.0
HyD	1	0.31	11.2
WSD	1	0.11	3.8
<b>Overall</b>	<b>6</b>	<b>0.18</b>	<b>6.3</b>

*Note: The limit set by DEVB with effect from 1 February 2011 is 0.60 accidents per 100,000 man-hours worked (or equivalent to 22 accidents per 1,000 workers per year).*

5. The severity rates (in terms of number of man-days lost per 100,000 man-hours worked) for 2022 and 2023 were 41.3 and 46.3 respectively. An increase of 12% was observed.

## Accident Analyses

6. The accident analyses for the following aspects are given in **Appendices G to O** of this Report respectively. Key findings are summarized below.

(a) Types of Contracts (**Appendix G**)

The three types of contracts having the highest accident rates are listed below –

Types of Contracts	Accident rate (No. of accident per 1,000 workers per year)			
	2021	2022	2023	Changes between 2022 & 2023
Tunneling	9.6	5.8	13.0	7.2 (124.1%)
Building	10.7	8.6	7.9	-0.7 (-8.1%)
Roads and Drainage	6.4	4.3	6.5	2.2 (51.2%)

The accident rates under “Tunneling” and “Roads and Drainage” contracts in 2023 increased substantially, as compared with 2022. Works Departments overseeing “Tunneling” and “Roads and Drainage” contracts should step up the supervision to these works contracts in every aspect to prevent further deterioration of safety performance. Project teams, resident site staff and contractors are also appealed to actively attend to and participate in site safety matters of these contracts.

(b) Types of Accidents (Appendix H)

The five most common types of accidents are listed below –

Types of Accidents	No. of Accidents (% of total no. of accidents)			
	2021	2022	2023	Changes between 2022 & 2023
Slip, Trip or Fall On Same Level	37 (17.7%)	54 (27.4%)	60 (25.8%)	6 (11.1%)
Injured Whilst Lifting or Carrying/ Manual Lifting/ Manual Handling/ Handling Without Machinery	36 (17.2%)	25 (12.7%)	33 (14.2%)	8 (32.0%)
Fall of Person From Height	25 (12.0%)	20 (10.2%)	28 (12.0%)	8 (40.0%)
Struck By Moving or Falling Object	22 (10.5%)	32 (16.2%)	27 (11.6%)	-5 (-15.6%)
Striking Against Fixed or Stationary Object	25 (12.0%)	11 (5.6%)	19 (8.2%)	8 (72.7%)

The above five types of accidents account for more than 70% of the total number of accidents in 2023. In addition, it is observed that accidents related to “Injured Whilst Lifting or Carrying/ Manual Lifting/ Manual Handling/ Handling Without Machinery”, “Fall of Person From Height” and “Striking Against Fixed or Stationary Object” had been increased more than 30%. Works Departments are requested to devise effective and targeted measures to further reduce the number of accidents, in particular for the above five types of accidents.

(c) Trades of Workers (Appendix I)

The five most common trades involved in the accidents are listed below –

Trades of Workers	No. of Accidents (% of total no. of accidents)			
	2021	2022	2023	Changes between 2022 & 2023
Labourer	98 (46.9%)	88 (44.7%)	98 (42.1%)	10 (11.4%)
Carpenter (formworker)	13 (6.2%)	9 (4.6%)	27 (11.6%)	18 (200.0%)
Building Services/ E&M Worker	10 (4.8%)	12 (6.1%)	18 (7.7%)	6 (50.0%)
Rigger / Metal Formwork Erector	5 (2.4%)	6 (3.0%)	14 (6.0%)	8 (133.3%)
Bar Bender and Fixer	12 (5.7%)	11 (5.6%)	8 (3.4%)	-3 (-27.3%)

“Labourer” remained the top-ranked trade commonly involved in the accidents since 2018. In addition, accidents involving “Carpenter” and “Rigger / Metal Formwork Erector” had drastically increased. More safety briefings or toolbox talks should be provided to workers, in particular the aforementioned trades of workers, for enhancing their safety awareness. As noted in Appendix I, some of the accidents involved management or supervisory staff. Management staff and supervisory staff should be arranged to timely attend the prescribed safety training and the respective refresher courses to enhance their safety knowledge and awareness.

(d) Natures of Injury (Appendix J)

The five most common natures of injury are listed below –

<b>Natures of Injury</b>	<b>No. of Accidents (% of total no. of accidents)</b>			
	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Changes between 2022 &amp; 2023</b>
Fracture	71 (28.5%)	75 (31.4%)	73 (27.1%)	-2 (-2.7%)
Contusion & Bruise	58 (23.3%)	71 (29.7%)	62 (23.0%)	-9 (-12.7%)
Sprain/ Strain/ Twist	34 (13.7%)	23 (9.6%)	34 (12.6%)	11 (47.8%)
Laceration and Cut	30 (12.0%)	28 (11.7%)	32 (11.9%)	4 (14.3%)
Crushing	10 (4.0%)	6 (2.5%)	16 (5.9%)	10 (166.7%)

“Fracture”, “Contusion & Bruise”, “Sprain/ Strain/ Twist”, “Laceration and Cut” and “Crushing” were the most five common natures of injury in the past years, accounting for about 80% of the total number of accidents. Work procedures and system of work should be formulated and safe working environment, suitable tools and machinery should be provided for carrying out the works, taking cognizance of the above findings.

(e) Parts of Body Injured (Appendix K)

The three most common body parts injured in the accidents are listed below –

Parts of Body Injured	No. of Accidents (% of total no. of accidents)			
	2021	2022	2023	Changes between 2022 & 2023
Finger	51 (20.6%)	40 (16.9%)	62 (23.0%)	22 (55.0%)
Back	30 (12.1%)	30 (12.7%)	30 (11.2%)	0 (0.0%)
Chest	10 (4.0%)	7 (3.0%)	16 (5.9%)	9 (128.6%)

“Finger” and “Back” remained the most two common part of body injured for the accidents in the past five years. Proper personal protective equipment and sufficient training and instruction should be provided to workers to ensure their safety at work.

(f) Agents Involved (Appendix L)

The four most common agents involved in the accidents are listed below –

<b>Agents Involved</b>	<b>No. of Accidents (% of total no. of accidents)</b>			
	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Changes between 2022 &amp; 2023</b>
Floor, Ground, Stairs or Any Working Surface	33 (15.1%)	44 (21.7%)	45 (17.9%)	1 (2.3%)
Material / Product Being Handled or Stored	49 (22.4%)	34 (16.7%)	38 (15.1%)	4 (11.8%)
Steel Bar / Rod	6 (2.7%)	4 (2.0%)	18 (7.2%)	14 (350.0%)
Portable Power or Hand Tools	16 (7.3%)	15 (7.4%)	16 (6.4%)	1 (6.7%)

“Floor, Ground, Stairs or Any Working Surface” and “Material / Product Being Handled or Stored” were the two most common types of agents involved in the accidents in the past five years. In addition, there was a substantial increase in accidents involving “Steel Bar / Rod”. Extra efforts should be spent on improving these areas.

(g) Unsafe Actions (Appendix M)

The three most common unsafe actions leading to accidents are listed below –

Unsafe Actions	No. of Accidents (% of total no. of accidents)			
	2021	2022	2023	Changes between 2022 & 2023
Lapse of Attention	60 (25.4%)	67 (30.6%)	82 (30.4%)	15 (22.4%)
Adopting Unsafe Position or Posture	35 (14.8%)	32 (14.6%)	43 (15.9%)	11 (34.4%)
Use Unsuitable Access / Failure To Use Access	12 (5.1%)	9 (4.1%)	13 (4.8%)	4 (44.4%)

“Lapse of Attention” and “Adopting Unsafe Position or Posture” were the two most common type of unsafe actions in the past five years. Contractors are requested to provide sufficient information and instructions to workers so that they would stay vigilant in the work place.

(h) Unsafe Conditions (Appendix N)

The three most common unsafe conditions involved in the accidents are listed below –

Unsafe Conditions	No. of Accidents (% of total no. of accidents)			
	2021	2022	2023	Changes between 2022 & 2023
Unsafe Process or Job Methods	29 (12.9%)	23 (10.3%)	34 (12.8%)	11 (47.8%)
Improper Procedure	27 (12.1%)	27 (12.1%)	32 (12.1%)	5 (18.5%)
Slippery Area	13 (5.8%)	14 (6.3%)	20 (7.5%)	6 (42.9%)

The above three types of unsafe conditions accounted for about 30% of the total number of accidents, which showed that the unsafe conditions involved in accidents varied substantially. Works Departments should closely monitor contractors' performance and take prompt actions to rectify any unsafe actions or conditions observed on site. Routine safety inspections by the project teams or site supervisory staff and surprise audits by the Departmental Safety and Environmental Advisory Units or independent teams would be the possible actions to identify the malpractice and deficiencies in the working environment and safety management system.

(i) Personal Factors (Appendix O)

The distributions of accidents arising from personal factors are given below –

<b>Personal Factors</b>	<b>No. of Accidents (% of total no. of accidents)</b>			
	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Changes between 2022 &amp; 2023</b>
Carelessness / Not Concentrate	118 (51.5%)	130 (58.6%)	142 (51.4%)	12 (9.2%)
Incorrect Attitude / Motive	23 (10.0%)	24 (10.8%)	32 (11.6%)	8 (33.3%)
Lack Of Knowledge or Skill	22 (9.6%)	21 (9.5%)	30 (10.9%)	9 (42.9%)

The number of accidents associated with “Carelessness / Not Concentrate” was the highest in the past five years. More than half of the total number of accidents were arising from this personal factor. Contractors should strengthen the workers’ safety awareness and attitude through training including briefings and toolbox talks.

7. To maintain the continuous improvement in site safety, Works Departments are recommended to pay particular attention to the following aspects –

- (i) promoting workers’ safety awareness in lifting or carrying, against fall from height, to prevent struck by falling or moving objects, and to prevent slip, trip and fall on same level;
- (ii) improving site cleanliness and tidiness;
- (iii) providing sufficient instruction, training and supervision to workers to ensure their safety at work in particular for working at height, lifting and confined spaces work;
- (iv) providing suitable fall arresting equipment e.g. safety harness, fall arrester and independent lifeline connected to a secured anchorage to workers who are at risk of falling from height;
- (v) maintaining an effective monitoring system to ensure workers and supervisory staff (both RSS and in-house staff) make full and proper use of personal protective equipment and safety equipment;
- (vi) enforcing the requirement to conduct risk assessment, and/or permit-to-work system, for all high-risk activities before commencement of the work;
- (vii) maintaining a safe system of work including proper site layout and work plan to segregate workers from construction plant and vehicles;

- (viii) tightening up the control on the use of ladders for work purpose (including straight ladders, step ladders, A-ladders, folding ladders or other ladders alike) on public works construction sites. Ladders should normally be restricted for ascending and descending purposes only;
- (ix) providing adequate safety training, briefings or toolbox talks to workers, especially sharing the lessons learnt in the serious incidents, for preventing recurrence and raising their safety awareness and working attitude;
- (x) arranging management staff and site supervisory staff of the project teams, resident site staff and contractors to timely attend the prescribed safety training and the respective refresher courses as appropriate to enhance their safety knowledge and awareness;
- (xi) providing adequate supervision, surprise check and daily review to the construction activities, especially the high-risk construction activities, to ensure the works are carried out in accordance with the approved method statement and statutory requirements;
- (xii) providing sufficient information and instruction to workers and paying particular attention to the workers' misbehaviours during safety inspection and supervision on site. Any unsafe actions or posture observed on site should be stopped immediately; and
- (xiii) checking of completeness of Independent Checking Engineer's design certificates and as-built certificates for the detailed design and method statements of temporary works before loading, and statutory form(s) for temporary works/scaffolding/working platform.

8. Apart from the analyses given in this report, Works Departments are recommended to carry out further detailed analyses of the accidents under their purview with a view to developing targeted safety measures and programme for further improvement.

**Works Branch**  
**Development Bureau**  
**June 2024**

**Attachments:**

<u>Appendix</u>	<u>Title</u>
A	Accident Rates for Public Works Contracts and the Construction Industry from 2014 to 2023
B	Chart of Yearly Accident Rates for Public Works Contracts and the Construction Industry from 2014 to 2023
C	Chart of Monthly Average Accident Rates for Public Works Contracts from January 2014 to December 2023
D	Number of Accidents for Public Works Contracts with Breakdown by Works Departments from 2014 to 2023
E	Accident Rates for Public Works Contracts with Breakdown by Works Departments from 2014 to 2023
F	Severity for Public Works Contracts with Breakdown by Works Departments from 2019 to 2023
G	Accident Rates for Public Works Contracts from 2014 to 2023 Analyzed by Types of Contracts
H	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Types of Accident
I	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Trades of Workers
J	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Natures of Injury
K	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Parts of Body Injured in Accidents
L	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Agents Involved in Accidents
M	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Unsafe Actions Involved in Accidents
N	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Unsafe Conditions Involved in Accidents
O	No. of Accidents for Public Works Contracts from 2019 to 2023 Analyzed by Personal Factors Involved in Accidents