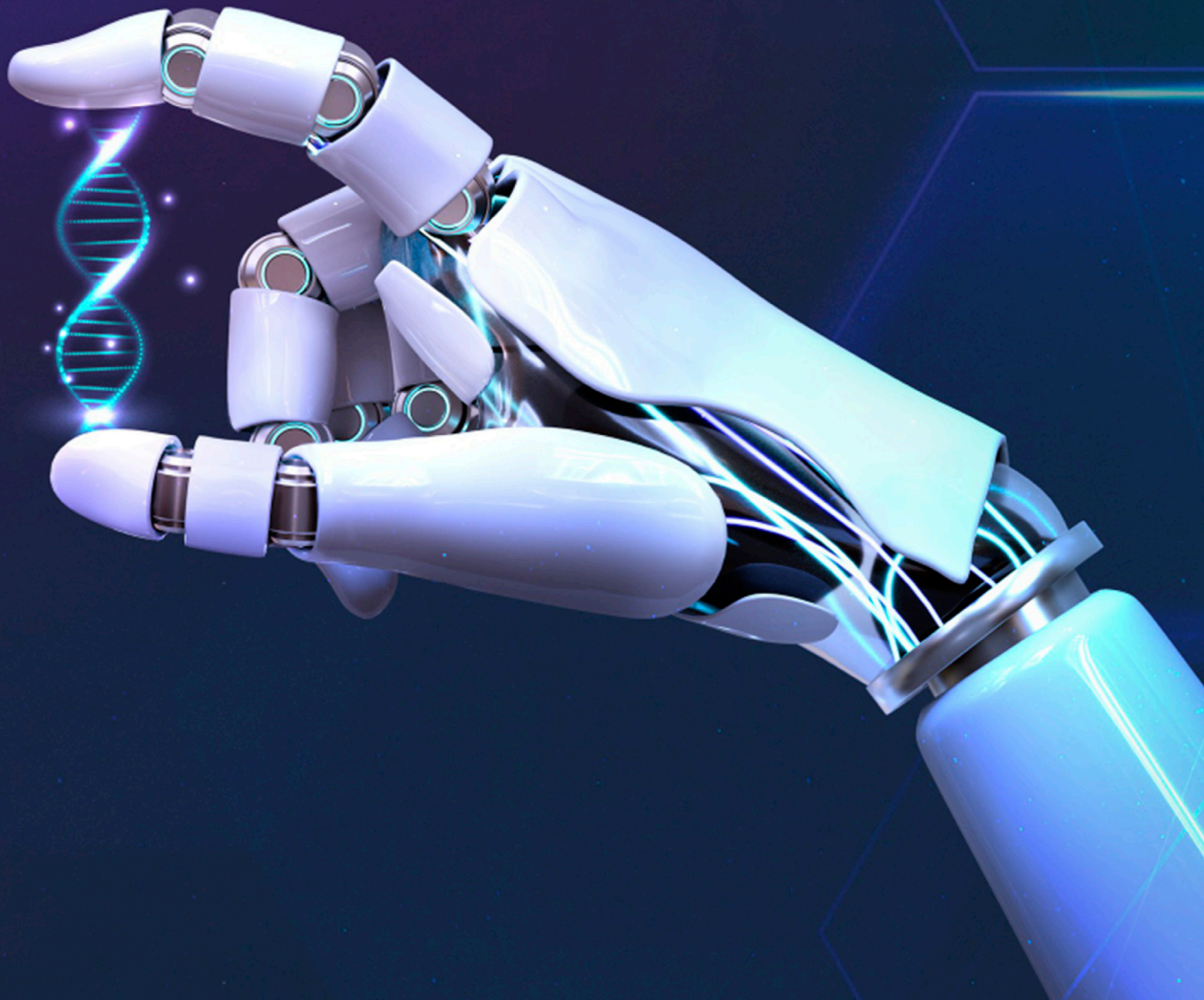




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Keselamatan & Kesehatan Pekerjaan (KKP) Dalam Industri Nanoteknologi

**OSH for Construction Industry (Management): OSHCIM
“Conceptual and implementation”**

Keselamatan Eskalator



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Sila imbas kod QR ini untuk memberi maklum balas pada NIOSH penerbitan

Nota Pengarah Eksekutif

Assalamualaikum W. B. T.

Bismillahirrahmanirrahim.

Perkembangan pesat nanoteknologi turut memberi cabaran baru dari sudut keselamatan dan kesihatan pekerjaan (KKP) dan semua pihak perlu memainkan peranan bagi memastikan mereka yang terlibat diberikan kesedaran dan latihan yang mencukupi agar tidak terdedah dengan risiko berkaitan bahan nano. Semua majikan dan pekerja disarankan untuk membuat penilaian risiko menggunakan kaedah **Pengenalpastian Hazard, Penaksiran Risiko dan Kawalan Risiko** atau dalam Bahasa Inggerisnya **Hazard Identification, Risk Assessment and Risk Control (HIRARC)**.

Nanoteknologi digunakan dengan meluas dalam bidang perubatan, nanoteknologi turut memberikan impak yang besar dalam sektor pertanian, elektronik, tenaga, kosmetik sehinggalah kepada keselamatan makanan.

Bagi membantu pihak berkepentingan menghadapi cabaran KKP berkaitan nanoteknologi, NIOSH menyediakan latihan dan khidmat rundingan HIRARC bagi memberi pemahaman, maklumat serta syor agar majikan mampu melakukan penilaian risiko dan langkah kawalan terhadap kesan dan bahaya penggunaan nanoteknologi ini.

Di Malaysia, Jabatan Keselamatan dan Kesihatan Pekerjaan, yang merupakan agensi penguatkuasa di bawah Kementerian Sumber Manusia, telah menyediakan garis Panduan Kawalan dan Pengendalian Selamat Bahan Nano pada tahun 2018 sebagai panduan dan rujukan pihak berkaitan. NIOSH turut melihat keperluan untuk lebih banyak kajian penilaian risiko dilakukan bagi memastikan penggunaan teknologi ini tidak membawa kemudaratan kepada pengguna.

Bagi edisi bulan Februari, buletin FYI turut memberi fokus terhadap perkembangan nanoteknologi di Malaysia dan aspek berkaitan KKP yang melibatkan bahan-bahan dan teknologi nano. Semoga perkongsian ini dapat memberikan manfaat serta maklumat berguna kepada pembaca di dalam usaha melindungi pekerja daripada risiko dan bahaya pendedahan penggunaan bahan-bahan dan teknologi nano ini. ■

Haji Ayop Salleh
Pengarah Eksekutif
NIOSH

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Keselamatan & Kesihatan Pekerja (KKP) Dalam Industri Nanoteknologi

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Industri berkaitan nanoteknologi bukanlah suatu yang asing di negara ini. Walaupun sektor nanoteknologi di Malaysia masih diperingkat yang baru, ianya berkembang pesat seiring dengan perkembangan teknologi moden hari ini. Nanoteknologi merupakan satu fenomena baru atau penemuan baru yang berlaku dalam skala nano (1-100 nanometer); menghasilkan produk dengan sifat baru yang berbeza dan lebih berkesan daripada bahan yang sama, dalam keadaan pukal yang lebih besar atau atom yang lebih kecil.

Nanoteknologi memberikan banyak penggunaan dan manfaat kepada manusia melalui perubatan, komunikasi, pertanian, pembuatan dan semua aspek kehidupan masyarakat moden. Pangkalan Data Produk Nanoteknologi oleh StatNano merekodkan pendaftaran 10,485 produk berkaitan nanoteknologi yang melibatkan 3458 syarikat di 65 buah negara. Data daripada Global Inc. pada tahun 2020, pasaran Asia Pasifik bagi industri nanoteknologi diunjurkan sebanyak USD\$2.671 trilion pada tahun 2025. Manakala di Malaysia, industri nanoteknologi dijangka akan memberikan sebanyak 33,391 peluang pekerjaan untuk pelbagai peringkat dan dijangka menyumbang sebanyak RM151.5 bilion kepada Keluaran Dalam Negara Kasar (KDNK) dalam tempoh lima tahun seperti mana yang dirangka di dalam Pelan Hala Tuju Teknologi dan Produk Nano Negara 2021-2025 oleh Kementerian Sains, Teknologi dan Inovasi (MOSTI).

Walaupun industri nanoteknologi membawa pelbagai manfaat dalam kehidupan moden manusia hari ini, tidak dinafikan terdapat kebimbangan berkaitan potensi kesan kesihatan amnya kepada golongan pekerja yang terdedah kepada bahan-bahan nano tersebut semasa proses pembuatan, penyelidikan dan sebagainya. Kebimbangan ini didorong kerana terdapat jurang pengetahuan khususnya aspek keselamatan yang mendalam disebabkan terdapat perbezaan unik sifat fizikal-kimia sesuatu bahan tersebut pada skala nano berbanding kewujudannya dalam skala kebiasaannya. Terdapat kajian yang menyatakan bahawa pendedahan terhadap partikel pada saiz nano berpotensi memudaratkan kesihatan antaranya seperti penurunan fungsi dan keradangan paru-paru, difungsi vascular,

pernafasan akut yang teruk serta masalah kardiovaskular. Kajian yang lain juga ada merekodkan bahawa terdapat pekerja yang mengalami masalah kesihatan Bronchiolitis Obliterans Organizing Pneumonia (BOOP) selepas terdedah kepada produk yang mengandungi partikel nano. Manakala, satu artikel jurnal yang diterbitkan pada tahun 2009 telah menyatakan bahawa terdapat tujuh (7) orang pekerja perempuan berumur antara 18-47 tahun dari sebuah kilang percetakan di China telah dimasukkan ke hospital setelah mengalami masalah kesihatan seperti sesak nafas dan pleural efusi (pengaliran cairan pleural). Siasatan lanjut terhadap pekerja-pekerja yang terlibat telah mendapati mereka terdedah kepada partikel bersaiz nano di tempat kerja dan partikel bersaiz tersebut telah ditemui juga telah didalam organ pernafasan mereka.

Kendatipun terdapat kebimbangan global terhadap potensi kesan kesihatan yang memudaratkan akibat pendedahan terhadap bahan nano, tidak terdapat mana-mana negara pada masa kini yang mempunyai undang-undang khusus berkaitan penggunaan atau pengendalian selamat bahan nano di tempat kerja. Kebanyakan negara termasuk Malaysia mengambil pendekatan dengan mengawal selia keselamatan penggunaan bahan nano melalui perundangan yang sedia ada. Selain itu, terdapat juga inisiatif berkaitan keselamatan penggunaan bahan nano diperingkat antarabangsa seperti penubuhan Working Party on Manufactured Nanomaterials (WPMN) oleh Pertubuhan Kerjasama dan Pembangunan Ekonomi (OECD). Fokus kumpulan ini tertumpu pada pembinaan pangkalan data OECD, garis panduan pengujian dan ujian keselamatan, program pengawalseliaan strategik, penilaian risiko dan toksikologi bahan nano serta pengukuran pendedahan pada bahan nano yang dihasilkan.

Walaupun tiada perundangan khusus berkaitan keselamatan dan kesihatan pekerja berkaitan penggunaan bahan nano di Malaysia, pihak berwajib seperti Jabatan Keselamatan dan Kesihatan Pekerjaan (JKKP) di bawah Kementerian Sumber Manusia telah menerbitkan Garis Panduan Kawalan dan Pengendalian Selamat Bahan Nano pada tahun 2018 sebagai rujukan industri-industri yang berkaitan nanoteknologi. Garis panduan

ini menyediakan maklumat yang berkaitan dan syor untuk pekerja dan majikan mengenai pemahaman terhadap potensi bahaya yang berkaitan dengan nanoteknologi, aspek keselamatan dan kesihatan pekerja, penilaian risiko bahan nano dan langkah untuk mengawal pendedahan bahan nano di tempat kerja.

Secara umumnya, bagi mengawal pendedahan bahan nano di tempat kerja, majikan di industri nanoteknologi disyorkan terlebih dahulu untuk menilai risiko sedia ada dengan menggunakan kaedah penilaian risiko. Garis panduan sedia ada mengkategorikan risiko pendedahan bahan nano kepada empat (4) tahap yang mempunyai pendekatan langkah-langkah kawalan yang berbeza. Contohnya, jika risiko pendedahan pada tahap satu (1), penggunaan kaedah pengudaraan umum dan peralatan perlindungan diri yang sesuai disyorkan. Jika risiko dinilai pada tahap empat (4) iaitu tahap yang tertinggi, pihak majikan perlu mendapatkan pandangan pakar bagi merangka langkah kawalan yang bersesuaian. Selain langkah-langkah kawalan yang dinyatakan di dalam garis panduan, pendekatan prinsip langkah-langkah kawalan yang umum seperti penghapusan, penggantian, pengasingan, kawalan pentadbiran, latihan, kawalan tumpahan dan tanda amaran boleh dipraktikkan bagi mengurangkan risiko pendedahan terhadap bahan nano di tempat kerja. Penggunaan peralatan perlindungan diri juga disyorkan namun ianya perlu mengikut kesesuaian dan sebaiknya telah melepasi piawaian antarabangsa.

Penggunaan bahan nano sememangnya telah diakui mempunyai pelbagai manfaat dalam kehidupan manusia moden. Namun begitu, aspek KKP khususnya kepada golongan pekerja yang terdedah harus diambil berat dan ditangani dengan efektif oleh semua pihak yang terlibat. ■

OSH for Construction Industry (Management): OSHCIM

“Conceptual and implementation”

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1. Introduction

The contractor often has limited options hierarchically to control construction risks. It is also noteworthy that the construction phase is not the most ideal phase of the project for the prevention of occupational safety and health (OSH) risks from occurring during the construction project. The OSH risks of the construction project can be more sustainably avoided, reduced, or controlled in the planning and design phases (pre-construction phase) of a project. The Guidelines on OSHCIM look beyond the current OSH risk management strategy and concentrates on managing the OSH risks during the pre-construction phase.



Figure 1. Some of the terms used that refer to prevention through design.

OSHCIM is based on Prevention through Design (PtD). The term has been popularly known and used in the US and in literature. In construction, the term is also known as Design for Safety (DfS) in Singapore and Construction Design and Management (CDM) in the UK. Equivalent to this term is the Safe Design (in Australia) and many other terms as in Figure 1. This is an emerging trend in construction safety whereby project owners and design professionals are required to take into account the safety of construction and maintenance workers during the design phase of the project.

2. OSH Legislations for Construction Industry

The Occupational Safety and Health Acts (OSHA) places a duty to ensure the protection of construction workers and members of the public from OSH risks

to the employer, self-employed person, and principal who undertake or control work activities in the construction site. The supplier of plants for use at the construction site (for example crane, falsework, or scaffold) is required to ensure plants are supplied with adequate information so that they are being used in a safe manner. The installer of the plant must ensure that it can be used safely.

The Factories and Machinery (Building Operations and Works of Engineering Construction) (Safety) (BOWECS) Regulations prescribe specific obligations for the contractor to address construction hazards and specify control measures for several hazardous works. The BOWECS Regulations also outline specific duties to the Professional Engineer, as a designer, who designs temporary works related to formwork-falsework, structural steel and precast concrete assembly, catch platform, chute, runways and ramps, scaffold, excavation, and piling.

3. Managing OSH risk during phases of a project



Figure 2. Main OSH legislations for construction industry.

During the construction phase, the contractor usually has limited options to control hazards. As indicated in Figure 3, the opportunity to avoid and reduce risks diminishes abruptly as the project progresses from the design phase (conceptual and detail) to the construction phase. It also denotes that the ability to influence the OSH risks in construction is greatest at the planning and design stages of the project lifecycle. Unless the contractor is also involved during the design phase, as in the design and build contractual arrangement, the contractor's option to manage risks is often limited to the provision of protection to his employees.

Managing OSH risk in a construction project should not only start at the onset of the construction phase (when the contractor has control) but must commence at the pre-construction phase (when the client and designer assume control). A paradigm shift is needed to move the safety consideration in a project from an afterthought to a forethought in the design of

- work methods and organization of work;
- tools and equipment;
- processes;
- products; and
- work premises and facilities.

During the years 2000-2002, 22% of injuries in Oregon, Washington and California were linked to design. Across

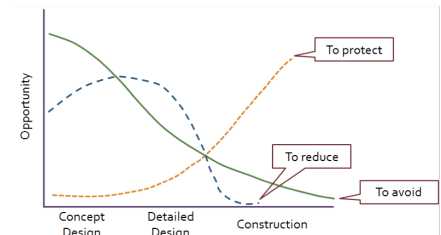


Figure 3. Opportunity to manage risks at different project phase.

the US, 42% of construction fatalities were related to design issues between the years 1990 and 2003. A 1991 study done in Europe found that 60% of fatalities were the result of decisions made before the site work even began. In Australia, it was reported that “of the 210 identified workplace fatalities, 37% definitely or probably had design-related issues involved.” In another report, it was mentioned that 63% of all fatalities and injuries could be attributed to design decisions or lack of planning. See Figure 4.

4. OSHCIM principles and process

The OSH risks in the construction project

Across US, 42% of construction fatalities were related to design issues between the years 1990 and 2003¹

A 1991 study done in Europe found that 60% of fatalities were the result of decisions made before the site work even began²

63% of all fatalities and injuries could be attributed to design decisions of lack of planning³

¹ Behm, M., Linking construction fatalities to the design for construction concept (2005)

² European Foundation for the Improvement of Living and Working Conditions (1991)

³ NSW WorkCover, CHAIR Safety in Design Tool, 2001

Figure 4. Significance of design process to OSH risk prevention.

are most sustainably avoided, reduced or controlled in the design or pre-construction phases of a project. OSHCIM is an effort to design out construction and maintenance hazards for workers as early as in the design phase of a project. Based on the interpretation of PtD, OSHCIM can be defined as the integration of hazard analysis and risk assessment methods early in the design and engineering stages and taking necessary actions so that risks of injury or damage are at an acceptable level.

The scope of application of OSHCIM principles and process is targeted

5. Construction (Design and Management) in the UK

In the UK, the Construction Management or CDM Regulations were first introduced to the construction industry in 1994. The framework of the regulations was based on the Temporary or Mobile Construction Sites Directive issued by the European Council in 1992. The regulations have been revised twice, namely in 2007 and 2015. The CDM Regulations are explicitly drafted to influence the processes of planning and design to avoid or mitigate the hazards and commensurate risks during the construction phase.



Figure 5. Summary of OSHCIM principles and process.

to the design professionals who can have a significant impact in managing construction risks, effectively and economically. As pointed out in the definition, the key factor to ensure the successful implementation of OSHCIM in the construction industry is adequate knowledge of the designers on hazard analysis and risk assessment methods. The OSHCIM principles have been successfully adopted in many countries, mainly in Europe, by incorporating the principle in national's acts, regulations, code of practice or standards.

The implementation of the Regulations is guided by an Approved Code of Practice (ACOP) with the first edition was published after the regulations were revised in 2007. The new revision was published as a guidance in 2015 to incorporate changes that were made to the current CDM Regulations. In the UK, the Construction (Design and Management) (CDM) Regulations were first introduced to the construction industry in 1994.

6. Prevention through Design (PtD) in the US

In the US, the National Safety Council (NSC) had conducted many researches and promotions on OSHCIM principles since the early 1990s, which eventually led to the establishment of the Institute for Safety through Design. The collaboration between the National Institute for Occupational Safety and Health (NIOSH) and the American Society of Safety Engineers (ASSE) led to the development of a technical report on PtD in 2009, which later was superseded by the American National Standard ANSI/ASSE Z590.3-2011 Prevention through Design: Guidelines for Addressing Occupational Hazards and Risks in Design and Redesign Processes.

Publication of this standard underlines the nationwide interest in PtD. The Z590.3 standard defines PtD as addressing occupational safety and health needs in the design and redesign process to prevent or minimize the work-related hazards and risks, associated with the construction, manufacture, use, maintenance, retrofitting, and disposal of facilities, processes, materials and equipment.

The PtD requirement in the standard is voluntary but can become mandatory if the standard is approved as a code by the state authority. Nonetheless, many seminars, workshops, symposia and presentations were organised to promote PtD in the construction industry. Various tools and methodologies have been developed and proposed by the academia, practicing engineers and safety professionals in the construction industry to achieve buy-in from the industry as a whole.

The implementation of the PtD in the planning and design processes in the US construction industry can be regarded as a long-term and continuous effort. Currently, NIOSH US carries out extensive OSHCIM-related activities and initiatives in areas such as research, education, practice and policy, in partnership with various agencies, associations and organisations.

7. Design for Safety (Dfs) in Singapore

In Singapore, the Guidelines on Design for Safety in Buildings and Structures were first issued in 2008 and later revised in 2011. Through these guidelines, the Dfs was voluntary at the beginning and eventually was made mandatory by the enactment of the Workplace Safety and Health (Design for Safety) (Dfs) Regulations in 2015.

Similar to the CDM Regulations in the UK, the Dfs Regulations give the duty to the client and designer in the planning and design stages of a construction project. The role of a Dfs Professional (similar to CDM Coordinator in the UK, but was later removed in CDM Regulations 2015 and replaced with Principal Designer) is

introduced to help clients comply with the law. The Workplace Safety and Health Council then published the Workplace Safety and Health Guidelines - Design for Safety in 2016 to replace the previous guidelines and provide supporting guidance to the DfS regulations.

8. Safe Design in Australia

In Australia, the duty of the designer in the Model Work Health and Safety Bill (equivalent to Section 20 of OSHA 1994) has been amended to include the duty of a person who designs structures (in addition to plant and substance). The implementation of the safe design would become mandatory if the state government approves the Bill.

For example, the Victorian Government has incorporated the safe design in its Occupational Health and Safety Act (Part 3, Section 28) in 2006, that makes it incumbent to the construction industry to comply. The practical application of the safe design is described in the Safe Design of Structures – Code of Practice, published in 2012 by the Commonwealth, The WorkSafe Victoria has developed a Guide—Designing Safer Buildings and Structures to assist designers to develop and organize their design and decision

processes and to make sure that the design enables any work to be carried out once it is completed, is safe and without risk to health.

9. Benefits of OSHCIM implementation

Although the methods of implementation differ, significant effects of the OSHCIM principle on the OSH performance of construction in these countries have been observed and reported. Among the benefits of applying the OSHCIM principles are:

- a. improved productivity;
- b. decreased operating costs;
- c. significant risk reduction; and
- d. avoiding expensive retrofitting/ remedial works.

10. OSHCIM in Malaysia

In Malaysia, the OSHCIM principle is ingrained in the Guidelines of Occupational Safety and Health in the Construction Industry (Management). The guidelines were developed based on the recommendations from many countries described in this article. The guidelines have been published and launched

in February 2017. At the moment, the OSHCIM principles are voluntary in order to provide ample opportunity for the project owner and design professionals in the construction industry to prime themselves with the new requirements and at the same time acquire knowledge in hazards analysis and design risk assessment methods.

DOSH is planning to introduce a new set of regulations for the construction industry in tandem with the enforcement of OSHA (Amendment) 2022 and FMA (Repeal) 2022. The new regulations based on OSHCIM will replace the BOWECS regulations. These regulations cover three main phases of a construction project and give duties to everyone involved in the construction project. (See Figure 6.)

Through the Construction Safety Division, DOSH is conducting workshops and seminars on OSHCIM principles to ensure the construction industry is ready and informed of the changes. It is prime time for the industry to embrace the OSHCIM principle and work together to transform the austere OSH performance of the industry. ■

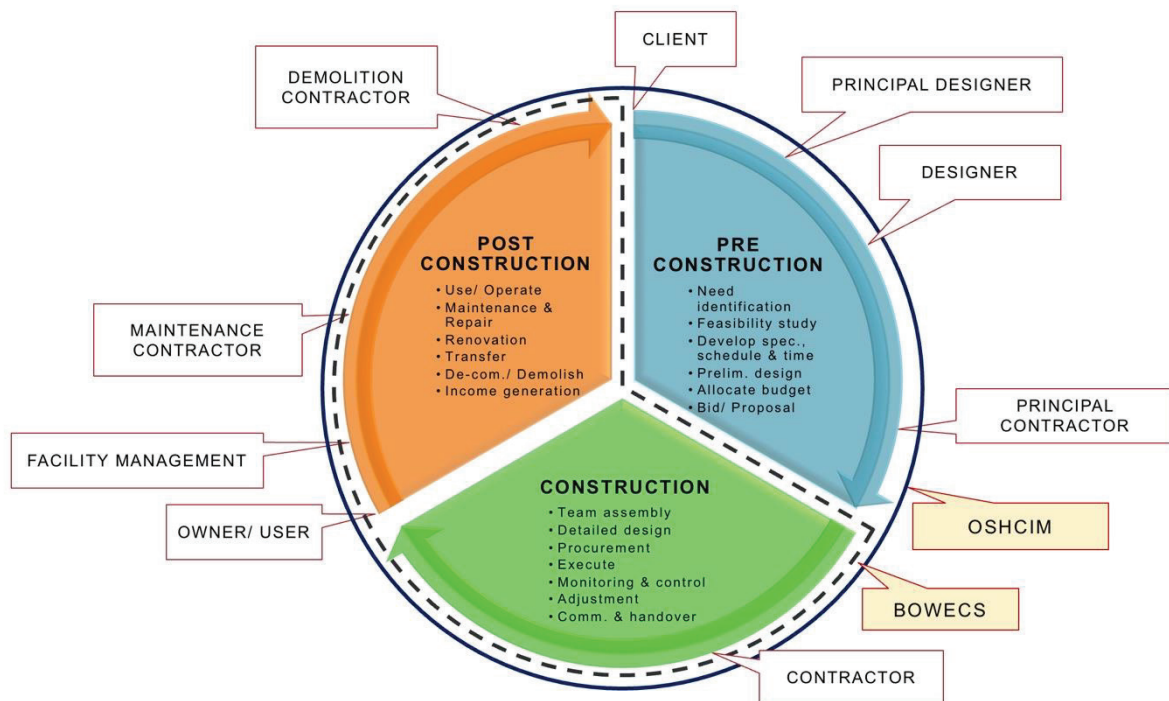
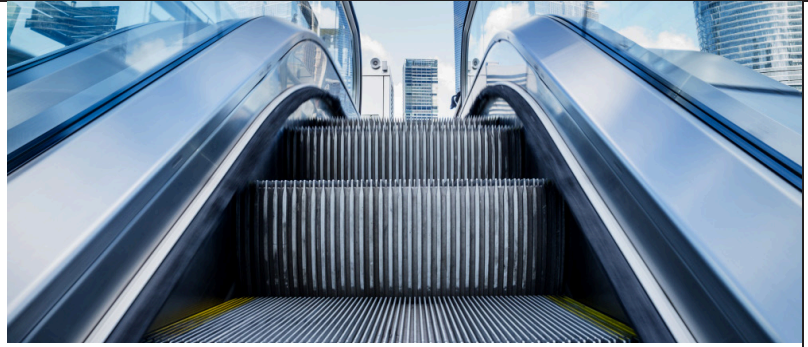


Figure 6. The new regulations will replace BOWECS regulations and cover the full life cycle of construction industry.

Keselamatan Eskalator

Consultation, Research & Development Department (CRDD)
National Institute of Occupational Safety & Health (NIOSH)



Keselamatan Eskalator

Eskalator adalah sejenis kemudahan mengangkut penumpang dari satu tingkat ke satu tingkat lain di dalam sesebuah bangunan bertingkat seperti kompleks membeli-belah, pasar raya, hospital, lapangan terbang dan lain-lain.

Walaupun bagaimanapun, penggunaan eskalator berhadapan dengan pelbagai risiko jika ia tidak digunakan dengan selamat dan tidak diselenggara mengikut saranan pembekal. Insiden berkaitan tangga bergerak ini kerap dilaporkan di media, namun seringkali dipandang ringan oleh masyarakat kita. Jika diimbangi beberapa kejadian yang pernah berlaku, ia bukan sahaja melibatkan orang dewasa malah membabitkan kanak-kanak kecil. Antara kes atau risiko kemalangan yang pernah berlaku adalah seperti :

- Jari tersepit di ruang masuk susur tangan eskalator,
- kasut/pakaian tersangkut di bahagian bergerak eskalator,
- Jatuh dari tepi eskalator dan
- Lantai/tangga eskalator runtuh.

Hazard Pada Eskalator

Hazard bermakna sesuatu punca atau sesuatu keadaan yang berpotensi mendatangkan kecederaan atau kerosakan harta benda. Sebagai sebuah mesin yang bergerak, eskalator mempunyai pelbagai hazard yang boleh mendatangkan kesan-kesan yang buruk kepada pengguna jika tidak digunakan secara selamat. Jadual 1 di bawah menunjukkan antara contoh-contoh

hazard dan kesan yang biasa terdapat pada eskalator.

Tanggungjawab, Peranan dan Langkah-langkah Keselamatan

Majikan/Pemilik Bangunan

Berdasarkan perspektif perundangan, tanggungjawab terhadap keselamatan eskalator di sesuatu lokasi terletak pada majikan/pemilik bangunan, seperti yang dijelaskan dalam Akta Keselamatan dan Kesihatan Pekerjaan (OSHA) 1994. Menjadi tanggungjawab majikan dan pemilik bangunan memastikan eskalator berada dalam keadaan baik dan selamat untuk digunakan. Pada asasnya, sebuah mesin eskalator yang telah diberi kebenaran beroperasi adalah berada dalam keadaan selamat untuk digunakan. Walaupun bagaimanapun, majikan/pemilik bangunan bertanggungjawab untuk mengadakan penyelenggaraan berkala bagi memastikan eskalator ini sentiasa dalam keadaan baik dan selamat untuk digunakan. Selain itu, pihak majikan/pemilik bangunan boleh memainkan peranan tambahan untuk memastikan orang awam menggunakan eskalator dengan selamat seperti mengadakan kempen kesedaran, mengadakan audit keselamatan berkala, meletakkan papan tanda peringatan, dan juga menyediakan pengawal keselamatan untuk mengawasi kanak-kanak yang bermain di eskalator tanpa pengawasan ibu bapa.

Pembekal/Pengeluar

Pembekal/pengeluar eskalator boleh memainkan peranan dengan sentiasa menambahbaik peranti perlindungan kepada ciri-ciri keselamatan eskalator terutamanya selepas sesuatu insiden berlaku akibat kegagalan/kekurangan pada ciri-ciri keselamatan sedia ada.

Sebagai contoh, bagi insiden tangan tersepit di ruang masuk susur tangan di eskalator, pembekal/pengeluar eskalator mungkin boleh mengkaji ciri-ciri keselamatan tambahan yang efektif supaya insiden tersebut tidak lagi berulang. Di samping itu, pihak pembekal/pengeluar boleh memainkan peranan yang lebih berkesan dengan memberi maklumat kepada pihak majikan/pemilik bangunan sekiranya eskalator milik mereka telah sampai tempoh penyelenggaraan.

Orang Awam dan Ibu Bapa

Sebagai pengguna eskalator, orang awam perlu memberi perhatian sewajarnya terhadap tatacara penggunaan eskalator secara selamat terutamanya membabitkan ibu bapa yang membawa kanak-kanak kecil. Berikut adalah cadangan bagi memastikan penggunaan selamat ketika menaiki eskalator:

- Pastikan tali kasut tidak longgar dan kasut yang dipakai bersesuaian ketika menaiki eskalator
- Sentiasa memegang tangan anak-anak di eskalator dan tidak membenarkan mereka untuk duduk atau bermain di muka tangga eskalator;
- Sentiasa memandang ke hadapan dan berdiri di tengah muka tangga, iaitu dalam kawasan tangga eskalator di mana sempadannya diwarnakan kuning serta berpegang pada susur tangan;
- Elakkan berdiri terlalu rapat di tepi muka tangga bagi mengelakkan kaki tersepit;

Hazard	Contoh Hazard	Kesan
Hazard Fizikal	Tangga eskalator yang bergerak	<ul style="list-style-type: none"> • Kasut atau pakaian tersangkut • Tangan tersepit • Tangga eskalator runtuh
	Susur tangan eskalator yang bergerak	
	Bahagian mekanikal eskalator yang terdedah/rosak	
Hazard Elektrikal	Elektrostatik	i. Kejut elektrik
	Wayar elektrik terdedah dan menyentuh besi eskalator	
Hazard Psikologi	<i>Escalaphobia</i> (perasaan takut menaiki eskalator)	ii. Trauma

Jadual 1

- v. Ketahui di mana butang kecemasan yang berwarna merah jika anda perlu untuk menghentikan eskalator;
- vi. Elakkan daripada meletak beg tangan atau bungkusan di atas susur tangan;
- vii. Jangan bersandar di tepi susur tangan.

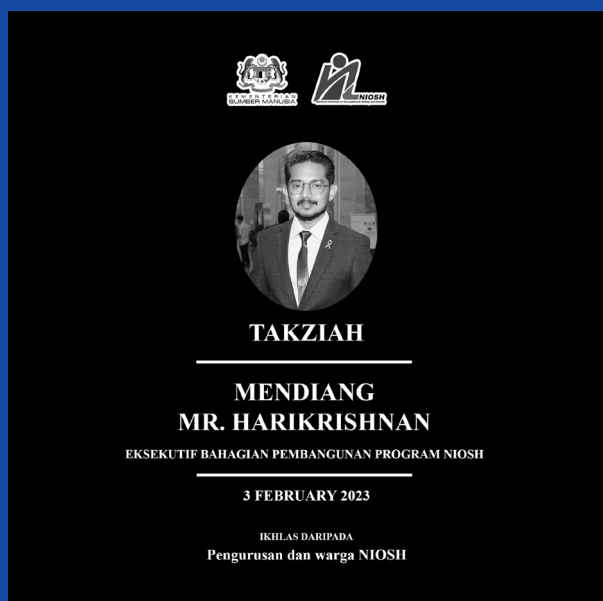
Inisiatif NIOSH berkaitan keselamatan eskalator dari aspek forensik

Sesuatu insiden boleh berlaku berpunca daripada tindakan tidak selamat dan juga keadaan tidak selamat. Keadaan

tidak selamat ini termasuklah kegagalan mekanikal sesebuah mesin itu seperti eskalator. Atas inisiatif ini, NIOSH telah membangunkan Makmal Kejuruteraan Forensik bertujuan untuk menjalankan kajian berkaitan punca-punca insiden terutamanya membabitkan kegagalan mekanikal. Terpanggil dengan isu-isu semasa membabitkan keselamatan eskalator, NIOSH bersedia bekerjasama dengan mana-mana pihak terutamanya pihak pembekal / pengeluar eskalator dalam menjalankan kajian penambahbaikan ciri-ciri keselamatan eskalator. Dengan sumbangan yang diberikan ini, NIOSH berharap agar insiden berkaitan eskalator ini dapat

diturunkan dan seterusnya tiada lagi insiden yang sama berlaku pada masa akan datang.

Secara keseluruhannya, semua pihak perlu prihatin terhadap keselamatan penggunaan eskalator terutama apabila ia melibatkan keselamatan kanak-kanak yang tidak tahu akan bahaya yang dihadapi ketika menggunakannya. ■



OSH COMPETENT PERSON & OSH PRACTITIONER
to share your experience and stories related to the discipline

Imbas Kod QR
KRITERIA / SYARAT PENULISAN
ARTIKEL SUMBANGAN KEPADA
NIOSSH serta Borang Serahan
Bahan Terbitan

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idd@niosh.com.my

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NIOSSH ROAD SAFETY AWARENESS CAMPAIGN

Road Safety Tips

- Keep to the speed limit
- Buckle up off passengers
- Stop when tired or swap drivers
- Check rear and side mirrors regularly
- Keeps headlights on at all times
- Hands off your cell phone

AUTHORISED ENTRANT AND STANDBY PERSON FOR CONFINED SPACE REFRESHER (AESPR)
NOW IN **ALOR SETAR**

COURSE FEE: **RM 516.20 / pax**

REGISTER NOW

- 19 MARCH 2023
- 15 APRIL 2023
- 22 MAY 2023
- 11 JUNE 2023

PERSON INCHARGE: PN ROSZATI / EN ARIF

Course title: Authorized Entrant and Standby Person for Confined Space - Refresher (AESPR)
Course Duration: 1 Day / 8 Hours
Course Category: Competency
NRF Corp Scheme: C1800000
Course fee: RM 516.20 (inclusive 8% SST)
Online Registration: <http://www.niosh.com.my> / 03-6336 14 0000
Online payment

OSH Stay @ Bangi

OSH Stay Bangi is fully owned by the National Institute of Occupational Safety and Health (NIOSSH). We are conveniently located at Skopren 13 Bandar Baru Bangi, Selangor. Our accommodation comprises 70 fully furnished guest rooms, ranging from twin sharing and suite rooms. Consisting of 6 suite rooms, 8 twin sharing for the disabled person and the rest are twin sharing. We are not only open to the participants that joined our course but we also welcome the public to stay at OSH Stay Bangi.

For your information, OSH Stay Bangi provides five facilities such as bicycles, a gymnasium, a multipurpose court, a library, Occupational Health Clinic (OHC), and WIFI.

Room

- Single Room
- Twin Sharing Room
- Suite Room

Food and Beverage Services

Contact No.
MRS. NADHIRAH : +6011-2101 6109
MR. MOHD SHAIFU ZAIFRI : +6011-5176 5783
Email: osh.stay@niosh.com.my

HALL / CALL RENTAL	DATE	ROOM	PRICE
RAFFLESIA HALL	GOV	RM2000.00	RM3000.00
	NON GOV	RM3000.00	RM4000.00
TAN SRI LEE LAM THYE HALL	GOV	RM3000.00	RM4000.00
	NON GOV	RM4000.00	RM5000.00
THEATER HALL	GOV	RM2000.00	RM3000.00
	NON GOV	RM3000.00	RM4000.00
SRI PELANGI HALL	GOV	RM1000.00	RM1500.00
	NON GOV	RM1500.00	RM2000.00
SRI ANGERIK HALL	GOV	RM1000.00	RM1500.00
	NON GOV	RM1500.00	RM2000.00
AMAN MEETING ROOM	GOV	RM3000.00	RM4000.00
	NON GOV	RM4000.00	RM5000.00
VIP HOLDING ROOM	GOV	RM1000.00	RM1500.00
	NON GOV	RM1500.00	RM2000.00
TRAINING ROOM	GOV	RM500.00	RM700.00
	NON GOV	RM700.00	RM900.00

ROOM RATE

PACKAGE	INDIVIDUAL
Single Room RM 130.00/PAX	Single Room RM 90.00/PAX
Twin Sharing Room RM 200.00/PAX	Twin Sharing Room RM 140.00/PAX
Suite Room RM 300.00/PAX	Suite Room RM 200.00/PAX

FOOD AND BEVERAGE SERVICES (PACKAGE)

- Full Breakfast RM 15.00
- Half Breakfast RM 10.00
- Tea and Coffee RM 5.00
- Light Lunch RM 12.00 (Kuala Lumpur)
- BBQ RM 20.00 (Kuala Lumpur)

EXTRA CHARGES

NO.	ITEM	PRICE / UNIT / DAY
1.	LINEN	RM10.00
2.	LCD	RM10.00
3.	POWER SCREEN	RM10.00
4.	PORTABLE WHITE BOARD	RM10.00
5.	STAND MIC	RM10.00
6.	PROJECTOR	RM10.00
7.	SET TABLE	RM10.00
8.	SET CHAIR	RM10.00
9.	SET TABLE	RM10.00
10.	SET CHAIR	RM10.00
11.	SET TABLE	RM10.00
12.	SET CHAIR	RM10.00

01 Feb 2023 | NIOSH bersama CJ Century menjayakan Hari Keselamatan dan Kesihatan



1 Feb 2023 - NIOSH telah menerima jemputan untuk turut sama menjayakan Hari Keselamatan dan Kesihatan di CJ Century sebagai pempamer. Bertemakan “Kesihatan anda sangat berharga”, berbagai aktiviti lain turut dijalankan antaranya taklimat keselamatan dan kempen derma darah. ■



13 Feb 2023 | Ceramah Kesedaran OSH in School di SMK Taman Sri Rampai



13 Feb. 2023 – SMK Taman Sri Rampai, Kuala Lumpur telah mengadakan program Kesedaran Keselamatan dan Kesihatan Pekerjaan di Sekolah (*OSH in School*). Ceramah berkaitan OSH telah disampaikan oleh Pn. Siti Badariah Abu Bakar, Pengurus Bahagian Penyebaran Maklumat dan dihadiri oleh pelajar Tingkatan 1 dan 2. ■

14 Feb 2023 | Lawatan dari Markas Tentera Udara ke NIOSH Bangi



14 Feb.2023 - Markas Tentera Udara, Inspektorat TUDM telah mengadakan lawatan sambil belajar ke NIOSH dengan tujuan mendapatkan pendedahan dan pengetahuan tentang aspek Keselamatan dan Kesihatan Pekerjaan. Seramai 35 orang anggota TUDM yang diketuai oleh Mejar Zuliana Zukilfli menyertai lawatan ini. ■



21 Feb 2023 | Lawatan Institut Perubahan Iklim (IPI) UKM ke NIOSH Bangi



21 Feb.2023 – Institut Perubahan Iklim (IPI) UKM telah mengadakan lawatan sambil belajar ke NIOSH dengan tujuan mendapatkan pendedahan dan pengetahuan tentang aspek Keselamatan dan Kesihatan Pekerjaan. Lawatan ini disertai oleh seramai 40 orang pelajar pascasiswaza. ■



21 Feb 2023 | Lawatan Rasmi NIOSH ke Pengurusan Institut Penyiaran dan Penerangan Tun Abdul Razak (IPPTAR)



21 Februari 2023, Kuala Lumpur – Delegasi NIOSH telah mengadakan Lawatan Penanda Aras dan Sesi Perbincangan bersama pihak pengurusan Institut Penyiaran dan Penerangan Tun Abdul Razak (IPPTAR) di Kuala Lumpur.

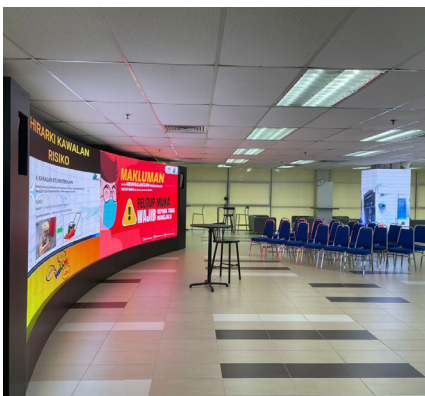


Lawatan ini merupakan sebahagian inisiatif NIOSH untuk mengeratkan hubungan dan mempelajari industri media kreatif dan teknologi penyiaran.

Delegasi NIOSH disambut oleh En. Kumaran A/L Subramaniam, Ketua Bahagian Akademik IPPTAR, dan pegawai-pegawai kanan dari Bahagian Kejuruteraan Penyiaran, Komunikasi dan Bahagian Industri Kreatif. ■

22 Feb 2023 | Kempen Kesedaran Keselamatan Jalan Raya

22 Februari 2023 - Bahagian IDD dengan kerjasama Bahagian BMD menganjurkan aktiviti Penyebaran Maklumat seperti pameran yang melibatkan NIOSH (IDD & CRDD), NIOSH Certification, JPJ dan MIROS serta Sharing Session daripada JPJ bersempena "Road Safety Awareness Campaign" di Aras 2, Menara NIOSH. ■



22 Feb 2023 | Pameran di Kolej Universiti Islam Antarabangsa Selangor



22 Feb 2023 - NIOSH telah menerima jemputan untuk turut sama menjayakan Hari Keselamatan dan Kesihatan di Universiti Islam Antarabangsa Selangor sebagai pempamer. Minggu Keselamatan dan Kesihatan Pekerjaan ini yang di jalankan selama 3 hari bermula 21 Februari 2023 sehingga 23 Februari 2023 telah di isi dengan ceramah dan pameran daripada pelbagai syarikat dan agensi lain.

Objektif penganjuran program berkenaan di institusi pengajian berkenaan adalah untuk mendedahkan pelajar dengan kepentingan keselamatan dan kesihatan pekerjaan sebelum memasuki alam pekerjaan setelah mereka tamat pengajian mereka kelak. Selain itu, pemeriksaan kesihatan dan jualan juga telah di jalankan bagi menarik penyertaan pelajar-pelajar untuk menyertai program berkenaan. ■

Did you know what OSHECT is? Here is some info about it.

Under the Eleventh Malaysia Plan (11th MP) the Government of Malaysia, through the Ministry of Human Resources has allocated RM25 million fund to develop an integrated OSH laboratory known as OSH Hazard Evaluation Control Technology Centre (OSHECT) it will help realize the vision and mission of the establishment of NIOSH as the center of excellence in occupational safety and health in Malaysia. NIOSH developed the project in the year 2016 to 2022. The project's main objective is to provide support facilities for activities at NIOSH Headquarters in Bandar Baru Bangi, Selangor and Southern Regional Office, Johor. Want to know more? Feel free to read our special publication on OSHECT entitled "OSHECT journey to NIOSH Laboratory Excellence".

1 SEMINAR

22 Feb



SEMILAWAN MALAYSIA **NIOSH**

SEMILAWAN MALAYSIA SEMINAR ON R&D AND INNOVATION OF RESPIRATORY PROTECTIVE EQUIPMENT

HYBRID SEMINAR

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(UTEM)



TS. DR. ISHKRIZAT TAIB
(UTHM)



ROHAIZAD BIN MOHD DAUD
(DOSH)

Date : 22 February 2023 (Wednesday) Time : 8:30 am – 5:00 pm
 Location : Dewan Rafflesia, Aras 2, Menara NIOSH, Bandar Baru Bangi, Selangor
 Online ZOOM Meeting (Virtual Participants)

(Online) FEE : RM53.00 (inclusive of 6% SST) (Physically) FEE : RM63.00 (inclusive of 6% SST)

☑ Certificate of Participation
 ☑ CEP Points (as per DOSH Guidelines)

For More Info, Contact Us :
 019-231 6608
 dl.tcsd@niosh.com.my

ONLINE REGISTRATION
<https://edafar.niosh.net.my>

Interesting activities for Physical Participants :
 1. Respirator Quantitative Fit Testing (FOC) 2. 3D scanning demonstration
 3. CFD simulation 4. Booth, posters, etc.

COME! JOIN US PHYSICALLY (NIOSH HQ, BANGI) OR VIRTUALLY (VIA ONLINE ZOOM)

Target Audience : OSH Practitioner, Researcher, PPE Manufacturer and Supplier, Enforcement Department and Agency, Lecturer, Postgraduate and Final Year Project Student, Employer and Employee, Any Interested Organization and Individual.

22 Feb



SEMILAWAN MALAYSIA **NIOSH**

BUAL BIGARA KKP



Ms. Hj. Mohd. Esa bin Hj. Baruji
 Pakar Teknikal 1 Jabatan Perundingan, Penyelidikan dan Pembangunan (CRDD), NIOSH

Moderator



Ir. Sharyl Aida bt Ibrahim
 Penolong Pengarah Unit Pembangunan Keselamatan Elektrik & Gas, Jabatan Kawal Selia Keselamatan, Suruhanjaya Tenaga

Panel

Topik :
**Keselamatan Elektrik di Tempat Kerja :
 Renjatan Elektrik**

Rabu | 22/02/2023 | 11.00am - 12.00pm **LIVE** nioshmalaysia

24 Feb



SEMILAWAN MALAYSIA **NIOSH**

Online Seminar

MANAGING CONFINED SPACE HAZARDS

WHAT YOU NEED TO KNOW ?

YURAN :
RM53
 (Termasuk 6% SST)

TARIKH : 24 FEB 2023 (JUMAAT)
 MASA : 8.30 – 11.30 PAGI

* Seminar ini TIDAK MENYEDIAKAN mata Kredit CEP

- Seminar online di Aplikasi Zoom Meeting
- Terbuka hanya kepada PESERTA yang telah membuat bayaran sahaja
- SIJIL PENYERTAAN disediakan

Untuk mendaftar :
<https://edafar.niosh.net.my>

Untuk maklumat lanjut, sila hubungi :
 WhatsApp : 019-2316608 (Sekretariat)
 Email : dl.tcsd@niosh.com.my

MOHD SUKRI BIN SAIDIN
 AESP & AGTES COMPETENCY PROGRAMME
 (COMPETENT / CERTIFIED TRAINER & ASSESSOR)

2 WEBINAR

09 Feb



NATIONAL INSTITUTE OF OCCUPATIONAL
SAFETY AND HEALTH (NIOSH)



WEBINAR :

IMPLEMENTATION OF PROCESS SAFETY MANAGEMENT (PSM)

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Now!*



MOHD ATIF BIN SHOLEHUDDIN
PROCESS SAFETY MANAGEMENT (PSM)
AWARENESS COURSE
(PROFESSIONAL & CERTIFIED TRAINER)



DR. AZIZUL BIN BUANG
PROCESS SAFETY MANAGEMENT (PSM)
AWARENESS COURSE
(PROFESSIONAL & CERTIFIED TRAINER)

DATE: 09 FEB 2023 (THURSDAY)

TIME: 08.30AM - 05.30PM

FEE: RM150.00 (INCL 6% SST)



CERTIFICATE OF ATTENDANCE

5 CEP POINTS

FOR MORE INFO:

019 - 231 6608 (secretariat seminar)

dl.tscd@niosh.com.my

WHO SHOULD ATTEND

- SAFETY PERSONNEL/MANAGER
- SUPERVISOR
- OSH PRACTITIONERS
- SAFETY AND HEALTH COMMITTEE MEMBERS
- ENGINEERS, DESIGNERS AND ARCHITECTS

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