

Suara PERUNDING



CORONAVIRUS

(COVID-19): FIDIC Guidance
For Global Consulting
Engineering Business

Kenyataan Media
Majlis Keselamatan
Negara

ACEM
Sabah & Sarawak
News

ACEM 56th
Anniversary Dinner

INDUSTRY PARTNER

BUILDING TRUST



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WINNER
of ACEM Engineering

GOLD AWARD OF
SPECIAL MERIT 2019



ASSOCIATION OF CONSULTING ENGINEERS MALAYSIA



INTERNATIONAL FEDERATION OF
CONSULTING ENGINEERS (FIDIC)



FEDERATION OF ASAN
CONSULTING ENGINEERS (FACE)

First Quarter 2020



THE ASSOCIATION OF CONSULTING ENGINEERS MALAYSIA

2019/2020 SESSION

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Editorial

This issue of Suara Perunding reports the events in year 2019 and January 2020. Our focus for ACEM News is the 56th anniversary dinner held on 27 September 2019 at Double Tree by Hilton Hotel Kuala Lumpur, of which the highlight was the presentation of the ACEM Engineering Awards 2019. The ACEM 2019/2020 Directory has been issued to all members and others on our mailing list early of January 2020. We hope you have received your personal copy and again urge members to continuously update your company profile so that our Directory carries the latest information on the consulting engineering industry.

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MESSAGE FROM THE PRESIDENT



Dear ACEM Members and Readers,

Welcome back Suara Perunding and thanks are due to the special efforts of our new General Manager, Mr Ramli Ibrahim and Mr Ikram, our new IT Executive. They are also taking initiative to refresh our ACEM website to have a new and interesting look. Suara Perunding is our newsletter for members and readers to catch up on our activities and for information on matters of interests and future events.

Some highlights on recent activities and future programs. On 4 December 2019 the Council had a courtesy call upon YB Baru Bian, the Minister for Kementerian Kerja Raya. Among the issues highlighted is the severe lack of job opportunities, on the request for ACEM representation on the Board of Engineers to be increased and the concern about unrecognised cost in our fees for compliance with recent laws, rules and regulations and technical requirements such as the OSHCIM, MACC Act 2018 and BIM. ACEM also requested for an annual dialogue with KKR to address issues on procurement, service contracts and performance.

On 5 February the IEM-ACEM Dialogue was revived. It was a very fruitful session. One major understanding is to form a joint task force to strongly promote the adoption of BEM Scale of Fees that is provided for by law under the Registration of Engineers Act.

Recently on 15 February we organised a special dialogue session between members and the Deputy Chief Minister of Penang YAB Datuk Ir Ahmad Zakiyuddin. This was in conjunction with the ACEM Talk for Practicing Engineers held in Pulau Pinang.

Look out for a series of workshop developed under a collaborative effort between the Malaysian Institute of Integrity (INTEGRITY) and ACEM on the guidelines for installing "Adequate Procedures" to protect firms against prosecution under Section 17a of the MACC Act 2018 that will come to force as of 1 June 2020. Under this Section, the management of a firm (consulting firms included) can be held liable if any of its employee commits a corrupt act unless adequate procedures are put in place. For a start the workshops will be for firms with ISO Certification or in the process of obtaining one. This is so that those Adequate Procedures could be incorporated into the ISO processes and procedures.

Look out too for Export of Services incentives under MATRADE. We have had a meeting with MATRADE, and planning is underway to organise attendance with financial assistance from the funds to FIDIC ASPAC Conference 2020 in Bangkok 14-16 June and FIDIC Infrastructure Conference 2020 in Geneva 13-15 September 2020.

Let us keep ACEM strong always and to continue being **"the Voice of the Consulting Business and Industry"**.

Happy reading,

Datuk Ir Mohd Adnan
President, ACEM

56th Anniversary Dinner

The Association celebrated its 56th Anniversary Dinner with over 450 members and guests on 21 September 2019 at DoubleTree by Hilton Hotel Kuala Lumpur. The evening also featured the installation of the ACEM President for Session 2019/2020, Datuk Ir. Mohd Adnan Bin Mohd Noor.



Datuk Ir. Mohd Adnan presenting his presidential address.



ACEM's Secretariat with the new President of Council 2019/2020



Some of the Council members for 2019/2020 and Miss Wong Pek Yin



Engineering Awards winners
with the Datuk Ir. Mohd Adnan Bin Mohd Noor

The highlight of the evening was the presentation of the ACEM Engineering Awards 2019.



The awards for the winners



ACEM Gold Award 2019 winner,
Allahyarham Ir. Dr Abdul Majid bin Dato' Abdul Kassim represented
by his family.



ACEM Past President with the Council Members



T.Y. LIN INTERNATIONAL SDN BHD
for their "Malaysia International Trade &
Exhibition Centre (MITEC)"



ARUP JURURUNDING SDN BHD
for their "Setia SPICE Convention Centre"



SEPAKAT SETIA PERUNDING (SDN) BHD
for their "Bonus Phase 2 Centralized Sewage
Treatment Plant, Kuala Lumpur"



PERUNDING ZKR SDN. BHD.
for their "Besraya Eastern Extension (BEE) and
Sg. Kerayong River Diversion"

New Members (January 2020)

Individuals

Name	Date
Ir. Leong Lai Ying	10 January 2020
Ir. Christopher Lee Poh Hock	10 January 2020

Cessation of Membership (January 2020)

Individuals

Name	Date
Ir. Foo Sin Yew	01 January 2020
Ir. Dr. Faisal B. Abdullah	08 January 2020
Ir. Sabirin B. Salamat	08 January 2020
Ir. Suhaimi B. Shamsuddin	10 January 2020



ENGINEERING AWARDS 2019

GOLD AWARD OF SPECIAL MERIT

ARUP JURURUNDING SDN BHD

Setia SPICE Convention Centre

A convention centre with the largest column-free subterranean ballroom & the largest rooftop recreational park with pride of place in the Malaysia Book of Records

In 2010, Majlis Perbandaran Pulau Pinang (MPPP, now MBPP) proposed to redevelop and revitalise the then almost 20-year old Penang International Sports Arena (PISA) at Jalan Tun Dr Awang, Bayan Lepas by adding a new convention centre. The entire facility was developed under build-operate-transfer (BOT) by our client, SP Setia and renamed as Subterranean Penang International Convention & Exhibition Centre (SPICE).

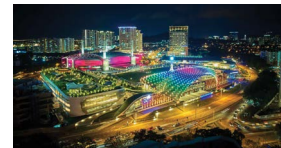
Arup provided civil, structural and geotechnical engineering for the entire SPICE project including the **Setia SPICE Convention Centre**.

Building the new convention centre meant sacrificing an existing green park which was much used by the public for outdoor activities. Arup contributed significantly to a solution that went beyond the design brief by the state government and delivered an innovative solution within given constraints of space. That solution was to build the convention centre underground and use its roof for the new – and larger – green public space above it. This came to be called the Green Roof.

Recognised in the **Malaysia Book of Records as the largest subterranean pillarless ballroom, the largest rooftop recreational garden and the first hybrid solar powered convention centre**, the 70,000ft² underground Setia SPICE Convention Centre with 40m column-free spans tucked under a 6-acre roof garden is an end result that is both highly aesthetic and functional. With an area of 4,500m² that can fit 400 round banquet tables or 8,000 seats, the grand ballroom can be partitioned into four smaller halls for greater flexibility. The venue has turned out to be an iconic meetings, incentives, conferences and exhibitions (MICE) facility for the state with a recreational park on top.

Arup's innovative engineering solutions overcame the challenge of having a long span structure that needs to withstand heavy loading from soil and dynamic crowd loading on the **Green Roof** as well as potential water leakage into the convention centre.

- The entire roof was designed as an integrated floor plate comprising 3.25m deep space grid trusses throughout working in unison with three 6.25m deep mega plane trusses to achieve greater rigidity.
- The space truss square grid top and bottom chord dimensions were 4.2m x 4.2m. This allowed optimisation of the space trusses matching the supporting column grids below. It allowed for direct load transfer to the columns which is the simplest and cheapest form of load transfer.
- Bespoke giant steel collars were designed to form a monolithic connection between the space grid trusses and their supporting RC columns, reducing the maximum deflection from 80mm to 40mm. This simplified steel fabrication process helped to reduce construction time and cost.
- Bespoke node design was customised with a series of fin plates protruding out from each node to receive the truss members, thus preventing overlapping of welding and allowed site tolerance during installation.
- An innovative drainage system was designed for the roof waterproofing where the roof slab was cast in a series of gentle peaks and troughs. The troughs collected water and channelled it into suspended rainwater drainage pipes beneath directed to a 100,000 litre rainwater harvesting tank used for irrigation.



Additionally, a significant feature that is emblematic of Setia SPICE is its sight-to-behold porte cochere. This **Iconic Roof** consists of a flowing, three dimensionally curved single layered, latticed grid of approximately 113m span supported on only four corners. The challenge was to design a thin roof structure without excessive deflection despite the long span.

- Enhanced the architect's vision of a free form, thin and elegant entrance roof statement via form-finding by adopting catenary system into space grid.
- Utilised sliding supports to enable the release of horizontal forces and allow for thermal expansion and contraction.

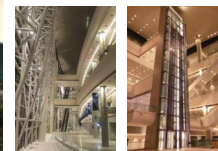
Setia SPICE Convention Centre has become a thriving hub for local and foreign event organisers, serving the vision of the Penang state government and the client to establish Penang as a premier destination for world-class conventions and events. It has high usability and social usefulness as the public can easily access the green open space 24 hours a day.

Arup brought engineering skills that significantly contributed to this unique and iconic landmark in Penang, blending innovation with aesthetics, usability, constructability, maintainability and affordability.



ENGINEERING AWARDS 2019

SILVER AWARD OF MERIT



T.Y. LIN INTERNATIONAL SDN BHD

Malaysia International Trade & Exhibition Centre (MITEC)

MITEC is currently the largest trade and exhibition centre in Malaysia. It has a total of 1.5 million square feet of gross floor area. The exhibition centre is equipped with 11 exhibition halls and 1 multipurpose hall built over three levels of triple-volume space. It also houses a number of conference halls, meeting rooms, an auditorium and one and a half floors of basement car park. The basic need statement provided by the client is generally tabulated in the following table:

Objective	The proposed MITEC shall take into account of the latest development in the Meetings, Incentives, Conferences and Exhibitions (MICE) industry and be made integration in terms of physical structure and concept of existing surrounding buildings and infrastructure.
Exhibition Hall Column-free Floor Area	<ul style="list-style-type: none"> Level1 : 18 x 30 m² Level2 : 18 x 30 m² Level3 : 72 x 180 m²
Exhibition Hall Headroom	<ul style="list-style-type: none"> Level1 : 4.5 to 12 m Level2 : 4.5 to 9 m Level3 : 9 to 12 m
Exhibition Hall Floor Load Capacity	<ul style="list-style-type: none"> Level1 : 10 and 50 kN/m² Level2 : 10 and 20 kN/m² Level3 : 10 kN/m²

SIGNIFICANCE TO THE COMMUNITY

The creation of MITEC sets to meet the growing demands of the MICE industry in Malaysia. With 1 million square-foot exhibition space and the capacity to host heavy industry shows at the Level 1 exhibition halls which are designed for floor load capacity of 50kN/m², MITEC provides Malaysia with the capability to compete with other countries in venturing into the 'mega exhibition' market, namely holding exhibitions and conventions which are able to accommodate over 100,000 visitors and up to 20,000 delegates respectively. Moreover, due to its high ceiling, it can be used as an international sporting venue and has debuted as such by hosting the 2017 Kuala Lumpur SEA Games and 2017 Para ASEAN Games.



SIGNIFICANCE OF ENGINEERING SOLUTION, ENVIRONMENT AND SOCIAL CONSIDERATION

The following are some special features of the building which are structurally challenging that require innovative engineering solutions to meet client's needs and architect's requirements while taking into consideration the cost, constructability, environment and social concerns:

1. Level 1 exhibition halls with floor load capacity of 50kN/m²
2. 6.2m long-span precast hollow-core slab for exhibition halls
3. 30m long-span post-tensioned beam for exhibition halls
4. 72m long-span main roof steel structure
5. C-shaped & S-shaped steel structure
6. 40m tall unbraced column at main concourse area
7. North entrance drop-off canopy structure
8. Glass lift structure with 36m tall RC columns as vertical main supports
9. 3D modelling, and elastic and non-linear analysis of the entire structure

ORIGINALITY, INNOVATION AND QUALITY OF ENGINEERING

The project was executed under a design-and-build contract for the superstructure work. Working as a consultant to a foreign main contractor, various engineering solutions which exhibited originality and innovation to resolve the construction problems, namely fabrication of about 6,000-tonne roof steel structure and erection of long-span Main Roof trusses, were brainstormed with other consultants and the contractor and eventually implemented. The quality of construction work was also strongly controlled and assured via consultants' supervision teams and independent testing. The project was awarded with "The Best Steel Structure Award" by Korean Society of Steel Construction (KSSC), Korea in year 2016.

CONSIDERATION OF SUSTAINABILITY AND MAINTAINABILITY

The consideration of sustainability is exhibited through the use of precast hollow core slab & trenches, structural steel system, reusable system formwork and rainwater harvesting tank. Maintainability is considered through the provision of special building features or equipment, namely syphonic rainwater drainage system, permanent fall arrest safety line, building maintenance units and lightweight heavy duty trench cover.

MEETING CLIENT'S NEEDS AND BUDGET

The developer, design team and the contractor worked cooperatively to complete the project within budget, on time and meeting the client's basic need statement. The project obtained accreditation from Construction Industry Development Board (CIDB) Malaysia with IBS scoring of 72.88.

VALUE TO THE PROFESSION AT LARGE

This project has provided the local engineering profession with the opportunity to acquire new knowledge and experience in mega-scale steel structure design and construction through the technology transfer from working with the foreign main contractor. The experience has come from the provision of engineering solutions and construction innovation in fabrication and installation of the complex roof profile. The successful completion of this project has brought us confidence that we are capable to venture into the international market and compete with other international companies for bigger scale special structure building developments.



ENGINEERING AWARDS 2019

BRONZE AWARD OF COMMENDATION

55TH

SEPAKAT SETIA PERUNDING (SDN) BHD

Bunus Phase 2 Centralized Sewage Treatment Plant, Kuala Lumpur

Bunus CSTP is a fully mechanized sewage treatment plant with an activated sludge treatment capacity of 750,000 PE. The liquid stream process treatment technology adopted is Sequential Batch Reactor (SBR) with biological nitrification and denitrification process incorporated to achieve the stringent ammonia discharge level of 2.0 mg/l and BOD5 of 5.0 mg/l as required by the Modified Standard A effluent discharge standard. Furthermore, other significant features such as full anaerobic sludge digestion system, full membrane effluent filtration treatment and methane gas harvesting for electricity generation have been successfully incorporated in this Project.

Sepakat Setia Perunding Sdn Bhd (SSP) was engaged by KL Bund Sdn Bhd (Project Delivery Partner to the Malaysian Government), to provide an alternative design that would save 20% overall capital cost minimum. SSP's design managed to reduce 33% land area requirement of the overall STP footprint, achieving the final construction cost saving of more than 20% as compared to that of the original Conventional Activated Sludge System (CAS) STP.

As part of the effort in river cleaning initiative under the River of Life Project, Bunus CSTP is designed to treat raw sewage to Modified Standard A effluent through 100% membrane filtration which is the highest effluent quality for its kind in Malaysia. This enabled Sungai Gombak and Sungai Klang to achieve Class IIB river water quality. The high-quality effluent produced in Bunus CSTP has the potential to be commercialised as non-potable water for industry usage besides the current reused at CSTP for chemical mixing and cleaning. Bunus CSTP also possesses energy-efficient features such as Variable Frequency Drive (VFD) technology to vary the blower speed to accommodate the fluctuating biological oxygen loading requirements. Other than that, methane gas harvested from anaerobic digester is stored and used as fuel for the Combined Heat Power Generator (CHP) and generating electricity for in-plant consumption.

They were many obstacles during the design and construction of this CSTP. The most notable challenge was to discharge the treated effluent to Sg Gombak located 1.64 km downstream of Bunus CSTP by gravity (pumping option was not considered due to high O&M cost in long term operation) crossing Sg Bunus which is located next to the CSTP with invert level of much lower than the downstream receiving manhole towards Sg Gombak. After much consideration and a hydraulic study, an inverted siphon was adopted for Sg Bunus river crossing. During construction, SSP encountered challenges in piling at limestone formation due to high variation in the rock formation level. SSP modified the pile shoes i.e. crown shoes which help the gripping of piles onto the rock surface.



Bunus CSTP has brought great positive impact to the community with a cleaner environment and better health quality by decommissioning 73 multi-point STPs. The odour and river water pollution due to poorly treated effluent at multi-point STPs had been permanently eliminated. From an economic perspective, cost-saving has been achieved from the Operation & Maintenance Cost (power and labour cost) of the 73 decommissioned STPs. The land of the decommissioned STPs and the buffer can be converted for development or other commercial activities which will create business opportunities to the local communities and stimulate the economy as a result.

SSP has received the "Excellent Consultant Award for Civil & Structural and Mechanical & Electrical 2017" from KeTTHA for the successful completion of this project. Bunus CSTP is the first large scale operating STP in Malaysia that meets the Modified Standard A effluent discharge standard. It sets a new national benchmark in the sewerage industry.

Land Area Saving <p>Originally, Innovation and Quality of Engineering – in SSP's Design:</p> <ol style="list-style-type: none"> 1. SBR, smaller plant footprint as compared to CAS system 2. Bunus Phase 1 STP and reserve area reserved for future extension 3. Inverted siphon across Sg Bunus STP crossing 4. Shorter process piping & fewer crossings reduce unnecessary multiple pumpings used & pumping head, capital cost saving & long term energy cost 	Energy Efficient Figures <p>a) SCADA System – full automation operation control & monitoring matching speed to changing load requirements and prevents lower maintenance costs.</p> <p>b) Variable Frequency Drive (blowers, pumps etc.) – energy efficiency by matching speed to changing load requirements and prevents lower maintenance costs.</p>	Membrane Filter <p>Design Features: 100% Membrane Filtration provided CIP in Malaysia</p> <ol style="list-style-type: none"> 1. To achieve higher effluent quality as Modified Standard A 2. To ensure 100% Membrane Filtration from process operation 	Effluent Quality and Modified Standard A <p>Raw Sewage (left) & treated effluent (right)</p>
Aerial Photograph (Bunus CSTP Phase 1 & 2) <p>Bunus STP 1 (252,000PE) Bunus STP 2 (750,000PE)</p>	Transformation of Existing 80,000PE Oxidation Pond Site to 750,000PE Modern Mechanized Plant <p>Existing oxidation pond site before project commence Completed Bunus CSTP Phase 2</p>	Gas Co-generation <p>Bio-gas Combine Heat & Power Generators Gas Storage Tank</p> <p>Gas Storage Tanks complete with each of maximum 12,000 m³ capacity to store the digested methane gas. The methane gas is used primarily as an energy source, powering boilers to provide heat for sludge heating and also to operate the gas mixing system in the Anaerobic Digesters.</p>	Innovative Sludge Handling Facilities <p>Digested sludge being discharged from Hopper Tank into truck directly</p>



56TH

ENGINEERING AWARDS 2019

BRONZE AWARD OF COMMENDATION

PERUNDING ZKR SDN. BHD.

Besraya Eastern Extension (BEE) and Sg. Kerayong River Diversion



BRIEF DESCRIPTION OF PROJECT

The Besraya Eastern Extension (BEE) was an extension of the Lebuhraya Sungai Besi (Besraya). With Links connecting Jalan Istana, MRR2 and Jalan Pandan Indah, this urban highway provided very good traffic dispersal and connectivity between the Eastern part of Kuala Lumpur (around the MRR2 and Pandan Area) and the Western and Southern parts of the City. It comprised a total of 12.3km of highway and link roads, with a grade-separated Ikan Emas Interchange and numerous connection ramps.

INTERFACING BETWEEN BEE AND SG. KERAYONG

Building a highway within the very urbanised Kuala Lumpur posed many challenges, and when Sg. Kerayong was also running along the selected highway corridor, the challenges became even greater.

This submission focused on the interfacing between BEE and Sg. Kerayong at a location where both crossed below the existing Jalan Loke Yew bridge.

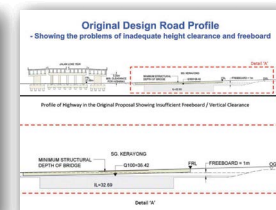
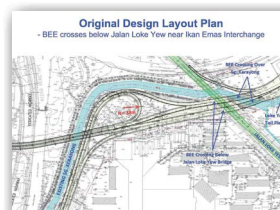
There were two major challenges faced by the project in this area, namely that involved the highway alignments and the Interchange configuration, and the frequent flooding issues caused mainly by the constriction of Sg. Kerayong at the crossing below the existing Jalan Loke Yew Bridge.

In the original highway design consideration, the highway would cross below Jalan Loke Yew bridge and then over Sg. Kerayong, which meandered below the Jalan Loke Yew Bridge. The crossing over the river required that it be raised as high as possible to satisfy the designed 100-year ARI flood level with sufficient free-board, whilst the presence of the Jalan Loke Yew bridge above on the other hand restricted the extent to which the highway could be raised. These two conflicting requirements made the construction of the BEE below Jalan Loke Yew almost impossible. The design requirements of highway design speed, vertical height clearance, freeboard over the river, etc. cannot be satisfied. This thus called for a radical re-consideration of the design approach.

THE SOLUTION

After comprehensively assessing the existing site conditions and constraints, and "thinking out of the box", a "eureka" idea of realigning the River and "swapping" the corridor with that of the Highway was found to be the most innovative solution and would be beneficial for both the highway and the river.

By doing so, the highway's level could be maintained low enough because there was no more requirement for it to cross the river immediately upstream of the existing bridge. The functionality and constructability issues also fell in place and easily resolved. At the same time, Sg. Kerayong could be properly channelized (especially under the Jalan Loke Yew bridge) to provide maximum conveyance capacity to mitigate the flooding problems in the area.



The geometry of Ikan Emas Interchange loop was designed to a higher design speed of 40km/h (from 30km/h in original design) with bigger radius of 52m (from 38m) as it was no longer bounded and constrained by the river.

The proposed realignment of Sg. Kerayong was approximately 630m long, with 100m upstream and 530m downstream of the Jalan Loke Yew Bridge. The river channel sections were designed to be 20m (width) x 3.8m (depth) lined with L-sections. However, due to the space constraints of the existing pile-caps at the location of the Jalan Loke Yew bridge, a narrower and deeper section of 18m (W) x 4.0m (D) was proposed (compared to the original constriction of 15m(W) x 3.3m(D).) The original 'drop' of 1m along the existing Sg. Kerayong on the downstream of Jalan Loke Yew was relocated to the upstream side to lower the water level before the constriction of river channel below Jalan Loke Yew bridge, ensuring that the 100-year ARI flood level does not exceed the highway level.

This was a case of "one solution for two problems" where one engineering solution provided benefits to two major public infrastructures, viz. the highway and the river in the area, without any increase in construction cost and land acquisition.

The diversion of the river took 1½ years (18 months) to complete, and the new river channel was officially opened on 19 June 2013. After the completion of the river realignment, the Ikan Emas Interchange and other connecting works proceeded as designed. And the overall Besraya Eastern Extension was completed and opened to traffic in April 2014.

ACEM Gold Award 2019



**Ir Dr Abdul Majid bin
Dato' Abdul Kassim**

Ir Dr Abdul Majid bin Dato' Abdul Kassim, born on 19 June 1958, was an eminent and respected figure in the engineering fraternity in Malaysia. He graduated from the University of Edinburgh with first class honours in 1982 and continued on to do his doctorate and obtained his PhD in Civil Engineering in 1986.

Dr Abdul Majid is honoured today for his outstanding and significant contributions to ACEM and to the advancement and development of the engineering consultancy industry in this country.

Dr Majid has been an influential role model for the industry. He joined the ACEM Council in 2001 and was the President from 2008 to 2010. His rise to the post of President was unorthodox as he was elevated to it from an ordinary Council Member without ever holding the post of Deputy President or Secretary. Assuming the post of ACEM President on 21 June 2008 has propelled this "man of few words" into the limelight. Taking charge to advocate members' issues along with his mission of professionalism, Ir. Dr. Abdul Majid was in the forefront to speak up for ACEM and the industry – in various meetings, forums and dialogues with Government agencies and allied professional organisations. Albeit a reluctantly appointed President, Dr. Majid went on to become one of our greatest Presidents, accomplishing many of the Association's aspirations and raising its profile in the Government, engineering bodies, media and public.

One of the key aspirations for ACEM for a long time has always been representation in the Board of Engineers in order for us to effectively champion our causes and voice our member's grievances. During his tenure as ACEM President, the Council had nominated Ir. Dr. Abdul Majid to represent ACEM in the BEM Board but failed to be appointed. However, this did not deter him from working for BEM and in the two years, he worked hard to build his credibility with the BEM Committees. During his first year as ACEM Immediate Past President, the Council again submitted Ir. Dr. Abdul Majid's name as one of ACEM's nominees for the BEM Board. This time, Ir. Dr. Abdul Majid was appointed by the Minister of Works as a BEM Board Member with effect from 23 August 2010. After his appointment, he continued to demonstrate to BEM the invaluable contributions ACEM could bring to BEM and this paved the way for other ACEM members to be nominated to the BEM Board and committees.

Ir. Dr. Abdul Majid continued his term as BEM Board Member for the full five years until 22 August 2015. From 2010 – 2016, he has held the Chair of BEM's Engineers Act Committee and was a Member of BEM's Professional Practice Committee, Scale of Fees Committee and E&Q Committee. He was reappointed as BEM Board Member on 23 August 2016.

Dr. Majid was the key architect of the 2015 amendments to the Registration of Engineers Act (REA). He started working on the amendments to the REA in 2009 during his

presidency in ACEM and continued working on it in BEM as the Chairman of the Engineers Act Committee. He worked tirelessly on the amendments, meeting up and working with the MOW's legal advisers, the AG office, the KSU and Minister of Works up until gazetting of the REA amendments in 2015. In fact, he spent weeks at the Parliament to answer all queries raised on the amendments in order to make sure that it was passed. The 2015 amendments to the REA unlike the few earlier amendments are far reaching and until today its impact is still felt. The amendments, amongst others, includes opening up of the profession to foreign engineers; new registrations for PEPC, engineering technologists and IOWs; a second-tier examination for the Practicing Certificate and changes to the structure of ECPs.

Dr Majid was also instrumental in the setting up of the Professional Competency Examination (PCE). With a grant from the Government, Dr Majid mobilised ACEM to set up the framework for the PCE exam and upon completion this framework was passed on to BEM to use for the PCE examination. Until today, the PCE exams undertaken by BEM are still using the framework advocated by ACEM under Dr. Majid's leadership.

It was also during Dr. Majid's presidency that Greenbuilding Index Sdn. Bhd. was set up by ACEM together with Pertubuhan Akitik Malaysia (PAM). Dr. Majid maintained that this initiative would be able to create more business opportunities for its members in addition to supporting the sustainability agenda. Dr. Majid served as a Director and Accreditation Panel Member of Greenbuilding Index Sdn. Bhd. for the term 2009/2010.

Dr. Majid was very active in the setting of standards for the industry serving on many SIRIM committees. He chaired the drafting

committee for the Malaysian Standards for reinforcement and pre-stressing steel for concrete. He was also a council member of the Standards and Accreditation Council under MOSTI.

Dr. Majid sat in many investigation committees representing BEM including the roof collapse of the Stadium Sultan Mizan Zainal Abidin in Kuala Terengganu and the collapse of the Second Penang Bridge ramp in Batu Maung. In 2013, Dr. Majid was appointed by the Minister of Works as a member of the Expert Panel to review practices in the construction industry. The Expert Panel came up with clear recommendations which would revamp the construction industry especially in respect of safety in the construction industry. These recommendations were incorporated into CIDB's Construction Industry Transformation Plan.

These are only just a few of the challenges taken up by Dr. Majid during the time he was with us. There are so many more issues that he took up and so many more challenges that he strived against. For those of us who were with him during these times know of Dr. Majid's dedication, passion and how relentless he was in pursuit of his convictions to make our profession better. He was always honest and sincere in his service towards the advancement of our profession.

Dr. Majid passed away on 17 December 2016 of heart attack. Today we honour him as a dedicated professional and a champion of initiatives that support the advancement of the engineering fraternity. His passing is a huge loss to all of us in ACEM and in the construction industry.

Sarawak

Evening Talk on “Diesel Generator Noise and Exhaust Emissions and their Regulatory Requirements in Malaysia”



YCC member presented a Certificate of Appreciation to Ir. Tnay Choon Hwa

The Association of Consulting Engineers Malaysia (Sarawak Branch) has been organizing evening talks since June 2019 until present. The talks are held from 5.30 pm to 7.30 pm at ACEM (Sarawak Branch) Training Room, Kuching. It is opened to engineers to upgrade their knowledge in the industry of engineering. An Evening Talk on “Diesel Generator Noise and Exhaust Emissions and their Regulatory Requirements in Malaysia” was held on 16th October 2019 at ACEM (Sarawak Branch) Training Room Kuching. The speaker was Ir. Tnay Choon Hwa.

Meeting on Sarawak Building Ordinance 1994 on 5th November 2019

Jabatan BOMBA dan Penyelamat Malaysia Negeri Sarawak organised a Meeting on Sarawak Building Ordinance 1994 on 5th November 2019 at their Headquarter. The meeting was attended by Ir. Christopher Lee Poh Hock, Ir. Anthony Tiong King Siong and Mr. Francis Chieng from ACEM (Sarawak Branch) and representatives from PAM (Sarawak Chapter). The meeting discusses on the amendment to the Sarawak Building Ordinance 1994 Part VI Fire Requirements, Schedule E, Schedule J and Schedule I.



Discussion during the meeting at BOMBA Kuching Headquarter

Sarawak Urban Stormwater Management Guideline (SUSToM) Workshop

The Department of Irrigation and Drainage Sarawak invited representatives from associations, councils and local authorities to the “Sarawak Urban Stormwater Management Guideline (SUSToM) Workshop on 28th November 2019 at Grand Dormani Rajah Court Kuching. ACEM (Sarawak Branch) was represented by Ir. William Tan Khoon Lee and Ir. Wong Sie Ung. The workshop includes discussion and brainstorming session among all the stakeholders in relation to stormwater management, particularly work processes and also checklist for SUSToM.

Sabah

ACEM Sabah Members Gathering 2019

Date: 13 December 2019





International Federation of Consulting Engineers
The Global Voice of Consulting Engineers

Coronavirus (COVID-19): FIDIC Guidance for Global Consulting Engineering Businesses

FIDIC guidance document

March 2020 – version 1

The way forward

FIDIC will be updating and issuing revised version of this briefing to take on board feedback from the industry and to keep the document relevant.

Alongside this, FIDIC will develop a series of webinar programmes that provide an opportunity for industry leaders and stakeholders to discuss how they are addressing the COVID 19 challenge. This output will be communicated and supplement this guidance note.

This output will involve, member associations, stakeholders, affiliates, companies, committee members and chairs, task group members, board members and other relevant stakeholders to contribute. This programme will be published on the FIDIC website and communicated via social media.

Resources

Further information outside of this note should be available from governmental agencies, professional organisations and other similar groups.

If you have further ideas or suggestions and would like to be involved please contact FIDIC Head of Strategic Policy and Economics, Graham Pontin – gpontin@fidic.org



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Endnotes

ⁱ Harvard Business Review: What's your company's emergency remote-work plan?, accessed 19/3/2020 ([click here](#))

ⁱⁱ Harvard Business Review: Guide to leading your business through the coronavirus crisis, accessed 19/3/2020 ([click here](#))

ⁱⁱⁱ Harvard Business Review: Prepare Your Supply Chain for Coronavirus, accessed 19/3/2020 ([click here](#))

^{iv} Harvard Business Review: What organisations need to survive a pandemic, accessed 19/3/2020 ([click here](#))

^v Harvard Business Review: What's your company's emergency remote-work plan?, accessed 19/3/2020 ([click here](#))

^{vi} Hogan Lovells: Coronavirus FAQ: Key corporate and commercial considerations, accessed 19/3/2020 ([click here](#))

^{vii} Hogan Lovells: Coronavirus as a contractual force majeure event: A simple checklist, accessed 19/3/2020 ([click here](#))

^{viii} Hogan Lovells: Coronavirus and cracks in your armor: Recognizing impending financial stressors spawned by a health pandemic, accessed 19/3/2020 ([click here](#))

^{ix} Hogan Lovells: Insurance and planning for the effect of coronavirus on business, accessed 19/3/2020 ([click here](#))

^x Switzerland Global Enterprise: coronavirus – what swiss exporters need to be aware of, accessed 19/3/2020 ([click here](#))

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COVID 19



William Howard
President, FIDIC

The COVID 19 pandemic is challenging our people and our businesses in ways many of us had not planned for and requires a response to protect both and to give both future good health and success.

The FIDIC board has taken many steps to protect our organisation, our staff and our members from the adverse impacts of COVID19. Our CEO, Nelson Ogunshakin, is implementing measures to enable FIDIC to function as best we can through the pandemic and to be sustained beyond the crisis.

The purpose of this document is to provide some guidance to FIDIC member associations and consulting engineering firms to survive the crisis and to thrive beyond it.



Dr Nelson Ogunshakin OBE
Chief Executive Officer, FIDIC

About FIDIC

FIDIC, the International Federation of Consulting Engineers, is the global representative body for national associations of consulting engineers and represents over one million engineering professionals and 40,000 firms in more than 100 countries worldwide.

Founded in 1913, FIDIC is charged with promoting and implementing the consulting engineering industry's strategic goals on behalf of its member associations and to disseminate information and resources of interest to its members. Today, FIDIC membership covers over 100 countries of the world.

FIDIC member associations operate in over 100 countries with a combined population in excess of 6.5bn people and a combined GDP in excess of \$30tn. The global industry including construction is estimated to be worth over \$22tn this means that FIDIC member associations across the various countries are an industry worth over \$8.5tn.

Mission and vision for the future

FIDIC's key role and that of its member associations around the world is to help improve people's quality of life through the promotion of quality, integrity and sustainability in the infrastructure industry and the projects and services it delivers on a global scale

The board

Many boards and management executives will have planned for crises of various sorts and will have some plans in place for the events they contemplated. Harvard Business Schoolⁱ doubt that many will remember earlier pandemics and possibly have had their plans tested in real situations.

While one can look to legal obligations and theories, it is, at this time, more important to look at the circumstances through a lens of our values and purpose, which may include:

- Protect our people and keep them and their families as safe as possible
- Conserve our financial resources to enable the organisation/business to survive the crisis
- Provide as much certainty as possible for clients, staff, the organisation/business and share holders
- Communicate and update our staff and stakeholders with the best information available
- Be supportive and empathetic towards managers, staff, partners and suppliers
- Develop crisis management plans to mitigate the impact and keep the business running as effectively as possible

The situation is evolving fast and it is not possible for us to forecast how this pandemic may develop.

Some of our thoughts on what COVID 19 potentially means to engineering and consulting (E&C) firms includes:

- Management will need support and empathy
- Staff will need support and empathy as well since their personal and lives will be impacted in a variety of ways
- Client situations are likely to negatively impact revenues since some projects may well be stopped or delayed
- Other projects may well be brought forward through public health needs or economic stimulus packages
- Uncertainty and changing circumstances can be expected for many months
- Cash flow pressures may impact the ability to pay suppliers and staff and to support the business
- Some services and supply chains will be disrupted
- Investment decisions will take courage and may take some time to materialise
- Longer term economic consequences are likely
- Shortages of essential goods and services may cause prices to rise
- Governments are likely to try to stimulate economic activity, albeit it is unclear as to whether infrastructure spending may be part of such packages.

For boards, this means that they may need to:

- Monitor the risks and manage the overall exposures of the business
- Develop a risk register and risk tolerance profile for the business
- Plan for various scenarios and develop revenue and cash projections to evaluate their viability, effectiveness and sustainability
- Identify any investments required to see the business work through the pandemic
- Reset financial and performance expectations of the business and management
- Clarify the new priorities for the business during and beyond the pandemic
- Reset policy, even if only temporarily, to accommodate the pandemic environment

- Advise shareholders of the circumstances and where necessary foreshadow the need to retain cash and not to pay dividends for a period
- Support the CEO to develop and execute a board communications programme for clients, shareholders and staff
- Support the CEO and senior managers to lead the business through the pandemic
- Review the leadership team and its adequacy to lead the business through the pandemic, making changes and providing support where necessary.

Management

Managing a business through a pandemic crisis is a significant challenge. Managers need to provide confidence to all stakeholders, empathy and support to those under challenge.

Businesses also have a very important role to play in helping communities reduce the spread of the pandemic. This responsibility is both a moral, ethical and in some cases a legal obligation.

There are significant resources available online to assist businesses to plan and work their way through the pandemic, such as:

- [Harvard Business Review: Guide to leading your business through the coronavirus crisisⁱⁱ](#)
- [Harvard Business Review: Prepare Your Supply Chain for Coronavirusⁱⁱⁱ](#)
- [Harvard Business Review: What organisations need to survive a pandemic^{iv}](#)
- [Harvard Business Review: What's your company's emergency remote-work plan?^v](#)
- [Hogan Lovells: Coronavirus FAQ: Key corporate and commercial considerations^{vi}](#)
- [Hogan Lovells: Coronavirus as a contractual force majeure event: A simple checklist^{vii}](#)
- [Hogan Lovells: Coronavirus and cracks in your armor: Recognizing impending financial stressors spawned by a health pandemic^{viii}](#)
- [Hogan Lovells: Insurance and planning for the effect of coronavirus on business^{ix}](#)
- [Switzerland Global Enterprise: coronavirus – what swiss exporters need to be aware of^x](#)

There are also numerous documents being published by government to help businesses understand what they are dealing with. It is valuable for businesses to consider how they use these documents, potentially providing links to these documents on the firm's intranet.

In working through a plan as to how to survive the pandemic and how to survive beyond it, a business will face a number of key challenges including:

- The leadership to see the business through the crisis and plan for recovery
- The resilience of clients to keep operating and provide revenue for the business
- The financial strength of the business to accommodate revenue reductions and cash flow slowdowns
- The technology and processes to enable people to participate meaningfully in the business through the pandemic
- The tension between reducing cash flows and meeting staff salaries and other costs.

In terms of the business, FIDIC recommends that businesses:

- Review the financial capacity of the business to survive reductions in revenue and cash flow shortages
- Identify key action trigger points and develop decision criteria and action plans to steer the business through the pandemic

- Investigate whether it is possible to renegotiate with staff to adopt a salary model to enable the business and the staff to retain its staff and survive the crisis
- Cancel or defer all in-person events, conferences, workshops and meetings
- Cancel all non-essential travel
- Implement technology-based solutions for all meetings
- Enable working from home for all staff where practicable
- Put in place visitor arrival and engagement protocols to protect all involved from potential contact risk
- Follow all government and official guidelines and requirements
- Review the applicability of sick leave, carers leave and other human resources policies in terms of relevance to the COVID19 pandemic
- Engage partners, vendors and suppliers to facilitate a collaborative and coordinated approach to working through the circumstances.
- Identify services which the business can safely provide such as designing “shovel-ready” projects so that they are available to rapidly “jump-start” the economy when the crisis ebbs.

A pandemic is different from many other events which disrupt business. The building we work in, the technology we use is still working and available. Our clients, our business and our people are the ones affected. Our key staff are critically important assets and resources to help us survive the pandemic.

In terms of staff confidence, FIDIC recommends that businesses:

- Advise staff of the duty of care and commitments it makes to staff
- Brief managers and reception staff as to what action is required from them if a staff member arrives at work with COVID19 symptoms or is otherwise ill
- Remind staff of the programs it may have in place to support them and their families e.g. medical insurance, employee assistance programmes, counselling
- Set up hotlines or help desks for staff queries
- Set up an intranet, social media or other site for staff to be able to access all information relevant to COVID19 and the business’s approach to it
- Regularly communicate the reality of COVID19 to staff
- Provide links for staff to reliable sources of information on COVID19
- Remind staff of the values that they are required to uphold through the crisis
- Remind staff as to where they can find policy documents etc. relevant to the situation
- Focus on the health and safety of their staff and their families
- Implement an office-wide all facilities and fixtures and workstation surface cleaning programme
- Use posters in the office to remind everybody of expectations on personal hygiene
- Develop, if not already available, and communicate guidelines for staff on:
 - personal hygiene in the workplace, including sanitizer stations, hand washing, no touching or shaking hands
 - social distancing in all situations
 - banning face to face meetings
 - travel to and from work
 - staying home if unwell
 - working from home
 - access to use of company systems while working remotely

- Advise staff of the company's requirements regarding the health status, family care arrangements and their personal workplan
- Provide all relevant business contact details for human resources and payroll queries

Staff and salaries

For staff, there are also many concerns and potential implications around job security and the resilience of the business. They have financial obligations and commitments to support their families and ensure they have adequate housing. Staff are generally familiar with the potential impact of changes in economic circumstances, but a pandemic is not necessarily well understood.

In normal times, it is expected that salaries will be established with reference to the market, the role and the contribution or performance of the individual. These are not normal times. The pandemic itself requires a response which will disrupt normal business and beyond the pandemic there is potential for recession in many economies.

While the laws in various countries are very different, it is likely that downward pressures on revenues will cause businesses to need to reduce staff numbers and/or reduce the total salary costs in the business. On the other hand, some businesses may need to add staff, at least in the short term, to provide additional expertise and support for management or to provide emergency services such as management assistance to the health sector or designing and building hospitals.

FIDIC sees the need to consider a pandemic differently from other economic recessionary activities and urges firms to explore and consider negotiating staff salary arrangements which enable the business to survive the pandemic and the recession which may follow. This is likely to involve the adoption of a "living wage concept" during the pandemic as a minimum for all staff depending on circumstances. Such a concept may still reflect differences in roles.

Such a proposal may involve some senior staff taking greater salary reductions than less senior staff.

At the same time, businesses may consider "profit sharing" models, which enable businesses to share an agreed proportion of the profit at EBIT level, if any, with staff who participate in the "living wage" scheme to retain staff and underwrite the financial resilience of the business.

Other schemes have been adopted which involve staff taking % pay reductions. However, such schemes may be viewed negatively by less senior staff as the absolute impact on them may be greater.

Whatever approaches are adopted, FIDIC encourages open discussions and communication with staff and collaboration as the best ways to retain their engagement and support. This will help secure staff, provide more certainty and help managers focus on business-critical issues around winning work, maintaining revenues and positive cash flow.

Nonetheless, the recessionary impact of the pandemic may cause businesses to need to reduce staff. In doing so, regular updates on the business circumstances, clarity around the reasons why such action may be required and respectful appreciation for those leaving the business is vital to maintaining the morale of those remaining

Cash flow

Managing cashflow in a crisis is core to a company's survival. In many countries, directors must ensure a company can pay its debts when they are due and payable - the solvency test.

As the pandemic disrupts businesses, costs must be managed against the available revenue. Many businesses will survive the consequent downturn in profit or even tolerate a loss.

However, getting through the crisis successfully requires that firms have adequate cash to do so. It is, firstly, very important to understand the cash needs of the business, when cash comes in and when it is paid out. Planning for a number of different cash flow scenarios is wise, to understand the likelihood and severity of impact of each scenario.

It is important to identify ways and sources from which we can improve our cash flow. These may include the obvious: increasing revenue and reducing or deferring costs.

However, it is likely that through a prolonged pandemic, other sources of cash will be needed. Some of these are explored below.

- Renegotiate payment terms in contracts with clients either to achieve a pre-agreed monthly cash flow or to secure payment in advance or payment within, say, 5-10 days of invoice.
- Approach tax authorities to secure a return, reduction or deferral of tax payments. Many countries require companies to pay company tax throughout the year based on prior year's profit, actual quarterly profits or profit estimates. A reduction or deferral in tax payments, can provide substantial cashflow relief. In the current circumstances, many governments will recognise this as a valid way to support business, retain jobs and avoid more substantial economic damage.
- Approach the firms bank(s) to secure increased capacity in debt finance available to the business. With potential recession in mind, it is likely that central banks may reduce interest rates and initiate some quantitative easing. Again, in a number of countries, banks will see this as an opportunity and an important exercise of their corporate social responsibility and may do so at lower than usual interest rates.
- Approach senior equity holders to provide unsecured loans to the business. This approach has been adopted by many privately-owned firms in prior economic crises and proved to be quite successful. In some cases, these people mortgaged their own properties to obtain the finance they made available to the businesses. This can be problematic and challenging, but some will no doubt have the financial capacity and the belief to assist.
- While not so common, in some private firms in the past, individual owners, on request, have provided additional capital by way of equity or additional share issues to the company. This can be complicated and a process requiring shareholder approval for any substantial increase in equity and may also create long term distortions in the share allocation model used in more normal times. No doubt some private equity firms will also see this as an opportunity to take a stake in businesses they may later wish to acquire.

Whatever the solutions, those firms that develop their cash flow scenarios early in the pandemic, develop a cash flow management plan and approach those who may be able to offer solutions quickly and professionally will be well placed to survive the cash flow challenge.

In the event of a serious cash flow crisis, firms may not be able to negotiate their way through the challenge and ultimately may lose the true value of those businesses for shareholders and staff.



KENYATAAN MEDIA
MAJLIS KESELAMATAN NEGARA
JABATAN PERDANA MENTERI
18 MAC 2020

1. Umum telah mengetahui Kerajaan telah mengisytiharkan Perintah Kawalan Pergerakan yang bermula pada 18 hingga 31 Mac 2020.
2. Lanjutan daripada pengisytiharan tersebut, langkah-langkah susulan telah diambil bagi menyelaraskan dan memperincikan pelaksanaan Perintah Kawalan Pergerakan. Majlis Keselamatan Negara, Jabatan Perdana Menteri telah mengadakan mesyuarat penyelarasan antara agensi kerajaan pada 17 Mac 2020 untuk memperincikan pelaksanaan Perintah Kawalan Pergerakan agar Perintah ini dapat berjalan dengan baik dan lancar. Untuk memastikan keperluan orang ramai kepada perkhidmatan-perkhidmatan asas tidak terjejas sepanjang tempoh Perintah Kawalan Pergerakan ini berkuatkuasa, perkhidmatan-perkhidmatan tertentu seperti di **Lampiran A** (*Essential*) dan di **Lampiran B** (*Non-Essential*) dibenarkan beroperasi.
3. Perintah Kawalan Pergerakan berkuatkuasa mulai jam 12.00 tengah malam, 18 Mac 2020. Sehubungan itu, orang ramai diminta untuk mematuhi semua peraturan yang telah diputuskan oleh pihak berkuasa.

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
7.	PERGERAKAN KE LUAR NEGARA	1. WARGANEGARA	TIDAK DIBENARKAN
		2. BUKAN WARGANEGARA	DIBENARKAN
		3. KEPULANGAN WARGANEGARA KE TANAH AIR	DIBENARKAN DENGAN MENJALANI PEMERIKSAAN DAN KUARANTIN 14 HARI
8.	KEMASUKAN WARGA ASING		TIDAK DIBENARKAN KECUALI MEMPUNYAI TARAF DIPLOMATIK, PENDUDUK TETAP (<i>PERMANENT RESIDENT</i>) DAN PEGAWAI DAGANG (<i>EXPATRIATE</i>) DALAM <i>ESSENTIAL SERVICES</i> DAN MESTI DIKUARANTIN 14 HARI DAN BERDASARKAN KEPADA <i>CASE BY CASE BASIS</i>
9.	WARGA MALAYSIA YANG BEKERJA DI SINGAPURA / THAILAND / BRUNEI / INDONESIA		TIDAK DIBENARKAN

MAJLIS KESELAMATAN NEGARA
JABATAN PERDANA MENTERI
18 MAC 2020

4. Bagi melaksanakan Perintah Kawalan Pergerakan, Peraturan-Peraturan Pencegahan dan Pengawalan Penyakit Berjangkit (Langkah-Langkah Di Dalam Kawasan Tempatan Jangkitan) 2020 telah diwartakan pada 18 Mac 2020. Pegawai Polis DiRaja Malaysia dan RELA telah dilantik sebagai pegawai diberi kuasa di bawah Seksyen 3 Akta Pencegahan Dan Pengawalan Penyakit Berjangkit (Akta 342).
5. Bagi meningkatkan lagi keberkesanan Perintah Kawalan Pergerakan ini, orang ramai dinasihatkan supaya berada di rumah sepanjang masa kecuali untuk memenuhi keperluan-keperluan asas. Selain itu, amalkan penjarakan sosial (*social distancing*) dari orang sekeliling demi mengelakkan jangkitan COVID-19.
6. Sekiranya terdapat pertanyaan lanjut berkenaan perkara ini, orang ramai boleh menghubungi **Pusat Pengurusan Operasi Negara**, Majlis Keselamatan Negara, Jabatan Perdana Menteri di talian **03-8888 2010**.

Sekian.

MAJLIS KESELAMATAN NEGARA
JABATAN PERDANA MENTERI
18 MAC 2020

PERKHIDMATAN-PERKHIDMATAN (ESSENTIAL) DI BAWAH PERINTAH KAWALAN PERGERAKAN COVID-19

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
1.	PERKHIDMATAN PERBANKAN, KEWANGAN DAN BURSA	1. PERKHIDMATAN ATM	BEROPERASI
		2. PERKHIDMATAN ATAS TALIAN	BEROPERASI
		3. PENGURUSAN MESIN ATM/ CDM/ CEK/ KESELAMATAN	BEROPERASI
		4. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
		5. PERKHIDMATAN KAUNTER	BEROPERASI PADA KADAR MINIMA
		6. BURSA SAHAM	BEROPERASI
2.	PERKHIDMATAN ELEKTRIK DAN TENAGA	1. PEMBAIKAN/ PENYELENGGARAAN/ OPERASI	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
3.	PERKHIDMATAN BOMBA	1. OPERASI KEBOMBAAN	BEROPERASI
		2. BILIK GERAKAN	BEROPERASI
		3. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
4.	PERKHIDMATAN PELABUHAN DAN LAPANGAN TERBANG	1. OPERASI PELABUHAN DAN LAPANGAN TERBANG	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
5.	PERKHIDMATAN POS DAN COURIER	1. OPERASI POS/ COURIER	BEROPERASI
		2. PERKHIDMATAN KAUNTER	BEROPERASI
		3. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
6.	PENJARA/ PUSAT TAHANAN SEMENTARA/ DEPO IMIGRESEN/ PUSAT SERENTI/ LOKAP	1. OPERASI	BEROPERASI
		2. LAWATAN/KUNJUNGAN	DILARANG
		3. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
7.	BAHAN API DAN PELINCIR	1. STESEN MINYAK	BEROPERASI
		2. PENGELUARAN/PENAPISAN/PENYIMPANAN/ PEMBEKALAN/PENGEDARAN	BEROPERASI
		3. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
8.	PERKHIDMATAN KESIHATAN	1. OPERASI KESIHATAN / HOSPITAL/ KLINIK/ FARMASI AWAM DAN SWASTA / KEDAI UBAT TRADISIONAL BERDAFTAR / VETERINAR/ PUSAT DIALISIS	BEROPERASI
		2. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
		3. PUSAT RAWATAN ALTERNATIF	TUTUP

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
		4. LAWATAN PESAKIT	TIDAK DIBENARKAN KECUALI KES-KES KRITIKAL BERDASARKAN PERATURAN SEMASA KEMENTERIAN KESIHATAN MALAYSIA
9.	PENGURUSAN SISA PEPEJAL DAN PEMBENTUNGAN	1. OPERASI	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
10.	PERKHIDMATAN PENYIARAN/ PENERANGAN	1. HEBAHAN MAKLUMAT DAN OPERASI	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
11.	PERKHIDMATAN TELEKOMUNIKASI	1. PENYELENGGARAAN/OPERASI	BEROPERASI
		2. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
		3. PERKHIDMATAN KAUNTER	TUTUP
		4. PUSAT DATA	BEROPERASI
		5. PUSAT PANGGILAN (CALL CENTRE)	BEROPERASI
12.	PENGANGKUTAN DARAT/LAUT/UDARA (TERMASUK E-HAILING)	1. OPERASI /PENYELENGGARAAN	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH
13.	PERKHIDMATAN AIR	1. PEMBAIKAN/ PENYELENGGARAAN/OPERASI	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
14.	PERKHIDMATAN-PRKHIDMATAN PENTING KERAJAAN / BADAN BERKANUN	1. PERKHIDMATAN KAUNTER	BEROPERASI PADA KADAR MINIMA
		2. PENGUATKUASAAN	BEROPERASI
		3. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA
	i. PENERBANGAN AWAM		
	ii. KASTAM EKSAIS		
	iii. IMIGRESEN		
	iv. MARIN (APMM & JABATAN LAUT)		
	v. KAJI CUACA		
15.	KESELAMATAN/ PERTAHANAN (PDRM DAN ATM)	1. OPERASI DAN PENGUATKUASAAN	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA
		3. KURSUS DAN LATIHAN	DITANGGUH
16.	INDUSTRI DAN PERNIAGAAN BERKAITAN KESELAMATAN / PERTAHANAN	1. OPERASI/ PENYELENGGARAAN/ PEMBEKALAN/ PERKHIDMATAN	BEROPERASI
		2. PENTADBIRAN AM/ LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
17.	PEMBEKALAN DAN PERKHIDMATAN PENYEDIAAN MAKANAN i. RESTORAN / WARUNG ii. PENJAJA KECIL / <i>FOODTRUCK</i> / <i>FOODCOURT</i> iii. RESTORAN DALAM HOTEL	1. PEMBEKALAN BAHAN MENTAH	DIBENARKAN
		2. PEMBUNGKUSAN (<i>TAKE-AWAY</i>)	DIBENARKAN
		3. PENGHANTARAN (<i>DELIVERY</i>)	DIBENARKAN
		4. <i>DINE IN</i>	TIDAK DIBENARKAN
		5. PANDU LALU	DIBENARKAN
18.	PERUNCITAN i. KEDAI RUNCIT/ SERBANEKA/ PASARAYA/ PASAR AWAM/ PASAR BORONG	1. OPERASI	DIBENARKAN
		2. PEMBELIAN KEPERLUAN	MENGEHADKAN JUMLAH PEMBELI PER KELUARGA
		3. PASAR MALAM/ PASAR TANI	TIDAK DIBENARKAN
		4. <i>SHOPPING MALL</i>	TUTUP KECUALI BAHAGIAN PERUNCITAN (<i>GROCERIES</i>) DAN MAKANAN
		5. PENGHANTARAN	DIBENARKAN
20.	PERKHIDMATAN ATAS TALIAN	1. OPERASI	DIBENARKAN
21.	E-DAGANG	1. OPERASI	DIBENARKAN
22.	PENGURUSAN HIDUPAN LIAR	1. OPERASI	DIBENARKAN
		2. PENTADBIRAN AM/LAIN-LAIN	BEROPERASI PADA KADAR MINIMA/ BEKERJA DARI RUMAH

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
23.	PERHOTELAN/ <i>HOMESTAY</i> / PENGINAPAN BERBAYAR	1. OPERASI PENGINAPAN	DIBENARKAN TETAPI PERLU BERADA DI DALAM BILIK PENGINAPAN MENGIKUT TEMPOH KUARANTIN DAN TEMPAHAN SAJIAN SECARA <i>ROOM SERVICE</i>
		2. OPERASI SAMPINGAN (KOLAM RENANG/ PUB/ GYM/ BAR/ RESTORAN/ SPA)	TIDAK DIBENARKAN
		3. DAPUR SAJIAN	DIBENARKAN BEROPERASI HANYA UNTUK TUJUAN <i>ROOM SERVICE</i> SAHAJA

**PERKHIDMATAN-PERKHIDMATAN (NON-ESSENTIAL) DI BAWAH PERINTAH KAWALAN
PERGERAKAN COVID-19**

BIL.	PERKHIDMATAN	KOMPONEN	STATUS
1.	PEMBAIKAN KENDERAAN	1. PERKHIDMATAN PEMBAIKAN	BEROPERASI PADA KADAR MINIMA
		2. TOWING SERVICE	DIBENARKAN
2.	PEMBINAAN DAN PENGUBAHSUAIAN	1. INFRASTRUKTUR DALAM PEMBINAAN (IN-PROGRESS CONSTRUCTION) YANG MENJEJASKAN KESELAMATAN (SAFETY AND SECURITY)	DIBENARKAN TERTAKLUK KEPADA PENILAIAN JABATAN KERJA RAYA DAN JABATAN KESELAMATAN DAN KESIHATAN PEKERJAAN (DOSH)
3.	KEAGAMAAN	1. PERHIMPUNAN AGAMA	DILARANG
		2. PENGURUSAN KEMATIAN	DIBENARKAN DENGAN PENGLIBATAN MINIMA
4.	SUKAN / RIADAH AWAM		TIDAK DIBENARKAN/ DITUTUP
5.	SOSIAL DAN BUDAYA	1. PERHIMPUNAN / PERSEMBAHAN / CONCERT/ BUSKING / ZUMBA / KELAB MALAM / DISKO / BAR / KARAOKE / PANGGUNG WAYANG / PUSAT HIBURAN KELUARGA / FUN FAIR / ARCADE	DILARANG DAN DITUTUP
		2. MAJLIS KENDURI/ KERAIAAN	TIDAK DIBENARKAN
6.	PERGERAKAN DALAM NEGARA		TIDAK DIBENARKAN KECUALI BAGI TUJUAN MENDAPATKAN KEPERLUAN ASAS DAN AKSES KESIHATAN

**PERKHIDMATAN
BUKAN KEPERLUAN UTAMA
(NON-ESSENTIAL)
DI BAWAH PERINTAH
KAWALAN PERGERAKAN
COVID - 19**



**PEMBINAAN DAN
PENGUBAHSUAIAN**

**INFRASTRUKTUR
DALAM PEMBINAAN**

(IN-PROGRESS CONSTRUCTION) YANG
MENJEJASKAN KESELAMATAN
(SAFETY AND SECURITY)



DIBENARKAN TERTAKLUK KEPADA PENILAIAN
JABATAN KERJA RAYA DAN JABATAN
KESELAMATAN DAN KESIHATAN PEKERJAAN
(DOSH)



Approval from JKR & DOSH required even for emergency works. Consulting Engineers to email to this address - sarimaha.jkr@1govuc.gov.my



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