

# Suara SPERUNDING



## SUKE HIGHWAY HELICOIDAL RAMP



ASSOCIATION OF  
CONSULTING ENGINEERS MALAYSIA



INTERNATIONAL FEDERATION OF  
CONSULTING ENGINEERS (FIDIC)



FEDERATION OF ASEAN  
CONSULTING ENGINEERS (FACE)

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## Third Quarter 2022

### 2022/2023 Session

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## MESSAGE FROM THE PRESIDENT

Dear ACEM Members and Readers,  
I hope you and your family are safe and well. Welcome to our third edition of our Suara Perunding (SP) 2022. As usual, we thank our hard-working Publication Committee and Secretariat for their efforts in publishing the SP quarterly to keep members informed of our activities and provide information on matters of interest.

Firstly, we would like to congratulate the Board of Engineers, Malaysia (BEM) for their 50th anniversary celebration. The 50th anniversary dinner 2022 was held at the Royale Chulan Hotel on the 20th August 2022, with the Honourable Prime Minister as the guest of honour. YB Senior Works Minister and Deputy Minister were also in attendance. A total of 600 guests attended the dinner. ACEM was well represented by the President as BEM Board member, Office Bearers, Council members and Past Presidents, who have been contributing their time and efforts, serving in various BEM Committees.

ACEM welcome the office bearers of Association of Consulting Quantity Surveyors Malaysia, led by Sr. Kamarudin Sulaiman, ACQSM President, to our office on 7th August 2022 for a dialogue session. Cooperation between ACEM and ACQSM on events and activities were discussed. We look forward for more discussion and cooperation among the construction consultants. Photos and news regarding the dialogue are covered in this publication for your reading pleasure.

Regarding our site supervision courses webinars, we have completed the Site Supervision General module in August 2022 which was well attended. We shall be repeating the site supervision webinar series for those who have not attended them previously.

This quarterly SP edition shall also cover our ACEM webinars on PUMA, Impact of Extreme Rainfall Events on Hydrological Design, Man-made and Natural Geohazards and Road Ecology 2022 held in August 2022. We hope that members are keeping themselves updated through our website at <https://www.acem.com.my/>, as our website continues to be an important reference to keep abreast with the current information from various Government organisations and discussion outcomes with Government agencies.

We would also like to wish everyone on our double celebration of National Day on 31st August 2022 and Malaysia Day on 16th September 2022 for a happy, united and prosperous Malaysia.

*Let us ensure that ACEM is always in the forefront of maintaining the interest of our members in the **Engineering Consultancy business and industry.***

Thank you and happy reading,

**Ir. K. Sundraraj**  
**ACEM President.**

**New Members  
(July - September 2022)**

**Individuals**

**July 2022**

<b>Name</b>	<b>Date</b>
Ir. Shia Sin San	8 July 2022
Dato' Ir. Abdul Razak bin Dahalan	25 July 2022

**August 2022**

<b>Name</b>	<b>Date</b>
Ir. Lim Keng Jit	22 August 2022
Mr. Angus Voo Lok Hyen	22 August 2022
Ir. Muhammad Royani bin Mohd Adnan	22 August 2022
Ir. Dr. Ng Soon Ching	22 August 2022
Ir. Chang Toong Woh	22 August 2022
Ir. Benedict Chan Wei Chiang	22 August 2022
Ir. Lee Derk Chyuan	22 August 2022
Ir. Nazemi bin Mat	22 August 2022
Ir. Lim Chin Wah	23 August 2022
Ir. Heong Siew Lim	23 August 2022
Ir. Ahmad Mazli bin Maarof	25 August 2022
Ir. Fam Yew Hin	29 August 2022
Ir. Hj. Md Noor bin Mahmud	29 August 2022
Ir. Ellias bin Saidin	29 August 2022

**Panel Member Firms**

**July 2022**

<b>Name</b>	<b>Date</b>
Perunding GTE Sdn Bhd	18 July 2022

**September 2022**

<b>Name</b>	<b>Date</b>
G.B.U. Consultant	19 September 2022

**Cessation of Membership  
(July - September 2022)**

**Individuals**

**July 2022**

<b>Name</b>	<b>Date</b>
Tan Sri Dato' Ir. Wan A. Rahman Ya'acob	4 July 2022

**August 2022**

<b>Name</b>	<b>Date</b>
Ir. R. Managa Deavi A/P K.Ramanathan	17 August 2022
Ir. Hasnol Aidi Bin Yahaya	9 August 2022





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- CSR Charity Visits.

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- Moving the Malaysian Engineering Consultancy Practices (ECPs) Forward with Fair Professional Fee Structure.



## ACEM-ACQSM Dialogue 2022

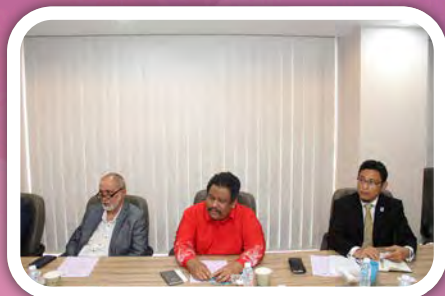
The ACEM-ACQSM dialogue was held on 5 August 2022 at ACEM Office. It was the first dialogue between ACEM with the Association of Consulting Quantity Surveyors Malaysia (ACQSM). The welcoming address was presented by ACEM President, Ir. K. Sundraraj. At the opening of the dialogue, Ir. K. Sundraraj gave a brief introduction about ACEM and introduced the council members who were present during the dialogue. The purpose of the dialogue was to strengthen relations between ACEM and ACQSM. As mentioned by ACQSM's President, Sr. Kamarudin Sulaiman, their association was just recently established and they hoped that there would be a link of activities between ACEM & ACQSM so that they can tap from ACEM's experience in running their association. ACQSM was impressed with the 59 years of ACEM's establishment. Ir. K. Sundraraj welcomes ACQSM for any enquiries and engagements. After the dialogue, ACQSM representatives toured the ACEM office and met some of the secretariat staffs. The dialogue ended with a group photo.



*Group photo*



*ACQSM Representatives*



*ACQSM Representatives*



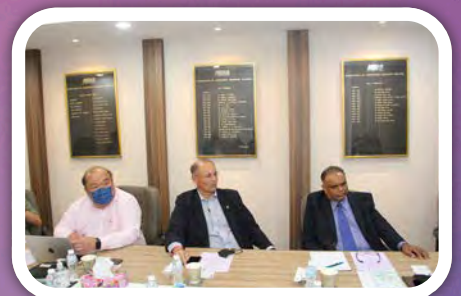
*Ir. K. Sundraraj presenting token of appreciation to the ACQSM President Sr. Kamaruddin Sulaiman.*



*Sr. Yazit Yeop Arbi (standing), giving a presentation on ACQSM*



*from left: Ir. Anuar, Ir. Foo Kam Fai & Ir. Ahmad Masyhur*



*From Left: Ir. Chong Chew Fan, Ir. Romesh & Ir. Sundraraj*



## Site Supervision Course General Module

ACEM conducted Webinars on Site Supervision Course General Module. The module was delivered in 4 webinars from June to August 2022. A total number of 763 attended the course. The instructor for the course were Ir. K. Sundraraj and Ir. Anuar Mohd Aris. Ir. K. Sundraraj has been involved in designing and constructing civil structures for the past 30 years while Ir. Anuar Mohd Aris has been involved in Highways' design and construction supervision for the past 30 years. The topic of the

course covers Accidents & Fatal Injuries, By-laws and Regulations, Contract Arrangement, IOW's Roles & Responsibilities, OSHCIM Guidelines, Future Supervision, General Responsibility, Safety & Environmental Aspects, Site Records & Progress Reporting, Certification/Payment & V.O. Management, Testing & Commissioning, Certificate of Practical Completion/Defect List, CCC/SPKL and Retention Sums & Final Accounts.



Ir. K. Sundraraj presenting his lecture.



Ir. Anuar Mohd Aris presenting his lecture.

## Webinar on Impact of Extreme Rainfall Events on Hydrological Design

The webinar was presented by Ir. Chong Sun Fatt and moderated by Ir. Liew Shaw Shong. It was held on 21 July 2022 via Zoom. A total of 123 participants attended the webinar. The speaker presented hydrological data and analysis results of the 2014 and 2021 extreme flood events. In addition,

the speaker also discussed the concept of flood frequency analysis incorporating climate change. The webinar also discusses the impacts of the design changes based on selected case studies.



From left, Ir. Liew Shaw Shong (Moderator) and Ir. Chong Sun Fatt



Ir. Chong Sun Fatt presenting his lecture.



## Webinar on PUMA - Introducing A Unique Bridge-Deck Waterproof Technology With Substantially Reduced Construction Cost

The webinar was held on 4 August 2022 via Zoom online. The webinar was presented by Dr. Abu Saleh Mohammod from Tremco Construction Products Group, APAC. A total number of 43 participants attended the webinar. PUMA is a generic name of a hybrid of elastomeric Polyurethane (PU) & Methyl Methacrylate (MMA) reactive acrylic resins. It is an extremely tough and equally elastic waterproof membrane with tenacious bonds with interfaces of concrete/metal substrate in the bottom and asphalt on the top. The topics covered included Why waterproofing bridge deck?, What is PUMA and its characteristics?, Application procedure, Job references



*Dr. Abu Saleh Mohammod presenting his lecture.*

## Webinar on Man-made and Natural Geohazards

The webinar was held on 25 August 2022 via Zoom. The speaker was Ir. Liew Shaw Shong, the Geotechnical Engineer and Senior Director at G&P Geotechnics Sdn Bhd. A total of 39 participants attended the webinar. In engineering works and natural environments, many expected and unexpected geohazards are inherently hiding in the ground. Often anthropogenic geohazards can be triggered by unintentional human activities in the ground. Hence proper risk assessments will be vital to reduce, if not prevent, the impacts of geohazards that can be expected in engineering processes during the construction stage. This webinar shared the speaker's experience on some geohazards from project involvements and suggested probable mitigating measures or solutions.



*Ir. Liew Shaw Shong presenting his lecture.*

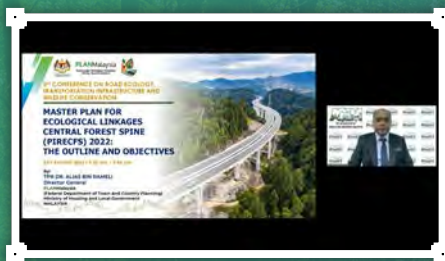


# Webinar On Road Ecology, Transportation Infrastructure And Wildlife Conservation – Central Forest Spine: Master Plan For Ecological Linkages

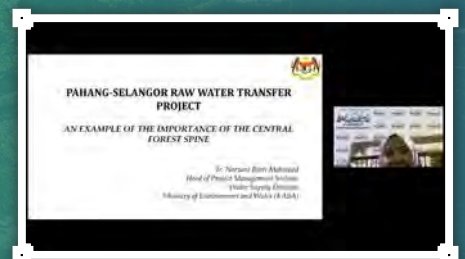
ACEM Webinar On Road Ecology, Transportation Infrastructure And Wildlife Conservation - Central Forest Spine Master Plan For Ecological Linkages was held on 23 August 2022 via Zoom. More than ninety participants attended the webinar. Ir. Patrick Augustin gave the webinar's welcoming address. The opening ceremony was officiated by ACEM President, Ir. K. Sundraraj. Dr Christine Fletcher was the webinar moderator. The speakers were Dr. Alias and Pn. Syarifah Nuraida from PLAN Malaysia, Mr. Rob Amend from Western Transportation Institute, Montana State University, Ir. Dr. Wong Chee Loong from Pengurusan Lembangan Sungai, Jabatan Pengairan Dan Saliran Malaysia, Ir. Norzani binti Mahmood from the Water Supply Division Ministry of Environment and Water(KASA), Sr. Dr. Muhamad Rosdi bin Senam, from Unit Pasukan Khas Gemas-Johor Bahru, Bahagian Pembangunan, Kementerian Pengangkutan Malaysia (MoT), Dr. Wong Ee Phin from Management & Ecology of Malaysian Elephants and last but not least Prof. Gopalasamy Reuben Clements from Sunway Centre For Planetary Health, Sunway University.



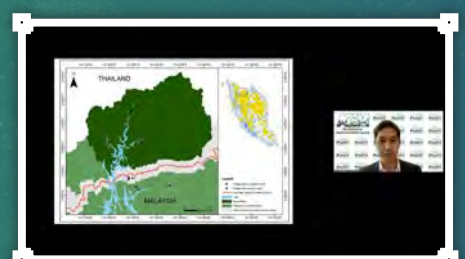
Group photo



From left, Dr. Christine Fletcher (Moderator), Dr. Alias and Pn Syarifah Nuraida with their slides presentations



From left, Mr. Rob Amend, Dr. Wong Chee Loong and Ir. Norzani with their slides presentations



From left, Dr. Muhamad Rosdi, Dr. Wong Ee Phin and Prof. Gopalasamy Reuben with their slides presentations





## Board of Engineers Malaysia 50th Anniversary Annual Dinner

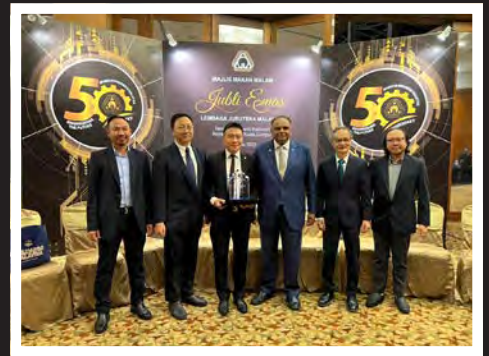
Board of Engineers Malaysia (BEM) organized their 50th Anniversary Annual Dinner on 20 August 2022 at Hotel Royale Chulan, Kuala Lumpur. ACEM members, including Council Members, attended the anniversary dinner. Our Prime Minister, YAB Dato' Sri Ismail Sabri Bin Yaakob officiated the 50th Anniversary Dinner.



Some of Council Members with the ACEM Members during the dinner



Group photo some of the Council Members with the ACEM Members.

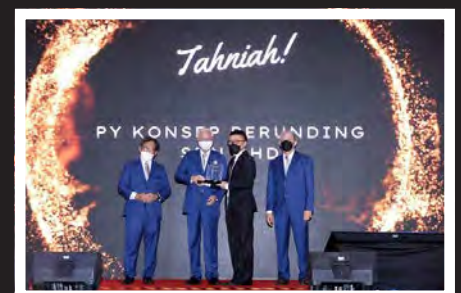


Ir. Razalie, Ir. Tan Kok Jyh, Ir. K. Sundararaj and Ir. Amirul Hisham with the winner of BESHEXA 2022

## BEM-ECP Safety, Health And Environment Excellence Award (BESHEXA) 2022

ACEM would like to congratulate APY Konsep Perunding Sdn. Bhd. for winning the BESHEXA 2022 and SMHB Sdn. Bhd. for receiving the special mention award. BEM-ECP Safety, Health and Environment Excellence Award (BESHEXA) is a bi-annual award presented to ECPs in Malaysia with proven Safety & Health and Environment (SHE) performance. The audited ECPs are subject to rigorous document

and site verification audits by a panel of qualified and dedicated judges. The BESHEXA Program began in 2022. The award was introduced to recognize ECP organizations that proactively participate, practise and improve their SHE performance in the delivery of their services while maintaining their consistency, diligence and resilience in their SHE practices at the workplace.



Winner of BESHEXA 2022, PY Konsep Perunding Sdn Bhd.



Special mention award, SMHB Sdn Bhd.



## Induction Course For New M&E Engineers



The course was held from 26-28 September 2022 at Hotel Armada Petaling Jaya. The course aims to introduce professional M&E consulting engineering services to new M&E Engineers, provide a brief run through of M&E design engineering practices and prepare course participants for further training in specific M&E engineering practices. The target audience is Mechanical or Electrical Engineers without formal training in Consulting Engineering practice and Engineers in consulting engineering firms with up to 2 years of experience.

Total of twenty-six participants attended the course. The speakers were Ir. Walter Sim, Ir. Dr. N. Jayaseelan, Ir. Soon See Leak, Ir. Chong Chew Fan, Ir. Ng Jo Yoong, Ir. Thin Voon Tuck and Ir. Ng Yong Kong. Subjects covered were Professional Practice, Electrical High Voltage & Low Voltage Installations, Air Conditioning and Mechanical Ventilation Systems, Elevator and Escalator, Cold Water Plumbing Systems, Sanitary Plumbing Systems, Fire Fighting



*Ir. Ng Joo Yoong Presenting His Lecture*



*Ir. Chong Chew Fan*



*Ir. Thin Voon Tuck*



*Participants who attended the induction course*



## Courtesy Call on Deputy Minister of Works, YB Datuk Arthur Joseph Kurup



Date : 1 July 2022 (Friday)  
Venue : Function Room 1, Hyatt Regency Hotel, Kota Kinabalu  
Organised by : ACEM Sabah  
Represented by : Ir. Razalie bin Sindong, Ir. Benny Song, Ir. Joe Primus, Ir. Wah Kheng Haw, Ir. Amirul Hisham, Ir. Sebastian Tiong, Ir. Fung Yin Khun and Ir. Lo Chong Chiun.

The purpose of the courtesy call was to bring up pertinent issues face by our members and panel firms in Sabah. Issues brought up were:

1. Appointment of additional board member in Board of Engineers Malaysia (BEM) and Construction Industry Development Board (CIDB). ACEM Sabah suggested the additional board member to be from Sabah practising engineer.
2. Award of federal funded project to Engineering Consultancy Practice (ECP) registered in Sabah only.
3. Professional fees shall be based on and adjusted in accordance to the final contract sum of the works instead of based on a pre-determined project budget fund (project ceiling cost) at the initial stage before any detailed engineering design been carried out.
4. ACEM Sabah, IEM Sabah and SEA have offered to provide lecture service in Akademi Binaan Malaysia (ABM).
5. ACEM Sabah offer to have a good rapport with CIDB in providing and contributing in the training of Inspector of Works (IOW).

YB Datuk Arthur Kurup has heard and taken note on the issues been brought up and he will take up these issues to relevant agencies.





## ACEM Sabah Corporate Social Responsibility (CSR): Food Aid to the Affected Residents of Kampung Kurnia Jaya, Tawau, Sabah

Date : 20 July 2022 (Wednesday)  
Venue : Kampung Kurnia Jaya, Tawau Sabah  
Organised by : ACEM Sabah  
Represented by : Ir. Razalie bin Sindong & Ir. Sebastian Tiong

The main objective of this CSR is to reach out to the fire victims of the wooden houses at Kampung Kurnia Jaya, Batu 4, Jalan Apas Tawau, Sabah by providing them food relief to ease their burden in this difficult time. With the support from The Association of Consulting Engineers Malaysia in promoting the food donation drive, ACEM Sabah has managed to collect a total sum of RM8,000.00

and enable the contribution of 160 sets of food basket comprising rice, eggs, noodles, flour, sugar, biscuits, and many kinds of food in an effort to comfort and relief the fire victims who has lost all their belongings in the fire. ACEM Sabah Branch in collaboration with JPKK Kg Kurnia Jaya, Tawau for being the coordinator ensuring that the food baskets were reached to the communities that are most affected

and witnessed by the representative from UPPM Apas, Tawau. Seeing here ACEM Sabah Branch Chairman Ir. Razalie Sindong, ACEM Sabah Head of CSR, Ir. Sebastian Tiong, UPPM Apas, Tuan Azriansyah Bin Ali, JPKK Kg. Kurnia Jaya, Puan Noor Shela BT Bakri and the representatives of the community of Kg Kurnia Jaya, Tawau.





## Courtesy Call to SOGDC Office

Date : 28 July 2022 (Thursday)  
Venue : Sabah Oil & Gas Development Corporation Sdn. Bhd. Office  
Organised by : ACEM Sabah  
Represented by : Datuk Ir. Chin Shu Ying, Ir. Song Perng Yeu, Ir. Chia Khuin Fung and Ir. Tan Kok Jyh, JP



Sabah Oil and Gas Development Corporation Sdn. Bhd. (SOGDC) is a state government agency incorporated in year 2010 to spearhead the oil and gas downstream economic activities in Sabah and development of the Sipitang Oil and Gas Industrial Park (SOGIP). A courtesy visit was made to Haji Abdul Kadir Haji Abdullah, the Chief Executive Officer of SOGDC on 28 July 2022. A memorandum which highlighted two (2) issues was handed over to the CEO. The two issues emphasised in the memorandum are as follows:

1. To appoint local Sabah based Engineering Consulting Practice (ECPs) in any engineering consulting works under SOGDC. List of ACEM Sabah individual members and panel firm members was also forwarded to the CEO.
2. To create incubator programs for consulting engineer firms in the Oil & Gas sector as well as urging SOGDC to link and facilitate our members, i.e. the Sabah based ECPs, to the expertise in oil and gas field as “technology transfer” to transform the Sabah ECPs as main players in providing engineering consultancy works.

During the visit, ACEM has also been briefed on the prospect of the oil and gas industrial park in Sipitang. From SOGDC's presentation, there will be RM19bil of potential investment in the pipeline in the following sectors:

1. Near Shore LNG (FLNG).
2. Silicon metal production.
3. Crude oil storage and refinery.
4. Green diesel plant.
5. Blue hydrogen project.
6. Power barge and centralised labour quarters.
7. Integrated waste management.





## Courtesy Call to Tanjung Aru Eco Development Sdn. Bhd.

**Date** : 5 August 2022 (Friday)  
**Venue** : Level 5, Sabah International Convention Centre, Kota Kinabalu  
**Organised by** : ACEM Sabah  
**Represented by** : Ir. Razalie bin Sindong, Datuk Ir. Chin Shu Ying, Ir. Song Perng Yeu, Ir. Wah Kheng Haw, Ir. Mohd Arzahri, Ir. Amirul Hisham, Ir. Tan Kok Jyh, Ir. Tan Koh Yon, Ir. Chow Wai Ming, and Ir. Lo Chong Chiun.

A courtesy call was made to Tanjung Aru Eco Development Sdn. Bhd (TAED) on 5th August 2022, led by Sabah Branch Chairman, Ir. Razalie Sindong. The delegation of 12 committee members was greeted by TAED's Chief Executive Officer (CEO), Datuk Ismail Abdullah.

During the meet, TAED gave a presentation on the latest updates and development. Currently TAED is re-studying, reviewing and revising the previous gazetted Masterplan. The design parameters considered in revising the masterplan are:

- Development cells / parcels
- Heritage & nature assets
- Relocation of schools, institutions and etc.
- Access and circulation
- Utilities corridors & easement
- Drainage
- Flood and pollution mitigation measures
- Green infrastructure

TAED believes that the newly revised masterplan will be more citizen-centric (which includes more open

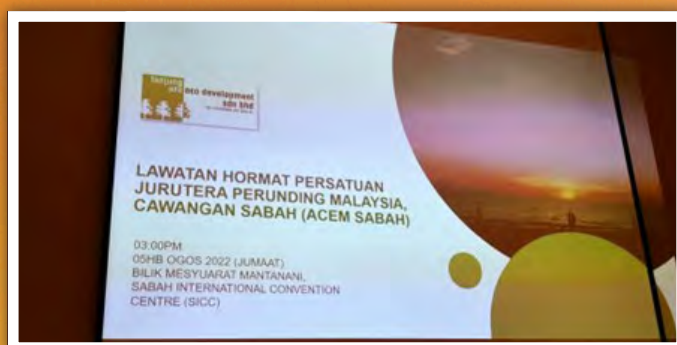
and public spaces, no reclamation, no canal and public will have full access to the beach, existing 2km beach front will be remained and to be increased to approximately 2.5km long beach front). The revised masterplan is expected to obtain approval in 3rd quarter of 2023.

TAED also outlined that once the social impact study has completed, they will arrange to engage with the public as well as technical agencies for the revised masterplan before it is submitted for approval.

ACEM Sabah has offered:

1. Close door engagement with TAED in giving technical input on the revise masterplan before it is submitted for approval.
2. To collaborate with TAED in providing talks (on technical matters) during TAED public engagement events.

A copy of list of ACEM Sabah individual members and panel firm members (Sabah ECPs) was handed over to CEO for TAED to select from in providing engineering consultancy service for future development with their Joint Venture (JV) partners.





## Courtesy Call to Qhazanah Sabah Berhad

Date	: 9 August 2022 (Tuesday)
Venue	: Qhazanah Technology Sdn Bhd, B2-3-01, Level 3, Block B2, Riverson Suites Lorong Riverson@Sembulan
Organised by	: ACEM Sabah
Represented by	: Ir. Razalie bin Sindong, Datuk Ir. Chin Shu Ying, Ir. Song Perng Yeu and Ir. Amirul Hisham



A courtesy call on Datuk Seri Panglima Salleh Tun Said (DSPSS), the Chairman of Qhazanah Sabah Berhad (QSB), was made on 9th August 2022.

During the courtesy call, ACEM Sabah has:

1. Requested that Sabah-based Engineering Consultancy Practice (ECPs), particularly ACEM Sabah members to be prioritised as the engineering consultant to QSB's projects in Sabah.
2. 2.Handed over and explained the MLGH circular (i.e. Syarat-syarat Mengemukakan Brif Perancangan, Pelan Pembangunan, Pelan Landskap, Pelan Bangunan dan Sijil Menduduki Oleh Juruperunding Tempatan) to DSPSS that the Submitting Person (SP) must be Sabah based ECPs and the SP must be stationed in Sabah.

DSPSS has also shared QSB's planning and its future developments where ACEM Sabah members could potentially involve and collaborate with.





## Courtesy Call on YB Datuk Seri Panglima Bung Moktar bin Radin, Deputy Chief Minister of Sabah cum Minister to the Ministry of Works, Sabah.



Date : 25 August 2022 (Thursday)  
Venue : Bangunan JKR, Sembulan  
Organised by : ACEM Sabah  
Represented by : Ir. Razalie bin Sindong, Datuk Ir. Chin Shu Ying, Ir. Song Perng Yeu, Ir. Joe Primus and Ir. Lee Tet Fon.

A courtesy call was made to Datuk Seri Panglima Bung Moktar Radin, the Minister to the Kementerian Kerja Raya Sabah on 25 August 2022. Four pertinent issues face by members and panel firms in Sabah were brought up during the visit, namely:

1. Award of federal funded project to Engineering Consultancy Practice (ECP) registered in Sabah only.
2. Calculation of suitable Scale of Fee (SOF) in projects.
3. ECP Supervision of Construction Works.
4. Project Ceiling is lower than the actual contract sum.







## ACEM Sabah – SEA – IEM Sabah Fellowship Golf 2022

Date : 1 September 2022 (Thursday)  
Venue : Sabah Golf & Country Club (SGCC)  
Organised by : Sabah Engineers Association (SEA), IEM Sabah and ACEM Sabah  
Organising Chairman : Ir. Tan Koh Yon, SEA President/ACEM Sabah Past Chairman

The 3-engineering fraternity has successfully organised the Fellowship Golf 2022, on the 1 September 2022. 40 golfers consist of the members of the associations and invited guests have participated in the tournament. Sponsored by Sequ-TAS Oil & Gas, the event was made more pleasant with attractive gifts and lucky draws.





## Webinar Talk on “The Added Value of BIM: Benefit for MEP Engineering (Engineering)” on 18th July 2022

The webinar talk was collaboration organised with Progressive Computer Systems Sdn Bhd. Mr. Mike Tang was the speaker of the talk.



## Meeting with The Ministry of Utility and Telecommunication Sarawak

The Ministry of Utility and Telecommunication Sarawak organised a meeting on “Draft Sarawak Energy Distribution Services Circular on Design, Construction and Supervision of Electrical Works by Professional Engineers” on 14th July 2022 at the ministry’s office, Kuching. Ir. Clarence Chieng Sie Yii and Ts. Jarvis Ling attended the meeting as representing ACEM (Sarawak Branch). (no photo)

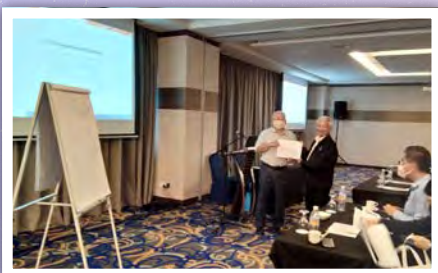


## Webinar Talk On “Pre-Engineered Vs Conventional – The Difference” On 25th July 2022

The webinar talk was collaboration organised with United G.I. Products Sdn Bhd & Nova Buildings Group. Ms Jennie Chong and Mr Jalaj Sharma were the speakers of the talk

## One Day Course on “Reinforced Concrete Design to MS EN 1992-1-1” on 29th July 2022

The course was held on physical meeting at Raia Hotel & Convention Centre, Kuching. Ir. Tu Yong Eng was the speaker of the course.



Presentation token of appreciation to speaker



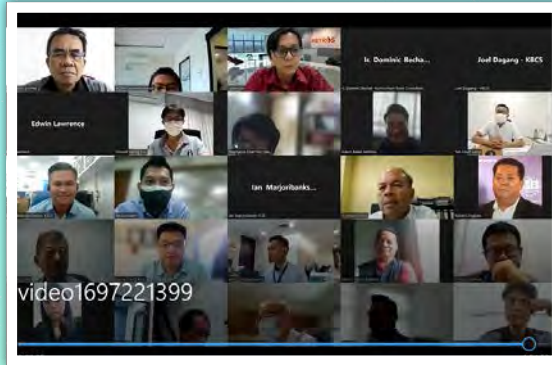
A view of participants attending the course





## Webinar Talk on “Gas Distribution in Sarawak” on 10th August 2022

The webinar talk was organised in collaboration with PETROS. Mr. Julian Jues was the speaker of the talk.

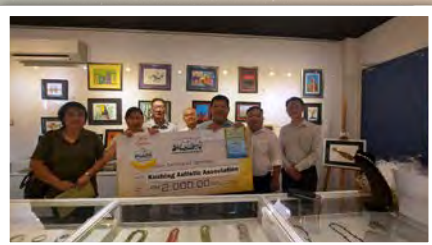


## Invitation from IEM (Sarawak Branch) & SHEDA to Anniversary Dinners

The Branch Chairman was invited to the SHEDA Annual Dinner and Excellence Awards 2022 on 10th August 2022 at Borneo Convention Centre Kuching /BCKK, Kuching. Ir. Wong Sie Ung was also invited to dinner as he was Adjudicator for the Awards 2022. The Branch Chairman was invited to the IEM (Sarawak Branch) Annual Dinner on 12th August at Imperial Hotel Kuching.

## CSR Charity Visits

The Branch had made CSR charity visits to Sarawak Children Cancer's Society/SCCS and Kuching Autism Association/KAA on 21st July 2022 at Jalan Desa Wira, Batu Kawa, Kuching. The visits were delegated by Branch Chairman, the Secretariat and ExCo members.







# Moving the Malaysian Engineering Consultancy Practices (ECPs) Forward with Fair Professional Fee Structure

By Ir. Amin Ramli

25th January 2022 (revised 27th September 2022)

On the 14th September 2022, the Board of Engineers Malaysia (BEM) published a report on the Study and Way Forward on the Issue of Low Starting Salaries for Engineers in Malaysia. The study was welcomed by the engineering community. Looking through the related posts in social media, some might say it is overdue. Some argue that the mention of the “Jurutera Miskin” article in the first paragraph of the report indicates a report that was conducted upon the provocation and threat of negative publicity, rather than an initiative born out of purity to uphold the profession. In other words, why did it have to come to this for anyone to look into the matter seriously?

While these are valid arguments, I would personally take the side of optimism. The BEM has issued a report that not only paints the realities of the profession, but a pragmatic one, as it outlines a series of action plans that addresses each component in the engineering value chain. Companies need to review the entry level salaries, academic institutions need to address the quantity and quality of graduates based on market needs, BEM need to strengthen its authority in the Registration of Engineers Act (REA) and improve the Scale of Fees (SOF). These actions plans are expected to improve the financial side of the engineering profession and hopefully bring talent, creativity and innovation back into the industries.

## The SOF

About a year ago, the Board of Engineers (BEM) posted a webinar poster regarding the Revised Scale of Fees. One captivating statement on the poster was “The original **intent of the SOF was to avoid undercutting by the engineers**, who may otherwise provide reduced / sub-standard service and thereby fail to protect public interest”. Being a principal and shareholder of an Engineering Consultancy Practice (ECP), I registered and attended the webinar. Not surprisingly, attendees were many. The webinar explained primarily on the intention of amending the current SOF, and did not address the underlying issue that the ECP industry is facing. Personally, I was disappointed at this outcome. As an ECP owner, I had the feeling that despite having so many bodies, associations and institutions, we have not been able to protect the economics of our own industry.

This long article intends to dissect the underlying issues of the downward trend of professional fees, and attempts to address it with its own proposals. It is hoped that the BEM can focus on the bigger agenda, rather than being absorbed with terminologies and minor amendments within the act.



## How are ECPs doing?

I was invited to speak at the ACEM Forum 2022 in May, delivering a paper called “Consultancy Fees: Market Realities”. The forum was attended by ECP owners, directors and senior management. During the talk, I conducted a live anonymous survey to gauge the audience on the profile and practice of ECPs in today’s market. Figure 1 shows a summary of the first survey.

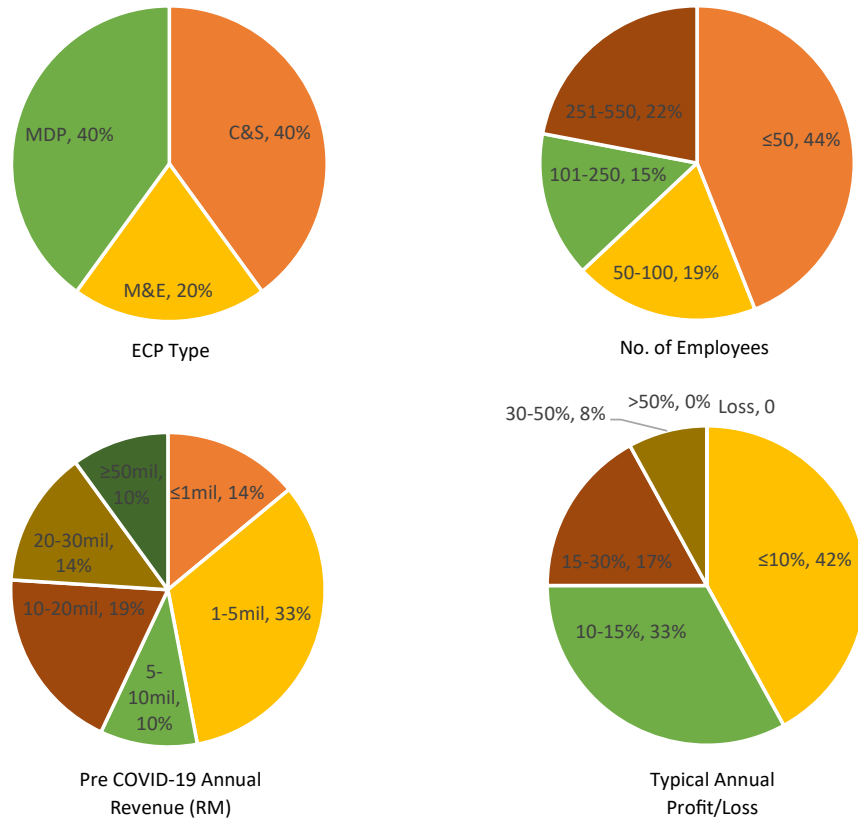


Figure 1: Survey on ECP's profile and financial performance during the ACEM Forum (May 2022)

Out of 27 ECPs, 12 (44%) responded employing less than 50 employees, out of which eight (8) having less than 20 employees. About 1/3 of ECPs earn between RM1-5 million in annual revenue, with **most reporting single-digit annual profits (less than 10%)**. It should be noted that revenue and profits do not represent cashflow, as many ECPs will report that payments are often delayed. For shareholders, the last chart is arguably the most important financial indicator, as it translates into the company's ability to raise financing or reinvest in itself; through improved training, technology and software adoption, dividend payouts, employee rewards and ultimately attracting investors.

## Is undercutting really happening?

Undercutting in the context of a service provider is offering services below the price of one's competitors. In the context of practicing within the guidelines of BEM, it could also be argued that undercutting means offering services below the SOF rates. Generally, the mechanism of undercutting is calculated in the following manner:

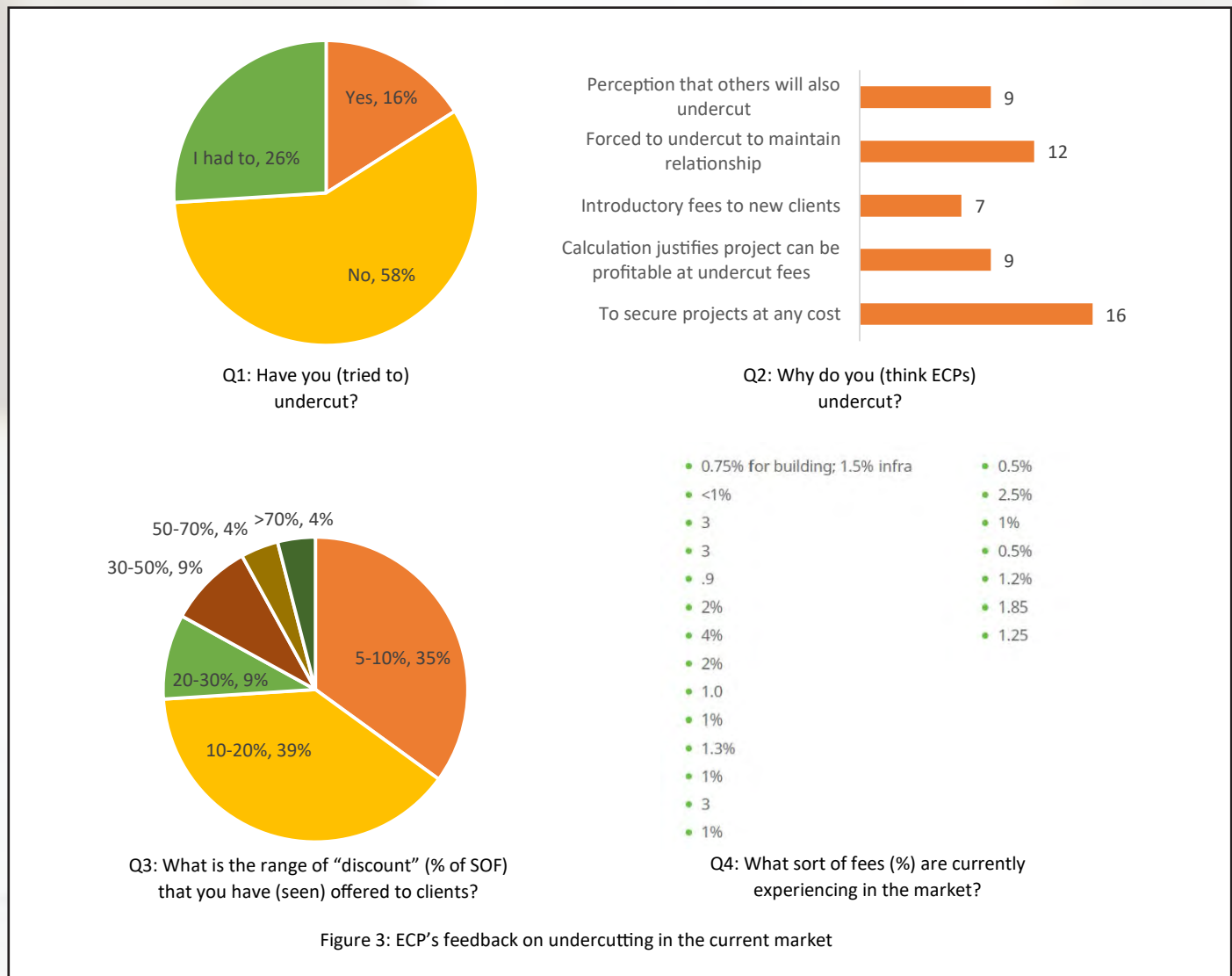
$$\text{Fee (RM)} = \text{SOF Rate (\%)} \times \text{Est. Construction Cost (RM)} \\ \times \text{Component (C\&S, M\&E) (\%)} \times [1 - \text{Discount Rate (\%)}]$$

UNDERCUTTING

Figure 2: The mechanism of undercutting uses the SOF rate and applies a 'discount rate'



In the question of “Is undercutting really happening?”, my initial impression is that most ECP will answer “yes”. During the forum, the following questions were asked:



A slight majority (58%) of ECPs answered never having undercut or tried to undercut their peers. Nearly ¾ of the participants responded having observed undercutting between 5-20% of the current SOF. However, it is concerning to see ‘discounts’ being offered at over 50% and 70% respectively. Several ECPs responded having observed figures as low as 1%, 0.75% and even 0.5% in the market. While the quantum (RM) is not indicated, these figures are certainly a far distance from the 2.28% at RM1billion floor in the SOF.

What is even more concerning is that that top reasons why ECPs are offering discounts are to (1) secure the project at any cost, and (2) forced to undercut to maintain relationship, presumably with their clients. Only nine (9) respondents indicated that the undercut fees were justified through prior calculation. This suggests a sort of ‘kamikaze’ approach to bidding where ECPs appear to offer discounts for the sake of securing the project, indicating desperation to ‘survive’, and low priorities in the eventual outcome, i.e., staff overloading, delivery quality and profitability.

### **Admit there is a problem: Undercutting is real**

**There is harsh irony that the SOF has done the complete opposite of its original intent (avoid undercutting). In fact, it has been used as basis for undercutting.**

It is apparent that ECPs are undercutting to levels beyond breakeven, into losses, so that they could ‘survive’. Those who have attended tender briefings or events with ECP owners, more and more are using the phrase:



“What to do, need to survive”. I have intentionally focused on the word ‘survive’, because it is a concern in the engineering practice. Generally, those who seek survival would not prioritize quality, whereas quality and precision is something that we should hold dearly.

The sub-header for this section is likened to the steps of overcoming addiction, because there are similarities with the ECP’s current situation. Undercutting has been so engrained within our business environment that we cannot seem to see how damaging it is anymore. Worse, we have accepted it to be an industry norm. What we do not realise is that in doing so, we have damaged the industry’s high reputation and devalued it to the point of resulting in low pay and talent deprivation. The situation needs bold action. It needs detoxification.

The statement that we often hear from the BEM is that “there has been no official complaints to the BEM on this matter” and that the SOF is just a ‘reference’. This may be true, but BEM is viewed as the champion of the engineering industry. Any statement that suggests inaction could be detrimental to the industry, and almost appearing supportive of the ongoing abuse and undercutting culture. We know that the industry is suffering, and in ‘survival’ mode. Those who complain would risk losing potential clients. I would also argue that if the SOF is a ‘reference’ that few uses, is it still relevant or even practical to be included in a Federal Act? In this regard, BEM’s report recognizes the weaknesses in the REA, and outlines an action plan to strengthen itself as an enforcement agency. This is encouraging, and a step in the right direction.

We need to admit there is a problem. Then we can start to fix it.

### **Current mechanisms of undercutting**

Undercutting has generally been accomplished through ‘discounts’ of the SOF. It is widely known, and now proven through this survey that many ECPs have abandoned the SOF. However, while this is the case, the general approach for quoting for a professional engineering service is still a modified version of the SOF. It is still very much a percentage-based fee calculated against a version of a construction cost. It could be based on the total estimated construction cost, or specific component(s) of the estimated construction cost (C&S, M&E, etc.). The focus is that these remain merely estimates until the project has been tendered or closed its final accounts.

The difference is that **the industry is now quoting an exorbitant ‘discount’ from the SOF. From the survey, quotations as low as 0.5% are now seen tenders**, demonstrating desperation and devaluation of our sacred craft. The question is whether these figures, stretched over the project period of 3 to 5 years are sustainable for ECPs to provide qualified personnel (with proper training and experience), who are fairly paid (including benefits), provided a proper workplace environment, using legal/original software subscriptions, and not overworked to an extent that reduces output quality?

Many project owners, including the Government, through the Ministry of Finance (MOF) circular PK3.2, have now ‘fixed’ the fee’s ceiling despite upward cost variations in the eventual construction cost. This is clearly counter-productive if the project owner wants value from the ECP, and for the ECP to be creative in helping them save cost through value-engineering or other methods. What is more concerning is that by introducing this clause, the Government has ‘led by example’ and paved the way for the private sectors to manipulate the professional fees in a similar manner.

The mechanisms for undercutting are either voluntary or pressured. Even when it is voluntary, experience has taught us that it is often driven by peer-pressure. **The survey shows that 17% undercuts because they fear others might undercut.** The outcome is a win for the project owner for getting a service provider who takes seemingly limitless liability for very little money. The practice is not dissimilar to that in a wholesale market or pasar borong. In turn, it is a big lost for the ECPs, as well as the industry as a whole.

**The main issue here is that industry is still looking at a percentage-based fee because of the SOF structure. The fact that it originates from the BEM and has been traditionally used in Malaysia for the past 50 years makes it difficult to move away from this mentality, when in fact it is the percentage-based SOF that is the main cause of the problems ECPs face today.**



### Basis of SOF and percentage-based fees

I have always wondered what was the basis of the percentages in the SOF? How were the figures calculated? In trying to answer this question, one has to consider that there are different categories of ‘rates’. I found that the most relevant explanation in MBO Partners’ publication, September 2020. There are (1) Cost-based rate, (2) Market-based rate and (3) Value-based rate.

<b>Cost-based rate</b>	A cost-based rate is the most common starting point for calculating a billing rate. It helps set your baseline figure. It factors in the <b>costs you need to cover to make your target income</b> . Although this is an ideal method for many consultants, it does have its drawbacks. First, it does not take into account the value you are providing the client, so this method could have you undercharging people. You also aren’t factoring in what the competition is doing or charging or how urgent the client may need your services and how scarce of a resource you are to find
<b>Market-based rate</b>	The market-based rate is dependent on supply and demand. If your billing rate is market-based, you can assure that the amount will meet your client’s expectations. In order to assign a market rate to your work, you must be performing a task that is definable. Defining what you do can <b>take into account your experience, industry, title, and region</b> . To accurately calculate a market-based bill rate, you must have current market data. Your best source of information is competitive research: who are your competitors, what do they offer, and how much do they charge.
<b>Value-based rate</b>	The value-based rate is <b>charged by consultants who have a unique, valuable and scarce skill</b> . The best way to determine the value is to know the client. Try and find out as much as you can about the scope of the project to understand the value you can provide. Simply put, this bill rate is very specific to your client and your contribution. As you may have guessed, it’s based on the value you provide to the client and the ROI they receive. This can be a very profitable billing method, but is only appropriate for consultants with a wealth of experience. The client must walk away feeling that they actually got enough value for what you were charging, or else your reputation will suffer

Table 1: Difference between cost-based, market-based and value-based rates

There are certainly benefits to a percentage-based fee, and for all intents and purposes, it was a good reference when it was first formed in 1970s. Engineers were scarce, and that justified the basis for a “value-based rate”, which was likely the initial basis of the SOF. The SOF was likely included in the REA to ensure that engineers charge reasonably for their services, not too high or not too low. The engineering field was highly valued for its high knowledge and specialization to solve complex problems. Engineers were sought to analyze, develop methodologies, drawings and specifications for all nation building projects. The SOF was likely developed in the absence of a proper compensation structure.

When the SOF was amended in 1998, the Pmin and Pmax range were introduced for possibly the same reason. As more ECPs compete in the market, there was perhaps a need to ensure that engineering firms compete within a certain acceptable range to ensure that the quality of services remain at a high level.

Today, the industry has matured and understands the processes of technical approvals. Advance technical standards have been developed for engineers to refer and comply. Suppliers are able to provide technical details with P.E endorsements, providing comfort and taking some amount of liability from design engineers. While engineering judgment and experience remains vital to a project delivery, there is no doubt that the setting of many projects today, especially housing projects, are fairly cookie-cutters in nature. This situation has admittedly leveled the playing field substantially and diluted what was niche and scarce in the past. **This is positive for the industry, as some sectors have moved into a “market-based rate”, but this is also where undercutting and abuse of the SOF is prevalent. The challenge now is to ensure that the qualification of**



**personnel, quality of work and the level of accountability is remunerated fairly under current market conditions.**

### The strengths and weaknesses of percentage-based fees

#### Strengths

The **percentage-based fee structure is admittedly simple**. It is so straight forward that anybody at any level in the supply chain can understand it. It therefore creates a simple negotiation process between the ECP and the client. Both could choose a number and try to meet in between. It is also **easily scalable to address cost additions and reductions** within a project. The best part of it is if projects are awarded within the SOF, projects are executed on schedule, and payments are timely, ECPs enjoy a handsome sum and are likely to put their best resources and perform better in the project.

#### Weaknesses

As I will demonstrate in this paper, I believe the weaknesses of a percentage-based fee outweigh the strengths. I have identified six (6) primary weaknesses or flaws that have contributed to the failed economics of this fee structure.

#### Weakness 1: Not enforceable

In this case, the main issue is that **the SOF is not enforceable**. Identified as a 'guide' or 'reference', it does not hold traction in setting a strong baseline or starting point for a negotiation. As indicated, **the industry has in generally abandoned the SOF** and any ECP insisting of holding on to it would typically find themselves quoting high and become unsuccessful in the bid. From the survey, the current baseline or starting point for negotiations, particularly with property developers, is well below the SOF.

#### Weakness 2: No negotiation basis

The nature of the fees also makes it difficult to set as a basis for negotiation. Here, the strength of the fee structure is also its weakness. Both parties could simply call out a figure and hope the other party accepts it. But why 1%, 2% or 3%? Many ECPs tend of lean on typical responses like "to cover cost", "cover liability" or "a lot of work involved", without tangible proof. This often leads to abuse, with many companies pressured to quote low and baseless percentages with an impression that this is the 'market rate'.

To address this, firms could calculate fees by understanding their cost to deliver the project. This is done by multiplying their resource rates (salaries) by their true multiplier (i.e., actual company overhead from the audited accounts, not the MOF multiplier), the desired profit rate and of course the estimated time input over the project duration. This provides an amount which can be divided by the project cost to determine the percentage.

$$\text{Estimated baseline fee, } F (\%) = \frac{(OH + Pr) \times \sum (Sr + Es) \times Ut}{CC}$$

*Sr : Salary or Resource Rate (RM/month)*

*Es : Salary Escalation or Increments for each year of the project duration, if any (RM)*

*Ut : Utilisation rate (Months)*

*OH : Company's True Overhead Multiplier (calculated from audited accounts, not MOF's)*

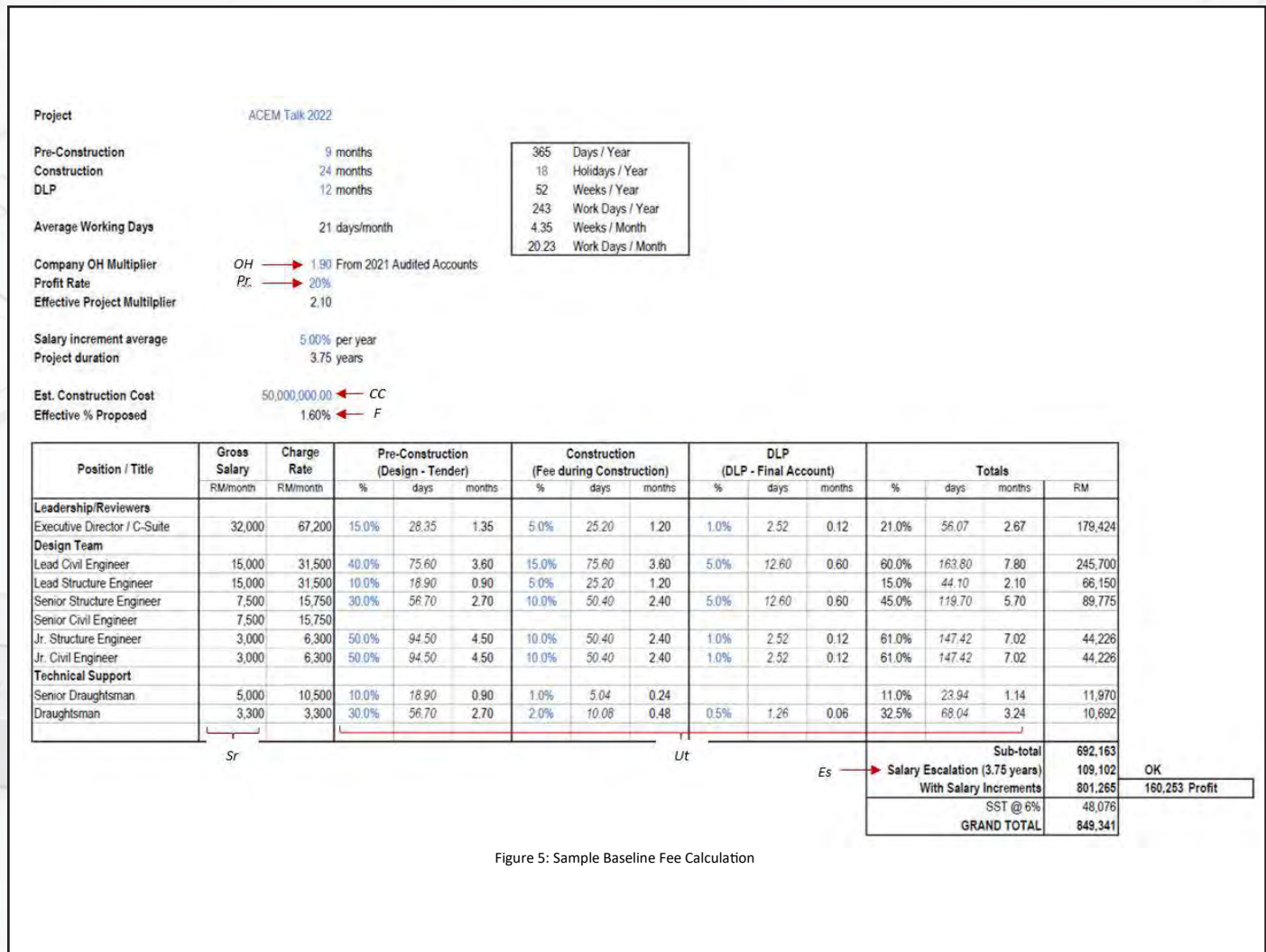
*Pr : Desired Profit Rate (%)*

*CC : Construction Cost (RM)*

Figure 4: How to estimate a fee baseline in RM and convert it into a percentage-based fee



A sample calculation is show in Figure 5 below:





Consider the same project above with an extended construction timeline of 6 months (Figure 6).

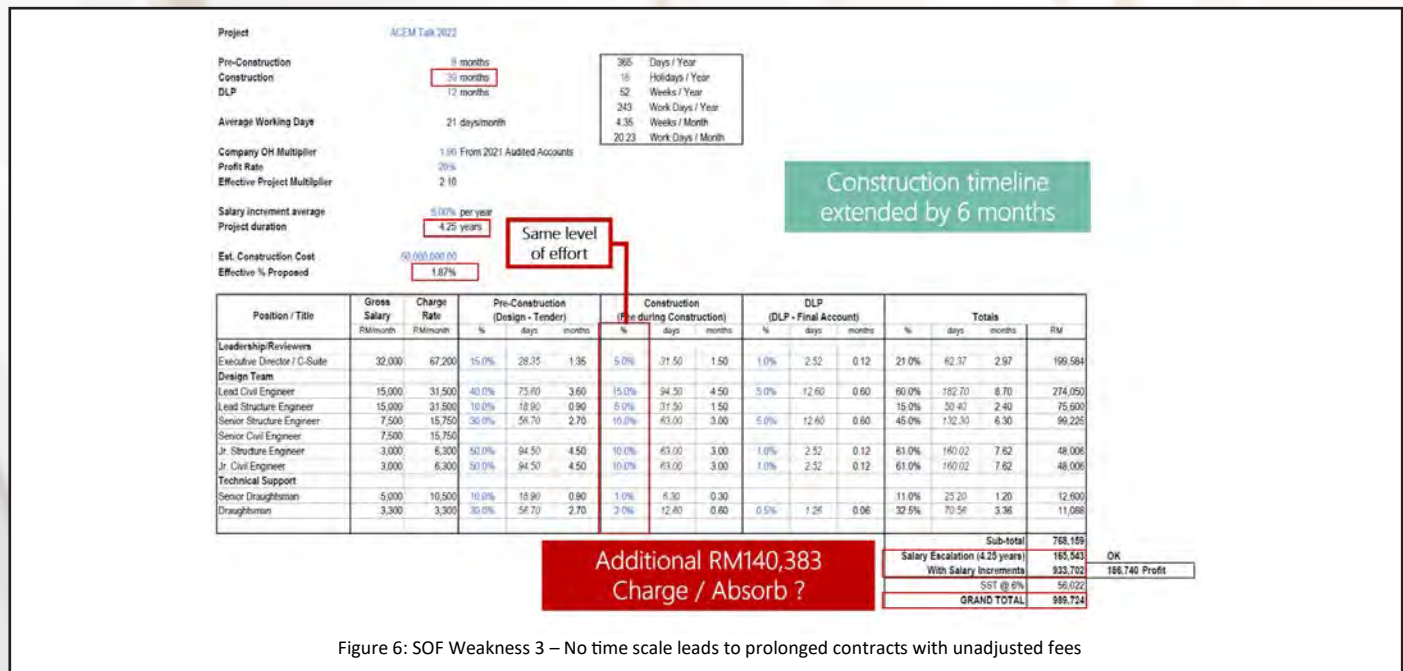


Figure 6: SOF Weakness 3 – No time scale leads to prolonged contracts with unadjusted fees

The same level of effort is required from the ECP (e.g., monthly meetings, site visits, correspondences, etc.) results in an additional RM140k for the ECP, but with a percentage-based fee structure and the construction cost remains unchanged, the ECP is forced to absorb the additional fees.

#### Weakness 4: Additional works

How does an ECP justify an additional piece of work in a project? Typically, the contract outlines the scope of services, and if it is not indicated, it could be argued to be an additional work. The issue is again that ECPs are bound by the agreed percentage. If the construction cost is RM50million, and there is an additional work that costs RM2mil, but requires a substantial amount of effort in terms of re-obtaining authority approvals, preparing reports, negotiating with authorities, etc, the ECP will typically be short-changed. The fee difference between a RM50million and RM52million construction cost is small (+4%), and is often used by the client to justify a small compensation for the additional effort, if any. **The time and effort are again ignored, when they are in fact driven by time intensity, not the construction cost.** Figure 7 simulates the project with this scenario.

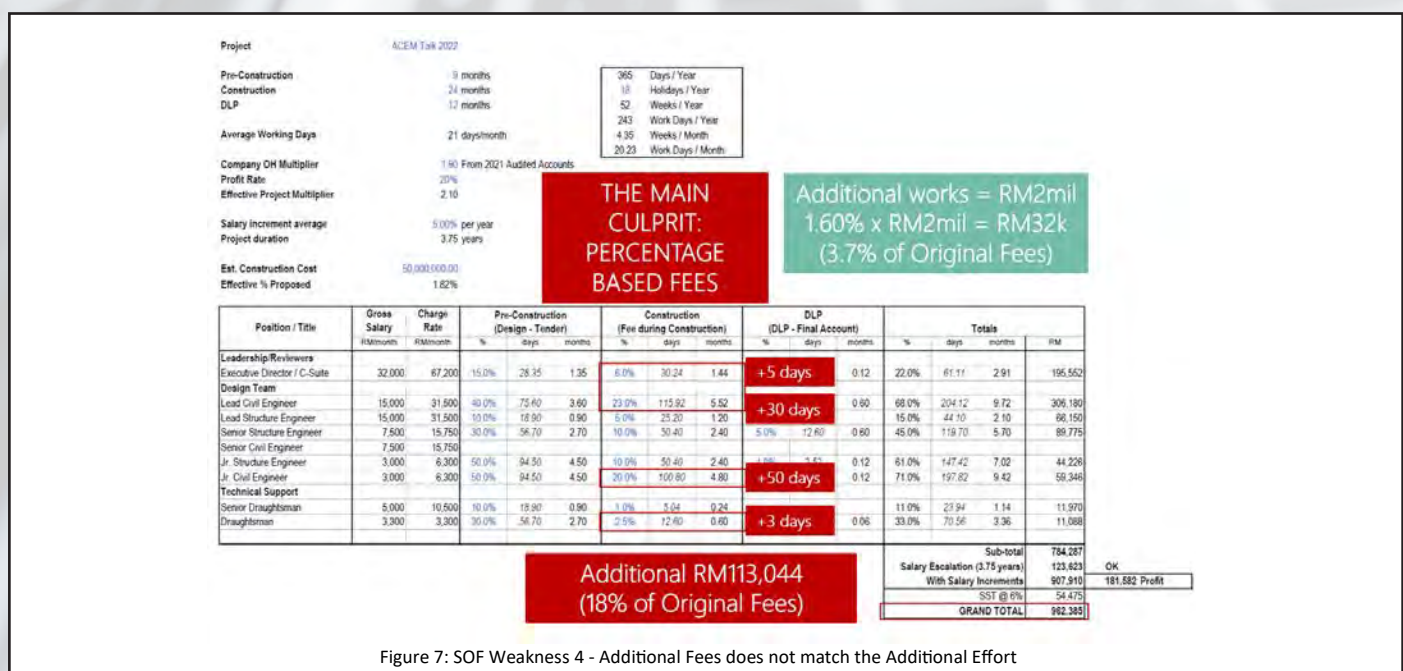


Figure 7: SOF Weakness 4 - Additional Fees does not match the Additional Effort



In this scenario, the additional effort for the changes requires additional time commitments by several team members, resulting in an additional RM113k or 18% of original fees (red box). In comparison, if the percentage is used, the additional fees would only result in RM32k or 3.7% of the original fees (green box). In this case, the ECP will be short-changed by RM81k for the additional effort.

The same could be said with design iterations. ECPs familiar with private developer's housing or commercial projects would testify that ECPs are typically asked to perform multiple design iterations until the developer is satisfied with the marketability and cost of the project. This exercise normally involves intensive trial and errors, value-engineering, coordination and negotiations with relevant authorities, which require time and experience (senior personnel). Both of these should be chargeable, but the percentage-based fee structure does not account for it.

Similarly, if a client decides to break-up a project into multiple phases, which require separate authority submissions of the different packages, separate tender exercises, separate contractors and site meetings, site valuations, CCC, etc., the percentage-based fee structure does not capture these additional effort.

In a handful of projects, ECPs may be able to claim for abortive fees, but like all things, industry evolves and learn. Many clients realize this (ECP's ability to claim for abortive fees) and have since modified their agreements to include lopsided clauses like “..the engineer is required to revise the design without additional cost to the client”.

Desperation leads to acceptance of even such unfair clauses. ECPs accept these contracts hoping that they could adapt and find ways to optimize the work, but in reality, they have accepted a clause that allows the client to obtain unlimited service for the same price. A clear mark of an industry's downfall.

#### **Weakness 5: Complicated fee structure for repetitive projects**

The SOF recognizes that there are different classifications of projects, and some can be quite simple and repetitive. This saves the amount of effort required by the ECP to design multiple blocks of the same template. That being said, many private clients seem to ignore this and prefer to use a single percentage figure that covers the ECP's scope for the entire project. This has not really been an issue because the calculated percentage are normally favorable to the clients, but it is again an issue during implementation, when changes of design and project duration occur, which leaves the ECP in an awkward position to claim for abortive fees.

#### **Weakness 6: Nobody is using it**

Not even the Government adheres to the SOF entirely. This means that it does not align with the market's needs. Unless enforced, the SOF is obsolete and needs to be replaced with a more appropriate fee structure.

#### **The proposed solution: Cost plus fixed fee on a time-scale fee structure**

This is a common fee structure used throughout the globe and across industries. Fees are typically calculated on a man-hour, man-days or a man-month basis, based on the scope agreed by the client. Most developed countries use man-hours because of the precision that it offers. Additional scope will be charged a variation order (V.O), while unexecuted scope is a savings to the client.

#### **Benefit 1: Ability to fix the fee based on the agreed scope**

This is very similar to the Bill of Quantities in construction. The price is quoted based on the specific outlined scope of works, whether it is supply, delivery, installation, testing and commissioning, etc. No more, no less. If we use this principle, **ECPs could similarly quote based on an agreed scope, which is then linked to the committed resources time and rate (engineers, draughtsmen, technicians, project managers, etc).** No more, no less.



## Benefit 2: Better cashflow and tracking ability

Winning a project is always cause for celebration. The demotivation normally comes afterwards, when the terms of payment are presented to the ECP. Milestone-based payment is an industry norm that is crushing ECP's cashflows, and ultimately their performance. The milestones in a typical real-estate development project are often driven by those beyond the ECP's control, either by the client, the authorities, the architect, the quantity surveyor, and even the contractor.

Consider the same project above with the following typical milestones:

ALMOST NO CONTROL OF MILESTONES				
Stage	Scope of Works	Stage %	Cumulative %	By
1	Schematic Design			
a	Upon approval of the preliminary design	5%	5%	Arch/Client
2	Design Development			
a	Upon submission of BP	10%	15%	Arch
b	Upon obtaining Authorities approval	10%	25%	Authorities
c	Upon issuance of tender documents	10%	35%	ECP/QS/Client
3	Contract Implementation Stage			
a	Upon appointment of contractor	10%	45%	Client
b	Monthly payment based on contractor's progress	40%	85%	Contractor
c	Upon issuance of CCC	5%	90%	Arch/ECP/Auth
4	Post Construction Stage			
a	Upon issuance of CMGD	5%	95%	Arch/ECP
b	Upon closure of Final Accounts	5%	100%	QS/Contractor

Figure 8: Typical Milestone-Based Payment Terms

The projected cashflow for the ECP in this project would be as follows:

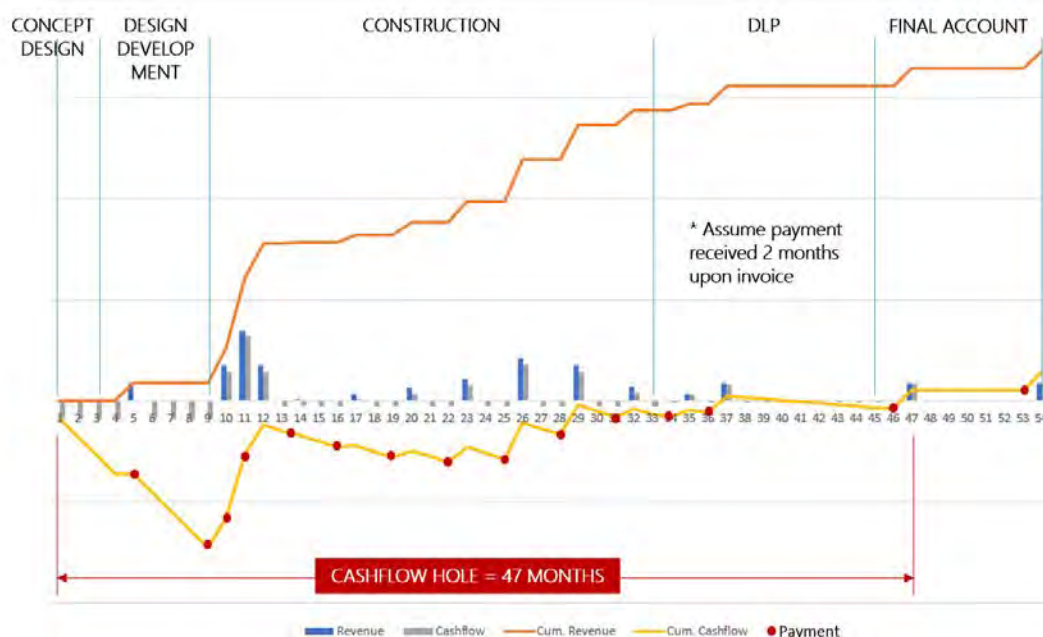
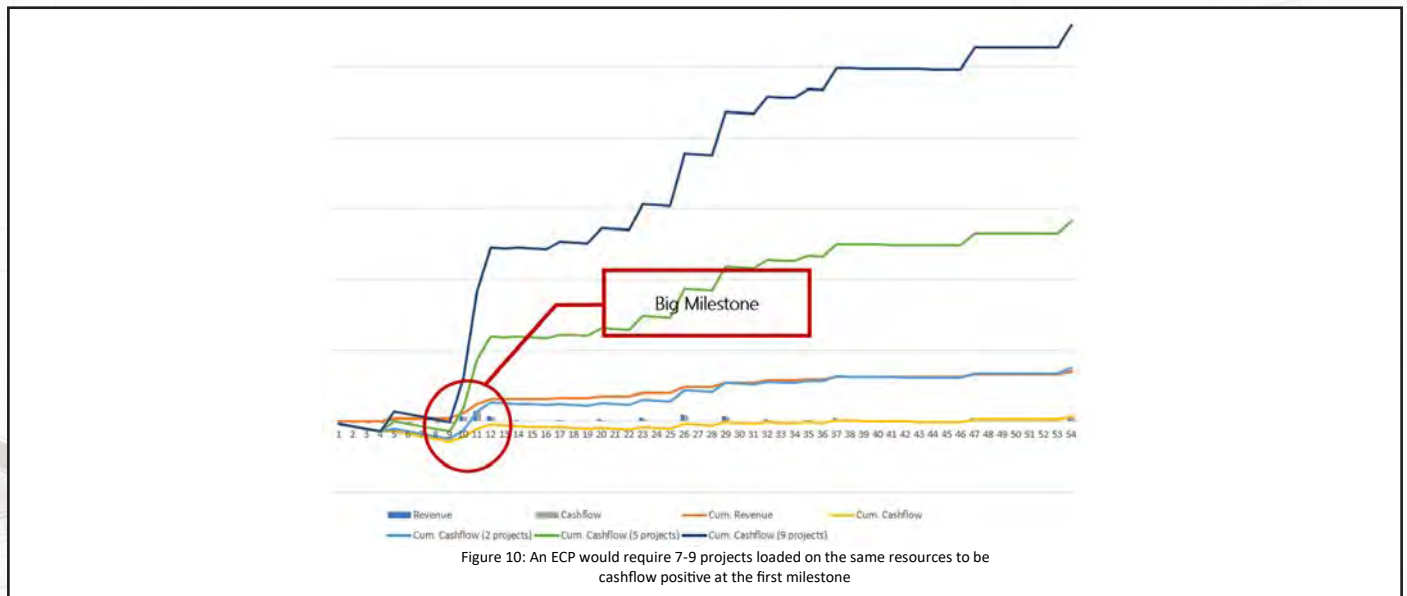


Figure 9: Typical Project Cashflow Profile for a Milestone-Based Payment



This shows that while the ECP's revenue increases throughout the project period, the committed resources (i.e., salaries and overheads) pushes the ECP into negative cashflow (cashflow hole) for 47 months (i.e., after CMGD). In other words, the profits are not realised until the completion of the DLP.

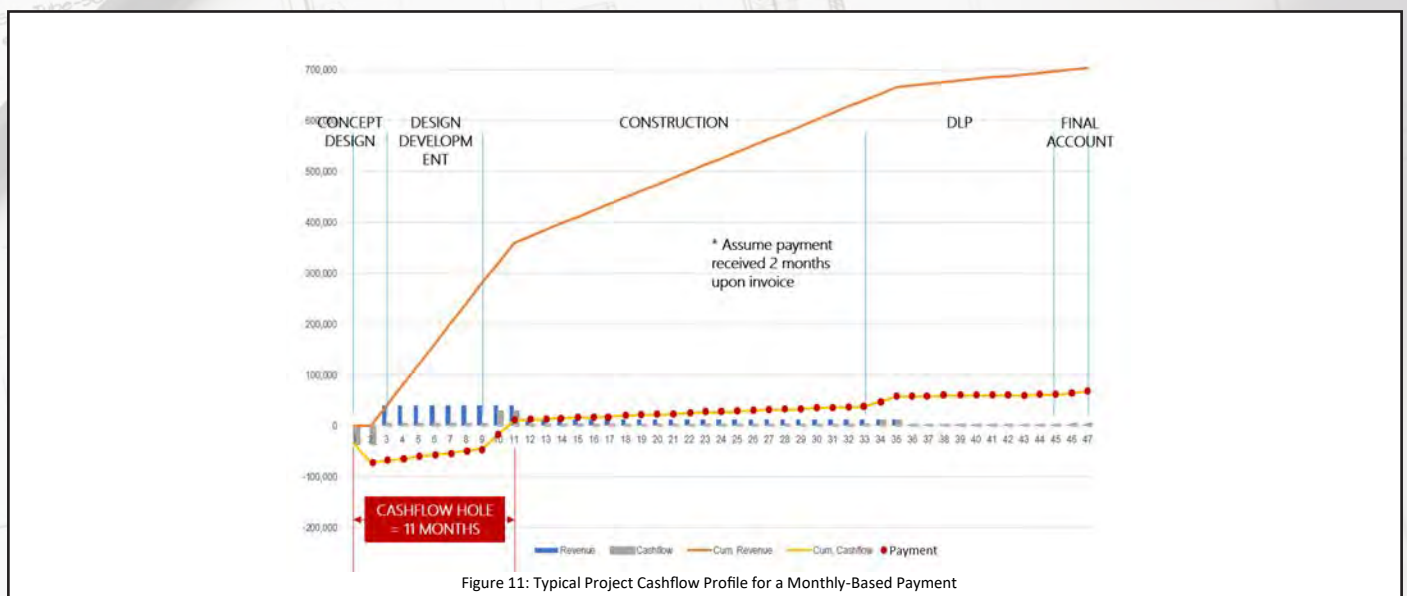
Figure 10 below simulates the scenario showing an ECP would need to load between 7 to 9 projects on the same resources (staff) to be cashflow positive at the first milestone, a clear cause for overworked employees. Of course, projects are awarded at different times and milestones do not typically stack this way, but in that scenario, cashflow from one project would then be required to cover the cashflow of another, leading to a similar low-performing outcome.



Instead, imagine having the ability to bill the client every month (like contractors), not on milestone basis, which is often beyond ECPs control. This is done by means of timesheets and progress reports, where the client could verify the billing based on the progress of work and resources committed. Similar to the way ECPs charge for site supervision services, but on actual time commitments. Project leaders could track their team's effort, productivity and project profitability on a monthly basis, and alert the client on potential scope creep or additional works.

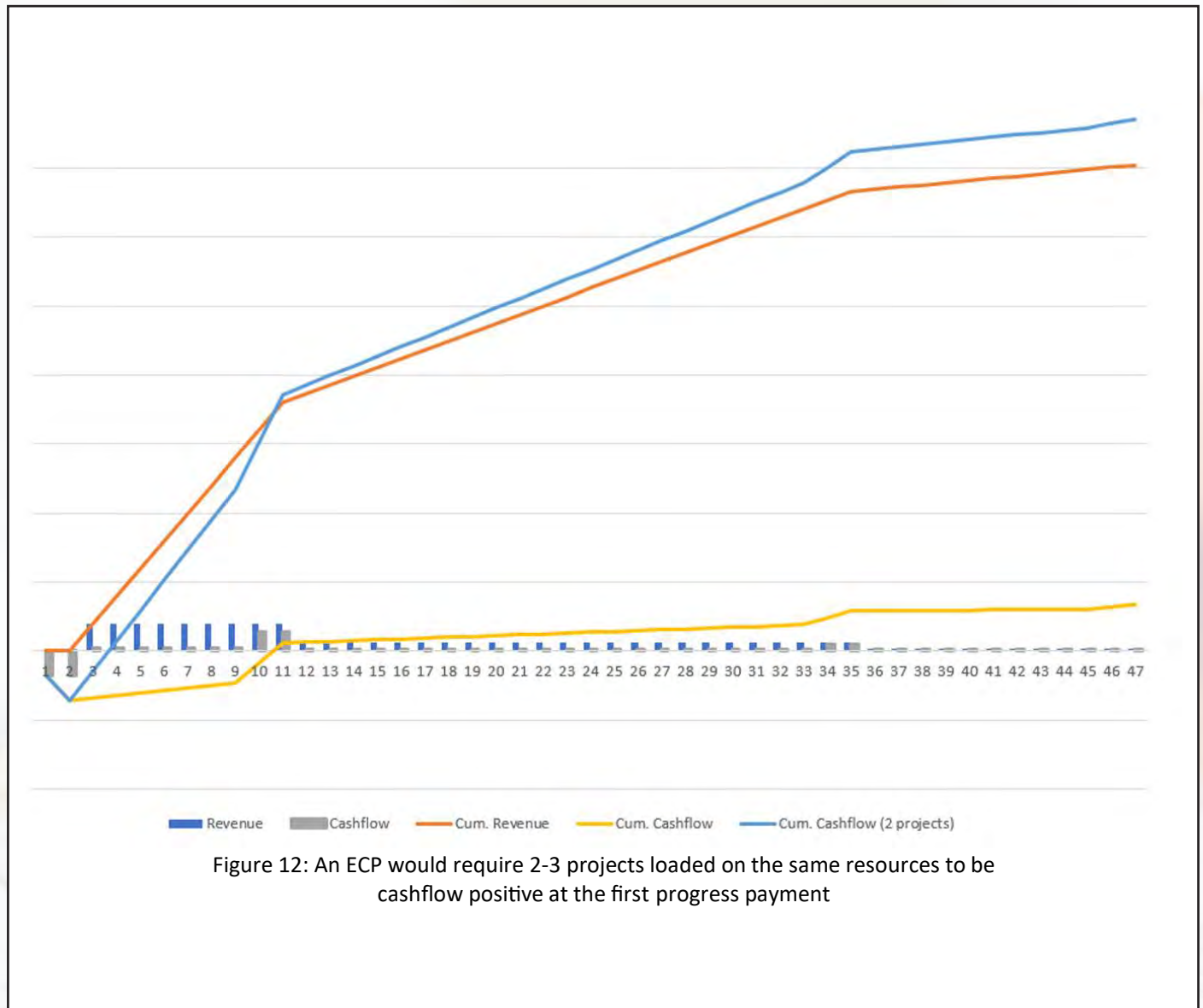
This forces the client to be more decisive in design iterations and construction packages, and would likely reduce the number of meetings or shorten them, as the time input would be costly and unproductive.

The project cashflow for a monthly-based payment structure is demonstrated in Figure 11 below:





A similar cashflow simulation results in only 2-3 projects loaded on the same resource to be cashflow positive at the first progress payment; a more reasonable workload for the employees.



### **Benefit 3: Fair value for the ECP and the client**

Our objective is to provide quality and responsible services to the client and get paid fairly for those services. **The competitiveness lies with the qualification of the ECP to perform the scope of the project, which is where engineers should be competing, not the price.** When the client can be open with their budget, the ECP can customize their services to meet the client's expectations. The client would get the best ECP for the job and ECP could perform the work within a fair framework agreement. Professionalism prevails.

### **How are the fees calculated?**

The key to this is to understand your relative value, determine your chargeable rate (salaries), your business expenses and your desired profit rate.

Relative value is an 'X-factor' related to your experience level, your experience or track record, certifications and reputation. This is normally the power or marketing and branding. A well-known industry expert in geotechnical engineering would be justified to charge a bit more than a lesser-known competition.

The baseline fee formula is modified by removing the construction cost, as follows:



$$\text{Estimated baseline fee, } F (RM) = (OH + Pr) \times \sum (Sr + Es) \times Ut$$

*Sr* : Salary or Resource Rate (RM/month)  
*Es* : Salary Escalation or Increments for each year of the project duration, if any (RM)  
*Ut* : Utilisation rate (Months)  
*OH* : Company's True Overhead Multiplier (calculated from audited accounts, not MOF's)  
*Pr* : Desired Profit Rate (%)

Figure 13: How to estimate a fee baseline in RM

The **resource rate (Sr)** is the actual salary (hourly or monthly) of the resource assigned to the project. This are typically the project directors, project engineers, draughtsmen and technicians. Their time spent on the project (*Ut*) may not be 100% each month depending on the workload required for the project. Their time are measured via timesheets and estimated by the duration of the project. For example, if a housing project is anticipated to have a 4-year timeline, estimate the time that each team member would be expected to commit for the project (i.e, 10% for the Project Director, 30% for the Senior Engineer, 50% for the Engineer, 10% for the draughtsman, etc).

**Business expense is incidental costs you need to pay to run and grow the business, like rent, EPF, insurance, software subscriptions, non-billable staff who are not directly involved in a project but required to run a firm (accounting, admin, HR, etc), office supplies, utility bills, training, ISO, capital costs, amortization, etc.** These are grouped together annually in an overhead multiplier. Divide this figure by the overall chargeable or billable amount for the year, and this results in a company's true multiplier (*OH*). (Note: A company director or other senior personnel may spend their time on a project (billable), or non-project, like proposal writing, training, etc. (non-billable). These would not be charged to the client, instead they are categorized under overhead).

Finally, the profit rate (*Pr*) is a target figure that you or your company decides to input for the project. These typically range between 15%-30% depending on project risks. The Ministry of Finance, in its Manual Perolehan Perunding suggests 20%.

If you add these components, you will find that you will obtain the actual multiplier and lump sum figure that you or your company might be willing to quote based on the specified scope. No more, no less.

It is important to understand that these multiplier rates vary from one company to another, but they would generally be close if the client decides to level the playing field with specific requirements. For example, if the client requires the company to have certain software, ISO certification, certain level of experience or competency in the subject, certain number of qualified team members, etc., the difference between companies' fees would primarily be in their profit rates.

### **Our challenge is educating the industry**

Albert Einstein said that "we cannot solve our problems by using the same thinking that we used when we created them". We currently face a big dilemma. **Do we make a small modification on the current SOF knowing that it's true intention has been ignored** and instead used as basis of manipulation by the industry? **Or do we take a bold, albeit more difficult action to move away from the SOF and change the method completely for the betterment of ECPs** and the future engineering graduates.

The SOF is a 50-year-old mold that has served ECPs well in the past but its relevance has passed. It is time to change. The proposal offered above is one of several alternatives to percentage-based fees.

Will this solve undercutting? Unfortunately, not entirely. Undercutting in its core is an ethical issue driven by market conditions and weak enforcement.



I will be the first to admit that this proposal is bold and may be difficult for current ECPs to grasp. However, I also know that many firms, especially large ECPs, are using this method internally. This is because many firms need to track their profitability for each project, so timesheets are used. My suggestion is for the BEM to progressively abolish the SOF because of the negative influence and mentality that it has created. Conduct road shows and training sessions to educate the industry on using timesheets, tracking project cashflows and profitability, as well as proper accounting systems.

As an engineer, we have always been trained to solve problems, no matter the difficulty. Let's take on this challenge and bring pride, talent and professionalism back into our industry.

#### About the author

**Ir. Amin Ramli** is the Principal, Majority Shareholder and Managing Director of Straits Consulting Engineers Sdn. Bhd., an ECP in Malaysia. He graduated with BSc in Civil Engineering from Rensselaer Polytechnic Institute, New York, USA in 2004. He worked as a civil engineer and eventually a project manager in the transportation and infrastructure division of STV Incorporated, a 5,000-employee firm in the U.S, from 2004 to 2011. He obtained my Professional Engineer (P.E) license from several states in the U.S, as well as a Chartered Professional Engineer (CPEng) from Australia.

He has developed first-hand experience in management of engineering contracts and negotiations in the U.S, Europe and Malaysia. He offers his support and assistance to ACEM and BEM to develop a fee structure that will help move our industry forward.

### Tahniah Atas Sambutan Hari Kemerdekaan Dan Hari Malaysia 2022





## Notes

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