



REVISED BEM SCALE OF FEES 1998

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Chairman,
WG Revised BEM Scale of Fees 1998

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Venue: Zoom



What is the purpose of the BEM SOF ?

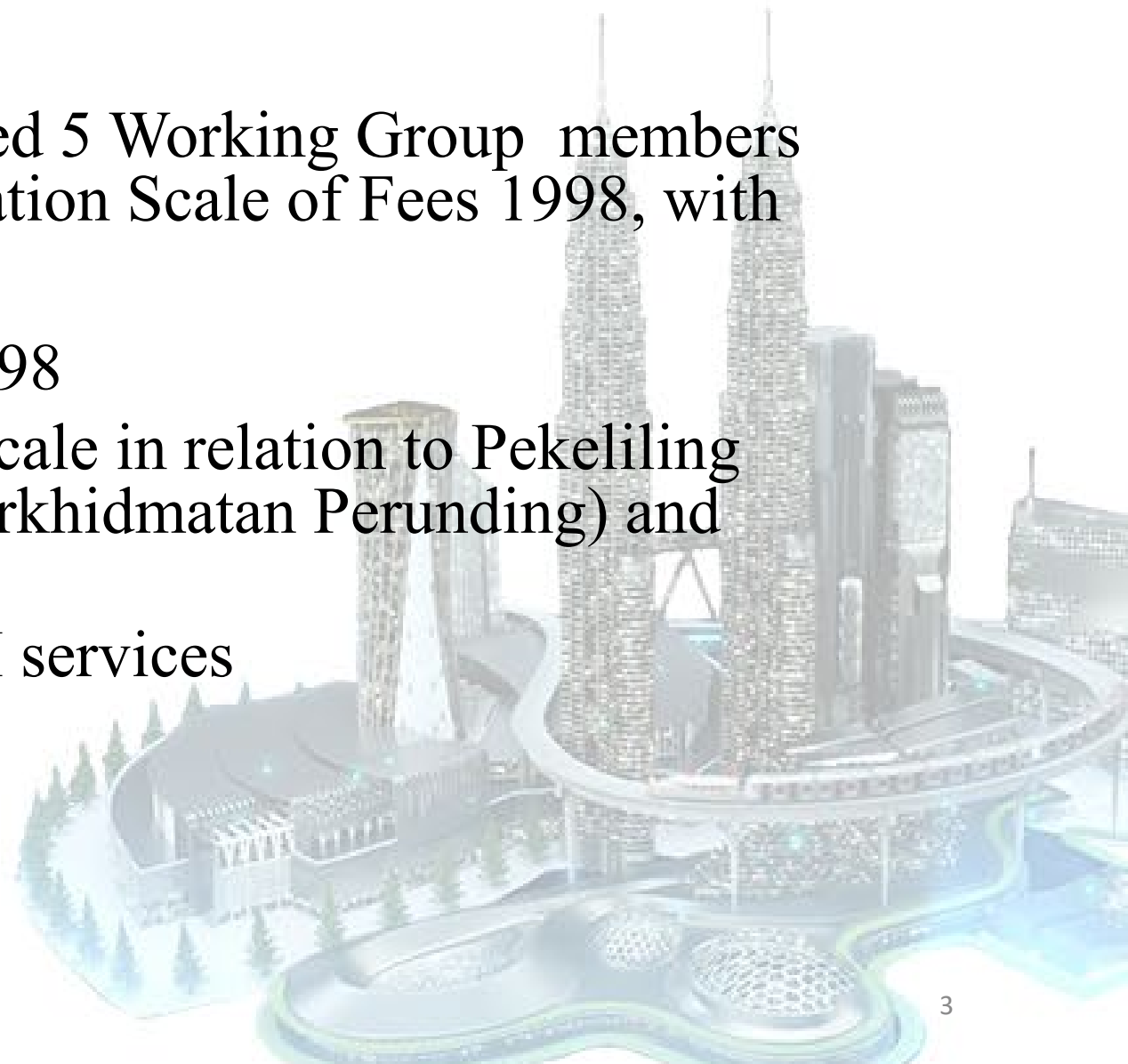
- The SOF, in conjunction with the REA is meant to **protect public interest**
- The original intent of the SOF was to avoid undercutting by the engineers, who may otherwise provide reduced or sub-standard service and thereby fail **to protect public interest**
- As such, the SOF was always meant to be the **minimum scale** of fees



BEM SOF Review Working Group

On 7th July 2020, BEM appointed 5 Working Group members for the Review of BEM Notification Scale of Fees 1998, with the following TOR:

1. Review the Scale of Fees 1998
2. Study the relevancy of the Scale in relation to Pekeliling Perbendaharaan 3.2 (Kos Perkhidmatan Perunding) and the recent court decisions
3. Study Scale of Fees for BIM services





A Brief History of BEM SOF 1982 (REA 1967)

Although the Registration of the Engineers Act (REA) 1967 was passed by Parliament in 1967, it was not implemented because the Act stated a minimum scale of fees to be established by the Board.

The cabinet wanted a maximum scale of fees be stated instead of the minimum.

Due to the impasse, the Government did not implement the REA until 1972 when there was shortage of engineers in the country and the cabinet asked the engineering profession how to solve this shortage.



A Brief History of BEM SOF 1982 (REA 1967) cont'd

The offered solution was to implement the REA and invoke the clause on 2 years of compulsory service in Government departments for registration as P.Eng.

The REA was then implemented in 1972!

However, there was still the problem of the scale of fees which remained unresolved.

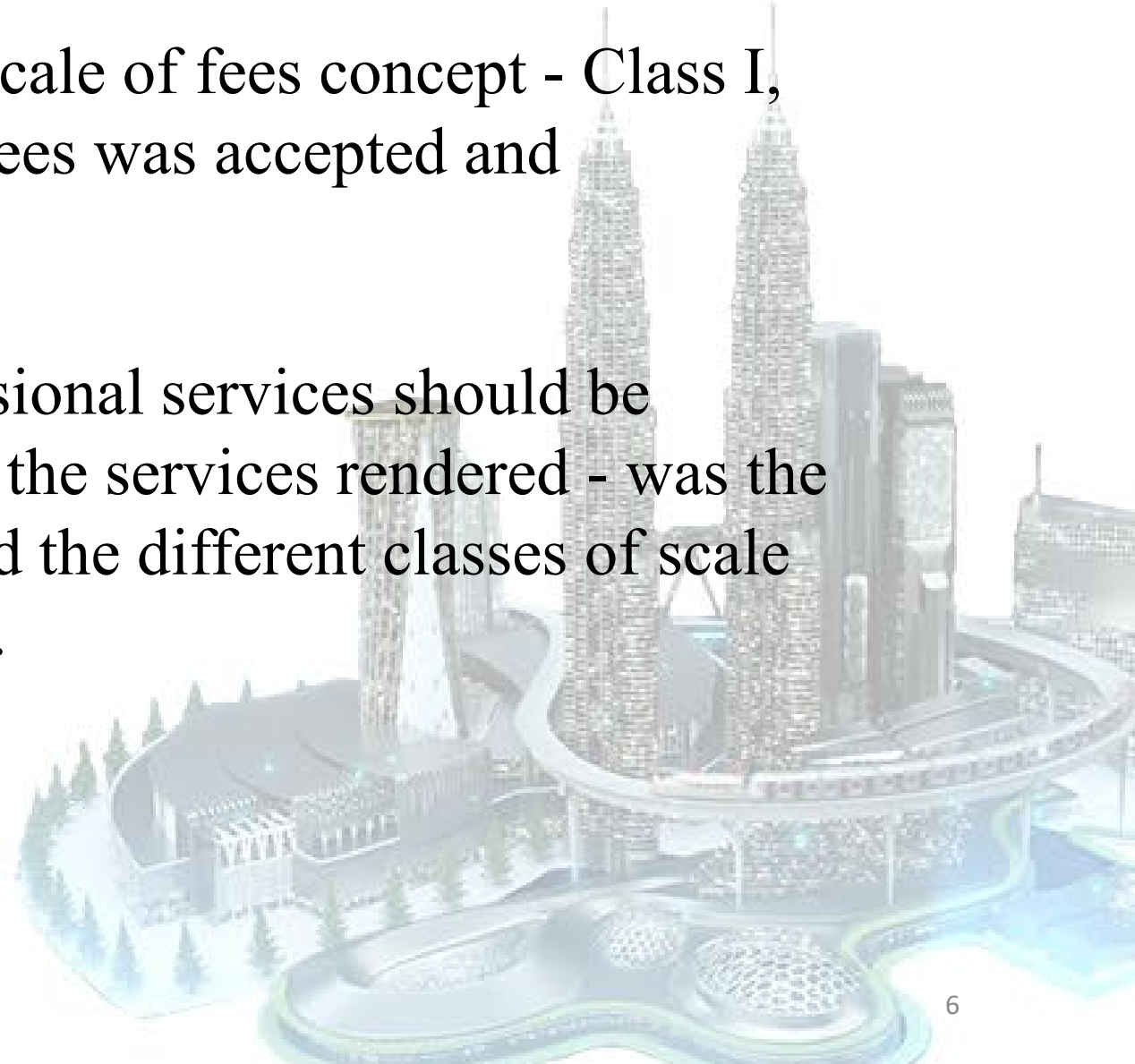
Meanwhile, the industry adopted the Scale of Fees based on the ACEM's scale which was derived from EC-UK



A Brief History of BEM SOF 1982 (REA 1967) cont'd

Finally, the proposal of a three scale of fees concept - Class I, Class II and Class III scales of fees was accepted and implemented.

That payment of fees for professional services should be commensurate with the input of the services rendered - was the principle that the Board accepted the different classes of scale of fees for professional services.





Next: A Brief History of BEM SOF 1998

- The main revision in SOF 1998 was the replacement of the quantum of fees for Classes I, II and III, with a common range of fees within P(max) and P(min)
- This revision came about to obviate the then controversial interpretation to compute fee under different classifications for even a single engineering tender package, e.g. for a highway project, where fee for the road proper is computed under Class I while the roadside amenities – furniture, light fittings etc are under Class III.
- Incidentally, the 3 WG members who authored the BEM SOF 1998 are/were also part of the 5 WG members for the current SOF Review.



Review of SOF 1998 – General Issues

What are the various reasons leading to the need to review SOF 1998?

- The SOF is outdated as it was last revised more than 20 years ago?
- There is need for compliance with the Competition Act and having a SOF is not inline with worldwide trend?
- Due to recent court rulings?
- GoM is unhappy with the SOF?
- Public is unhappy with the SOF?
- Engineers are unhappy with the SOF?



Review of SOF 1998 – General Issues cont'd

Approach - Revisit & Deliberate SOF's original objectives

- Which particular event triggered the birth of SOF?
- SOF is to protect public interest or otherwise?
- SOF was meant to be the minimum scale of fees, similar to that for BAM and BQSM?
- Is the SOF working well or otherwise over the years?
- Are recent court rulings in line or out of line with the SOF?
 - taking cognizance that **BEM can only regulate the engineers and not the public**, which is similar to the LOR.



Review of SOF 1998 – General Issues cont'd

Should the SOF remain mandatory?

- Or should it be a Guideline?
- Or should we dispense with the SOF?
- What will be the consequence if there is no SOF?
 - citing the example of Medical SOF rethink?





Review of SOF 1998 – General Issues cont'd

Stakeholders' consultation

- To have an initial discussion with BAM and BQSM on their views and action plan with respect to their SOF since all 3 bodies are under the same ministry.
- Will BEM proceed independently to review the SOF should BAM and/or BQSM decide not to?
- To conduct roadshows for updated feedback from engineers and other relevant stakeholders.

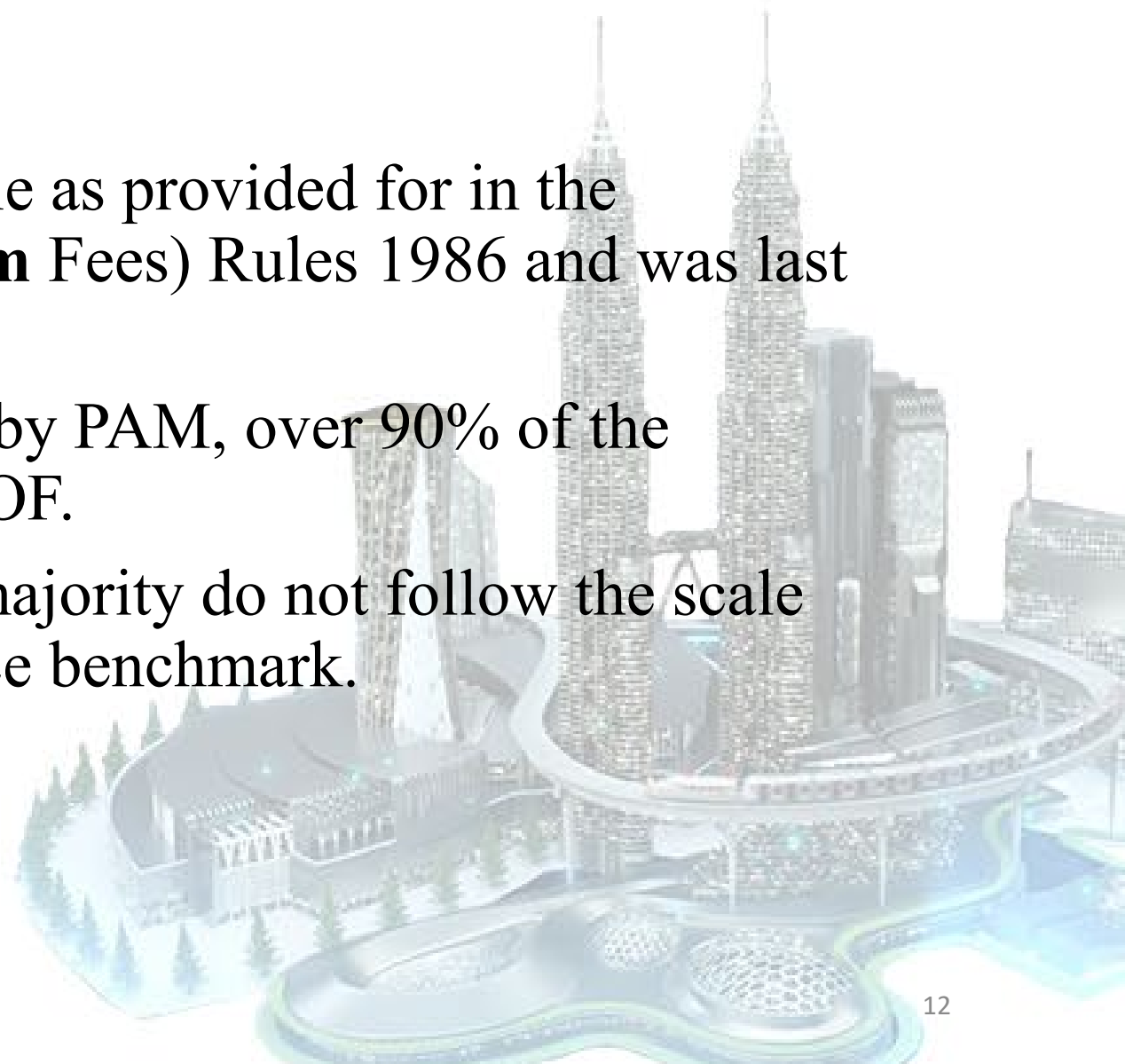




What about the BAM's SOF?

Board of Architects Malaysia

- BAM scale is a minimum scale as provided for in the Architects (Scale of **Minimum** Fees) Rules 1986 and was last amended in **2010**.
- Through a survey carried out by PAM, over 90% of the members want to retain the SOF.
- However, in the real market majority do not follow the scale but instead use it as a reference benchmark.
- BAM will maintain the SOF.





What about the BQSM's SOF?

Board of Quantity Surveyors Malaysia

- BQSM's Scale of Fees does not mention it as a minimum scale although it was intended to be so.
- BQSM has never done any survey, but verbally their members in general want to retain the SOF.
- The SOF was last amended in **2014**.





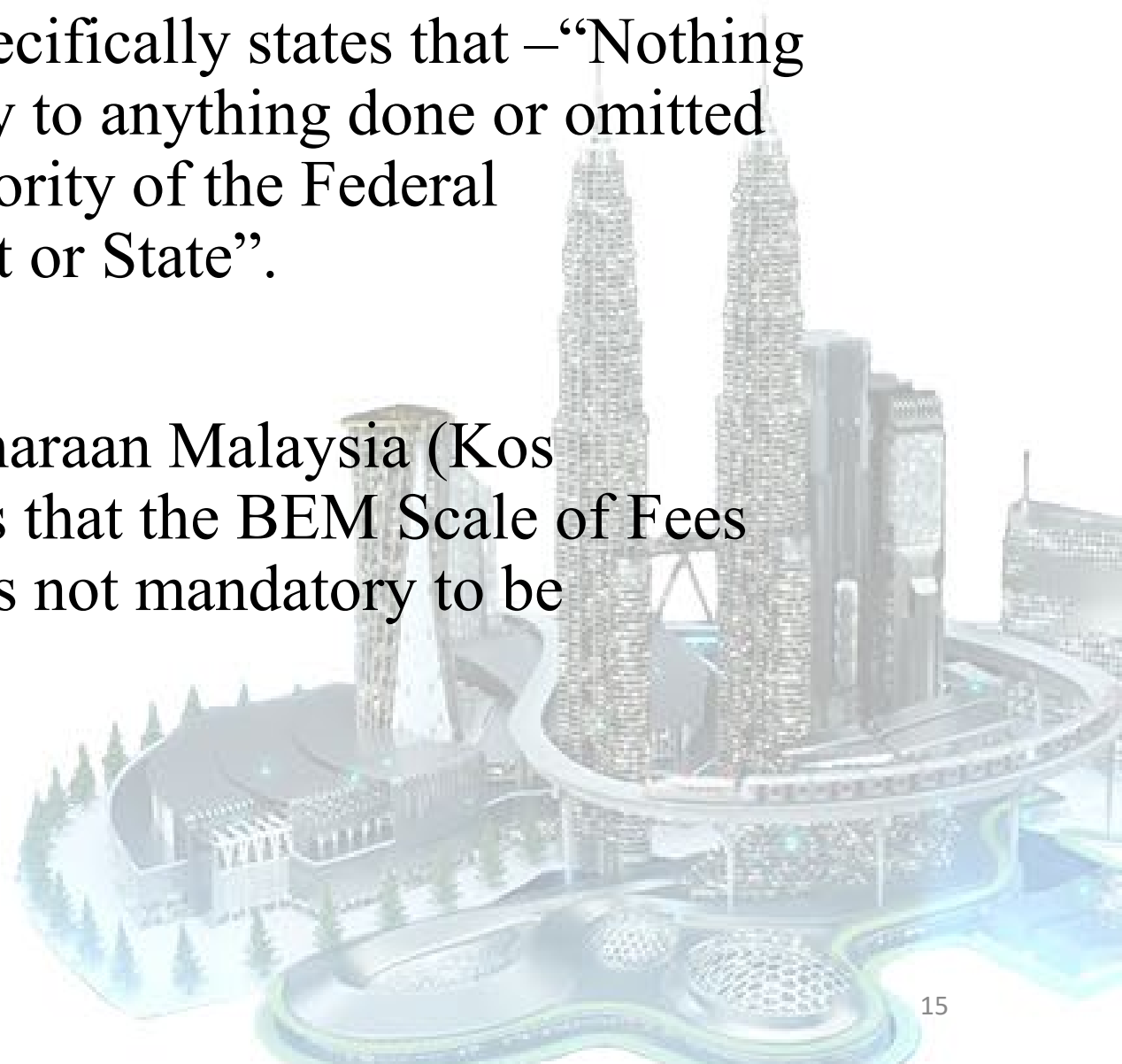
Other prevailing diverse views?

- The objective of the scale of fees set by the BEM is to put in check recalcitrant engineers who wittingly or unwittingly impose exorbitant fees
- The scale of fees is recommended fees and regulated in the sense of preventing overcharging
- There is no prohibition in the REA 1967 on the client from agreeing to a lower fee structure with the Engineer and there is no criminal sanction attached to either the client or the Engineer for non compliance where fees is concerned
- There is no clear and unambiguous provision in REA that no discount is allowed to be given



Government's views

- Section 27 of the REA 1967 specifically states that –“Nothing in this Act contained shall apply to anything done or omitted to be done by or under the authority of the Federal Government or the Government or State”.
- Pekeliling 3.2 by the Perbendaharaan Malaysia (Kos Perkhidmatan Perunding) states that the BEM Scale of Fees serves only as a guideline and is not mandatory to be followed.





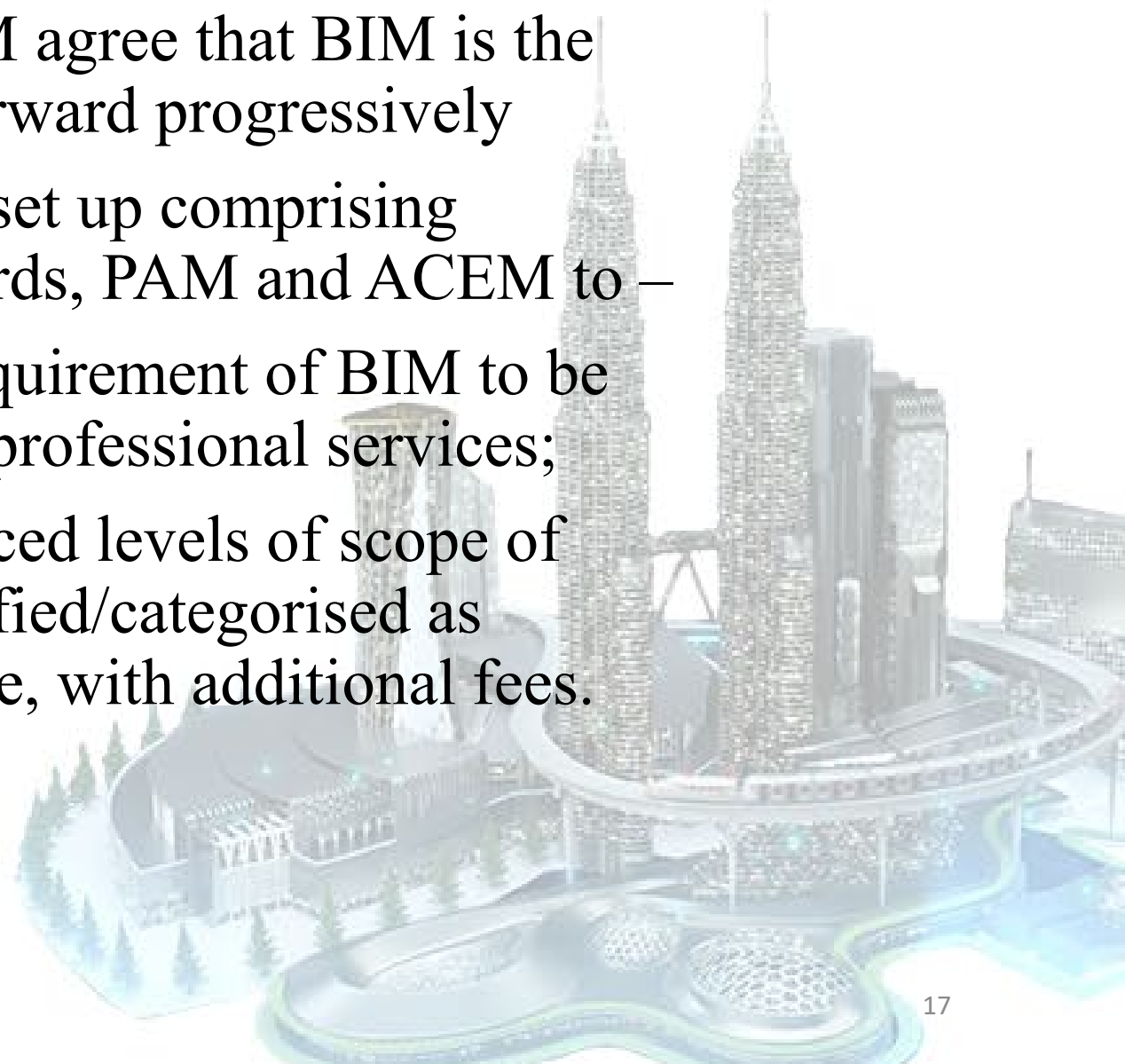
Developments to-date & WG's views

- Until now, all 3 Boards (BEM, BAM, BQSM) have not received any complaint for not observing their respective SOF although the issue has been regularly raised by their members including during roadshows
- All 3 Boards desire to maintain the SOF as it will serve its purpose of at least for reference benchmarking
- Due to the various interpretations, the Working Group agreed that there is a need to revise the Scale of Fees and to make it **mandatory and practical**



BIM

- The 3 Boards, PAM and ACEM agree that BIM is the future and we have to move forward progressively
- A special Working Group was set up comprising representatives from the 3 Boards, PAM and ACEM to –
 - a) define the minimum level/requirement of BIM to be included as part of the basic professional services;
 - b) define the progressive advanced levels of scope of services for BIM to be classified/categorised as additional services and thence, with additional fees.





Chronology of Progress

- Issues and draft on Amendments to the SOF was circulated to IEM and ACEM on 7th Aug 2021, for their feedbacks
- Following the feedbacks received, the WG prepared a 1st draft proposed Revised SOF
- 2 Webinar were then conducted on 9th Sep 2021 and 16th Nov 2021, explaining the amendments vis-à-vis all the feedbacks
- The final draft proposed Revised SOF was completed thereafter and tabled to the BEM Board for approval in Feb 2022
- The proposed Revised SOF is now presented in this Webinar



Proposed Revised BEM SOF 1998

Proposed Amendments in RED	Rationale
<p data-bbox="517 405 1605 462">NOTIFICATION OF SCALE OF FEES</p> <p data-bbox="326 559 1796 1075">IN exercise of the powers conferred by paragraph 4(1)(d) of the Registration of Engineers Act 1967 [Act 138], the Board of Engineers, with the approval of the Minister, fixes the following scale of fees to be charged by a consulting engineer for professional advice or services rendered. These fees shall be the minimum to be charged.</p>	<p data-bbox="1829 405 2232 993"><i>To reflect the original intention for a scale of minimum fees, consistent with BAM's Scale of Minimum Fees</i></p>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
1.	Subject to paragraph 2, every consulting engineer who is engaged by a client to perform any of the professional services described in Part A shall be paid charge in accordance with the scale of fees described in Part B in addition to the other payments described in Part C.	<i>Wording for 'shall be paid' amended to 'charge' so as to be consistent with REA.</i>
2. (1)	Notwithstanding paragraph 1 and if the fees charged by the consulting engineer is being paid in accordance with sub-subparagraph 1(1)(a) of the scale of fees described in Part B, the scale of fees provided in Table A of sub-subparagraph 1(1)(e) of Part B shall not apply to buildings in housing development works.	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	<p><u>“BIM” means Building Information Modelling which is a process for creating and managing information on a construction project throughout its whole life cycle. BIM integrates structural, multi-disciplinary data to produce a digital representation of an asset across its life cycle, from planning and design to construction and operations. The inclusion of BIM enables the coordination of various design disciplines prior to the construction of the facility / infrastructure. This provides enhanced clarity and efficiency to the design development process. How much information is modelled in the 3D file and what data is accessible are determined by BIM Level of Development (LOD). LOD defines the development stages of different systems in BIM.</u></p>	<p><i>“BIM” and LOD are defined in conjunction with subsequent Fee entitlement</i></p>





Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	<p><u>"building cost" means –</u></p> <ul style="list-style-type: none"><u>(a) the cost of the building works, however incurred, including any payments (before deduction of any liquidated damages or penalties payable by the contractor to the client) made by the client to the contractor by way of bonus, incentive or ex-gratia payments or payments made in settlement of claims;</u><u>(b) a fair valuation of any labour, materials, manufactured goods, machinery or other facilities provided by the client, and of the full benefit accruing to the contractor from the use of construction plant and equipment belonging to the client which the client has required to be used in the construction of the building works;</u><u>(c) the market value, as if purchased new, of any second-hand materials, manufactured goods and machinery incorporated in the building works;</u><u>(d) the cost of geotechnical and other investigations;</u>	<p><i>“Building Cost” is introduced in conjunction with the introduction of an Alternative Scale of Fees for Building projects only.</i></p> <p><i>This Alternative Scale of Fees is simplified from the “Converted Building Scale” issued by the BEM to ACEM on 10th October 1983.</i></p> <p><i>Note that fee for Housing based on building cost will remain as a separate document due to ‘complications’ to merge.</i></p>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	<p>"building cost" cont'd</p> <p><u>(e) a fair proportion of the total cost to the client of any work in connection with the provision or diversion of public utilities systems which is carried out, other than by the Contractor, under arrangements made by the consulting engineer, assessed with reference to the costs incurred by the consulting engineer in making such arrangements; and</u></p> <p><u>(f) the apportioned preliminary cost, but shall not include –</u></p> <ul style="list-style-type: none"><u>(aa) administration expenses incurred by the client;</u><u>(bb) costs incurred by the client under an agreement between the consulting engineer and the client;</u><u>(cc) interest on capital during construction and the cost of raising moneys required for carrying out the construction of the building works;</u><u>(dd) the costs of land and wayleaves; and</u><u>(ee) the price variation arising from the escalation of prices as may be provided in the works contract;</u>	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	<p><u>“building works” referred to include:-</u></p> <ul style="list-style-type: none">i. <u>foundation and excavation connected therewith,</u>ii. <u>all civil and structural works in the building above the foundation,</u>iii. <u>all mechanical and electrical services including mechanical and electrical plant and equipment installed in and in connection with the building,</u>iv. <u>all architectural works and finishes incorporated in the building, and</u>v. <u>all other items forming an integral part of the building to enable it to function fully and occupied to its intended standards of comfort, convenience, decor and finishes.</u>	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	“builder’s work drawings” means the drawings prepared by the contractor for approval by the consulting engineer which show details of work of a <u>related to a</u> structural nature which is required to be carried out by a builder or other party to facilitate the execution of the engineering systems in the buildings;	<i>to accord a more liberal scope and meaning</i>
3.	“consulting engineer” means any—Professional Engineer or body corporate, partnership or sole proprietorship practising as consulting engineers engaged by the client to provide professional services; <u>a Professional Engineer with Practising Certificate or an Engineering Consultancy Practice as defined in the Registration of Engineers Act;</u>	<i>To be consistent with REA 1967</i>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	“cost of <u>components of the</u> works’ means the cost to the client of the works, <u>other than “building works” associated with “building cost”</u> however incurred including-	<i>To have a clear distinction between scale of fees based on “components of the works” and based on “building works”.</i>
3.	<u>“Engineering Consultancy Practice” means a sole proprietorship, partnership or body corporate, providing professional engineering services, registered under section 7A or 7B of the Registration of Engineers Act 1967;</u>	<i>Define Engineering Consultancy Practice under REA 1967</i>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
	“engineering system” means all mechanical and electrical services, plant and equipment installed within a building lot, and comprises as may be required such items as are listed below:	
(h)	the telephone distribution and intercommunication system; <u>the telecommunication system</u>	<i>To adapt to modern terminology</i>
(l)	the radio and television system; <u>the broadcast network system</u>	<i>To adapt to modern terminology</i>
(o)	the standby <u>power and generator system</u> ;	<i>To have a more precise definition</i>
(q)	the pumping installation <u>system</u> within the building	<i>To be consistent with use of ‘system’ instead of installation.</i>
(u)	<u>(u) any other electrical/mechanical systems.</u>	<i>To cater for emerging new technologies.</i>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
	<p><u>“Inspector of Works” (IOW) means a person registered under Section 10E of the Registration of Engineers Act 1967;</u></p>	<p><i>To be consistent with amendment in the REA 1967</i></p>
	<p>“installation <u>or shop</u> drawings” means the drawings, prepared by the contractor for approval by the consulting engineer, which show details of the contractor’s proposals for the execution of the engineering system;</p>	<p><i>add ‘or shop’ to be consistent with local terminology.</i></p>
	<p>and, in the case of site staff recruited especially for the project, the multiplier shall be derived from the elements covering the annual salary, gratuity, benefits from the Employee’s Provident Fund, and Social Security Organisation, <u>and any other Government levies or contributions</u>, medical aid, insurance, overhead costs and profit only;</p>	<p><i>To include any new government levy changes.</i></p>



Proposed Revised BEM SOF 1998 cont'd

Proposed Amendments in RED	Rationale
“record <u>or as-built</u> drawings” means drawings, prepared by the contractor for approval by the consulting engineer, which show clearly the general scheme and the details of the engineering system in the building as completed;	<i>to be consistent with local terminology</i>
“single location” for the purpose of this Notification, means the same housing development area developed or to be developed by the same housing developer <u>within the site</u> ;	<i>to reinforce the drafter’s strict meaning of single location</i>
<u>“site supervisory staff” means any employee of a principal submitting person or submitting person engaged for a particular project and shall constitute of an inspector of works or registered engineer for the purpose of supervising all construction works at a site.</u>	<i>the term “site supervisory staff” is introduced to be consistent with the UBBL 2021 amendments.</i>
<u>“site staff” means any employee of an engineering consultancy practice who is stationed at a particular project site and shall include the site supervisory staff.</u>	<i>“site staff” is defined to include site supervisory staff and thence inspector of works on top of other staff such as clerical, document controller, etc.</i>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
(b)	Type B works, namely, structural engineering works in buildings of more than four storeys high ; and/or	
(c)	Type C works, namely, engineering systems in buildings of more than four storeys high.	





Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
Part A Professional Services		
1. (1) (d) <i>Construction Stage</i>		
(v)	preparing any further designs and drawings relating to the works, <u>except for designs due to proposal not arising from the consulting engineer;</u>	<i>To provide clarity on scope.</i>





Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
<i>1. (3)</i>		
<i>(d)</i>	<i>Construction Stage</i>	
<i>(iii)</i>	providing the contractor with such further information as are necessary, in the opinion of the consulting engineer, to enable the installation <u>or shop</u> drawings to be prepared;	
<i>(vi)</i>	checking shop details and installation <u>or shop</u> drawings;	
<i>(xii)</i>	delivering to the client on completion of the works, copies of record <u>or as-built</u> drawings, contractor's operating instructions, manufacturer's manuals, and, where appropriate, the certificate of works tests, and arranging for the delivery of spares and tools, if necessary;	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
2. (2)	Additional Professional Fees	
<i>(xii)</i>	<u>preparing contractor's installation or shop drawings, record or as-built drawings, or any detailed schedules where necessary; and</u>	<i>New sub-clause for clarity</i>
<i>(xiii)</i>	<u>preparing BIM requirements above LOD 300.</u>	<i>Additional fees for BIM above LOD 300. Note that BIM LOD 300 drawings are deemed included in the Basic services.</i>



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
3.	Supervision On Site	
(2)	If in the opinion of the consulting engineer the nature of the work including the carrying out of any geotechnical and other investigations, topographic survey, and tests warrants full-time or part-time supervision <u>by site supervisory staff</u> on site in addition to the site visits made by the consulting engineer under sub-sub-subparagraphs 1(1)(d)(vii), 1(2)(d)(viii) and 1(3)(d)(v) of this Part, whichever is applicable, he shall advise the client of the fact and also the desired qualification and experience which the site staff <u>site supervisory staff</u> shall possess.	<i>To be specific on site supervisory staff and not other site staff.</i>
(3)	All site staff <u>site supervisory staff</u> shall be under the control of, and take instructions from, the consulting engineer only.	<i>To be specific on site supervisory staff and not other site staff.</i>





Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
	PART B SCALE OF FEES	
(1)	Payment Depending Upon The Cost Of <u>Components Of</u> The Works	<i>To provide clarity between the Scale of Fees for engineering components versus the Alternative Scale of Fees for Building projects.</i>
(a)	The fee to be paid to the consulting engineer shall be an amount equal to the product of the total cost of <u>components of</u> the works times the percentage determined from the Scale of Fees set out in sub-subparagraph 1(1)(b) of this Part.	



Proposed Revised BEM SOF 1998 cont'd

Proposed Amendments in RED		Rationale
Total Cost Of Components Of The Works In The Respective Type in RM	<u>Minimum Scale of Fees</u>	
100,000 & below	<u>10.00%</u>	<i>One single minimum scale of fees. To avoid confusion between Pmax and Pmin with Scale of Minimum Fee.</i>
250,000	<u>8.65%</u>	
500,000	<u>7.60%</u>	
1,000,000	<u>6.80%</u>	
2,500,000	<u>6.00%</u>	
5,000,000	<u>5.50%</u>	
10,000,000	<u>5.00%</u>	
20,000,000	<u>4.65%</u>	
25,000,000	<u>4.50%</u>	
50,000,000	<u>4.25%</u>	
75,000,000	<u>4.10%</u>	
100,000,000	<u>3.95%</u>	



Proposed Revised BEM SOF 1998 cont'd

Proposed Amendments in RED		Rationale
Total Cost Of Components Of The Works In The Respective Type in RM	<u>Minimum Scale of Fees</u>	
150,000,000	<u>3.70%</u>	<i>Upper limit of component costs capped at RM500,000.000 to reflect market practice.</i>
200,000,000	<u>3.55%</u>	
250,000,000	<u>3.40%</u>	
300,000,000	<u>3.30%</u>	
350,000,000	<u>3.20%</u>	
400,000,000	<u>3.10%</u>	
500,000,000 <u>& above</u>	<u>2.95%</u>	
600,000,000		
700,000,000		
800,000,000		
900,000,000		
1,000,000,000 & above		



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
	Intermediate values shall be interpolated linearly from the adjacent percentages of P(max) or P(min) , as the case may be.	
	The actual percentage to be used in sub-paragraph 1(1)(a) of this Part shall be a value within the range P(min) to P(max), and shall be agreed to between the client and the consulting engineer prior to the engagement. Selection of the actual percentage shall be based on the complexity of the works.	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
(2)	<u>Payment Depending Upon The Total Building Cost (Type B & Type C Works For New Buildings)</u>	<i>Alternative Scale of Fees as explained previously and consistent with BAM and BQSM method of fee computation for building projects.</i>
(a)	<u>The fee to be paid to the consulting engineer shall be an amount equal to the product of the total building cost times the percentage determined from the Scale of Fees set out in sub-subparagraph 1(2)(b) of this Part.</u>	
(b)	<u>The Scale of Fees referred to in sub-subparagraph 1(2)(a) of this Part shall be as follows:</u>	



Proposed Revised BEM SOF 1998 cont'd

<u>Total Building Cost in RM</u>	<u>Type B Works (Civil) Minimum Scale of Fees</u>	<u>Type C Works (Mechanical & Electrical) Minimum Scale of Fees</u>	<u>Rationale</u>
<u>250,000 & below</u>	<u>4.00%</u>	<u>3.25%</u>	<i>Scale simplified from BEM's Converted Scale issued in 1983.</i>
<u>500,000</u>	<u>3.90%</u>	<u>3.00%</u>	
<u>1,000,000</u>	<u>3.5%</u>	<u>2.75%</u>	
<u>2,500,000</u>	<u>3.20%</u>	<u>2.50%</u>	
<u>5,000,000</u>	<u>2.75%</u>	<u>2.25%</u>	
<u>10,000,000</u>	<u>2.45%</u>	<u>2.00%</u>	
<u>20,000,000</u>	<u>2.10%</u>	<u>1.85%</u>	
<u>25,000,000</u>	<u>1.95%</u>	<u>1.75%</u>	
<u>50,000,000</u>	<u>1.85%</u>	<u>1.70%</u>	
<u>75,000,000</u>	<u>1.83%</u>	<u>1.65%</u>	
<u>100,000,000</u>	<u>1.80%</u>	<u>1.60%</u>	
<u>150,000,000</u>	<u>1.78%</u>	<u>1.55%</u>	
<u>200,000,000</u>	<u>1.75%</u>	<u>1.50%</u>	
<u>250,000,000</u>	<u>1.73%</u>	<u>1.48%</u>	
<u>300,000,000</u>	<u>1.70%</u>	<u>1.45%</u>	
<u>350,000,000</u>	<u>1.68%</u>	<u>1.43%</u>	
<u>400,000,000</u>	<u>1.65%</u>	<u>1.40%</u>	
<u>500,000,000 & above</u>	<u>1.60%</u>	<u>1.35%</u>	



Proposed Revised BEM SOF 1998 cont'd

	Proposed Amendments in RED	Rationale
	PART C OTHER PAYMENTS	
1.	Payment For Use Of Computer Or Other Special Equipment <u>(except for designing to BIM up to LOD 300)</u>	<i>Computers for AUTOCAD and the like are deemed as part of Basic services, including designing to BIM up to LOD 300</i>
2.(b)	telegrams, telex, facsimile, courier service and telephone calls other than local calls;	<i>outdated technological modes</i>



Q & A



THANK YOU

“Committed To Engineering Excellence”

BOARD OF ENGINEERS MALAYSIA
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