QUALITY FEE METHOD



Framework

Effective for Expression of Interest (EOI) exercises and tenders called on and after 31 Jan 2018 (unless otherwise stated)

1.0 GENESIS OF QFM

- 1.1 The Quality Fee Method (QFM) framework applies to all public sector consultancy tenders with EPV exceeding the Quotation limit called under the Public Sector Panels of Consultants (PSPC).
- 1.2 The aim of QFM is to provide a structured framework for non-fee criteria to be assessed alongside fee. In effect, QFM translates the qualitative attributes into quantitative scores which, when combined with the Fee scores, will enable the most suitable firm that provides the best offer to be selected for award.

2.0 KEY PRINCIPLES OF QFM

2.1 <u>Primarily Quality-based</u>. The QFM is a competitive selection method that takes into consideration Quality and Fee proposals submitted by firms in the tender, as well as the firms' Productivity records (where applicable). It is primarily Quality-based with a higher weightage given for Quality proposals.



- 2.2 Open and Transparent. The QFM procedures will be operated in an open and transparent manner¹. The QFM adopts a two-envelope system², to ensure that the evaluation of each tenderer's Quality proposals is objective and not affected by the respective Fees proposed.
- 2.3 <u>Resource Efficient</u>. The QFM will be carried out in an efficient manner to reduce cost and efforts in tender pre-qualifications, tendering procedures and tender evaluation³.

3.0 MAIN FEATURES OF QFM

3.1 <u>Weightages for QFM</u>. The following range of weightages can be considered, depending on project requirements such as the complexity of the project.

¹ This includes stating explicitly the weightages of the various quality criteria sought for at tender stage, on top of stating the Quality: Productivity: Fee weightage.

² Please refer to Para 3.3 on how the two-envelope system will be operated.

³ This includes the conduct of shortlisting exercise prior to the actual tender so as to optimize resources (please refer to <u>Para 3.2</u>), the adoption of standard templates used for the shortlisting and tender exercise and optimizing the specifications of documents required.

Component	Weightages⁴	
Quality	50% - 70%	
Productivity	20%	
Fee	30% - 10%	

- 3.2 <u>Separate Shortlisting and Tender Stage</u>. To optimise resources of the calling agencies and the industry, a shortlisting exercise, i.e. Expression of Interest (EOI) stage, will be carried out prior to the actual tender to limit the tender to an optimal number of five candidates⁵. The shortlisting will be performed either by ballot (1-stage QFM) or selection (2-stage QFM)⁶.
- 3.3 <u>Two-envelope System</u>. To maintain objectivity and to eliminate the possible influence of Fees on the evaluation of Quality, the Quality proposal envelopes are to be opened and computed *before* the envelopes for the Fee proposals are opened and the Fee scores computed.

4.0 PUBLIC SECTOR PANELS OF CONSULTANTS (PSPC)

- 4.1 A central panel system called the Public Sector Panels of Consultants (PSPC) is to be adopted together with QFM, for the disciplines covered under the PSPC⁷.
- 4.2 The disciplines covered under the PSPC include:
 - Architecture (AR)
 - Civil & Structural Engineering (CS)
 - Mechanical & Electrical Engineering (ME)
 - Quantity Surveying (QS)
 - Project Management (PM)
- 4.3 <u>Eligibility of Panels Tendering Limits</u>. Firms are listed on various panels of the PSPC, which define the limits to which they could tender for projects⁸. The eligibility of panels based on tendering limits is to be pegged to the estimated construction cost of the project.

⁴ Please refer to Section 5.0 on the scoring components.

⁵ BCA has previously consulted agencies and the industry and the optimal number was standardised to be five.

⁶ Please refer to Para 6.3 on the shortlisting stage.

⁷ Please visit the BCA website (https://www.bca.gov.sg/PanelsConsultants/panels consultants.html) for more information on the PSPC. Agencies are to pay a fee when making use of the PSPC in calling of tenders. Please refer to Annex D for the fees structure.

⁸ The eligibility of panels based on tendering limits and QFM shortlisting methods for various project ranges can be found at http://www.bca.gov.sg/PanelsConsultants/PSPC Tendering Limit.html.

4.4 Firms with consistently very poor public sector project performance could be temporary delisted from the PSPC⁹.

5.0 SCORING METHODOLOGY¹⁰ (see <u>Annex A</u> for illustrations)

5.1 "Quality" Component.

- 5.1.1 Consultants' Performance score i.e. CP-score (effective from 1 Jul 2018)
 - a) <u>CP-score</u>. The CP-score is based on the overall consultants' performance scores derived from Consultants' Performance Appraisal System (CPAS)¹¹ i.e. CPAS-score. The tenderer with the highest CPAS score among the tenderers will be awarded the full points and those without CPAS score will be given the average points across all conforming tenderers.

Consultants'Performance
Score (CP-Score) = Tenderer's CPAS score
Highest CPAS Score Among All Tenderers x Weightage

- b) <u>CP-score weightage</u>. The CP-score will have a minimum weightage of 10% out of the total QFM weightage (effective from 1 Jul 2018) under QFM.
- 5.1.2 Attributes under the "Quality" component could include but not limited to:
 - a) Firm's track records
 - Relevant expertise and experience of the proposed project team for the project
 - c) Awards attained by firm
 - d) Approach to the project based on the firm's understanding of the client's requirements in the form of Written Proposal and/or Concept Design Proposal (where applicable)

5.1.3 Written Proposal.

 Written outline of the firm's approach and understanding of clients' needs and constraints, but does not include any form of drawings or presentation (e.g. sketches or visuals that portray design solutions)

⁹ Please refer to the PSPC Terms of Listing for details on temporary delisting.

¹⁰ Please refer to Annex A for illustrations of the scoring methodology.

¹¹ The CPAS is an electronic platform for agencies to submit and retrieve information on consultants' performance reports, Consultants' Performance Scores (CP Score) and the number of projects currently undertaken by a consultant online. CPAS helps agencies with Consultants selection and management. Agencies can adopt own in-house consultant performance scores in lieu of CPAS-scores, or a combination of both. Please refer to Annex A for illustrations of the CP-scores. Consultants can view own CPAS-scores and details of CPAS via PSPC login.

b) Limited to two A4 sheets to minimise wastage of tendering efforts and resources by firms

5.1.4 Concept Design Proposal.

- a) Concept Design Proposals will only be allowed for projects eligible for 2stage QFM, comprising Concept Design Drawings and/or Models
- b) If Concept Design Proposals are requested, the Quality weightage is recommended to be 70%. Within the Quality component, the evaluation criterion on Concept Design Proposal is recommended to be given significant Quality points.
- c) Compensation is offered to each tendering entity (single firm or MDT) which have been unsuccessful in the tender. The tendering entity which is awarded the project will not be offered compensation.
- 5.1.5 <u>"Quality" Score Computation</u>. The tenderer with the highest total raw Quality points will be given maximum Quality score. The Quality score of the other tenderers will be calculated proportionally to the highest total Quality points. Please refer to <u>Annex A</u> for examples.

 $Quality\text{-}score \ (Q\text{-}score) = \quad \frac{Tenderer's \ Raw \ Quality \ Points}{Highest \ Raw \ Quality \ Points \ Among \ All \ Tenderers} \times Quality \ Weightage$

5.2 "Productivity" Component.

- 5.2.1 Attributes under the "Productivity" component will include (total: 20%):
 - a) Buildable-Design Score (BS) Index (min 8%)
 - b) Technology Adoption (Design) (TA(D)) Index (2%)
 - c) Workforce Development (Design) (WD(D)) Index¹²(2%)
 - d) (Optional) Other productivity attributes specified by agencies (up to 8%¹³)
- 5.2.2 The indices for items (a) to (c) are published on the BCA website and updated on a quarterly basis.
- 5.2.3 Other Productivity Attributes specified by agencies. Agencies shall decide the attributes and scoring method that are relevant to assess the impact of tenderer's proposal on project productivity. For example, agencies could evaluate the design proposal of the tenderers in terms of their potential productivity gains. For projects/disciplines where minimum Buildable Design

¹² TA(D) and WD(D) indices are calculated from the amount of funding disbursed under the Building Information Modelling (BIM) fund and the Workforce Training & Upgrading scheme respectively under the Construction Productivity & Capability Fund (CPCF). Please refer to Annex B for details on how BCA derive and compute the indices.

¹³ The weightage for this attribute to be carved out from the BS Index attribute, i.e. the total of BS Index and Other productivity attributes specified by Agencies would make up a total of 16%. If BS index is not applicable, up to 16% could be assigned to project-specific productivity attributes or be discarded totally.

Score requirements are applicable, up to 8% could be assigned to project-specific productivity attributes. The total of BS Index and other productivity attributes specified by agencies should make up a total of 16%. For projects/disciplines that are not subject to minimum Buildable Design Score requirements, the BS Index attribute will not be applicable. For such cases:

- a) Up to 16% could be assigned to project-specific productivity attributes (i.e. total QFM score will be between 85 to 100 points); or
- b) The full 16% could be discarded. Score will be based only on the remaining Productivity attributes (i.e. the productivity score weightage shall only be 4%, with the total QFM score at 84 points).
- 5.2.4 <u>"Productivity" Score Computation</u>. To compute the Productivity-score (PD-score) for a tenderer, agencies are to sum up the points for each of the Productivity attributes. Please refer to <u>Annex A</u> for examples.

```
Productivity-score (PD-score) = Scores from [BS Index + TA(D) Index + WD(D) Index + Other productivity attributes (if any) ]
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5.2.4.1 <u>Score from BS Index</u> Score will be pegged to the tenderer that has the highest BS Index among all tenderers.

- a) The tenderer with the highest BS Index will obtain full points
- b) Tenderers with no BS Index will be given the average points across all conforming tenderers
- c) For cases where less than two (i.e. only one or none) of the tenderers have BS Index, the BS Index attribute will be discarded¹⁴
- 5.2.4.2 Score from TA(D) Index (2%). Score will be pegged to the tenderer that has the highest TA(D) Index among all tenderers.

- a) The tenderer with the highest TA(D) Index will obtain full points
- b) Tenderers with no TA(D) Index will be scored zero point

¹⁴ In such cases, the PD-score will be based only on the remaining Productivity attributes (i.e. the PD-score weightage shall only be 4%, with the total QFM score at 84 points).

5.2.4.3 Score from WD(D) Index (2%). Score will be pegged to the tenderer that has the highest WD(D) Index among all tenderers.

$$Score \ from \ WD(D) \ Index = \frac{Tenderer's \ WD(D) \ Index}{Highest \ WD(D) \ Index \ Among \ All \ Tenderers} \times \ Weightage \ (2\%)$$

- a) The tenderer with the highest WD(D) Index will obtain full points
- b) Tenderers with no WD(D) Index will be scored zero point
- 5.3 "Fee" Component.
 - 5.3.1 Agencies are to state clearly at tender stage how the tenderers should quote the Fee proposals i.e.
 - By Percentage of final construction cost (%) or
 - By Lump Sum (\$)
 - 5.3.2 Measure to reduce fee diving. To discourage firms from quoting excessively low fees, a special scoring formula will be employed for the calculation of Fee score where there are fees which are more than 20% below of the average quoted ("perceived fee-diving"). Tenderers with fees which are more than 20% below the average shall be awarded *no further advantage* than the score awarded to the fee at 20% below the average (Faverage).
 - 5.3.3 <u>"Fee" Score Computation.</u> Agencies are to cite the two formulas below to compute the Fee-score (F-score), for the two scenarios indicated below. At tender evaluation, Agencies are to employ the appropriate formula accordingly. Please refer to <u>Annex A</u> for illustration.
 - a) <u>Scenario A Normal Scenario</u>: Where the lowest fee quoted is <u>higher</u> than or equal to 0.8F_{average}

$$Fee Score (F-score) = \frac{Lowest Proposed Fees}{Tenderer's Proposed Fee} \times Fee weightage$$

b) <u>Scenario B – "Perceived Fee-diving" by Tenderer(s)</u>: Where the lowest fee quoted is <u>lower</u> than 0.8F_{average}

$$Fee \ Score \ (F-score) = \frac{0.8 F_{average}}{Tenderer's \ Proposed \ Fee} \times Fee \ weightage$$

$$where, \quad F_{average} = \quad \frac{\sum Proposed \ Fees \ of \ all \ Conforming \ Bids}{No. \ of \ Conforming \ Bids}$$

5.4 <u>Bids submitted under Collaborative Bidding¹⁵.</u> The table below indicates the evaluation methodology for the various attributes when evaluating collaborative bids by firms i.e. a consortium of two or more PSPC firms. Please refer to <u>Annex A</u> for illustration.

QFM Components	QFM Attributes	Evaluation Methodology		
Productivity (PD)	TA(D) Index			
	WD(D) Index	Taka highaat aaara		
	BS Index	Take highest score amongst the firms within		
Quality (Q)	Past performance i.e. CPAS scores	the consortium		
	Firm's Track Record	the consortium		
	Awards/Certifications			
	Expertise and experience of personnel			
Design Proposal/Approach		Assessed as one consortium		
Fee (F)	Fee Proposal	CONSOLIUM		

6.0 **QFM PROCEDURES**

- 6.1 The QFM procedures comprise an Expression of Interest (EOI) Stage, followed by the Tender Stage¹⁶. Agencies are to launch the EOI Notice and Tender Notice via GeBIZ¹⁷.
- 6.2 <u>Single-discipline and Multi-disciplinary Team (MDT) Approach</u>. Agencies can choose to procure the services through single-disciplinary firm or multi-disciplinary team (MDT) approach, and this has to be indicated upfront at the EOI Stage.
 - a) Under the MDT approach, with the tender bids submitted on a team basis, all members within the team must fulfill the eligibility criteria stipulated (including the correct PSPC panel for PSPC disciplines) at the point of EOI closing and tender closing. In addition, the following conditions must also be met:
 - i. If any team member changes panel after EOI closing but before Tender Award, the panel change must only be an upgrade
 - ii. All team members should not be delisted / downgraded / debarred at the point of Tender Award.
 - b) Within the same tender, the lead consultant of an MDT shall not be in any other teams (under the same discipline) other than the team it leads.

¹⁵ Please refer to BCA's CORENET circular tilted "Introduction of Collaborative Bidding for Construction-related Consultancy Services Tenders" issued on 20 Jul 2018. The Collaborative Bidding framework will apply to all Expression of Interest (EOI) called on or after 1 October 2018.

¹⁶ With reference to the Instruction Manual on Procurement, the EOI stage shall be at least 14 days and tender stage at least 14 days for non GPA/FTA-covered tenders and 25 days for GPA/FTA-covered tenders.

¹⁷ For EOI Notice and Tender Notice, Agencies can make use of the Request for Information (RFI) and ITT modules respectively to publish openly in GeBIZ. For Tender Notice, Agencies can choose manual or electronic submissions to be received. Due to platform limitations in GeBIZ, submissions will be collected manually from EOI Notice.

- c) Under the single-discipline approach, the tenderers shall fulfill the eligibility criteria stipulated (including the correct PSPC panel for PSPC disciplines) at the point of EOI closing and tender closing. In addition, the tenderer should not be delisted / downgraded / debarred at the point of Tender Award.
- 6.3 Collaborative Bidding (For EOI called on or after 1 Oct 2018). Under Collaborative Bidding, PSPC-registered firms (within the same discipline) may pool their resources to be eligible to tender for projects beyond their panels' current allowable tendering limits. The consortium, made up by two or more firms within the same discipline, would have to meet the PSPC registration requirements of the panel stated in the tender. More details can be found on BCA's CORENET Circular titled "Introduction of Collaborative Bidding for Construction-related Consultancy Services Tenders" issued on 20 Jul 2018.
- 6.4 <u>Expression of Interest (EOI) Shortlisting Stage</u>. There are two modes of QFM tenders, which are to be adopted based on the various project ranges¹⁸.

EOI Shortlisting method based on project cut-off value

	1-stage QFM (Balloting)	1-stage QFM or 2-stage QFM (Balloting or Selection)	2-stage QFM (Selection)
Project value	Up to \$40mil	Above \$40mil and up to \$85mil	Above \$85mil

Note: Please refer to BCA's website for the latest cut-off values as these will be adjusted based on the current tender price index (TPI).

- 6.4.1 <u>1-Stage QFM (Balloting performed at EOI Stage)</u>: The EOI Stage involves *balloting* of eligible firms.
 - There should be no request for or evaluation of Quality and Fee proposals, other than those used to fulfill critical criteria
 - Balloting will be performed on firms which had expressed interest and fulfil the critical criteria (e.g. correct PSPC panel)¹⁹
 - Agencies shall establish their own internal balloting procedures based on the principles of transparency and fairness²⁰
- 6.4.2 <u>2-Stage QFM (Selection by merits performed at EOI Stage)</u>: The EOI Stage involves *selection* of firms based on agencies' stipulated Quality criteria.

¹⁸ The eligibility of panels based on tendering limits and QFM shortlisting methods for various project ranges can be found at http://www.bca.gov.sg/PanelsConsultants/PSPC Tendering Limit.html.

¹⁹ Balloting enables Agencies to shortlist, in an efficient manner, an optimal number of firms for detailed evaluation. Because of the registration criteria applied at PSPC registration, the firms which are in the eligible panels are deemed to have the necessary professional standards and track records. In line with the principle of resource efficiency, balloting removes the need for Agencies to expend time and effort to evaluate potentially large numbers of candidates, which would have translated to higher costs for the industry and the Government. Balloting will also provide opportunities for smaller, emerging and capable firms to participate in tenders

²⁰ The balloting process should be properly documented to leave an audit trail. Agencies may also invite interested parties to witness the balloting.

- Agencies can request for and evaluate Quality proposals at the EOI Stage, e.g. firm's track record, relevant expertise and experience of the proposed project team, and/or Written Proposal. However, there should be no Fee proposals and no Concept Design Proposals required at this stage.
- Agencies are to ensure that the scoring criteria are stated upfront clearly in the EOI document
- Agencies shall not re-evaluate the same Quality attributes at the subsequent tender stage²¹
- 6.4.3 For both 1-Stage and 2-Stage QFM, agencies are to shortlist <u>five</u> firms/MDTs for the tender. For cases in which fewer than five firms express interest, Agencies may consult BCA on possible ways to enhance the participation level.
- 6.5 <u>Tender Stage</u>. For 1-Stage and 2-Stage QFM, the procedures for tender evaluation and award are largely similar. Please refer to Para 6.8 for more details on the procedures.
- 6.6 Feedback on tenderers' tender performance. Agencies are required to share the areas of improvement with tenderers which wish to seek feedback on their individual tender performance after tender award. Agencies are also encouraged to share the ranking of tenderer's Quality score and ranking of Overall QFM score if such sharing would help tenderer to improve on their future performance.
- Other Guidelines. EOI and tender documents shall be detailed in accordance with the Instruction Manual (IM) on Procurement. The requirements and project scope (including estimated project construction cost, where appropriate) shall be stated clearly in the documents. Agencies may wish to consider stipulating minimum Professional Indemnity Insurance (PII) requirements based on their specific project needs.

²¹ Agencies can import the scores of Quality attributes evaluated at the EOI stage to the tender stage, at a suitable weightage under Quality proposal.

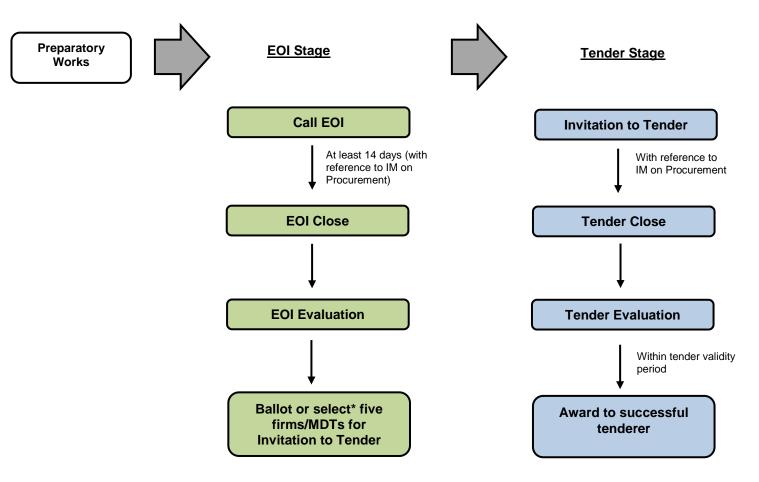
6.8 <u>Guidelines on QFM Procedures</u>.

	1-Stage QFM	2-Stage QFM		
Preparatory Works	Determine the ratio configuration For MDT approach, determine the	project brief the prelim cost estimates and project timeframe the the ratio configuration for Quality: Productivity: Fee the approach, determine the scoring weightage for each discipline - Determine the Quality attributes for EOI stage, and the relative weightages for the attributes to be published in the EOI and Tender stages The the Quality and Productivity attributes for Tender stage, and the		
	relative weightages for the attribut stages	es to be published in the EOI and Tender		
EOI Stage	 Invite EOI from all firms/MDTs in a No Fees and Concept Design Pr stage 	eligible categories ²² roposals are to be requested at the EOI		
	 Five firms/MDTs will be <u>balloted</u> from pool of interested firms/ teams 	Five firms/MDTs will be selected by merits from pool of interested firms/teams based on agencies' particular requirements and evaluation of Quality attributes		
Tender Stage	No Concept Design Proposals are to be requested	 Agencies may opt to request for Concept Design Proposals, for which a high weightage should be accorded to within the Quality attributes 		
	Fee proposal in two separate env - Agencies are to open all Qualit Quality scores - Agencies are to then compute and - Subsequently, Agencies open the Fee scores - The QFM score will be the sum	ncies are to then compute and finalise the Productivity scores sequently, Agencies open the Fee proposals, compute and finalize the		

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 $^{^{\}rm 22}$ For PSPC disciplines, firms/MDTs from the eligible PSPC panels will be called for.

6.9 <u>Milestone Chart for QFM Procedures</u>.



^{*} For 1 Stage QFM, five firms/MDTs will be <u>balloted</u>
For 2 Stage QFM, five firms/MDTs will be <u>selected by merits</u>

QUALITY FEE METHOD

 $F\;r\;a\;m\;e\;w\;o\;r\;k$

Effective for Expression of Interest (EOI) exercises and tenders called on and after 31 Jan 2018 (unless otherwise stated)

Enclosed Annexes

Annex A – Illustration of Scoring Methodology

Annex B — Derivation of Productivity Indices – BS Index, TA(D) Index, WD(D) Index

Annex C - Frequently Asked Questions (FAQs)

Annex A - Illustration of Scoring Methodology

Case Example 1 - Scoring of Typical QFM Tender

QFM Configuration: Quality: Productivity: Fee = 60:20:20

Discipline: Architecture for Building Works (Single Disciplinary)

Mode of Fee Proposal: Percentage of final construction cost (%)

Scenario:

• Tenderer E with no BS Index

• Tenderer A with no TA(D) Index and WD(D) Index – awarded zero for both attributes

• Tenderer D with no TA(D) Index – awarded zero for TA(D) Index attribute

• Tenderers A and D with lower-than-average fees (Tenderer D's fees turned out to be more than 20% lower than the average fees proposed)

			Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
Quality	Q _{raw}	(upon 100)	84.1	94.2	91.3	79.6	83.8
Quanty	Q-score	(60pts)	53.57	60.00	58.15	50.70	53.38
	Score for BS Index	(16pts)	16.00	15.02	15.10	14.56	15.17*
Productivity	Score for TA(D) Index	(2pts)	0	2.00	1.50	0	1.74
	Score for WD(D) Index	(2pts)	0	2.00	2.00	1.50	1.28
	PD-score	(20pts)	16.00	19.02	18.60	16.06	18.19
	F	(%)	0.808%	1.120%	1.000%	0.780%	1.342%
Fee	Faverage		F _{average} = 1.0100% ⇒ 0.8F _{average} = 0.8080%) _% #	
	F-score	(20pts)	20.00	14.43	16.16	20.00	12.04
Total QFM score (Q-score + PD-score + F-score) (100pts)		89.57	93.45	92.91	86.76	83.61	
Overall position	on		3	1	2	4	5

^{*} Average of all scores (for BS Index) is awarded to Tenderer E, which had no BS Index

^{*} As the lowest fee proposed (0.780%) is lower than 0.8F_{average}, the fee computation formula for "fee-diving scenario" is invoked. The perceived "fee-diver" will obtain the same F-score (capped at full score) as any tenderer proposing a fee equalling the average of all fees proposed.

Case Example 2 – Scoring of Tender (insufficient tenderers with BS Index)

QFM Configuration: Quality: Productivity: Fee = 60:20:20

Disciplines: Architecture for Building Works (Single Disciplinary)

Scenario:

• Out of the five tenderers, one or none of the tenderers have a BS Index.

			Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
Quality	Q _{raw}	(upon 100)	84.1	94.2	91.3	79.6	83.8
Quality	Q-score	(60pts)	53.57	60.00	58.15	50.70	53.38
	Score for BS Index	(16%)	N/A*	N/A*	N/A*	N/A*	N/A*
Productivity	Score for TA(D) Index	(2%)	0	2.00	1.50	0	1.74
	Score for WD(D) Index	(2%)	0	2.00	2.00	1.50	1.28
	PD-score	(20pts) (4pts)#	0	4.00	3.50	1.50	3.06
	F	(%)	0.808%	1.120%	1.000%	0.780%	1.342%
Fee	Faverage		Faverage = 1.0100% => 0.8Faverage = 0.8080%#) _% #	
	F-score	(20pts)	20.00	14.43	16.16	20.00	12.04
Total QFM score (100pts) (Q-score + PD-score + F-score) (84pts)^^		73.57	78.43	77.81	72.20	68.48	
Normalised QFM score (100pts)		(100pts)	73.57/84*100 = 87.58	78.43/84*100 = 93.37	77.81/84*100 = 92.63	72.20/84*100 = 85.95	68.48/84*100 = 81.95
Overall position	n		3	1	2	4	5

^{*} If one or none of the tenderers have BS Index, the BS Index will not be scored, and the attribute will be discarded.

^{*} The PD-score shall be pegged to 4pts, instead of the original 20pts.

[^] As a result, the total QFM score will be pegged to 84pts, instead of the original 100pts.

Case Example 3 - Stipulating Productivity Attributes within an MDT

QFM Configuration: Quality: Productivity: Fee = 70:20:10

Disciplines: Architecture + C&S Engineering + M&E Engineering + Quantity

Surveying (MDT) for Building Works

Scenario:

No mandatory BS Index attribute for ME and QS disciplines.

			Multi-disciplinar	y Team (MDT)	
		AR	CS	ME	QS
Weightage Ac	ross Each Discipline*	W _{AR} (%)	Wcs (%)	W _{ME} (%)	W QS (%)
	CP-Score (min 10%)	10%	10%	10%	10%
Quality	Other Q Attributes	60%	60%	60%	60%
	Total Q-Score Weightage	70%	70%	70%	70%
	BS Index (mandatory for AR and CS)	10%	10%	0%#	0%#
	TA(D) Index	2%	2%	2%	2%
Productivity	WD(D) Index	2%	2%	2%	2%
	Other Productivity Attributes	6%	6%	6%	6%
	Total PD-Score Weightage	20%	20%	10%#	10%#
Fee	Total F-Score Weightage**		10%	6	
Total QFM We	eightage (per discipline)	100%	100%	90%	90%
Normalised QFM Score (per discipline)		QFM _{AR} = Score/100*100	QFM _{CS} = Score/100*100	QFM _{ME} = Score/90*100	QFM _{QS} = Score/90*100
Total QFM Score (for MDT)^		War QFMar			
		+ Wcs QFMcs			
		+ W _{ME} QFM _{ME}			
		+ W _{QS} QFM _{QS}			

^{*} The weightages shall sum up to 100%. Agencies are to stipulate appropriate weightage across each discipline.

^{*}The 10% from the BS Index attribute will be discarded for ME and QS disciplines, and to projects not subjected to minimum Buildable Design requirements. In this example, 10% and 6% have been allocated to "BS Index Attribute" and "Other Productivity Attributes", respectively.

[^]The total QFM score (for MDT) is the weighted sum of QFM scores for each discipline with respect to the stipulated weightages.

^{**} The F-score shall be computed based on the total Fee quoted by the MDT. Each discipline shall be allocated the same Fee score for purposes of computing the QFM score (per discipline).

© Case Example 4 – Evaluating CP-Score at Tender Stage (for QFM EOIs or tenders on or after 1 Jul 2018)

Scenario:

- Architecture consultancy service for Building Works (Single Disciplinary)
- Tenderer A has no CPAS score i.e. new to public sector projects
- CP-score weightage: 10%

Consultants'Performance	Tenderer's CPAS score
Score (CP-Score) =	Highest CPAS Score Among All Tenderers x Weightage

	Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
CPAS score	0	70	80	75	90
Evaluation	(7.8+8.9+8.3+10) / 4 * 10%	70/90 * 10%	80/90 * 10%	75/90 * 10%	90/90 * 10%
CP-score	8.80	7.80	8.90	8.30	10.00

Tenderer with the highest CPAS Score among the tenderers will be awarded the full points

Tenderer with no experience in public sector projects will be given the average scores across all conforming tenderer.

For cases where only one or none of the tenderers have CP-score, the CP-score attribute will be discarded.

Case Example 5 – Evaluating CP-Score at Tender Stage (for QFM EOIs or tenders on or after 1 Jul 2018)

Scenario:

- Architecture for Building Works (Single Disciplinary)
- Tenderer A has no CPAS score i.e. new to public sector projects
- CP-score weightage: 10%

Consultants'Performance	Tenderer's CPAS score x Weightage
Score (CP-Score) =	Highest CPAS Score Among All Tenderers Weightage

	Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
CPAS score	0	70	80	75	90
Evaluation	0	70/90 * 10%	80/90 * 10%	75/90 * 10%	90/90 * 10%
CP-score	(7.8+8.9+8.3+10) / 4 = 8.80	7.80	8.90	8.30	10.00

Tenderer with no experience in public sector projects will be given the average scores across all conforming tenderer

For cases where only one or none of the tenderers have CP-score, the CP-score attribute will be discarded.

Case Example 6 - Derivation of Scores for Firms under Collaborative Bidding

Firm A and Firm B, both registered in PSPC Architectural Panel 3, jointly submitted a bid i.e. Tenderer 1, to tender for a project opened to Panel 1 and 2 firms under the Collaborative Bidding

QFM Components	QFM Attributes	Evaluation Methodology	
Productivity (PD)	TA(D) Index		
	WD(D) Index	Take highest seers	
	BS Index	Take highest score amongst the firms within	
Quality (Q)	Past performance i.e. CPAS scores	the consortium	
	Firm's Track Record	the consortium	
	Awards/Certifications		
Expertise and experience of personnel		Assessed as one	
	Design Proposal/Approach consortium		
Fee (F)	Fee Proposal	CONSOLIUM	

For a consortium (i.e. Tenderer 1) formed by Firm A and Firm B within the same discipline:

	(i.e. remedier i) remied b	,		Tenderer 1		
		QFM Weightage	Firm A	Firm B	Score to be used	
Quality (Q)	i) CP-Score (CPAS) (by discipline)	(10)		10	8	10
	ii) Track Record	(10)		6	8	8
	iii) Awards/Certification	(5)		5	4	5
	iv) Written Proposal	(30)		28		28
	v) Expertise and experience personnel	e of (5)		5		5
	Total Q-Score (by discipline)		60			56
Productivity (PD)	i) BS-Score	(16)		13	15	15
	ii) TA(D)-Score	(2)		1.5	1	1.5
	iii) WD(D)-Score	(2)		1	1.5	1.5
	iv) Other Productivity Attribu	ıtes(N.A.)		N.A.	N.A.	N.A.
	Total PD-Score (by discipline)		20			18
Fee (F)	Total F-Score (by discipline)		20	1	5	15
Total QFM score (by discipline)		100			89	

Annex B - Derivation of Productivity Indices - BS Index, TA(D) Index, WD(D) Index

Productivity Track Records

(A) Buildable-Design Score Index (BS Index)

The BS Index is an indicator tracking the performance of design firms with respect to Buildable Design. BS Index is only applicable for firms in the design disciplines of Architecture and Civil & Structural Engineering. A design firm's BS Index is derived based on the firm's as-built BD Score of that discipline for the latest 5 completed projects, within the last 3 years²³. It is computed based on the following methodology:-

BDS Index =
$$\frac{I_1 + I_2 + \dots + I_N}{N} \times 100$$

where

 $I_x = (\frac{\text{Design Firm's as-built BD Score for that discipline achieved in Project x}}{\text{Minimum Score Required for that discipline in Project x}})$

N = number of projects completed in the last 3 years (capped at 5 latest)



2 Assuming a single discipline design firm has completed 5 projects during the last 3 years with BD-scores below:-

Project	Category	Design Firm's as-built BD Score for that discipline achieved	Minimum Score Required for that discipline (refer to Q2)
Project 1	Commercial	47	42
Project 2	Commercial	45	42
Project 3	Residential (Non-Landed)	38	35
Project 4	Residential (Non-Landed)	37	35
Project 5	Institutional	32	30

3 The BS Index for the design firm of that particular discipline is computed as follows:

BS Index =
$$\frac{\frac{47}{42} + \frac{45}{42} + \frac{38}{35} + \frac{37}{35} + \frac{32}{30}}{5} \times 100$$

BS Index = 108.0

Note: Calculation of BD-score for completed projects

As the legislated minimum BD-score for a project has to be met by the team of designers (i.e. architect, C&S engineer, etc), this legislated minimum BD-score could be further broken down into minimum score required for each discipline.

For example, a project's legislated minimum BD-score is 77 and it consists of architectural works and C&S engineering works. Based on the BCA's Buildable Design Appraisal System, it is assumed that the architectural works and C&S engineering works could contribute 45% and 55% towards the total BD score respectively.

Under such situation, the minimum score required for architectural discipline will be $77 \times 0.45 = 35$ and C&S engineering discipline will be $77 \times 0.55 = 42$.

2:

²³ If a design firm has less than 5 completed projects in the last 3 years, the BS Index will be based on the number of projects the firm has completed in the last 3 years.

Pro-activeness in Investment towards Productivity Improvement

4 To gauge firms' pro-activeness in investment towards productivity improvement, the Technology Adoption (TA) Index and Workforce Development (WD) Index were established.

(B) Technology Adoption (Design) Index - TA(D) Index

For the TA(D) Index, it encompasses the Building Information Modelling (BIM) fund. The TA(D) Index of a firm is computed based on the funding disbursed relative to the industry, using the following formula:



Example: Computation of TA(D) for ABC Consultant Firm				
CPCF Scheme	Amount disbursed to the firm relative to the industry			TA(D) Scoring Formula
	Indicative Range of Disbursed Amount^	Percentile	Scoring	
	>\$A	>80 th percentile	100%	
	\$B< x ≤ \$A	61 st – 80 th percentile	80%	
BIM	\$C < x ≤ \$B	41 st – 60 th percentile	60%*	0.60 x100 = 60
	\$D < x ≤ \$C	21 st – 40 th percentile	40%	
	≤ \$D	1 st – 20 th percentile	20%	
	^Indicative range to be reviewed quarterly at the industry level *Assuming ABC Consultant Firm lies in the 41st – 60th percentile			
TA(D) Index			60	

(C) Workforce Development (Design) Index - WD(D) Index

For the WD(D) Index, it constitutes disbursement rates for Workforce Training and Upgrading (WTU) scheme and scholarship and sponsorship²⁴. A higher weightage is allocated for the scholarship and sponsorship, at 75%. The WD(D) Index is computed based on the funding disbursed relative to the industry using the following formula:

_

²⁴ The scholarship and sponsorship programmes include the BCA-Industry Built Environment Post-graduate Sponsorship (Parttime) BCA-Industry Built Environment Undergraduate Scholarship/Sponsorship (Full-time), BCA-Industry Built Environment Undergraduate Sponsorship (Part-time), BCA-Industry Built Environment Diploma Scholarship/Sponsorship, BCA-Industry Built Environment Diploma Sponsorship (Part-time), BCA Built Environment ITE Scholarship and Built Environment Building Specialist Sponsorship.



Example: Computation of TA(D) for ABC Consultant Firm				
CPCF Scheme	·			TA(D) Scoring Formula
	Amount disbursed to the firm relative to the industry over the last 36 months from the date of quarterly update			
	Indicative Range of Disbursed Amount^	Percentile	Scoring	
	>\$A	>80 th percentile	100%	
WTU	\$B< x ≤ \$A	61 st – 80 th percentile	80%	0.20 x 25 = 5
	\$C < x ≤ \$B	41 st – 60 th percentile	60%	
	\$D < x ≤ \$C	21 st – 40 th percentile	40%	
	≤ \$D	1 st - 20 th percentile	20%*	
	^Indicative range to be re level *Assuming ABC Consu 20 percentile			
	Amount committed by the firm relative to the industry over the last 3 years from the date of quarterly update			
	Indicative Range of Committed Amount^	Percentile	Scoring	
Scholarship	>\$A	>80 th percentile	100%	
and	\$B< x ≤ \$A	61 st – 80 th percentile	80%	0.60 x 75 = 45
Sponsorship	\$C < x ≤ \$B	41 st – 60 th percentile	60%*	
	\$D < x ≤ \$C	21 st – 40 th percentile	40%	
	≤ \$D	1 st – 20 th percentile	20%	
	^Indicative range to be reviewed quarterly at the industry level *Assuming ABC Consultant Firm lies in the 41st – 60th percentile			
	WD(D) Inde	ex		5 + 45 = 50

Publication of Productivity Indices

The productivity indices are calculated and published by BCA on a quarterly basis i.e., January, April, July and October, based on the past quarter's data. Agencies should use the indices that are last published as at tender closing. The data for the latest three quarters can be found at http://www.bca.gov.sg/procurement/productivity_indices.html.

Annex C - Frequently Asked Questions (FAQs)

Evaluation Criteria

- Q1. How are tenderers without CPAS-scores evaluated?
- A1. Firms without CPAS-scores will be given the average scores across all tenderers. Please refer to **Annex A Case Example 6** for more details of the scoring.
- Q2. Where can I view my CPAS-scores?
- A2. Consultants' CPAS scores can be obtained via PSPC login accounts.

BS Index, TA(D) Index, WD(D) Index

- Q3. Is the BS Index attribute applicable to all disciplines and projects?
- A3. The BS Index attribute is only applicable to building developments that are subject to minimum Buildable Design Score requirements.

Under the <u>Code of Practice on Buildability</u>, the requirement of minimum Buildable Design Score is only applicable to the Architectural and Civil & Structural Engineering disciplines for building works with GFA 2,000m² or more, and building works consisting of repairs, alterations and/or A&A works to an existing building if the building works involve construction of new floors or reconstruction of existing floors with GFA 2,000 m² or more. The list of development types can be found in Para 5.2 of the <u>Code of Practice on Buildability</u>.

Please also refer to the First Schedule of the <u>Code of Practice on Buildability</u> for the various developments exempted from the Buildable Design Score requirements.

[COP on Buildability: http://www.bca.gov.sg/BuildableDesign/cop2011.html]

For projects and disciplines where the BS Index attribute is not applicable, the attribute will be discarded.

- Q4. Are the TA(D) Index and WD(D) Index attributes applicable to all disciplines and projects?
- A4. Yes, they are applicable to all disciplines and projects, where QFM is adopted.

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