

QUALITY FEE METHOD (QFM)

Guide to QFM Framework

Effective for Expression of Interest (EOI) exercises and tenders called on and after 1 February 2023

Amendment List

Section	Details of Amendment	Date of Amendment
2.4	Updated Estimated Construction Cost of Project for determining shortlisting method	1 February 2023
3.2	Updated the changes to the Quality Component in this section a) Removed the Buildable Design Score Index; b) Included scoring approach for scenario where less than two tenderers has consultant's performance score. c) Reallocated the affected weightage of 16% (from BS Index) to the Quality component to allow GPEs higher weightage in assessing quality attributes such as Integrated Planning and Design (IPD), Advanced Manufacturing & Assembly (AMA), Environmental Sustainability and Design for Maintenance (DfM) under the Quality proposals	
3.7	Removed BS index in quality attribute	
Annex A	Removed FAQ 3 on Buildable Design Score Index	
Annex B	Updated examples on the scoring of the QFM.	
1	Updated QFM components and weightages arising from changes in the Productivity (PD) component.	1 June 2022
2	<ul style="list-style-type: none"> - Updated changes to PD component <ul style="list-style-type: none"> • Removed all references to Productivity scores, • Transferred BS Index (16%) to Quality component • Removed Technology Adoption (TA(D)) Index and the Workforce Development (WD(D)) Index, and 4% weightage reallocated to Quality component - Updated project cut-off values in shortlisting method table (CI 2.3.3) - Clause amended and added footnote to remind GPEs to provide the template for Breakdown of Fees Man-weeks and Man-week rates for tenderers' submissions in excel format (CI 2.9) - Clause amended to highlight that GPEs should not deviate from the QFM framework to award to the highest QFM scorer. If otherwise, GPEs shall inform BCA with justifications. (CI 2.13) 	
3	<ul style="list-style-type: none"> - Updated Quality score arising from changes in the PD component. - Added note to make clear the tender evaluation methodology for Collaborative Bidding shall also apply to other Joint Ventures arrangement (CI 3.7) 	
Annex A	FAQ6 added for situations where there are less than five tenderers who have expressed interest	
Annex B	Updated QFM components and weightages arising from changes in the Productivity (PD) component.	

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1. Introduction to QFM

GENERAL

- 1.1. The QFM is a structured framework for the selection of the most suitable bid proposal that provides the best value for the tender. It is a competitive selection method that considers both Fee and Quality proposals submitted by firms.

KEY PRINCIPLES AND FEATURES OF QFM FRAMEWORK

- 1.2. The QFM framework is underpinned by the following three key principles and its distinct features.

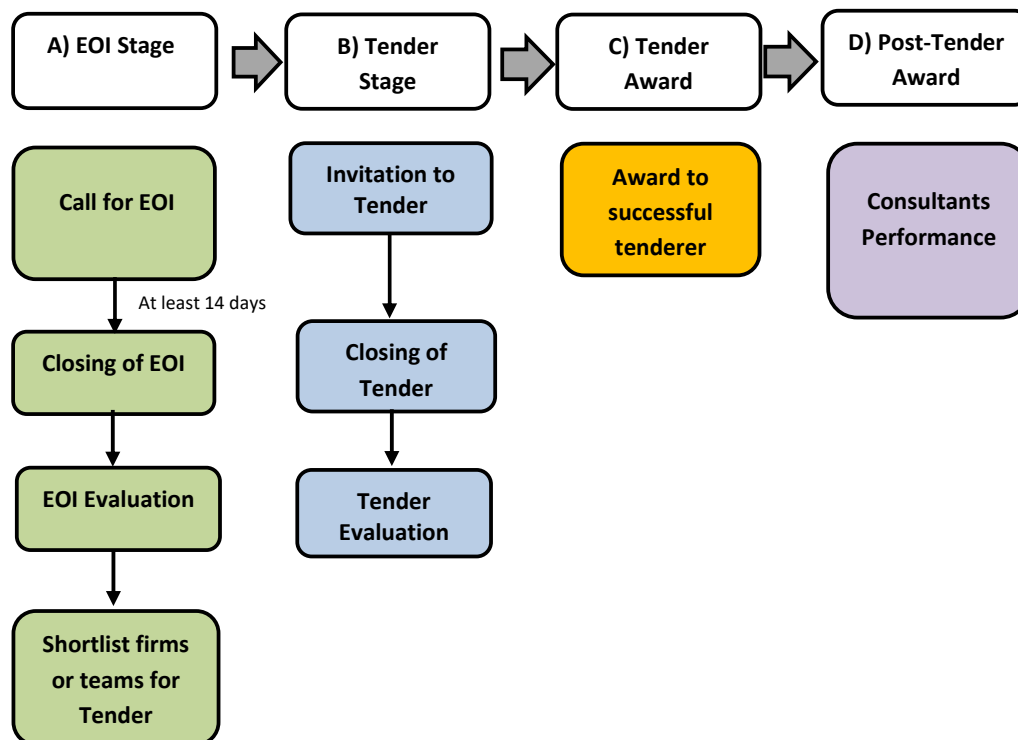
Key Principles	Features of QFM framework						
<p>1) Quality-focused Emphasis on firms' capacity and capability to undertake the project and quality of service; Discourage fee-diving behaviour in tenderers</p>	<p>i. Higher weightage for Quality component</p> <table border="1"> <thead> <tr> <th>Component</th> <th>QFM Weightage</th> </tr> </thead> <tbody> <tr> <td>Quality</td> <td>70% - 90%</td> </tr> <tr> <td>Fee</td> <td>30% - 10%</td> </tr> </tbody> </table> <p>ii. Mechanism to reduce fee-diving Fee score for low outlier bids is capped; Outlier¹ bids are excluded from the computation of the average fees to prevent skewing of the average.</p>	Component	QFM Weightage	Quality	70% - 90%	Fee	30% - 10%
Component	QFM Weightage						
Quality	70% - 90%						
Fee	30% - 10%						
<p>2) Open and transparent Ensure all tenderers' proposals are evaluated objectively and not affected by the fees proposed</p>	<p>i. Two-envelope system Quality proposals are first opened and evaluated before Fee proposals</p>						
<p>3) Resource efficient Reduce tendering efforts</p>	<p>i. Public Sector Panels of Consultants (PSPC) Tenders are only opened to tenderers from specific PSPC panels, which provides the first sieve to ensure firms' capacity and capability</p> <p>ii. Expression-of-Interest (EOI) stage 5 tenderers are selected for tender stage through the EOI shortlisting process</p>						

¹ Please refer to para 3.6.1 for definition of outlier bids
QFM (updated 1 February 2023)

2. QFM Procedures

QFM TENDER

2.1. There are four key stages of a QFM tender.



A) EOI Stage

2.2. EOI Duration. The EOI stage shall be at least 14 days.

2.3. Tender Eligibility

2.3.1. Public Sector Panel of Consultants (PSPC)

- i. As part of the QFM framework, a central panel called PSPC is to be adopted for procurement of public sector consultancy services in the discipline of Architectural (AR), Civil and Structural (CS), Mechanical and Electrical (ME), Quantity Surveying (QS) and Project Management (PM).
- ii. The eligibility of PSPC firms is pegged to the estimated construction cost of project and only firms listed in PSPC under the corresponding panels are eligible.

- iii. 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 under Collaborative Bidding.

2.3.2. Single-discipline and Multi-disciplinary Team (MDT) approach. The tenderers or members of MDT shall fulfil the eligibility criteria stipulated at the point of EOI closing. In an MDT, the lead consultant shall not participate as a lead consultant in another MDT for the same tender.

2.4. Shortlisting Method. Tenderers shall be shortlisted for tender stage through i) Balloting (1-stage QFM), or ii) Selection by merits (2-stage QFM) depending on the Estimated Construction Cost of Project as below.

	1-stage QFM (Balloting)	1-stage QFM or 2-stage QFM (Balloting or Selection by merits)	2-stage QFM (Selection by merits)
Project value	Up to \$50mil	Above \$50mil and up to \$105mil	Above \$105mil

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).

2.5. EOI Evaluation

2.5.1. *EOI Shortlisting process*

- a) 1-stage QFM. The EOI Stage involves balloting of five eligible firms.
 - i. There shall be no request for or evaluation of Quality and Fee proposals, other than those used to fulfil critical criteria.
 - ii. Balloting shall be performed on firms which have expressed interest and fulfilled the critical criteria (e.g. correct PSPC panel)
- b) 2-stage QFM. The EOI Stage involves selection of five eligible firms based on agencies' stipulated Quality criteria.
 - i. Quality proposals (i.e. no design sketches or drawings involved) can be requested and evaluated at the EOI Stage. Fee proposals and Concept Design Proposals (if any) shall be requested only at tender stage
 - ii. Scoring criteria are to be stated upfront clearly in the EOI document

B) Tender Stage

2.6. Submission by tenderers. Each shortlisted single-disciplinary firm or MDT shall submit a Quality proposal and Fee proposal (including the Breakdown of Fees in Man-weeks and Man-week rates²) in two separate envelopes.

² Tenderers shall fill in and submit the Template for Breakdown of Manpower Deployment and Man-week Rates in excel document provided by the agencies.
QFM (updated 1 February 2023)

2.7. Eligibility at Tender. Only shortlisted firms/MDTs are eligible to participate in tender.

2.8. Tender Evaluation.

2.8.1. Quality proposals would be first opened and the Quality scores computed and finalised, followed by the Fee proposals where Fee scores are computed and finalised.

2.8.2. The QFM score shall be the sum of Quality and Fee scores. The detailed guide on the QFM scoring methodology can be found in Section 3.

C) Tender Award

2.9. Award to highest QFM scorer. The firm or MDT with the highest QFM score shall be awarded the project. Agencies reserve the right not to award to the highest QFM scorer if it is a low outlier bid.

2.10. Feedback on tenderers' tender performance. After tender has been awarded, unsuccessful tenderers can submit a written request to the agencies to find out about their individual tender performance. This includes sharing with the tenderer their own strengths and weaknesses, and performance in specific scoring attributes.

D) Post Tender Award

2.11. Consultants' Performance Appraisal System (CPAS). Upon tender award, a Project Registration Report would be submitted by the agencies for subsequent consultants' performance appraisals.

2.12. Bi-annual performance assessment³. Consultants' performances under CPAS are assessed by agencies on a six-monthly basis.

³ More information on [CPAS](#) can be obtained at BCA website QFM (updated 1 February 2023)

3. QFM Scoring Methodology

GENERAL

- 3.1. The QFM score shall be derived from the summation of Quality and Fee scores. Please refer to Annex A for working examples.

$$\text{QFM score} = \text{Quality score (Q-score)} + \text{Fee score (F-score)}$$

QUALITY SCORE

- 3.2. The Quality score shall be derived from the summation of Consultants' Performance score and Quality sub-score that comprises of other quality attributes:

$$\text{Quality score (Q-score)} = \text{Consultants' Performance score (CP-score)} + \text{Other Quality score (Q sub-score)}$$

3.2.1. Consultants' Performance score (CP-score).

- a) The CP-score shall be based on the overall consultants' performance scores derived from Consultants' Performance Appraisal System (CPAS) i.e. CPAS-score and/or agencies' in-house consultants' performance score. The tenderer with the highest performance score among the tenderers shall be awarded the full points and those without a score shall be given the average points across all conforming tenderers.
- b) For cases where less than two (i.e. only one or none) of the tenderers has consultant's performance score, all tenderers will have zero point for the CP-score attribute.
- c) The CP-score shall have a minimum weightage of 10% out of the total QFM weightage.

$$\text{Consultants' Performance score (CP-score)} = \frac{\text{Tenderer's Performance score}}{\text{Highest CPAS score among all tenderers}} \times \text{Min. 10\% of total QFM weightage}$$

3.2.2. Other Quality score (Q sub-score). The Q sub-score is generally derived from the assessment of the other quality attributes which can include the following:

- a) Written Proposal. It is a written outline of the firm's approach and understanding of agencies' project requirements and constraints, but does not include any form of drawings or presentation (e.g. sketches or visuals with design solutions).
 - i. The written proposal shall be limited to two A4 sheets to minimise wastage of tendering efforts and resources by firms.
- b) Concept Design Proposal (for 2-stage QFM tenders only). Within the Quality component, the evaluation criterion on Concept Design Proposal is usually given significant Quality points.

Written Proposal and Concept Design Proposal could include evaluation of innovative proposals in the relevant key transformation areas under the Built Environment Transformation Map:

- i. **Advanced Manufacturing & Assembly (AMA) / Construction productivity**. For example, adoption of Prefabricated Prefinished Volumetric Construction, Mass Engineered Timber, structural steel, mechanical & electrical (M&E) buildable design features, standardisation and any other proposed innovations to improve construction productivity,
 - ii. **Integrated Planning and Design (IPD)**. For example, proposed BIM team and its BIM capabilities and experience both at organisation and personnel level, pre-contract BIM Executive Plan (e.g a write-up on how the Consultants, together with the BIM team, intends to adopt BIM from the commencement of preliminary design through project completion),
 - iii. **Environmental Sustainability**. For example, considerations of passive design strategies,
 - iv. **Design for Maintainability (DfM)**. For example, improves building performance for long-term benefits
- c) Other quality attributes. Other quality attributes could include but not limited to the following:
- i. Firm's track records
 - ii. Relevant expertise, accreditation and experience of the proposed project team
 - iii. Awards attained by firm

- 3.3. The tenderer with the highest total raw points shall be given maximum Quality sub-score. The Quality sub-score for the other tenderers shall be calculated proportionally to the highest total Quality points.

$$\text{Other Quality score (Q sub-score)} = \frac{\text{Tenderer's raw quality points}}{\text{Highest raw quality points among all tenderers}} \times \text{Quality weightage}$$

FEE SCORE

- 3.4. Tenderers shall quote for Fee proposals as specified in the tender documents, which could be one of the following.

- a) By Percentage of final construction cost (%), or
- b) By Lump Sum (\$)

- 3.5. Measures to reduce fee diving. To discourage firms from quoting excessively low fees, the formula in 3.6.2b) shall be employed for the calculation of Fee score where there are fees which are more than 20% below 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 (F_{average}).

- 3.6. Fee score computation.

3.6.1. Calculation of average Fee (F_{average}). To prevent skewing of the average fee, outlier bids shall be excluded from the calculation of the average fee. Outlier bids are defined as bids that are more than 20% below (low outlier) or 50% above (high outlier) the average fee of all conforming bids. The steps to discard outlier bids in the calculation of F_{average} are as below:

- a) Exclude the outlier bid sequentially by first excluding any high outlier and computing the new average. After which, based on the new average, exclude any low outlier and compute the F_{average} .
- b) Check that the number of outlier bids is less than half of the qualified bids. Otherwise, agencies shall disregard para 3.6.1 a) and consider all qualified bids in the calculation of F_{average} .

3.6.2. Apply Fee-score formula. The two fees formula to be adopted are as below:

- a) Scenario A – Where the lowest fee quoted is higher than or equal to $0.8F_{\text{average}}$

$$\text{Fee score (F-score)} = \frac{\text{Lowest Proposed Fee}}{\text{Tenderer's Proposed Fee}} \times \text{Weightage}$$

- b) Scenario B – Where there is perceived fee-diving i.e. the lowest fee quoted is lower than $0.8F_{\text{average}}$

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

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

Any fee quoted lower than $0.8F_{\text{average}}$ will get the maximum F-score.

EVALUATING COLLABORATIVE BIDDING

- 3.7. 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 of the same discipline which wish to tender for higher value projects under Collaborative Bidding.

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

Note: The above approach shall be applicable to other Joint Ventures arrangement between firms of same the same discipline

Annex A – Frequently Asked Questions

Q1. Can a firm currently not listed on the PSPC participate in an Expression of Interest (EOI) for a consultancy tender?

A1. Firms which are not on the PSPC should apply to get listed on the PSPC in order to participate in public tenders.

For issues on PSPC listing, please check with BCA at bca_pspc@bca.gov.sg.

Q2. Where can I view my CPAS-scores?

A2. Consultants' CPAS scores can be obtained via PSPC login accounts.

Annex B – Illustration of QFM Scoring Methodology

Example 1a - Scoring of Single-discipline (Architectural) QFM tender

QFM Configuration: Quality (Q): Fee (F) = 80: 20, with consultants' performance weightage at 10% of overall QFM weightage

Fee proposal: Proportion of final construction cost (%)

Scenario: There are 5 conforming bids and less than half are outlier bids

		Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
Quality	CPAS score (upon 100)	55.20	64.00	75.10	45.0	67.80
	CP-score (10%)	7.35	8.52	10.00	6.00	9.03
	Q _{raw} (upon 100)	75.50	82.40	90.00	65.00	77.80
	Q_{sub}-score (70%)	58.72	64.09	70.00	50.56	60.51
	Q-score (80%)	66.07	72.61	80.00	56.56	69.54
Fee	F (%)	2.12	2.69	1.44	2.97	2.50
	Average of all qualified bids	2.34				
	Check high outlier bids	-	-	-	-	-
	Check low outlier bids	-	-	outlier	-	-
	F _{average}	5 qualified bids and less than half are outlier bids. Hence, to <u>exclude</u> outlier in F _{average} computation $F_{\text{average}} = (2.12 + 2.69 + 2.97 + 2.50) / 4 = 2.57$ $0.8F_{\text{average}} = 0.8 * 2.57 = 2.056$				
	F-score (20%) Use fee formula 2	19.40	15.29	20.00	13.85	16.45
Total QFM score (Q-score + F-score) (100%)	85.47	87.90	100	70.41	85.99	
Overall ranking	4	2	1[^]	5	3	

Example 1b

Using the same example in 1a, except that at least half of the qualified bids are outlier bids

		Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E	
Fee	F (%)	1.30	2.69	1.44	2.97	4.50	
	Average of all qualified bids		2.58				
	Check high outlier bids		-	-	-	-	outlier
	Average of remaining qualified bids		$(1.30 + 2.69 + 1.44 + 2.97) / 4 = 2.10$				
	Check low outlier bids		outlier	-	outlier	-	-
	F _{average}		5 qualified bids and at least half are outlier bids. Hence, to <u>include</u> all qualified bids in F _{average} computation F _{average} = 2.58 0.8F _{average} = 0.8*2.58 = 2.064				
	F-score Use fee formula 2	(20pts)	20.00	15.35	20.00	13.90	9.17

Example 1c

Using the same example in 1a, except that there are no low outlier bids

		Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E	
Fee	F (%)	2.20	2.69	2.60	2.75	4.50	
	Average of all qualified bids		2.95				
	Check high outlier bids		-	-	-	-	outlier
	Average of remaining qualified bids		$(2.20 + 2.69 + 2.60 + 2.75) / 4 = 2.56$				
	Check low outlier bids		-	-	-	-	-
	F _{average}		5 qualified bids and less than than half are outlier bids. Fee formula 1 shall apply since lowest quoted fee is higher than or equal to 0.8F _{average} .				
	F-score Use fee formula 1	(20pts)	20.00	16.36	16.92	16.00	9.78

Example 2 – Scoring of Multi-Discipline QFM tender

QFM Configuration: Quality (Q): Fee (F) = 80: 20, with consultants' performance weightage at 10% of overall QFM weightage

Discipline: Architectural, C&S and M&E Engineering and Quantity Surveying (MDT)

Note:

- The QFM scoring methodology for an MDT primarily follows that of a Single-Disciplinary tender as shown in example 1a where the evaluation is done on each discipline
- The QFM score for the MDT shall be derived by factoring the respective weightage^[1] of each discipline within the MDT, as illustrated in example below

MDT members			AR	CS	ME	QS
Weightage across each discipline within the MDT ^[1]			40%	30%	20%	10%
Quality	CP-score	(min 10%)	10%	10%	10%	10%
	Q _{sub-score} ^[2]	(70%)	70%	70%	70%	70%
	Total Q-score weightage		80%	80%	80%	80%
Fee	Total F-score weightage		20%			
Total QFM Weightage (per discipline)			100%	100%	100%	100%
Normalised QFM score (per discipline)			QFM_{AR} =score/100*100	QFM_{CS} =score/100*100	QFM_{ME} =score/100*100	QFM_{QS} =score/100*100
Total QFM score (MDT)			40%*QFM_{AR} + 30%*QFM_{CS} + 20%*QFM_{ME} + 10%*QFM_{QS}			

Example 3 – 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
Quality (Q)	Past performance i.e. CPAS scores	Take highest score amongst the firms within the consortium
	Firm's Track Record	
	Awards/Certifications	
	Expertise and experience of personnel	Assessed as one consortium
Design Proposal/Approach		
Fee (F)	Fee Proposal	

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

		QFM Weightage	Tenderer 1		
			Firm A	Firm B	Score to be used
Quality (Q)	i) CP-Score (CPAS) (10) (by discipline)		10	8	10
	ii) Track Record (10)		6	8	8
	iii) Awards/Certification (5)		5	4	5
	iv) Written Proposal (50)		28		28
	v) Expertise and experience of personnel (5)		5		5
	Total Q-Score (by discipline)		80		71
Fee (F)	Total F-Score (by discipline)	20	15		15
Total QFM score (by discipline)		100			86



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QUALITY FEE METHOD FRAMEWORK
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