

PRICE QUALITY METHOD (PQM)

Effective for tenders called on and after 1 November 2024

AMENDMENT LIST

Section	Details of Amendment	Date of Amendment
Section 4.2	<ul style="list-style-type: none"> a) Added the mandatory attribute on Environmental Sustainability. b) Updated the range of the weightages of the quality attributes are shown in Table 4.2.3a. 	1 Nov 2024
Annex D	Added the examples of environmental sustainability criteria.	
Section 4.1	Removed the price loading factor under the Bonus Scheme of Construction Quality (BSCQ).	15 Oct 2024
Section 4.2	<ul style="list-style-type: none"> a) Renamed Safety Performance to Safety-related Attributes; b) Updated the minimum weightage for the Safety-related Attributes; c) Added that the minimum weightage of 5% for the Safety-related Attributes will also be applicable to projects > \$1mil to < \$3mil. 	1 April 2024
Annex C	<ul style="list-style-type: none"> a) Added the types of projects that are required to implement the SDQ Framework; b) Updated the flowcharts on Check Points for Main Contractors; c) Updated the notes on MOM's Check Safe Portal; d) Added notes on Declaration Form for Subcontractors to declare that they have checked that their next level of subcontractors are not disqualified under SDQ; 	
Section 4.2	<p>Updated the changes to the Quality (Q) Component in this section</p> <ul style="list-style-type: none"> d) Removed the Constructability Score (CS) Index; e) Reallocated the affected weightage of 8% (from CS Index) to the Q component to allow GPEs higher weightage in assessing Integrated Planning & Design (IPD) and Advanced Manufacturing & Assembly (AMA) related quality attributes under the Quality proposals <p>Updated the weightages of the Quality attributes.</p>	1 February 2023

Annex A	Updated the examples on the scoring of the PQM score.	
Annex B	Removed the FAQ 1 & 2 on the Constructability Score (CS) Index	
Section 1.1	Changed the term “ <i>Estimated Procurement Value (EPV)</i> ” to “ <i>Estimated Construction Cost (without contingency sum)</i> ”. The estimated construction cost (without contingency sum) is more indicative of the scope of the work to be carried out by the contractors.	1 October 2022
Annex C	Added the guideline on the MOM’s Safety Disqualification Framework	
Section 3.1	Removed the Productivity (PD) component and updated the weightages in the table.	1 June 2022
Section 3 & 4	<p>Updated the changes to the Productivity (PD) & Quality (Q) Component in these sections.</p> <p>f) Retain the 8% allocated to the Constructability Score (C-score) Index and move the C-score Index to the Q component;</p> <p>g) Remove the Technology Adoption (TA(C)) Index and the Workforce Development (WD(C)) Index;</p> <p>h) Reallocate the affected weightage of 2% (from TA(C) & WD(C) Index) to the Q component to allow GPEs higher weightage in assessing other project related attributes under the Quality proposals</p> <p>Updated the weightages of the Quality attributes.</p>	
Annex A	Updated the examples on the scoring of the PQM score.	
Annex B	Updated the existing FAQs.	

Contents

1.	Introduction to PQM	5
2.	Key Principles	5
3.	Main Features	5
4.	Scoring Methodology	6
5.	Information Required in Tender Documents	10
	Annex A – Illustration of Scoring Methodology	12
	Annex B – Frequently Asked Questions (FAQs)	13
	Annex C – MOM’s Safety Disqualification Framework	14
	Annex D – Examples of the Environmental Sustainability Criteria	18

1.0 INTRODUCTION TO PQM

- 1.1 The Price-Quality Method (PQM) framework applies to all public sector construction tenders under the BCA Construction Workheads (CW01 & CW02) with an Estimated Construction Cost (without contingency sum) of \$3million and above.
- 1.2 The aim of PQM is to provide a structured framework for non-price criteria to be assessed alongside price. In effect, PQM translates the qualitative attributes into quantitative scores which, when combined with the Price scores, will enable the most suitable firm that provides the best offer to be selected for award.

2.0 KEY PRINCIPLES OF PQM

- 2.1 Value for Money. Both Price and Quality attributes will be given weightages ⁽¹⁾ and scored based on the guideline provided. The bid with the highest combined Price-Quality score (i.e. PQM score) will be awarded the project.
- 2.2 Open and Transparent.
- The PQM procedures will be open and transparent. The weightages among Price and Quality components, the Quality attributes, the number of points assigned to each attribute and the method of scoring will be made known upfront in the tender.
 - All tenderers can request in writing for their individual tender performance after the tender award.

3.0 MAIN FEATURES OF PQM

- 3.1 Weightages for PQM. The following range of weightages can be considered, depending on project requirements such as the complexity of the project, and the extent of design input required from the tenderers.

Component	Weightages for Building tenders ⁽²⁾	Weightages for Civil Engineering tenders ⁽³⁾
Price	40% - 60%	50% - 70%
Quality	60% - 40%, correspondingly	50% - 30%, correspondingly

¹ Please refer to section 3.1 for weightage configurations for PQM.

² These refer to building projects classified under Contractors Registration System (CRS) Workhead CW01.

³ These refer to civil engineering projects classified under CRS Workhead CW02.


3.2 Tender Submissions. The Government Procuring Entities (GPEs) can adopt the one-envelope or the two-envelope system. A one-envelope system can be adopted for projects whereby the scoring of the specified quality attributes is based on quantified templates with no subjective judgment. An example of an objective scoring for quality attributes would be safety performance based on MOM's List of Contractors with Demerit Points. Otherwise, a two-envelope system will be adopted.

3.2.1 One-envelope System. Tenderers submit the Price and Quality together in one envelope. The Price and Quality scores will be computed at the same time.

3.2.2 Two-envelope System. Tenderers submit the Quality envelope separately from the Price envelope. GPEs would open and compute the Quality score first, before opening the Price envelope and computing the combined scores. The tenderer with the best combined score will be awarded the contract.

4.0 SCORING METHODOLOGY

4.1 Price Component

4.1.1  "Price" Score Computation. The lowest tender price will be given the maximum Price-score (P-score). GPEs reserve the right not to consider any tender bid that is abnormally low. The Price scores of the other tenderers will be inversely proportional to the lowest tender price. The formula below will be used to compute the P-score.

$$\text{Price Score (P-score)} = \frac{\text{Lowest tender price}}{\text{Tenderer's price}} \times \text{Price weightage}$$

4.1.2 When computing the P-score, the tenderer's price should not include provisional sums and value of nominated subcontracts.

4.1.3 Any alternative bid, by any of the firm, will be treated as a separate bid and be assessed accordingly, provided alternatives are allowed. Alternative bids are offers which functionally meet the specified technical specifications and/or terms and conditions differing from those set out in the Invitation to Tender.

4.2 Quality Component

4.2.1 The Quality score will be derived from the summation of past performance, safety-related, environmental sustainability attributes and GPEs' own quality attributes:

$$\text{Quality score (Q-score)} = \text{Past Performance} + \text{Safety-related Attributes} + \text{Environmental Sustainability} + \text{GPES' Own Quality Attributes}$$

4.2.2 Attributes under the Quality component will include:

- a) Mandatory attribute: Past Performance. This could include performance in past or ongoing projects in areas such as timeliness and quality (based on C41 reports and/or GPEs' in-house performance assessment system). To recognise contractors which have provided quality work in past projects, the past performance ⁽⁴⁾ is a mandatory attribute. Please refer to Clause 4.2.3 for the minimum weightage.
- b) Mandatory attribute: Safety-related Attributes. This could include safety performance based on the Ministry of Manpower (MOM) Safety Demerit Point System, GPEs' in-house safety performance score or records. In addition, GPEs could require tenderers to submit innovative safety related proposals. An example of the proposal could be to adopt safer construction methods or deploy WSH technologies to improve risk monitoring and WSH outcomes.

To give due emphasis to site safety, the safety-related attributes is a mandatory attribute. Please refer to Clause 4.2.3 for the minimum weightage.

- c) Mandatory attribute: Environmental Sustainability Attributes **[Only applicable to tenders with an Estimated Construction Cost (without contingency sum) above \$50million, called on and after 31 Jan 2025]**. This could include:
 - i. Climate-related disclosures in accordance with international standards
 - ii. Adoption of practices that decarbonize the construction work processes such as electrification of construction equipment that are conventionally fuel-powered
 - iii. Green Certifications and Qualifications
 - iv. Proposal on sustainable construction practices complete with analysis on the environmental benefits and emission impact

⁴ Contractors can view their individual performance score under the electronic Builders and Contractors Registration System (eBACS).

Please refer to Clause 4.2.3 for the minimum weightage.

- d) GPEs' own Quality attributes, for example:
- i. Relevant track records of tenderer or specific competencies that enhances the tenderer's suitability for the project;
 - ii. Project Specific Proposals including work methods and resources assigned to the project; and
 - iii. Awards or other attributes, if any.
 - iv. Contractors' productivity efforts where technical proposals are sought as part of tender evaluation
 - v. Relevant key transformation areas under the Built Environment Industry Transformation Map (BE ITM) e.g. Integrated Planning & Design (IPD) and Advanced Manufacturing & Assembly (AMA) related quality attributes

4.2.3 The range of the weightages of the quality attributes are shown in Table 4.2.3a.

Table 4.2.3a: Range of weightages

% of Overall PQM Score				
	Building			
	Civil Engineering (CE)			
Price weightage	70%	60%	50%	40%
Quality (Q) Weightage	30%	40%	50%	60%
Safety-related attribute	Min. 5.0%	Min. 6.0%	Min. 7.5%	Min. 9.0%
Past performance	Min. 3.0%	Min. 4.5%	Min. 6.0%	Min. 7.5%
Environmental sustainability	Up to 5.0%	Up to 5.0%	Up to 5.0%	Up to 5.0%
GPEs' own quality attribute	Max 22%	Max 29.5%	Max 36.5%	Max 43.5%

Note:

- 1) The minimum weightage of 5% for safety-related criteria will also be applicable to public sector construction and construction related tenders, for projects > \$1mil to < \$3mil. These tenders need not comply to the other requirements of the PQM framework.
- 2) The environmental sustainability attributes **are only applicable to tenders with an Estimated Construction Cost (without contingency sum) above \$50million, called on and after 31 Jan 2025.**

4.2.4 GPEs will decide which attributes are relevant for a particular project and assign the maximum points for each quality attribute.

4.2.5 GPEs will set out the scoring method for the specific Quality attribute selected. The scoring method can adopt any of the following approaches.

a. Benchmark performance method

A benchmark performance level may be determined for a particular attribute. The benchmark performance level for this attribute can be set at 50% to 100% of the Quality points depending on how the agency wishes to treat tenderers that do better or worse than the benchmark level:

- i) For example, the benchmark performance can be set at 70% of the Quality points, and tenderers which fare worse or better can score lower or higher according to their relative performance. Alternatively, firms which fare worse can be given no points.
- ii) The benchmark performance can be set at 100% of the quality points and tenderers which do worse can score less or no points.

b. Ranking method


For some attributes such as the project specific proposal, it may be difficult to set a benchmark performance level. For such attributes, GPEs can rank the tenderers according to the relative merits of their proposals and allocate Quality points based on the ranking.

c. Banding method

Banding method is similar to benchmark performance method but the scoring is based on bands rather than with reference to a fixed benchmark. When using this method, GPEs will have to decide the range and allocated score for each band depending on how the agency wishes to treat tenderers that fall into each band.

d. Raw score method

For quality attributes such as the project specific proposal in which there will be subjective assessment involved and the scoring is based on a list of sub-attributes which describes how points will be assigned to each area of the proposal, GPEs could give any score from 0 to the maximum score assigned for the sub-attribute to the tenderer based on the extent to which the tenderer has met the specific evaluation criterion. If any specific evaluation criterion involves subjective assessment, e.g. project specific proposals, a two-envelope system will be adopted.

- 4.2.6  Quality Score Computation. 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. The formula below will be used to compute the Quality-score (Q-score).

$$\text{Quality score (Q-score)} = \frac{\text{Tenderer's total Quality Points}}{\text{Highest total Quality Points}} \times \text{Quality Weightage}$$

4.2.7 Optional Requirements. GPEs may choose to adopt **any** of the following optional requirements:

- a. Set a specific Quality attribute as a minimum qualifying criterion, which must be stipulated upfront in the tender documents so that potential tenderers which do not meet this criterion need not tender. This is to minimise the wastages in the firms' tendering efforts. If any GPE intends to specify track record as a minimum qualifying criterion, it should not be overly onerous such that it limits the number of eligible tenderers unnecessarily; or
- b. Set a minimum total Quality points for tenderers to meet. Tenders which do not meet the minimum total Quality points will be 'disqualified' and their Price scores will not be computed. If the two-envelope system is used, the Price envelopes from the non-conforming tenders should not be opened.

5.0 INFORMATION REQUIRED IN TENDER DOCUMENTS

5.1 The following items must be clearly made known at tender stage:

- a) Price-Quality weightage
- b) Quality attributes applicable and their assigned maximum points
- c) Scoring method for each attribute e.g. benchmark performance method or ranking method, etc. Benchmarks used in the benchmark performance method must be made known, together with how tenderers which perform better or worse than the benchmark will be scored.
- d) (if applicable) Any minimum qualifying criterion for a specific quality attribute, which, if not met, would disqualify the tenderer.
- e) (if applicable) Any minimum total quality points below which tenderers will not be further considered.

PRICE QUALITY METHOD

Annex

Enclosed Annexes

- Annex A – Illustration of Scoring Methodology
- Annex B – Frequently Asked Questions (FAQs)
- Annex C – MOM’s Safety Disqualification Framework
- Annex D – Examples of the Environmental Sustainability Criteria

Annex A – Illustration of Scoring Methodology

Case Example 1 – Scoring of Tender

PQM Configuration: Price: Quality = 60% : 40%

		Tenderer A	Tenderer B	Tenderer C	Tenderer D	Tenderer E
Quality	Q (other attributes) (upon 100)	82.0	96.2	73.6	59.8	78.6
	Total Q-score (40pts)	34.10	40.00	30.60	24.86	32.68
Price	Tender Sum (M\$)	12.5	13.0	11.7	12.0	13.5
	P-score (60pts)	56.16	54.00	60.00	58.50	52.00
Total PQM score (Q-score + P-score) (100pts)		90.26	94.00	90.60	83.36	84.68
Overall position		3	1	2	5	4

Annex B – Frequently Asked Questions (FAQs)

Q1. Can tenderers know how they fare in their tender?

A1. To provide greater transparency on tenderers' performance so that tenderers can improve the quality of their future bids, tenderers which wish to seek feedback on their tender performance after tender award can write to the agency that calls the tender for clarifications. We seek contractors' understanding that such feedback from agencies should be taken positively for improving future tender performance.

Q2. How GPEs would evaluate the scores for tenderers which are Joint Ventures (JV)?

A2. The scoring for applicable scoring criteria will be by computing the scores according to the equity share of the JV partners. This would better reflect the contribution of the JV partners in a project.

To facilitate the calculation of the JV score, GPEs may include the following clause upfront in the tender documents (e.g. Instruction to Tenderers):

“Companies who wish to submit the tender as a Joint Venture/ Consortium shall submit the following information:

- i. Legal relationship among the members of the Joint Venture/ Consortium;*
- ii. Percentage equity of each member of the Joint Venture;*
- iii. Role and responsibility of each member of the Joint Venture/ Consortium”*

Annex C – MOM’s Safety Disqualification (SDQ) Framework

Type of Projects that are Required to Implement the SDQ Framework

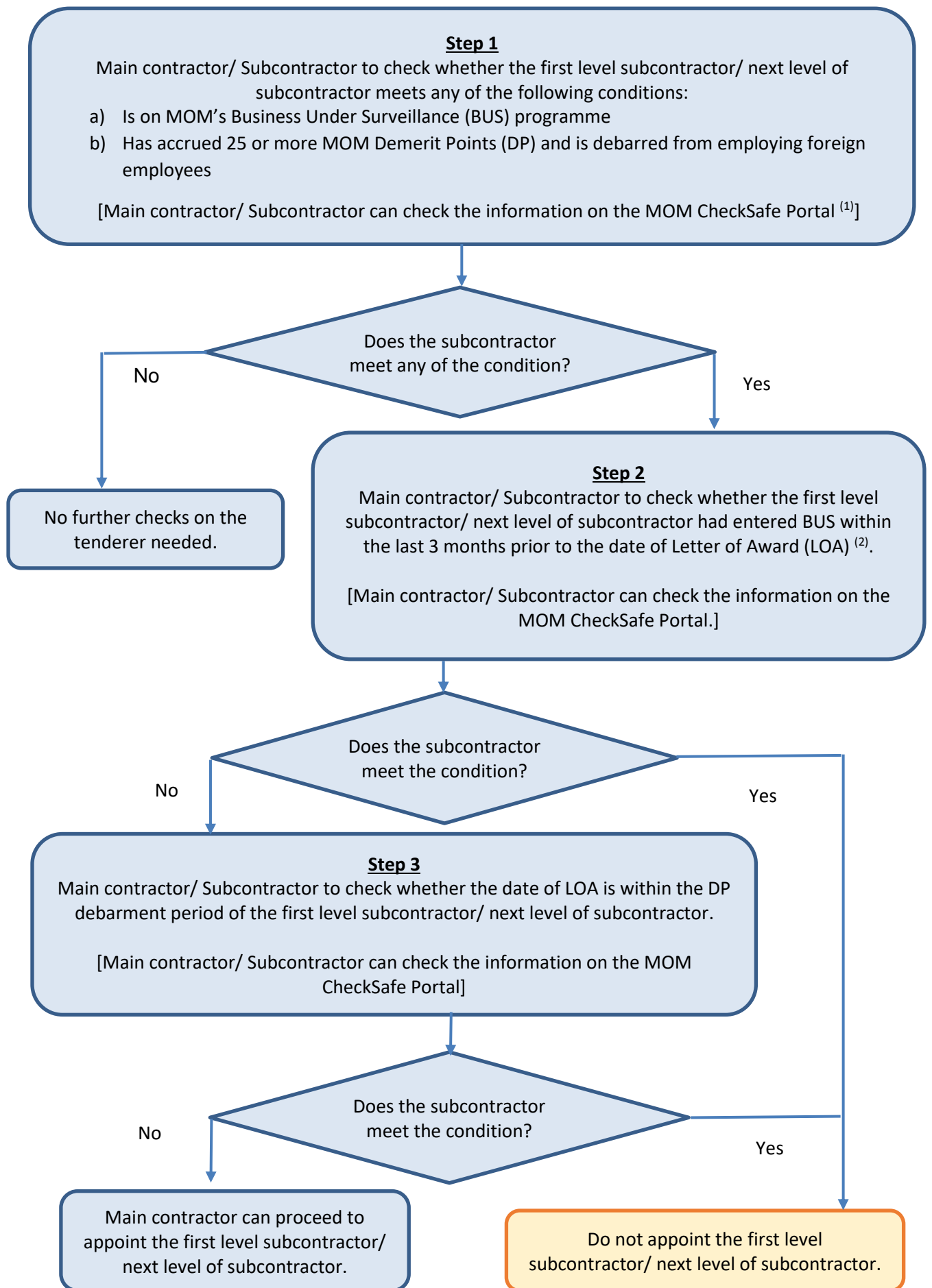
1 The SDQ will be applicable to public sector construction and construction related tenders:

- a) For projects > \$90k to ≤ \$1mil.
This will be applicable to Main Contractor only; and
- b) For projects > \$1mil.
This will be applicable to Main Contractor and all levels of subcontractors

Checks to be Carried Out by the Awarded Tenderer (or Main Contractor)/ Subcontractor on the Safety Disqualification Criteria

2 The Awarded Tenderer (or Main Contractor) should carry out checks on whether the first level subcontractors meet the Safety Disqualification Criteria before appointing them.

3. The Subcontractor should carry out checks on whether the next level subcontractors meet the Safety Disqualification Criteria before appointing them. The Main Contractor needs to put in place a system to ensure SDQ enforcement across all levels of Subcontractors in the project.



Notes:

- 1) Main contractors/ Subcontractors can obtain the information on BUS and DP on the CheckSafe Portal, as shown below.

2 Search name or UEN of company

Contractor ABC Pte Ltd. (UEN: 123456789A) Edit

Results

Filters

Company name and UEN	Fatal cases	WIC PI cases	Demerit points	Under SWO	Under BUS (Entry Date)
Contractor ABC Pte Ltd. (UEN: 123456789A)	3	5	25	No	Yes 17 Apr 23
DP debarment phase and period	SWO (issuance/lifting dates, type and status)	Convicted date and offences	bizSAFE type and level	WSH Awards	
1(04-Dec-23 to 04-Mar-24)	19 Apr 22 - 05 Jul 22 : Partial SWO (Lifted) 23 Feb 21 - 08 Mar 21 : Partial SWO (Lifted) 17 Dec 20 - 18 Jan 21 : Partial SWO (Lifted)	-	bizSAFE PARTNER, bizSAFE ENTERPRISE Level Star	2020 - WSH Performance (Silver) Awards	

Under this field, GPEs will be able to check the DP debarment period of a firm.

In this case, 4 Dec 2023 is the date that Contractor ABC first accrued 25 DPs and the debarment period is from 4 Dec 2023 to 4 Mar 2024.

Under this field, GPEs will be able to check the DPs that a firm accrued.

In this case, Contractor ABC has accrued 25 DPs.

Under this field, GPEs will be able to check whether a firm is under BUS Program and the date of entry.

In this case, Contractor ABC is under BUS and date of entry is 17 Apr 2023.

- 2) If a Subcontractor does not use the Letter of Award (LOA) to appoint the next level of subcontractor, the Subcontractor is required to declare that they have checked their next level of subcontractors against MOM's SDQ criteria and verified that they are not disqualified before appointing them.

The Declaration Form should include the following details:

- a. Unique Entity Number of the appointed subcontractors;
- b. Date of appointment;
- c. Records of checks against MOM CheckSafe

The Declaration Form must be submitted to the Main Contractor for record purpose. *(The Main Contractor is advised to perform sample checks against MOM CheckSafe and maintain a record of these checks).*

**Annex D – Examples of the Environmental Sustainability Criteria
(Applicable to tenders with an Estimated Construction Cost (without contingency sum) above \$50million, called on and after 31 Jan 2025).**

Examples of the environmental sustainability criteria can be found in Table D1. Government agencies may include any of the examples in Table D1 below, or any other applicable criteria in tender evaluation.

Table D1: Examples of the Environmental Sustainability Criteria

Environmental Sustainability Criteria
<p><u>Climate-related disclosure</u> Tenderer has published climate-related disclosures in accordance with international standards.</p>
<p><u>Decarbonisation of construction processes</u> Tenderer has committed to adopt practices that decarbonize the construction work processes such as electrification of construction equipment that are conventionally fuel-powered and has developed a plan to implement them for the project.</p>
<p><u>Green certifications and qualifications</u></p> <ul style="list-style-type: none"> a) Any of the ISO certifications below: <ul style="list-style-type: none"> i. ISO14001: Environmental Management Systems; or ii. ISO50001: Energy Management Systems; or iii. ISO46001: Water Efficiency Management Systems b) One or more individuals certified GMAP or GMAAP and who are assigned to the project. c) Green and Gracious Builder Scheme (GGBS) Merit and above
<p><u>Innovation</u> Tenderer may propose sustainable construction practices complete with analysis on the environmental benefits and emission impact, for GPE's evaluation. Example of such practice:</p> <ul style="list-style-type: none"> • Use of low-carbon materials above and beyond specifications • Use of renewable energy to support site operations • Use of low-carbon transportation options to site



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PRICE QUALITY METHOD FRAMEWORK (PQM)
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