

Guidance on evaluating tenders using Price Quality Method

For assessment of tenders under non-traditional procurement

The *Capital Works Management Framework* guideline *Contractor PQC: Tendering and Selection Process* contains a guide as to the minimum value of the price criterion applicable to government building projects. It does not stipulate a methodology for evaluating tenders where price and non-price criteria are included in the tender documents. This guidance note details the Price Quality Method (a tender evaluation methodology used to assist agencies undertaking this function for non-traditional projects) and whilst not mandatory, is the preferred methodology for assessing tenders using non-traditional contract forms.

Applying the Price Quality Method (PQM)

What is the Price Quality Method (PQM)?

The Price Quality Method (PQM) of evaluating tenders for building contracts is derived from a system used successfully in New Zealand and other countries by government authorities and aims to establish better value for money in the tender assessment process. It provides a method to evaluate non-traditional tenders based on the price and the non-price aspects of the tender, and seeks to identify the tender representing the best value for money.

Unlike strict 'formula'¹ models where price and non-price aspects of a tender are scored and added together, the PQM establishes in monetary terms the 'quality premium' or notional value assigned to each tender compared to the tender with the lowest non-price criteria score (note, not the lowest tender price). This is achieved by first scoring the tendered non-price criteria and calculating a dollar value for the non-price criteria to establish the 'quality premium'. The quality premium is then apportioned to each of the tenders according to their non-price criteria scores and, for the purpose of tender evaluation only, the apportioned value is deducted from each of the tender sums. The tenderer with the lowest score for non-price criteria gets no quality premium deduction, while other tenderers receive quality premium deductions relative to their score for non-price criteria (refer Appendix 1).

1. Formula models usually reduce the price to a score and then add it to the non-price criteria score.

The PQM attempts to quantify how much one might pay for potentially 'better quality' over 'adequate quality' represented by the tenderer with the lowest non-price criteria score.

How does PQM work?

As stated above, the PQM calculates a dollar value for the non-price criteria score of each tenderer, which is deducted from each tenderer's tender price to establish a final ranking of the tenders.

Out of a total possible amount of 100 points, the non-price criteria is recommended to be assigned a score ranging between 10 and 40 points (see PQM weightings below).

The Tender Evaluation Panel's initial task is to score each tenderer's non-price criteria submission. The tenderers' tender sums are not disclosed to the Panel at this time. Each price criteria is scored out of 5 (or any usual scale, eg could be out of 100) as per the normal tender evaluation process. For example, a tenderer's score for say a criterion such as 'organisational performance' may be 4 out of a possible 5 points. Each tenderer's non-price score is entered into the evaluation spreadsheet and is totalled. Once this has been completed, each tenderer's tender sum can be revealed to the Tender Evaluation Panel and entered into the spreadsheet.

The difference is calculated between the tenderer with the lowest total non price criteria score and all other tenderers' non-price criteria scores. This difference is used to establish the quality premium advantage in dollar terms that each tenderer gets over the tenderer with the lowest non-price criteria score.

The PQM tender evaluation methodology uses non-price criteria recommended to be a total of between 10 to 40 points. It is important to note that this does not mean for example in the case of 40 points non-price, that the tender evaluation is 40 percent non-price and 60 percent price. It is not a percentage based assessment. Rather, the PQM uses a formula to calculate the quality premium, which is then used as a basis to establish a final ranking of the tenders. The quality premium calculation is:

$$\frac{\text{Tender Estimate} \times \text{Weighted Sum Margin}}{\text{Price Weight}}$$

Where...

Tender Estimate is the tender estimate determined prior to the opening of tenders.

Weighted Sum Margin is the total of the scores for each tenderer's response to the non-price criteria, less the lowest non-price criteria score (i.e. the amount above the lowest tenderer's total score for non-price criteria). The Weighted Sum Margin for each tenderer is calculated as follows:

Weighted Sum Margin = Weighted Sum minus the lowest Weighted Sum score of the tenderers

Weighted Sum = the sum of the Index values

$$\text{Index value} = \frac{\text{Grade} \times \text{Weight}}{5 \text{ (score range)}}$$

Grade = score

Weight = points for the non-price criterion

Price Weight is calculated by deducting from 100 the total of the non-price criteria points. For example, if the non-price criteria are given a total weighting of 30 points then the Price Weight (the denominator in the formula) in the calculation will be 70.

The higher the price weight, the lower the quality premium; the greater the difference in non-price criteria scores, the higher the quality premium.

Each tenderer's quality premium is calculated and then deducted from that tenderer's tendered price for the purposes of ranking the tenders. The lowest tender amount after adjustment for the quality premium becomes the highest ranked or preferred tenderer.

See Appendix 1 for a worked example of the PQM tender evaluation methodology.

PQM Weightings

As stated above, the use of the PQM tender evaluation methodology should only be applied to non-traditional contracts.

The scoring of non-price criteria is recommended to be out of 5 to ensure consistency in application (refer to the 'Scale of Scores' in Appendix 2). Any score lower than 2.5 (ie 50% of the total score of any criterion) may result in the tenderer not being considered further, provided that the conditions of tender give this discretion to the Principal.

The Department of Public Works is available to provide guidance on appropriate non-price criteria and their weightings for particular projects. Under Policy Requirement 10 of the *Capital Works Management Framework*, for High Risk/Significant projects agencies "...must.. consult with the Department of Public Works on the proposed evaluation to be used for the selection of...contractors prior to calling tenders".

The non-price criteria for Managing Contractor contracts should typically range from 20 points for projects with low complexity and an advanced design, to 30 or possibly 40 points non-price criteria for highly complex projects where the project is less defined. Non-price criteria points for Lump Sum Design and Construct contracts should typically range from 10 to 20 points similarly with respect to complexity and how well defined the project requirements are. This will ensure an appropriate balance between the quality premium and cost factors.

SUGGESTED NON-PRICE CRITERIA POINTS FOR PQM

Type of Non-Traditional Contract	Total Number of Points
LUMP SUM Design and Construct	
Standard Complexity (e.g. school)	10
Higher Complexity (e.g. office /other building)	20
MANAGING CONTRACTOR	
Standard complexity (e.g. Govt Office Building – well advanced)	20
High Complexity (e.g. Hospital – very preliminary design)	30-40

Consideration should be given to the quality premium that government agencies may be prepared to pay to achieve the better outcomes identified in the non-price criteria. To assist this process, prior to undertaking the tender process, sensitivity analyses can be carried out in conjunction with establishing the appropriate non-price criteria and points, to calculate the likely value of quality premiums and to discuss with the relevant members of the project team and Tender Evaluation Panel prior to going to tender.

As the range of scores will generally be between 2 and 5 out of 5 for each of the criteria (where this scoring range is used), departments should be aware that a 1 point difference in scores across all non-price criteria for a project with 20 points of non-price criteria equates to approximately 5% of the tender estimate. For example, for a \$10m project with 20 points assigned to the non-price criteria, a 1 point difference in an overall non-price criteria score equates to a \$500,000 quality premium. For the same value project with 30 points assigned to the non-price criteria, a 1 point difference equates to approximately 8.5% of the tender estimate, which amounts to an \$850,000 quality premium. These amounts should be used as a guide only as a number of factors affect the calculation of the quality premium.

Departments should assign the points for each non-price criteria in relation to the importance each criteria has on the project outcome.

For non-price criteria, 40 points should only be assigned for high complexity projects using the Managing Contractor form of contract and where the relevant members of the project team have agreed to such a high allocation of points based on identified project constraints and risks. As a general rule, a maximum of 30 points for non-price criteria should be used on most projects.

A spreadsheet is available at

<http://www.publicworks.qld.gov.au/resources/constructioncontracts/Pages/Evaluatingtenders.aspx> to assist agencies in using this tender evaluation methodology and undertaking sensitivity analyses.

Steps to Completing the PQM process

A quick step through of the process to be followed to undertake the PQM calculation using the spreadsheet above is to:

- 1) Establish the project Tender Estimate and input this figure into the spreadsheet. For Managing Contractor tenders also input the project construction cost estimate amount for calculation of Stage 2 Off-site overhead fees.
- 2) Enter the non-price criteria and applicable points into the spreadsheet (additional columns can be added here to allow for additional criteria).
- 3) Score the tendered non-price criteria in the usual way and enter scores into the spreadsheet. The index column will automatically update with a weighted non-price score and a total Weighted Sum.
- 4) Enter the tender sums for each tenderer (including any valued adjustments as advised by the quantity surveyor for alternatives or qualifications).

The PQM spreadsheet will deduct the quality premium calculated for each tenderer from their tender sum and show the ranking of the tenderers, with the lowest adjusted tender amount ranking the highest.

The first ranked tenderer (identified as 1) is the preferred tenderer for the project.

Further information

Further information can be obtained from:

Contract Services

Building Industry and Services

Department of Public Works

GPO Box 2457

Brisbane QLD 4001

Telephone: 07 3224 5256

Fax: 07 3224 4417

Email: contractservices@publicworks.qld.gov.au

Web: www.publicworks.qld.gov.au

© The State of Queensland
(Department of Public Works)

Appendix 1: Worked Tender Evaluation using PQM

Price Quality Method (PQM) of Tender Evaluation BUILDING WORKS CONTRACTS

		Evaluation of Suppliers (non-price attributes)								Determination of Supplier Quality Premium (SQP)			Determination of Preferred Tender				
Non-Price Criteria:		Organisational Performance		Resource Strategy		Methodology		Value Adding Strategies		Weighted sum of the non-price attribute grades (WS)	WS margin (WS - lowest WS)	Supplier Quality Premium (SQP) (dollars)	Check the sum of all weights	(SQP + ATP) for each tender (dollars)	Tender prices (dollars)	Tender price less (SQP + ATP) (dollars)	Ranking
Weight	Tenderer	Grade	Index	Grade	Index	Grade	Index	Grade	Index								
		4		11		13		2		30		70	100				
		Note: non-price points are to add up to 10-40															
		Step 2: Enter non-price criteria and weightings points															
		Scores out of 5															
		Step 3: Assess non-price and enter scores															
		Step 1: Enter project estimate															
	Estimate - excluding any amount fixed by the tendering authority (dollars)	50,000,000															
Builder 1		3.75	3.00	4	8.80	4	10.40	4	1.60	23.80	3.40	2,428,571.43		2,428,571.43	52,000,000	49,571,428.57	1
Builder 2		3	2.40	3.5	7.70	3.5	9.10	3	1.20	20.40	0.00	0.00		0.00	50,000,000	50,000,000.00	2
Builder 3		4.25	3.40	4.5	9.90	4.5	11.70	4	1.60	26.60	6.20	4,428,571.43		4,428,571.43	55,000,000	50,571,428.57	3
		Step 4: Enter tender prices															
		Tender price reduced by Quality Premium - note lowest non-price score gets no Quality Premium deduction															
		Quality Premium calculated															
		Sum of all weights must equal 100															
		Final Ranking of tenders															

Notes:

- 1 Weighted Score for each criterion = Criterion score (0-100)/100 x weighting (0-30)
- 2 Weighted Sum = sum of all Weighted Scores
- 3 Weighted Sum Margin = Tenderers Weighted Sum – lowest Tenderers Weighted Sum
- 4 Quality Premium for each tender = tender estimate x Weighted Sum Margin / 70
- 5 For the purposes of the tender evaluation only, the Quality Premium thus established for each tender will be subtracted from the tendered price of that tender and the tenders compared accordingly

Appendix 2: Scoring Non-Price Criteria – Scale of Scores

Score	Description	Criteria
5	Excellent	<p>Compliant.</p> <p>Exceeds specified performance or capability and the additional input adds value.</p> <p>Tenderer has an excellent understanding of the requirement.</p> <p>No weaknesses or deficiencies. Excellent probability of success</p>
4	Very Good	<p>Compliant.</p> <p>Tenderer's supporting statement indicates a very good understanding of the requirement.</p> <p>No weaknesses or deficiencies.</p> <p>Very good probability of success</p>
3	Good	<p>Compliant.</p> <p>Tenderer's supporting statement indicates a good understanding of the requirement.</p> <p>No major weaknesses or deficiencies.</p> <p>Good probability of success.</p>
2	Marginally Acceptable	<p>Tenderer's supporting statement indicates a low level of understanding of the requirement.</p> <p>Some major weaknesses or deficiencies requiring further clarification</p> <p>Low probability of success</p> <p>Able to be not considered further (if contract provisions provide)</p>
0-1	Unacceptable	<p>Non-compliant, i.e. provides unsatisfactory responses or failed to address the criterion at all.</p> <p>Very Low probability of success.</p>