

Evaluation Guidelines
for
Procurement of Works
(Above Nu. 4 million)



Royal Government of Bhutan
Ministry of Finance

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Preface

Procurement under projects financed by the Royal Government of Bhutan is carried out in accordance with policies and procedures laid down in the *Procurement Rules and Regulations* .

The Evaluation Guidelines have been prepared for use by Employers in the evaluation of bids for Procurement of Works of value more than Ngultrum four (4) million.

To obtain further information you may contact:

Public Procurement Policy Division

Ministry of Finance

New point based system for contractor selection

Introduction

The 10th five year plan has almost doubled the outlay on construction to a whopping Nu 44 billion. This outlay is expected to further increase by 60-80% in the next five year plan. Bhutan can thus be seen to be at an inflexion point from the point of view its infrastructure development. In order to best utilize this massive outlay and to ensure that the citizens of the country receive good quality infrastructure that can facilitate the social and economic development of the country, it is important that process of contracting and execution of construction works is most efficient. This will go a long way in ensuring that the most suited contractor for a particular work is selected to perform the works. The first step in this direction is to design a system that can evaluate contractors on parameters most critical in achieving good performance in Bhutan's construction sector context, and at the same time, can give incentives to the contractors to adopt some of the best practices that will help in development of the sector in general.

This document describes a point based scoring system for selecting and awarding the work to the contractor most suited to perform a given construction work. The system has been designed to evaluate a contractor on a combination of technical and financial parameters. While the financial parameter comprises financial bid quoted by the contractor and price preference parameters, the technical parameters comprise of several measures like manpower, equipment, financial capacity, organizational status of the contractor company and so on, on all of which a contractor gets scores based on his level of achievement. At the end, the contractor qualifying on the technical score and getting the highest price preference-financial score is awarded the contract.

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1. Introduction to the Point Based System of Evaluation

The point based system is a two stage system:-

(i) 1st Stage: Bidder Qualification

In this stage, the bidder needs to qualify on a set of qualification criteria in order to be considered for award of work. These qualification parameters can broadly be divided into the following two categories (along with their share of points):

1. *Capability (70 points)*

2. *Capacity (30 points)*

The qualification parameters used for qualification in the first stage totals to a maximum score of 100 points. A bidder needs to obtain a score of at least 65 points out of 100 on these parameters in order to qualify for the next stage.

Summary Table of 1st Stage

Sl.No	Parameters	Level of Achievement	Score
1	BIDDER QUALIFICATION		
1.1	CAPACITY		
a)	Similar Work Experience(0-10) Aggregate size of similar contracts (max 3) in the last 5 calendar yrs OR Size of the largest similar contract executed in the last 5 calendar yrs	<ul style="list-style-type: none"> ▪ $\geq 175\%$ of current project size ▪ 125 – 175% of current project size ▪ 75 – 125% of current project size ▪ $< 75\%$ of current project size ▪ $\geq 100\%$ of current project size ▪ 70 – 100% of current project size ▪ 50 – 70% of current project size ▪ $< 50\%$ of current project size 	<ul style="list-style-type: none"> ▪ 10 ▪ 8 ▪ 4 ▪ 0 ▪ 10 ▪ 8 ▪ 4 ▪ 0

Sl.No	Parameters	Level of Achievement	Score
b)	Access to equipment (0-25)	Total score for equipments out of a score of 100 to be scaled down to 25	
c)	Availability of skilled manpower (0-25)	Total score for skilled manpower out of a score of 100 to be scaled down to 25	
d)	Average performance score from previous work (past 5 calendar years)	<ul style="list-style-type: none"> ▪ 100% ▪ 1 mark lesser for every 5% point decrease in score rounded off to lower 5% < 50%	<ul style="list-style-type: none"> ▪ 10 ▪ 0
1.2	CAPABILITY		
a)	Bid Capacity (0-10) $*BC = 2 * A * N - B$	<ul style="list-style-type: none"> ▪ Bid Capacity \geq quoted bid ▪ Bid Capacity is between 80 – 100% quoted bid ▪ Bid Capacity is between 60 – 80% quoted bid ▪ Bid Capacity is between 40 – 60% quoted bid ▪ Bid Capacity < 40% quoted bid 	<ul style="list-style-type: none"> ▪ 10 ▪ 8 ▪ 6 ▪ 4 ▪ 0
b)	Credit line available (unused)(0-20)	<ul style="list-style-type: none"> ▪ \geq 100% of estimated 3 month project cash flow ▪ 80 – 100% of estimated 3 month project cash flow ▪ 60 – 80% of estimated 3 month project cash flow ▪ <60% of estimated 3 month project cash flow 	<ul style="list-style-type: none"> ▪ 20 ▪ 16 ▪ 8 ▪ 0
		END OF STAGE 1 out of a score of 100	

* Where A = Average turnover of the contractor over the last 3 calendar years
 N = Estimated duration of the project to be tendered
 B = Portion of other ongoing works to be completed in the period that overlaps with the current project's duration (that is, N)

(ii) 2nd Stage: Bid Evaluation

The qualified bids are then evaluated on a set of price preference parameters and financial parameters. The price preference parameters account for a weight of 10% while the financial parameter (which is linked to the financial bid submitted by the contractor) account for a weight of 90% in the overall score. These Price Preference parameters can broadly be divided into three categories given as following (along with their share of points):

Summary Table of 2nd Stage

Sl.No	Parameters	Level of Achievement	Score
2	BID EVALUATION		
a)	Status (incorporated, JV, proprietorship)	<ul style="list-style-type: none">▪ Incorporated company bidding alone▪ Incorporated company as the lead partner (>50% stake) in a bid by a joint venture▪ Incorporated company as a non-lead partner (<50% stake) in a bid by a joint venture▪ Any other (proprietorship, partnership etc.)	<ul style="list-style-type: none">▪ 40▪ 20▪ 10▪ 0
b)	Employment of VTI Graduates/local skilled labourers	<ul style="list-style-type: none">▪ ≥ 50% project skilled workforce to be VTI▪ 30 – 50% project skilled workforce to be VTI▪ 15 – 30% project skilled workforce to be VTI▪ ≤ 15% project skilled workforce to be VTI	<ul style="list-style-type: none">▪ 40▪ 30▪ 15▪ 0
c)	Commitment for internships to VTI Graduates	<ul style="list-style-type: none">▪ Internship opportunities for VTI graduates equivalent to ≥ 10% of project workforce▪ Internship opportunities for VTI graduates equivalent to 5-10% of project workforce▪ Internship opportunities for VTI graduates ≤ 5% project skilled workforce	<ul style="list-style-type: none">▪ 20▪ 10▪ 0

The overall price preference – financial score is obtained by using the following formula for any qualified contractor (x):-

$$90 \times \frac{\text{(Lowest quoted bid among qualifying bids)}}{\text{Financial bid quoted by x}} + 10\% \text{ of the Preference Score of x}$$

The contractor getting the highest overall price preference-financial score is awarded the work.

2. Capability

This bucket of parameters tests the bidder on their capability to execute the given work. Capability is taken to be a function of prior experience in doing works of similar nature and size, their ability to generate enough resources in form of manpower and equipment, and their performance track-record from previous works. Specifically, the parameters covered under this category are described below.

Parameters	Scoring
a) Similar work experience	0 – 10
b) Access to adequate equipment	0 – 25
c) Availability of skilled manpower	0 – 25
d) Average performance score from previous work*	0 - 10

(a) Similar work experience (0-10 points)

This parameter evaluates the bidder on experience in executing works of similar nature and size. A contractor can score anywhere between 0 and 10 points based on the size of his similar work experience from the last 5 calendar years. That is, in order to be considered for award of points under this parameter, a previous work executed by a contractor must have had its completion date within the last 5 calendar years (including the year in which the work is being tendered).

In order to ensure a fair opportunity for the relatively young contractors who might not have had experience in executing a single similar work of significant size in the past, this parameter contains an option – that is, the contractor can either be evaluated on the size of a SINGLE largest similar work that (s)he might have executed in the past OR on the aggregate size of THREE similar works that (s)he might have executed in the past. The bidder can submit either of the two information depending on what (s)he thinks can get her/him higher points. The level of achievement for each scoring point of course varies between the two options.

○ **Scoring Pattern**

Parameter	Level of achievement	Score
Aggregate size of similar contracts (max 3) in the last 5 calendar yrs	<ul style="list-style-type: none"> ▪ $\geq 175\%$ of current project size ▪ 125 – 175% of current project size ▪ 75 – 125% of current project size ▪ $< 75\%$ of current project size 	<ul style="list-style-type: none"> ▪ 10 ▪ 8 ▪ 4 ▪ 0
Size of the largest similar contract executed in the last 5 calendar yrs	<ul style="list-style-type: none"> ▪ $\geq 100\%$ of current project size ▪ 70 – 100% of current project size ▪ 50 – 70% of current project size ▪ $< 50\%$ of current project size 	<ul style="list-style-type: none"> ▪ 10 ▪ 8 ▪ 4 ▪ 0

○ **Illustrative Example**

Consider three contractors – X, Y, Z – who have executed works of the following sizes in the last 5 calendar years (last being the current year in which the work is being tendered)

Contractor	X	Y	Z
Year 1	30	0	70
Year 2	<u>45</u>	0	65
Year 3	35	80	75
Year 4	<u>40</u>	0	80
Year 5	<u>50</u>	85	65
Size of single largest work in last 5 years	50	85	80
Aggregate size of 3 largest works in last 5 years	= 50 + 45 + 40 = 135	= 85 + 80 + 0 = 165	= 80 + 75 + 70 = 225

Now assume that the current project size is **70 million**. Then, according to the point table given earlier, the points obtained by X, Y, Z according to the two choices explained above will be as follows (underlined points are the ones that will finally be awarded in the evaluation for this parameter):

Contractor	Aggregate size of 3 largest works	Size of single largest work
X	<u>10</u> (>175% of current project size)	8 (70% - 80% of the current project size)
Y	<u>10</u> (>175% of the current project size)	10 (>100% of the current project size)
Z	<u>10</u> (>175% of the current project size)	10 (>100% of the current project size)

o **Documents Required**

Bidders should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Completion certificate of the single largest work of similar kind executed in the last 5 calendar years **OR** completion certificates of no more than 3 works of similar kind executed in the last 5 calendar years (works whose completion date is within the last 5 calendar years, including the current one)

o **Tips / Key points to remember**

1. All slabs in the level of achievement are inclusive of the lower limit, not the upper limit
2. Points will be awarded to the contractor based on the completion certificate submitted. If certificates for 3 biggest works are submitted then scoring should be done according to “Aggregate size of similar contracts (max 3) in the last 5 calendar yrs”. If certificate for only one work is submitted then scoring should be done according to “Size of the largest similar contract executed in the last 5 calendar yrs”
3. If contractor submits completion certificates for 2 works, the aggregate of those two works should be considered
4. If contractor submits completion certificates for more than 3 works, then the 3 largest works should be considered and their aggregate should be scored.
5. Partially completed works will NOT be considered for award of points under this parameter.

(b) Access to adequate equipment (0-25 points)

This parameter evaluates contractors on their access to the necessary nature and number of equipments required for the timely and quality execution of the work. A contractor can score anywhere between 0 and 25 points on this parameter indicating the high importance of this criterion in the overall system.

Scoring on equipment is fundamentally similar to the way it has been done in the pass/fail system – the designer, at the time of designing, will specify the type and number of equipments required for the execution of the work. The contractor's equipment commitment will then be evaluated against the designer's requirement and given points accordingly.

One addition in the new point based system; however, is the fact that the designer will also need to allocate a certain number of points to each equipment based on its importance in the execution of the work. The designer will have a total of 100 points to allocate. These 100 points should be allocated as follows:

- Equipments of *Tier-I* importance: **50 points**
- Equipments of *Tier-II* importance: **30 points**
- Equipments of *Tier-III* importance: **20 points**

The designer should allocate points equally amongst the equipments falling under any tier of importance. For example, 30 points should be allocated to all equipments of tier-II importance in any work.

Following are the rules that govern the scoring on equipment:

- Total marks out of 100 to be scaled down to 25
- Contractors will get 100% marks if they own the equipment and 75% marks if they have hired the equipments.
- Contractors will get marks in proportion to the number of equipment committed by them. For example, if 50 points have been allocated to commitment of 2 excavators by the designer, and the contractor gives a commitment only for 1 (that is, 50% of the requirement), then (s)he will get only 50% of the maximum score, that is, 25 marks. Further, if this excavator is also hired by the contractor, not owned, then (s)he will get 75% of 25, that is, 18.75

An **illustrative list** of equipments that can fall under the above mentioned tiers of importance for different types of works is given below. PLEASE NOTE that this is just an illustrative list. Actual allocation of points should be based on the designer's estimation of the importance of a particular equipment, given the nature of the work. The designer should use the illustrative list as a guideline but not as a rule.

Nature of work	Tier-I	Tier-II	Tier-III
Road construction	Excavator	Road roller, Paver, Vibrator	Air compressor, Tipper trucks, survey equipment
Building construction	Bull-dozer, Concrete-mixer	Shuttering set, Crane truck, Dumper truck	Air compressor, Survey equipment
Road resurfacing	Road roller	Vibrator, Sprayer	Air compressor, Tipper trucks

Following are the rules that govern the scoring on equipment:

- Total marks out of 100 to be scaled down to 25
- Contractors will get 100% marks if they own the equipment and 75% marks if they have hired the equipments.
- Contractors will get marks in proportion to the number of equipment committed by them. For example, if 50 points have been allocated to commitment of 2 excavators by the designer, and the contractor gives a commitment only for 1 (that is, 50% of the requirement), then (s)he will get only 50% of the maximum score, that is, 25 marks. Further, if this excavator is also hired by the contractor, not owned, then (s)he will get 75% of 25, that is, 18.75

○ **Illustrative Example**

Consider the case of a 10 km long road construction project.

As **step 1**, the designer lists down the type and number of equipment required

Equipment	Number required
Excavator	2
Paver	3
Vibrator	3
Pneumatic road roller	1
Static road roller	2
Truck	4
Mechanical sprayer	2
Air compressor	1
Survey equipment	3

As **step 2** the designer decides which tier of importance does each equipment fall under given the nature of the work

Equipment	Tier of importance
Excavator	Tier-I
Paver	Tier-II
Vibrator	Tier-II
Road roller	Tier-II
Truck	Tier-III
Mechanical sprayer	Tier-III
Air compressor	Tier-III
Survey equipment	Tier-III

As **step 3** the designer now distributes the 50 points of Tier-I, 30 points of Tier-II, and 20 points of Tier-III amongst all equipments falling under each of these three tiers

Equipment	Tier of importance	Maximum marks
Excavator	Tier-I	50
Paver	Tier-II	10
Vibrator	Tier-II	10
Road roller	Tier-II	10
Truck	Tier-III	5
Mechanical sprayer	Tier-III	5
Air compressor	Tier-III	5
Survey equipment	Tier-III	5

Finally, as **step 4** the equipment requirement specified in the bid documents will be in the following format

Equipment	Number required	Maximum marks
Excavator	2	50
Paver	3	10
Vibrator	3	10
Road roller	3	10
Truck	4	5
Mechanical sprayer	2	5
Air compressor	1	5
Survey equipment	3	5

Now let's assume that a contractor has specified the following equipments in his bid

Equipment	Number required	Number committed	Owned/Hired
Excavator	2	1	Owned
Paver	3	3	1 Owned, 2 Hired
Vibrator	3	2	Owned
Road roller	3	2	Owned
Truck	4	4	2 Owned, 2 Hired
Mechanical sprayer	2	1	Hired
Air compressor	1	1	Hired
Survey equipment	3	3	Hired

According to above, the points scored by this contractor on each equipment will be as follows

Equipment	Number required	Number committed	% commitment	Maximum marks	Owned/Hired	Points
Excavator	2	1	50%	50	Owned	50% of 50

						= 25
Paver	3	3	100%	10	Hired	100% of 10 = 10 75% for hiring = 7.5
Vibrator	3	2	67%	10	Owned	67% of 10 = 6.7
Road roller	3	2	67%	10	Owned	67% of 10 = 6.7
Truck	4	4	100%	5	2 Owned, 2 Hired	100% of 5 = 5 100% for 2 owned = 2.5 75% for 2 hired = 1.875 Total = 4.375
Mechanical sprayer	2	1	50%	5	Hired	50% of 5 = 2.5 75% for hired = 1.875
Air compressor	1	1	100%	5	Hired	100% of 5 = 5 75% for

						hired = 3.75
Survey equipment	3	3	100%	5	Hired	100% of 5 = 75% for hired = 3.75
Total equipment points						59.65

These equipment points are out of 100. These will be scaled down to 25 for the final score on the equipment parameter.

Therefore, final score for this contractor on the equipment parameter = $59.65/100 * 25$
= **14.92 / 25**

o **Documents Required**

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Copy of the registration certificate of each equipment committed where applicable
2. In case of hiring, copy of the lease agreement with the leaser
3. In case of ownership, copy of the insurance policy for each equipment where applicable

o **Tips / Key points to remember**

1. The equipment requirement list should be prepared by the designer as described in step 1 to 4 in the illustrative example. However, please note that the above example is only **illustrative** in nature. For each project, the designer should follow the above steps to arrive at an equipment requirement list **specific and customized** for that project
2. The hiring agreement produced by the contractor should be specific to the current project and not a general one
3. The software developed to support evaluation using the new point based system will also require the user to provide the registration numbers of each equipment committed by the contractor. The system will automatically generate an alarm if the same equipment is already in use in some other project. This will help avoid a

situation where the contractor might commit equipments that (s)he is already using in some other project and as a result will not be available for the current project. These equipments can be committed to the current project only if the project manager of the other project certifies that these equipments are no longer required in the other project

(c) Availability of skilled manpower (0-25 points)

An illustrative list of manpower requirements is given below:

This parameter evaluates contractors on their ability to deploy personnel with suitable qualifications and experience in order to ensure timely and quality execution of the work. A contractor can score anywhere between 0 and 25 points on this parameter indicating the high importance of this criterion in the overall system.

Scoring on manpower is fundamentally similar to the way it has been done in the pass/fail system – the designer, at the time of designing, will specify the qualification and experience of key personnel required for the execution of the work. The contractor's manpower commitment will then be evaluated against the designer's requirement and given points accordingly.

One addition in the new point based system, however, is the fact that the designer will also need to allocate a certain number of manpower points to each of the key project personnel positions based on its importance in the execution of the work. The designer will have a total of 100 points to allocate. These 100 points should be allocated as follows:

- Personnel position of ***Tier-I*** importance: ***50 points***
- Personnel position of ***Tier-II*** importance: ***30 points***
- Personnel position of ***Tier-III*** importance: ***20 points***

For each of the three personnel positions (of each importance tier) the minimum points will be 0 and the maximum will correspond to the tier of importance. That is, for tier-I position, minimum is 0, maximum is 50; for tier-II position, minimum is 0, maximum is 30; for tier-III position, minimum is 0, maximum is 20 points. Points in each tier will increase from minimum to maximum as the experience and qualification of the personnel improves. That is, in order to gain higher points corresponding to any personnel position, a contractor will need to meet a higher requirement in terms of experience and qualification of the personnel.

Following are the rules that govern the scoring on manpower:

- Total marks out of 100 to be scaled down to 25.
- The three most important personnel positions can vary from project to project. They may be Project Manager, Project Engineer, Site Supervisor; or Project Engineer, Deputy Project Engineer, Site Supervisor; or any other such combination

- In exceptional cases, where the project does not require to have 3 or more key personnel (that is, there are only 2 key personnel at the top and the rest is the labour force) total points may be only 80 (for the first 2 tiers of importance). Score out of 80 will then be scaled down to 25 to get the final score on the manpower parameter.

An **illustrative listing** of personnel positions with scoring of the corresponding points as explained above is given below. PLEASE NOTE that this is just an illustrative list. Actual allocation of points should be based on the designer's estimation of the experience and qualification required from the people who will occupy key positions in a project. These requirements will obviously vary depending on the nature and size of the project.

Tier of importance	Position	Qualification/Experience	Score
Tier – I	Project Manager	<ul style="list-style-type: none"> ▪ Graduate civil engineer with 10+ years of experience ▪ Graduate engineer with 5-10 years of experience ▪ Diploma engineer with 5-10 years of experience ▪ Any other level of qualification or experience 	<ul style="list-style-type: none"> ▪ 50 ▪ 30 ▪ 15 ▪ 0
Tier – II	Project Engineer	<ul style="list-style-type: none"> ▪ Graduate engineer with 5+ years of experience ▪ Diploma engineer with 5+ years of experience ▪ Graduate or diploma engineer with 3+ years of experience ▪ Any other level of qualification or experience 	<ul style="list-style-type: none"> ▪ 30 ▪ 20 ▪ 10 ▪ 0
Tier – III	Site Supervisor	<ul style="list-style-type: none"> ▪ Diploma engineer with 3+ years of experience ▪ Personnel with formal training certification from VTI and at least 5 years of experience ▪ Any other level of qualification or 	<ul style="list-style-type: none"> ▪ 20 ▪ 10 ▪ 0

		experience	
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Following are the rules that govern the scoring on manpower:

- Total marks out of 100 to be scaled down to 25.
- The three most important personnel positions can vary from project to project. They may be Project Manager, Project Engineer, Site Supervisor; or Project Engineer, Deputy Project Engineer, Site Supervisor; or any other such combination
- In exceptional cases, where the project does not require to have 3 or more key personnel (that is, there are only 2 key personnel at the top and the rest is the labour force) total points may be only 80 (for the first 2 tiers of importance). Score out of 80 will then be scaled down to 15 to get the final score on the manpower parameter.

○ **Illustrative Example**

Consider the case of a 10 km long road construction project.

As **step 1**, the designer lists down the key personnel positions

Tier	Personnel
Tier – I (most important)	Project Manager
Tier - II	Site Supervisor
Tier – III	Chief Foreman

As **step 2** the designer decides the **ideal** qualification and experience of the key personnel required. Ideal qualification and experience will be what the designer believes will help deliver excellent quality and timeliness of the project.

Personnel	Ideal qualification & experience
Project Manager	Graduate engineer with 10+ years of experience
Site Supervisor	Diploma engineer with 5+ years of experience
Chief Foreman	VTI graduate with 10+ years of experience

As **step 3** the designer now allocates the 50 points of Tier-I, 30 points of Tier-II, and 20 points of Tier-III. (S)he assigns the highest points in each tier to the ideal requirement listed

in step 2. Then (s)he progressively reduces the requirement in terms of qualification and experience and assigns points lesser than the maximum to each of these reduced requirements. This is illustrated below

Tier of importance	Position	Qualification/Experience	Score
Tier – I	Project Manager	<ul style="list-style-type: none"> ▪ Graduate engineer with 10+ years of experience ▪ Graduate engineer with 5-10 years of experience ▪ Diploma engineer with 5-10 years of experience ▪ Any other level of qualification or experience 	<ul style="list-style-type: none"> ▪ 50 ▪ 30 ▪ 15 ▪ 0
Tier – II	Site Supervisor	<ul style="list-style-type: none"> ▪ Diploma engineer with 5+ years of experience ▪ Diploma engineer with 3-5 years of experience ▪ VTI graduate with 7+ years of experience ▪ Any other level of qualification or experience 	<ul style="list-style-type: none"> ▪ 30 ▪ 20 ▪ 10 ▪ 0
Tier – III	Chief Foreman	<ul style="list-style-type: none"> ▪ VTI graduate with 10+ years of experience ▪ VTI graduate with 5-10 years of experience ▪ Any other level of qualification or experience 	<ul style="list-style-type: none"> ▪ 20 ▪ 10 ▪ 0

Now let's assume that a contractor has specified the following manpower in his bid

Personnel	Qualification & experience of contractor's personnel
Project Manager	Graduate engineer with 8 years of experience
Site Supervisor	Diploma engineer with 6 years of experience
Chief Foreman	Fresh VTI graduate

According to above, the points scored by this contractor on manpower will be as follows

Personnel	Qualification & experience of contractor's personnel	Points scored
Project Manager	Graduate engineer with 8 years of experience	30
Site Supervisor	Diploma engineer with 6 years of experience	30
Chief Foreman	Fresh VTI graduate	0
Total manpower points		60

These manpower points are out of 100. These will be scaled down to 25 for the final score on the manpower parameter.

Therefore, final score for this contractor on the manpower parameter = $60/100 * 25$

= **15/ 25**

o **Documents Required**

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Copies of the CVs of all manpower committed
2. Copies of Citizen ID Cards OR Passport / Election ID cards (for foreign workers) of all manpower committed
3. Copies of contract agreements with all personnel if they have been hired on contract by the contractor
4. Copies of Provident Fund Account documents of all personnel if they have been recruited on permanent rolls by the contractor

o **Tips / Key points to remember**

1. The manpower requirement list should be prepared by the designer as described in step 1 to 3 in the illustrative example. However, please note that the above example is only **illustrative** in nature. For each project, the designer should follow the above steps to arrive at a manpower requirement list **specific and customized** for that project
2. The contract agreement produced by the contractor should be specific to the current project and not a general one
3. The software developed to support evaluation using the new point based system will also require the user to provide the citizen ID numbers of each personnel committed by the contractor. The system will automatically generate an alarm if the same person is already working on some other project or has been committed by some other contractor as well. This will help avoid a situation where the contractor might commit manpower that (s)he has already deployed in some other project and as a result will not be available for the current project. These people can be committed to the current project only if the client project manager of the other project certifies that these people are no longer required in the other project. This will also avoid situations where multiple contractors commit the same people for a project.

(d) Average performance score from previous work (0-10 points)

This parameter gives points to the contractor based on its performance score in the last 5 calendar years. Performance score is not already existing information and will be institutionalized with the introduction of the new point based system.

To begin with, all contractors will have a default performance score of 100%. This score will diminish whenever a contractor defaults on any one of the parameters of performance (described later). For every project the contractor will end up with a certain performance score. As a contractor executes more projects, this score will keep getting averaged out over the number of projects executed. For any work that is about to be contracted, the average performance score of works performed by the contractor over the last 5 calendar years will be taken into account.

The 100% performance score will be composed of the following parameters:

1. *On-time completion (30%)*
2. *Quality of execution (70%)*

1. *On-time completion (30%)*

Scoring for this component of performance will be done by the site engineer (that is, the implementing agency). A contractor can be penalized under this component if (s)he fails to deliver the project as per the initial time-lines committed

The site engineer can penalize the contractor to an extent of 30%. The quantum of penalty could vary as following:

- **10% for a minor default**
(if the final completion of the project is delayed by 10 - 15% as compared to original project duration)
- **20% for a medium default**
(if the final completion of the project is delayed by 15 - 25% as compared to original project duration)
- **30% for a major default**
(if the final completion of the project is delayed by 25% or more as compared to original project duration)
- **Illustrative Example**

Let's assume for a particular project the estimated project duration is 24 months. Now say, the contractor finally completes the project in 30 months. So the delay in the project is

$$= (\text{Actual completion time} / \text{Estimated duration time} - 1) \%$$

$$= (30 / 24 - 1)$$

$$= 25\%$$

Since the delay is 25%, it qualifies as a major default. Therefore the penalty will be full 30%.

2. *Quality of execution (70%)*

The scoring on this component of performance will be done by the Site Engineer based on the Guidelines issued by the Standards and Quality Control Authority (SQCA).

SQCA will have the authority to determine the extent of deviation based on reports submitted by the site engineer

- Various client agencies will be provided a kit of basic testing apparatus and equipment that the site engineers might use to cross-verify the results reported in the contractors' tests
- SQCA will have the authority to conduct random audits and inspections on-site in cases including but not limited to those where it suspects a case of misrepresentation of results reported, collusion between site engineer and contractor, critical deviation reported by results, large size of the project

CDB will have the authority to determine the extent of corruption/fraudulent practice based on judgements passed by any of the investigating agencies.

The central repository of performance scores for contractors will be maintained by the Construction Develop Board (CDB) in an online format. CDB will also be authorized to conduct random audits and checks to ensure that the implementing agencies are submitting honest and true performance reports.

IMPORTANT: In the initial period when performance scores are not available, all contractors would be considered at their default performance score, that is, 100%. Similarly, later as well, if performance score for any contractor is not available because (s) he has not executed any project after the introduction of this system, the default score of 100% will be considered.

o **Scoring Pattern**

Parameter	Level of achievement	Score
Average performance score from previous work (past 5 calendar years)	<ul style="list-style-type: none"> ▪ 100% ▪ 1 mark lesser for every 5% point decrease in score rounded off to lower 5% ▪ < 50% 	<ul style="list-style-type: none"> ▪ 10 ▪ 0

o **Documents Required**

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Performace Score from previous works (past 5 calendar years).

o **Tips / Key points to remember**

1. In case of a joint venture executing a project, the same performance score applies to all JV partners for that project
2. In giving score for timely completion, time compensations allowed due to scope changes are given due consideration. That is, the estimated duration is increased to account for time compensations
3. The baseline for performance score is 100% for each contractor for each project. Marks are deducted only under the circumstances described above.

This sums up the scoring of 70 points under the “capability” category in the bidder qualification criteria. We now proceed to the next category – “capacity”

3. Capacity

This category of parameter tests the contractor on his/her ability to generate adequate financial resources for executing the project. Specifically, the parameters covered under this category are:

Parameters	Scoring
Bid Capacity	0 – 10
Credit line available (unused)	0 – 20

(a.) Bid Capacity (0-10 points)

This parameter evaluates the contractor on the capacity of his resources to take on more work in addition to what he/she is already doing. A contractor can score anywhere between 0 and 10 depending on how close his/her bid capacity is to his/her quoted bid. This parameter is crucial in determining whether or not the contractor can successfully execute the work that he is taking up given his/her resources and the work (s)he is already committed to.

o Scoring Pattern

Parameter	Level of achievement	Score
Bid Capacity	▪ Bid Capacity \geq quoted bid	<ul style="list-style-type: none"> ▪ 10 ▪ 8 ▪ 6 ▪ 4 ▪ 0
	▪ Bid Capacity is between 80 – 100% quoted bid	
	▪ Bid Capacity is between 60 – 80% quoted bid	
	▪ Bid Capacity is between 40 – 60% quoted bid	
	▪ Bid Capacity $<$ 40% quoted bid	

Bid capacity is calculated using the following formula:

$\text{Bid Capacity} = 2 * A * N - B$

Where A = Average turnover of the contractor over the last 3 calendar years

N = Estimated duration of the project to be tendered

B = Portion of other ongoing works to be completed in the period that overlaps with the current project's duration (that is, N)

o **Illustrative Example**

Steps in calculation of 'A'

Step 1: List all projects that the contractor has executed in the last 3 CALENDAR years

Let's assume these projects are as following:

(i) Project A – Nu 54 million, January 2007 to June 2008

(ii) Project B – Nu 96 million, May 2007 to April 2009

(iii) Project C – Nu 100 million, August 2008 to July 2010

Step 2: Obtain the value of each of these projects per month, calculated as the total size divided by the total duration (in months)

For the given projects, the value per month will be:

(i) Project A – Nu 54 million / 18 months = Nu 3 million per month

(ii) Project B – Nu 96 million / 24 months = Nu 4 million per month

(iii) Project C – Nu 120 million / 24 months = Nu 5 million per month

Step 3: Arrange these projects clearly according to their timelines on a calendar for last 3 years

Project	2007												2008												2009																																
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D																					
A	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																																		
B				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																						
C																																				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

Step 4: For each of the last 3 calendar years note the number of months for each project

In this case this will be the following:

2007

Project A – January to December = 12 months

Project B – May to December = 8 months

Project C – None = 0 months

2008

Project A – January to June = 6 months

Project B – January to December = 12 months

Project C – August to December = 5 months

2009

Project A – None = 0 months

Project B – January to April = 4 months

Project C – January to December = 12 months

Step 5: Now for each of the last 3 calendar years, obtain the total quantity of work as the sum of each projects value per month and its number of months for that particular year

In this case it will be the following:

2007

$$\begin{aligned}\text{Total Value} &= (3 \times 12)_{\text{Project A}} + (4 \times 8)_{\text{Project B}} + (5 \times 0)_{\text{Project C}} \\ &= \text{Nu } 68 \text{ million}\end{aligned}$$

2008

$$\begin{aligned}\text{Total Value} &= (3 \times 6)_{\text{Project A}} + (4 \times 12)_{\text{Project B}} + (5 \times 5)_{\text{Project C}} \\ &= \text{Nu } 91 \text{ million}\end{aligned}$$

2009

$$\begin{aligned}\text{Total Value} &= (3 \times 0)_{\text{Project A}} + (4 \times 4)_{\text{Project B}} + (5 \times 12)_{\text{Project C}} \\ &= \text{Nu } 76 \text{ million}\end{aligned}$$

Step 6: Inflate the total value from each year by 5% to bring it to the price levels of the current year

In this case the values will be:

$$2007 = \text{Nu } 68 \times (1.05)^2 = \text{Nu } 68 \times 1.1025 = \text{Nu } 74.97 \text{ million}$$

$$2008 = \text{Nu } 91 \times (1.05)^1 = \text{Nu } 91 \times 1.05 = \text{Nu } 95.55$$

$$2009 = \text{Nu } 76 \text{ million}$$

Step 7: Calculate the average annual revenue A as an average of the total values of all the 3 years

In this case the average annual revenue will be:

$$A = (74.97 + 95.55 + 76) / 3 = \text{Nu } 82.2 \text{ million}$$

Calculation of 'N'

Estimated project duration will be calculated first in number of months and then converted to years by dividing by 12 and rounding off to the next higher multiple of 0.5

For example if the project is to run from April 2010 to June 2012, the project duration will be as following:

27 months, that is, $27 / 12 = 2.25 \sim 2.5$ years

Therefore N = 2.5

Steps in calculation of 'B'

Lets assume the current project to be awarded is following:

Project E – Nu 250 million, April 2010 to March 2011

Step 1: List all ongoing projects that the contractor is currently executing

Let's assume these projects are as following:

(i) Project C – Nu 100 million, August 2008 to July 2010

(ii) Project D – Nu 72 million, January 2010 to December 2010

Step 2: Obtain the value of each of these projects per month, calculated as the total size divided by the total duration (in months)

For the given projects, the value per month will be:

(iii) Project C – Nu 100 million / 24 months = Nu 4.17 million per month

(iv) Project D – Nu 72 million / 12 months = Nu 6 million per month

Step 3: Arrange these projects (including the current one) clearly according to their timelines on a calendar for the current and the next 2-3 years such that the duration of the current project (that is, N) is completely covered

Project	2010												2011											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
C																								
D																								
E																								

Step 4: Make note of the number of months of each ongoing works that overlap with the months of the current work

In this case this is the following:

Project C – April 2010 to July 2010 = 4 months

Project D – April 2010 to December 2010 = 9 months

Step 5: Find the total value of overlapping ongoing works (B) as the sum of the product all overlapping periods and their corresponding monthly volumes

In this case overlapping ongoing work will be:

$$B = (5 \times 4)_{\text{Project C}} + (6 \times 9)_{\text{Project D}}$$

$$= \text{Nu } 74 \text{ million}$$

Therefore **B = Nu 74 million**

Therefore, bid capacity will be as follows:

$$\text{Bid Capacity} = 1.5 * 82.2 * 2.5 - 74$$

$$= \text{Nu } 234.25 \text{ million}$$

Assume that quoted bid of this contractor for a project estimate of Nu 250 million, is Nu 252 million, the scoring for bid capacity will then be as following:

Parameter	Level of achievement	Score
Bid Capacity	$= 234.25 / 252$ $= 92.9\%$ $= 80 - 100\%$ of quoted bid	▪ 8

○ **Documents Required**

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Completion certificates for all works having their completion dates in the last 3 calendar years (including the current year)
2. Award letters for all works having their start dates in the last 3 calendar years (including the current year)

o **Tips / Key points to remember**

1. All slabs in the level of achievement are inclusive of the lower limit, not the upper limit
2. All works that have been completed or started by the contractor in the last 3 calendar years should be considered
3. However only the portion of these works that lie within the last 3 calendar years should be considered (using the method described in the illustrative example)
4. In a period of 2-3 years when all the works awarded by all executing agencies in Bhutan are captured by the software being developed to automate contracting and database systems, then the need for getting previous work information from the contractors will be eliminated.
5. The duration of current project, that is N, should be rounded off to the next higher multiple of 6 months (or 0.5 years). It should not be any other number.
6. Irrespective of the start and end dates of ongoing works, as long as any portion of these works will be carried out by the contractor in the same period as that of the current project, they should be considered in calculation of 'B'
7. It is possible that the actual duration of the current project turns out to be more than the estimated duration, 'N'. In such a case the actual overlap between an ongoing work of the contractor and the current project may be more than what is calculated using the method given here. However, this should NOT be considered while calculating bid capacity. The reason for this is that it is impossible to know at the time of awarding a work whether it will be completed within the estimated duration or not. Therefore bid evaluation should be based only on information that we have at the time of evaluation, which is the estimated duration, 'N'. So the overlap should be checked for only with the estimated duration, 'N' without considering what the actual duration of the current project 'might finally be'.

(b.) Credit line available (unused) (0-20 points)

This parameter evaluates the contractor on his/her ability to raise credit from banks and other financial institutions to manage the working capital requirements of the project. The contractor will get a score based on a letter of credit from a bank that gives the amount of credit available to the contractor for the work to be awarded.

Level of achievement on this parameter will be judged in terms of months of project cash flow for which the credit is available. Months of project cash flow are calculated by dividing the project cost by the project duration. This gives the cash flow per month. The ideal credit line is considered to be of 3 months or more. Points are awarded depending on how close a contractor's credit is to this ideal limit.

○ **Scoring Pattern**

Parameter	Level of achievement	Score
Credit line available (unused)	▪ $\geq 100\%$ of estimated 3 month project cash flow	▪ 20
	▪ 80 – 100% of estimated 3 month project cash flow	▪ 16
	▪ 60 – 80% of estimated 3 month project cash flow	▪ 8
	▪ $<60\%$ of estimated 3 month project cash flow	▪ 0

○ **Documents Required**

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Letter of credit or Bank Guarantee from a credible bank or financial institution in Bhutan certifying the unconditional availability of committed credit for that specific project

○ **Tips / Key points to remember**

1. All slabs in the level of achievement are inclusive of the lower limit, not the upper limit

This sums up the scoring of 30 points under the “Capacity” category in the bidder qualification criteria.

All the bids which score 65 points out of 100 at this stage of Bidder Qualification are taken to the next stage of Bid evaluation.

4. Second Stage: Bid Evaluation

All contractors who obtain a score of 65 points or more on qualification criteria as described above will be considered for evaluation in this stage..

All qualified bidders will be evaluated on a set of price preference parameters. This score will be combined with the information based on their financial bid to obtain the overall price preference-financial score.

4.1 Price Preference Parameters:-

This category of parameters evaluates the contractor on how well the contractor's organization is set up and functioning. These parameters measure how robust the construction company is and how much is it contributing to the overall betterment of the sector in Bhutan. These Price Preference parameters can broadly be divided into three categories given as following (along with their share of points):

Parameters	Scoring
a. Status (incorporated, proprietorship, JV etc.)	0 – 40
b. Employment of VTI Graduates/ local skilled Labour	0 – 40
c. Commitment for internships to VTI graduates	0 – 20

(a.) Status (Incorporated, JV, proprietorship) (0-40 points)

The primary objective for including this technical parameter is mainly to build the organization as institutions by encouraging incorporation and thereby strengthening their management.

o Scoring Pattern

Parameter	Level of achievement	Score
Status (incorporated, JV, proprietorship)	▪ Incorporated company bidding alone	▪ 40
	▪ Incorporated company as the lead partner (>50% stake) in a bid by a joint venture	▪ 20
	▪ Incorporated company as a non-lead partner (<50% stake) in a bid by a joint venture	▪ 10
	▪ Any other (proprietorship, partnership etc.)	▪ 0

o Documents Required

Contractors should be required to furnish the following documents in order to be evaluated and awarded points on this parameter:

1. Copy of the certificate of incorporation issued by the Registrar of Companies for the bidder in case an incorporated company is bidding alone
2. Joint-Venture agreement between the contractors involved, and copy of the certificate of incorporation issued by the registrar of companies for the incorporated partner in case two or more contractors are bidding together in a joint venture

(b.) Employment of VTI Graduates/local skilled labourers (0-40 points)

This parameter is designed to give the contractors benefit for employing VTI graduates/local skilled labourers in construction jobs.

o **Scoring Pattern**

Parameter	Level of achievement	Score
Employment of VTI Graduates/local skilled labourers	▪ $\geq 50\%$ project skilled workforce to be VTI /local skilled labourers	▪ 40
	▪ 30 – 50% project skilled workforce to be VTI/local skilled labourers	▪ 30
	▪ 15 – 30% project skilled workforce to be VTI/local skilled labourers	▪ 15
	▪ $\leq 15\%$ project skilled workforce to be VTI /local skilled labourers	▪ 0

o **Documents Required**

Contractors should be required to furnish the commitment letter in order to be evaluated and awarded points on this parameter.

o **Illustrative Example**

Following method may be followed while awarding points:

Step 1: Suppose the bidder commits that 40% of skilled workforce to be VTI graduates/local skilled labourers. That is, $x\% = 40\%$

Step 2: As per the ‘Scoring Pattern’, the points scored by this bidder will be as follows:

Parameter	Level of achievement	Score
Employment of VTI Graduates/ local skilled labourers	▪ 30 – 50% skilled workforce to be VTI/local skilled labourers	▪ 30

○ **Tips / Key points to remember**

1. Essentially, at the time of evaluation points are awarded based on commitment. This commitment is then enforced at the time of project execution

(c.) Commitment for internships to VTI graduates (0-20 points)

This parameter is designed to provide incentives to contractors for them to facilitate the betterment of vocational training for construction in Bhutan. So far, VTI students have not had adequate opportunities for internships and on-the-job-training. This parameter will encourage contractors to offer such opportunities to VTI students.

○ **Scoring Pattern**

Parameter	Level of achievement	Score
Commitment for internships to VTI graduates	▪ Internship opportunities for VTI graduates equivalent to $\geq 10\%$ of project workforce	▪ 20
	▪ Internship opportunities for VTI graduates equivalent to 5-10% of project workforce	▪ 10
	▪ Internship opportunities for VTI graduates $\leq 5\%$ project skilled workforce	▪ 0

○ **Documents Required**

Documents required for this parameter are very similar to the documents required in parameter (b) above, that is, 'Employment of VTI Graduates'.

○ **Illustrative Example**

Following method may be followed while awarding points:

Step 1: Suppose the bidder promises internship opportunities equivalent to 10% of her/his project workforce and gives the legal commitment as described in 'Documents Required'. That is, $y\% = 10\%$

Step 2: As per the 'Scoring Pattern', the points scored by this bidder will be as follows:

Parameter	Level of achievement	Score
Commitment for internships to VTI	▪ Internship opportunities for VTI graduates equivalent to $\geq 10\%$ of project workforce	▪ 20

graduates		
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This sums up the “Price Preference Parameter” section at second stage evaluation. The Contractor will be given a score out of 100 for the three price preference parameters which will be scaled down to 10 in the next stage.

5. How to handle the case of joint ventures

For the purpose of awarding points to joint-venture bidders, the various parameters in the point based system can be divided into two categories – one, those parameters for which the individual credentials of the joint venture partners need to be averaged using their stake in the JV for the purpose of evaluation; and two, those parameters for which the resources or information committed / provided by the JV as a single entity will be considered for award of points. We now discuss which parameters will fall under each of these categories and how to score the JV on each of these.

The first category contains the following parameters:

- (a) Similar work experience
- (b) Performance score from previous work
- (c) Bid Capacity
- (d) Credit Line available

(a). Similar work experience

Following guidelines should be used in scoring JVs on this parameter:

- i. Since there is a choice involved on this parameter, the same choice should be used by the two or more partners of any JV. That is, information on EITHER the aggregate size of 3 similar works from the past OR size of the single largest similar work should be considered for ALL partners of in a JV
- ii. Depending on the choice selected, as the first step, the aggregate size of 3 similar works of the size of the single largest similar work should be obtained using the method described in the illustrative example earlier.
- iii. To obtain the final figure for similar work experience for the JV, the weighted average of their individual information should be considered by multiplying their work experience number by their % stake in the JV
- iv. Documents required for evaluation on this parameter will still be the same. However this information should now be provided for all partners in a joint venture.

- v. For example, say that there is a JV of 3 partners – A, B, C – where A holds a 30% stake, B holds 45% stake and C holds 25% stake. Now say, the single largest similar work done by A, B, C is Nu 50 million, Nu 70 million, and Nu 65 million respectively. Then their weighted average similar work experience will be

$$= 50 * 30\% + 70 * 45\% + 65 * 25\%$$

= **Nu 62.75 million**

So while awarding the points on this parameter this figure should be used for comparison to the levels of achievement according to the scoring pattern

(b). Performance score from previous work

As explained above for similar work experience, for performance score also the weighted average of the performance scores of individual contractors should be considered for award of points on this parameter.

(c). Bid capacity

- i. Calculate the bid capacity of each partner in a joint venture according to the method described in the illustrative example for bid capacity
- ii. Calculate the weighted average bid capacity of the JV by multiplying their individual bid capacities with their % stakes in the JV
- iii. Use this weighted average bid capacity for comparison against the levels of achievement and award of points as per the scoring pattern
- iv. Documents required for evaluation on this parameter will still be the same. However this information should now be provided for all partners in a joint venture.

(d). Credit line available

- v. Calculate the weighted average credit line available of the JV by multiplying their individual credit amounts (as specified in their letter of credit / bank guarantee) with their % stakes in the JV
- vi. Use this weighted average credit line and calculate the months of credit available as per the method described in credit line discussion earlier
- vii. Use the levels of achievement as described in the scoring pattern to award points
- viii. Documents required for evaluation on this parameter will still be the same. However this information should now be provided for all partners in a joint venture.

The second category consists of parameters for which a JV will commit resources as a single entity. No weighted average calculation will be required for these parameters. This category includes the following parameters:

1. Access to adequate equipment

2. Access to manpower
3. Status (incorporated, JV etc.)
4. Employment of VTI Graduates/local workforce
5. Commitment to internships for VTI graduates

For all these parameters, the JV will make a joint commitment which will be evaluated for award of points. For example, the equipment committed could be owned or hired by either of the partners in the JV, but it will considered to be committed jointly by the JV.

6. Award of Work:

This score (Price Preference Score) will be combined with the information based on their financial bid to obtain the overall Price Preference-financial score as given below:

$$90 \times \frac{\text{(Lowest quoted bid among qualifying bids)}}{\text{Financial bid quoted by } x} + 10\% \text{ of the Preference Score of } x$$

Work will be awarded to the contractor obtaining the highest overall price preference-financial score.