

VENDOR PERFORMANCE MANAGEMENT SYSTEM
July 2010

FOREWORD

Bhutan Power Corporation Limited (BPC) is pleased to bring out the first edition of Vendor Performance Management System (VPMS) of the Corporation. This system (VPMS) of the Corporation. This system prepared in-house details the guidelines and methodologies for vendor performance management review of vendors engaged in the supply and delivery of goods through the centralized procurement mechanism of the Corporation.

BPC, as one of the leading corporate entities in the country, has always led the way in introducing many innovative systems and practices to realize its mission of good corporate governance. Vendor management and development is relatively a new concept in the country, and with this introduction of in-house developed VPMS, BPC has not only led the way in introducing yet another innovative system but is also a testimonial of its in-house technical competence and expertise.

BPC has a full-fledged centralized procurement system with robust policies and guidelines in place to ensure transparency and accountability without inhibiting efficiencies. However, given the yearly increase in the volume of procurement, the increased participation of vendors both domestic and foreign and BPC's commitment for quality and on-time customer service delivery, vendor performance management has become a necessity.

The VPMS essentially outlines the guidelines and procedures for performance review of vendors engaged in the supply and delivery of goods to the Corporation. The VPMS, in particular, expects to achieve the following objectives:

- 1) To document information of BPC's vendor base;
- 2) To retain optimal performing vendors for possible strategic alliance in the future;
- 3) To "debar" the non-performing vendors and suppliers in participating in the supply of goods tenders;
- 4) To indirectly contribute to increased customer satisfaction through timely delivery of goods and services.

The VPMS has been finalized after a series of deliberations in the Management. The utility of VPMS to BPC's core mission of good corporate governance is indisputable. Since it is an innovative system, it is expected to take time to be accepted and appreciated by all concerned.

Many efforts have been made in the formulation of this system to ensure that the system is objective and scientific and that efforts do not exceed the expected benefits yet there shall be always some future events not foreseeable at this juncture. Therefore, the VPMS shall be a dynamic and evolving system revised periodically to account for changes in contract laws and its consequences, to incorporate feedback from stakeholders, and to account for any developments deemed relevant by the Management.

The Board Level Committee has reviewed this system and approved for practice from 1st January 2011 in its meeting held on 19th June 2010.

On behalf of the Management and on my own behalf, I would like to put on record the excellent work carried out by the procurement Service Department in coming up with this innovative system.

Tashi Delek

A handwritten signature in black ink, appearing to read 'Bharat Tamang', with a horizontal line underneath it.

(Bharat Tamang)
Managing Director, BPC

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1. PURPOSE

The Vendor Performance Management System (VPMS) is formulated to achieve the following purposes:

- (i) To develop a methodology to objectively evaluate supplier's performances to ensure that the best suppliers are retained in BPC's supplier base. The intent is to consider all relevant factors and minimize subjective issues that can potentially influence such a system.
- (ii) To develop an appropriate mechanism to facilitate ending of relationships i.e., debar sub-optimal performing suppliers.
- (iii) To increase BPC's supplier base by attracting new suppliers and to increase satisfaction of end-user through timely provision of materials and after sales services by inculcating fair competitive spirit amongst BPC suppliers.

2. SCOPE

The VPMS shall address the vendor performance management guidelines and methodology in BPC. The VPMS, in particular, shall cover:

- (i) Suppliers supplying Goods to the Corporation through centralized procurement made by the Procurement Services Department and other purchasing agencies of the Corporation.
- (ii) Suppliers providing after sales services/support after delivery of Goods.

However, the VPMS shall not cover:

- (i) Suppliers supplying Goods to the Corporation under procurement made through limited bidding such as procurement of strategic, critical and proprietary items as defined in the BPC Procurement Manual.
- (ii) Suppliers engaged in the Works and Consultancy Services of the Corporation.

3. CONFIDENTIALITY

The VPMS is an internal document of the Corporation and the vendor ratings so derived shall be exclusively used for the stated purposes of the Corporation and only concerned vendor shall be informed.

4. IMPLEMENTATION AND IMPLEMENTING AGENCY

The VPMS shall come into effect from January 1, 2011. The Procurement Services Department (PSD) shall be the custodian and implementing agency of the VPMS in the Corporation.

5. AMENDMENT

The amendment authority of the VPMS is the BPC Board. The VPMS shall be amended from time to time as required by the Management on the recommendations of PSD and approved by the Board. All amendments after Boards approval shall be issued in the form of an executive order by PSD and subsequently become an integral part of the system.

6. DEFINITIONS

“Addendum/Amendment” means an addition or supplement to a document, for example, items or information revised and added to this document.

“BPC” means Bhutan Power Corporation Limited.

“Corporation” means Bhutan Power Corporation Limited. In the context of VPMS, “BPC”, Bhutan Power Corporation Limited”, and “Corporation” shall mean the same.

“Contract Delivery Date” means the date stated in the contract agreement by which the delivery of materials under a contract needs to be completed.

“Contract Quantity” means the quantity of materials to be supplied by the supplier under a contract, which is indicated in the price schedule of the contract agreement

“Customer Service” means the degree of responsiveness provided by the contractor/supplier to an agency that request for assistance.

“Debar” means exclusion of a firm from participating in BPC’s supply tenders for the stipulated time

“Defect” means non-conformance of a product with the specified requirements or non-fulfillment of user expectations.

“Delivery Reliability” means the ratio of the number of deliveries made without any error regarding time and quantity to the number of deliveries in a contract.

“Force Majeure” means natural and unavoidable catastrophes, commonly known as acts of God (literally unavoidable force). Force Majeure is a standard clause in a contract that indemnifies, or protects from loss, either or both parties to a transaction if events that prevent the realization of the contract are judged to be unanticipated or uncontrollable and reasonably beyond the terms of the contract or agreement.

“Liquidated Damages” means the amount of money specified in a contract to be awarded in the event that the agreement is violated, a standard clause in the contract document. The fixed amount which a party to an agreement promises to pay to the other, in case he shall not fulfill some primary engagement into which he has entered by the same agreement.

“Management” means the management of Bhutan Power Corporation Limited.

“New Supplier” means a supplier participating in procurement of goods tender of the Corporation for the first time.

“Old Supplier” means a supplier who has already executed the supply of goods contract of the Corporation.

“On-Time Delivery” means the delivery of materials under a contract made within the contract delivery date.

“Performance Measure” means the specific representation of a capacity, process, and outcome deemed relevant to the assessment of a performance. A performance measure is quantifiable and can be documented.

“Quality” means the degree to which a product or service meets or exceeds standards set forth in the contract/scope of work.

“Services/Support” means an evaluation of the variety of services/support offered by the supplier during and after the fulfillment of a contract

“Threshold Rating” means the minimum score or index below which a reliability index is automatically considered zero (0).

“Timeliness” means the degree to which the contractor supplied product or service within the time frames identified/stipulated in the contract/scope of work

“Vendor/Supplier” means supplier who has entered into contract to sell goods and services to the Corporation at an agreed price called the Contract Price.

“Vendor Rating” means a system for recording and ranking suppliers, with whom contracts are signed, in terms of a variety of issues, which may include delivery performance, quality of materials supplied, and after sales service/support provided during and after the warranty period.

“VPMS” means Vendor Performance Management System, a framework for how the relationships are developed and maintained between BPC and its suppliers.

7. VENDOR PERFORMANCE ASSESSMENT REPORT

The Vendor Performance Assessment Report shall be prepared by the individual department for each contract as per this system and submitted to the management for review and decisions. The BPC Management shall be the sole decision making authority based on the findings of the Vendor Performance Review Report.

8. SELECTION AND APPROVAL OF SUPPLIERS

8.1 New Suppliers

The selection and approval of new suppliers that intends to participate in BPC tenders shall be governed by the provision of BPC Procurement Manual, Clause 3.1 (Selection Criteria), as indicated hereunder.

8.1.1 The supplier has the requisite license for that particular activity/supply.

8.2.2 The supplier is not blacklisted by any statutory agencies in Bhutan or in the region to

the Corporation's knowledge.

- 8.3.3 The supplier has met the minimum qualifying criteria stipulated in the tender to ensure quality services.

All suppliers fulfilling the above provisions and not having any adverse records with the corporation shall be deemed eligible vendors.

8.2 Old Suppliers

In addition to the provisions of the BPC Procurement Manual, the selection and approval of supplier who have already executed supply contracts of BPC shall be determined by his/her Vendor Performance Index (VPI) in his/her previous supply contract. Pending previous VPI, the selection and approval of a supplier shall be governed by the provisions of BPC Procurement Manual even if the supplier is executing supply contract of BPC at the time of bidding.

9. VENDOR PERFORMANCE REVIEW GUIDELINES

- 9.1 There shall be two phases of vendor performance review for each supply contract, one immediately after completion of delivery and the other immediately after the expiry of contract validity/warranty period on two performance indices viz. quality and delivery. The weights awarded to the two performance indices are given in Appendix 1. The Management may from time to time change the weights associated with each performance index as need arise in future.
- 9.2 The maximum a vendor can achieve in each of the performance indices viz., Quality and Delivery reliability in both the phases of review is one hundred (100) and the minimum in each is zero (0).
- 9.3 The delivery rating is given higher weight than the quality rating in the computation of VPI. While quality is an essential performance measure, delivery rating is given higher weight because there are multiple arrangements put in place to ensure quality such as factory assessment, pre-dispatch inspection, physical and visual inspection at the time of receipt, and warranty obligations from the vendor to ensure that vendor delivers materials as per the tendered specifications.
- 9.4 The quality performance measure shall assess the supplier's ability to supply quality materials that meet the intended purposes/requirements as stipulated in the contract

document. The quality performance measure encourages a supplier to deliver quality materials by penalizing for the supply of substandard materials. In order for this performance measure to be objective and effective, the requirements of the materials (i.e., technical specifications) shall be explicitly indicated in the contract agreement.

- 9.5 The delivery performance measure shall assess both the supplier's adherence to contract delivery schedule and the supply of contract quantity. The delivery rating is computed in such a way that a supplier is credited for making on-time deliveries and the supply of contract quantity while penalizing for late deliveries and short supply.
- 9.6 A defective item found at the time of delivery shall still be treated as defective even if the supplier replaces/rectifies the defective item within contract delivery period. For replacement/rectification of a defective item after the contract delivery period, the replacement/rectification period shall be stipulated by the Corporation. For non replacement/rectification of defective item within the contract delivery period or within the stipulated time, a supplier shall automatically get the lowest rating for quality, i.e., zero for that item.
- 9.7 The lowest acceptable rating for quality is as defined in Appendix 2. If the quality rating falls below the threshold rating then a supplier shall automatically get the lowest quality rating for that item, i.e., 0 (Zero).
- 9.8 The acceptable late delivery period for items under a contract is the earliest period by which the maximum Liquidated Damages (LD) is applicable. The delivery rating for a Lot/Contract shall be 0 (zero) for delayed delivery of any item under the Lot/Contract beyond the Liquidated Damages (LD) period even if the vendor has made part deliveries within the delivery and LD period. However, for delays caused by Force Majeure events and if time extension is granted by the competent authority, the extended delivery period shall be taken into account for the calculation of Delivery Reliability Index (DRI), i.e., it will not be considered as delay.
- 9.9 The methodology for vendor rating shall be the same for both the phases of rating in terms of performance indices viz., quality and delivery reliability.
- 9.10 While the Phase-I review will determine the capacity for a vendor to executive a contract, the second phase will gauge the supplier's ability to provide post delivery services/support during the warranty period. Post delivery service/support shall mean but not limited to replacement and rectification of defective goods found within the warranty period.

- 9.11 In phase-II review, the quality and delivery reliability indices will measure the quality and delivery of post delivery service/support within the warranty period. The computation of quality will be same as that for phase-I. However, the delivery rating shall be either one (1) or zero (0) based on the delivery of Goods/Post Delivery Services within the agreed time as determined by BPC. For non provision of post delivery support/services, a supplier shall automatically get zero in both the reliability indices.
- 9.12 In Phase-II review, a vendor shall be automatically entitled for the maximum in quality and delivery reliability index, i.e., 100 if there is no requirement of post delivery service/support for the particular contract. However, in the event a vendor needs to provide multiple post delivery service/support, the quality and delivery reliability indexes shall be the weighted cost averages of the individual supports/services.
- 9.13 The vendor rating shall be carried out for each item under a particular Lot/Contract. The rating for a Lot/Contract will then be the weighted cost average of individual item ratings under a Lot/Contract. If a contract contains multiple lots, the vendor rating shall be carried out lot-wise and the individual lot ratings shall not be cost averaged to obtain the final Vendor Performance Index (VPI). Similarly, even if a vendor has executed multiple lots/contracts in year, there shall be no weighted cost averaging to determine the final score and a decision on a vendor shall be taken as per the ratings obtained in each Lot/Contract.
- 9.14 The VPI obtained by a supplier in the two-phase of review shall not be averaged to determine an overall score. The overall score shall be the lower of the score obtained in any of the two stages.

10. VENDOR PERFORMANCE REVIEW METHODOLOGY

The following formulae are to be employed for the computation of quality and delivery performance indices in both the phases of the review:

10.1 Quality Rating

10.1.1 Quality Rating for an Item (One-Time Delivery)

$$\text{Quality Rating (Q}_r\text{)} = \frac{Q_a}{(Q_a+Q_{na})} = \frac{Q_a}{Q_o}$$

Where Q_a = Quantity accepted, Q_{na} = Quantity not accepted, & Q_o = Ordered Quantity.

10.1.2 Quality Rating for an Item (Staggered Delivery)

$$\text{Quality Rating (Q}_{ri}\text{)} = \frac{\sum_{i=1}^{i=n} Q_{ai}}{\sum_{i=1}^{i=n} [Q_{ai}+Q_{nai}]}$$

$$\frac{\text{Quantity Accepted in the First Delivery} + \text{Quantity Accepted in the Second Delivery} + \dots}{\text{Total Quantity Delivered in the First Delivery} + \text{Quantity Delivered in the Second Delivery} + \dots}$$

Where Q_{ri} = Quality rating of the i^{th} item in a lot, n = number of deliveries made; Q_{aj} = Quantity accepted at the i^{th} delivery; Q_{naj} = Quantity not accepted at the j^{th} delivery.

10.1.3 Quality Rating for Multiple Items in a Lot/Contract

$$\text{QR (Lot/Contract)} = \frac{\sum_{i=1}^{i=N} Q_{ri} \times P_i}{\sum_{i=1}^{i=N} P_i}$$

=

$$\frac{\text{Quality Rating for Item 1 (Q}_{r1}\text{)} \times \text{Total Price of Item 1} + \text{Quality Rating for Item 2 (Q}_{r2}\text{)} \times \text{Total Price of Item 2} \times \dots}{\text{Total Lot Price}}$$

Where N = Number of items in a Lot/Contract, Q_{ri} = Rating of the i^{th} item in a Lot/Contract, P_i = Total price of the i^{th} item in a Lot/Contract.

10.2 Delivery Rating

10.2.1 Delivery Rating of an Item (One-Time Delayed Delivery)

$$\text{Delivery Rating (D}_{ri}) = \frac{K_j \times Q_d}{Q_o}$$

Where D_{ri} is the delivery rating for the ith item of Lot/Contract, K_j¹ = Weighting Factor, Q_d is the delayed quantity, and Q_o is the contract quantity.

10.2.2 Delivery Rating of an Item (Staggered Delayed Delivery)

$$\text{Delivery Rating (D}_{ri}) = \frac{\sum_{j=1}^{j=n} K_j \times Q_d}{Q_o}$$

$$= \frac{\text{Delayed Quantity delivered in First Delivery} \times K_1 + \text{Delayed Quantity delivered in Second Delivery} \times K_2 + \dots}{\text{Total Contract Quantity}}$$

Where Q_d = Quantity delayed, K_j = Weighting Factor (1 for on time delivery, 0 for delays exceeding the minimum period entailing full LD and proportionate weightages in between, n = Number of deliveries. D_{ri} = 1, for on-time deliveries.

10.2.3 Delivery Rating for Multiple Items in a Lot/Contract.

$$\text{DR (Lot/Contract)} = \frac{\sum_{i=1}^{i=N} D_{ri} \times P_i}{\sum_{i=1}^{i=N} P_i}$$

$$= \frac{\text{Delivery Rating of Item 1} \times \text{Total Price of Item 1} + \text{Delivery Rating of Item 2} \times \text{Total Price of Item 1} + \dots}{\text{Total Lot/Contract Price}}$$

Where N= Number of items in a Lot/Contract, D_{ri} = Delivery rating for the ith item in a Lot/Contract, P_i = Total price of the ith item in a Lot/Contract.

10.2.5 Quality and Delivery Rating Indices for a Lot/Contract

$$\text{Quality Rating Index (QRI)} = \text{QR(Lot/Contract)} \times 100$$

$$\text{Delivery Rating Index (DRI)} = \text{DR(Lot/Contract)} \times 100$$

¹ $K_j = \frac{(LD_{max} - D)}{LD_{max}}$, where D is number of days delayed and as per BPC Procurement Manual, the maximum applicable LD is 10% of the total contract value, and LD_{max} is the number of days on which the LD applicable becomes maximum.

10.3 Vendor Performance Index for a Contract/Lot

$$\text{Vendor Performance Index}(VPI) = Q_w \times QRI + D_w \times DRI$$

Where, Q_w is the quality rating weight and D_w the delivery rating weight, which is fixed for the time as per Appendix 1.

The procedure for computing the relevant ratings and indices is illustrated in Appendix 3 for a hypothetical scenario.

11. UTILITY OF VPI

In order to discourage suppliers from defaulting with BPC in its supply contracts and to ensure that suppliers who are reliable and earnest about building their long-term reputation are encouraged, the VPI shall be utilized to manage the performance of the vendors by debarment of suboptimal performing suppliers. The utility of the VPI is indicated in Appendix 4.

12. COMMUNICATION WITH VENDORS

After conclusion of both the phases of the vendor review, the Procurement Services Department shall inform a supplier in writing of his/her VPI in a particular Lot/Contract. In the same letter, a supplier shall also be informed of his/her future relationship with BPC as stipulated in Clause: Utility of Vendor Performance Index and a supplier whose VPI is less than 79 shall be informed on a case by case basis the period of debarment and the date on which a supplier may resume his/her participation in BPC tenders. The VPMS document shall become an integral part of all centralized and open competitive bidding documents issued by the Procurement Services Department.

LIST OF APPENDICES

Appendix No.	Description
1	Quality and Delivery Performance Measures Weight
2	Threshold Rating for Performance Measures
3	An Illustration for the Computation of Vendor Rating and Indices
4	Utility of VPI

Appendix 1: Quality and Delivery Performance Measure Weight

Performance Measure	Weight
Quality (Q_w)	0.4
Delivery (D_w)	0.6
Total	1.0

Appendix 2: Threshold Rating for Performance Measures

Performance Measure	Threshold Rating
Quality	95%
Delivery	NA

Appendix 3: An Illustration for the Computation of Vendor Ratings and Indices

The Procurement Services Department on behalf of Bhutan Power Corporation Limited entered into a contract agreement with M/s. ABC Company Limited, India for the procurement of steel tubular poles and distribution transformers on December 31, 2009. The specifics of the Lot/Contract are indicated in the following table:

Particulars	UoM	Qty	Rate	Amount
Steel Tubular Poles				
(a) 10 m	Nos.	1000	3000	3,000,000
(b) 9 m	Nos.	2500	2000	5,000,000
(c) 7.5 m	Nos.	3000	1000	3,000,000
Total Lot/Contract Amount				11,000,000

On March 31, 2010, the supplier database of Procurement Services Department reveals the following for M/s. ABC Company Limited:

Lot-I (Steel Tubular Poles)

(1) Rejection

Item	UoM	1 st delivery		2 nd Delivery		3 rd Delivery		4 th Delivery	
		Accept.	Reject.	Accept.	Reject.	Accept.	Reject.	Accept.	Reject.
10 m	1000	200	0	150	50	200	0	400	50
9 m	2500	500	0	900	100	450	50	500	0
7.5 m	3000	1000	0	950	50	500	0	500	0

(2) Delay

Item	Qty	1 st Delivery			2 nd Delivery			3 rd Delivery			4 th Delivery		
		Qty	Date	Delay									
10 m	1000	200		0	150		0	200		0	400		40
9 m	2500	500		0	900		0	450		0	500		30
7.5 m	3000	500		0	1000		0	500		0	500		60

Using the above data, the relevant vendor ratings and indices are computed as follows:

Step 1.1: Compute the quality rating of individual items under Lot/Contract (Steel tubular

Poles) using the formula, Quality Rating (Q_{ri}) = $\frac{\sum_{j=1}^{j=n} Q_{aj}}{\sum_{j=1}^{j=n} [Q_{aj} + Q_{naj}]}$

(a) Compute the quality rating for 10 m steel tubular pole:

$$\begin{aligned} Q_{r1} &= \frac{\sum_{j=1}^{j=4} Q_{aj}}{\sum_{j=1}^{j=4} [Q_{aj} + Q_{naj}]} \\ &= \frac{200+150+200+400}{1000} \\ &= \frac{950}{1000} \\ &= 0.95 \end{aligned}$$

(b) Compute the quality rating for 9 m steel tubular pole

$$\begin{aligned} Q_{r2} &= \frac{\sum_{j=1}^{j=4} Q_{aj}}{\sum_{j=1}^{j=4} [Q_{aj} + Q_{naj}]} \\ &= \frac{500+300+450+500}{2500} \\ &= \frac{2350}{2500} \\ &= 0.94 \end{aligned}$$

(c) Compute the quality rating for 7.5 m steel tubular pole

$$\begin{aligned} Q_{r3} &= \frac{\sum_{j=1}^{j=4} Q_{aj}}{\sum_{j=1}^{j=4} [Q_{aj} + Q_{naj}]} \\ &= \frac{100+950+500+500}{3000} \\ &= \frac{2950}{3000} \\ &= 0.98 \end{aligned}$$

Step 1.2: Compute the quality rating for Lot/Contract (Steel Tubular Poles) using the formula

$$QR (\text{Lot/Contract}) = \frac{\sum_{i=1}^{i=N} Qri \times Pi}{\sum_{i=1}^{i=N} Pi}$$

$$\begin{aligned} QR (\text{Lot/Contract}) &= \frac{\sum_{i=1}^{i=3} Qri \times Pi}{\sum_{i=1}^{i=3} Pi} \\ &= \frac{0.95 \times 3,000,000 + .94 \times 5,000,000 + 0.98 \times 3,000,000}{3,000,000 + 5,000,000 + 3,000,000} \\ &= 0.95 \end{aligned}$$

Step 1.3: Compute the delivery rating for individual items under Lot/Contract (Steel tubular

Poles) using the formula, Delivery Rating (D_{ri}) = $\frac{\sum_{j=1}^{j=n} Kj \times Qd}{Qo}$

(a) Compute the delivery rating for 10 m steel tubular pole.

$$D_{r1} = \frac{\sum_{j=1}^{j=4} Kj \times Qd}{Qo}$$

Compute K_j , the weighting factors for the four staggered deliveries:

$$K_1 = 1$$

$$K_2 = 1$$

$$K_3 = 1$$

$$K_4 = \frac{(70-40)}{70} = 0.43$$

$$\begin{aligned} \text{Therefore } D_{r1} &= \frac{200 \times 1 + 150 \times 1 + 200 \times 1 + 400 \times 0.43}{1000} \\ &= \frac{722}{1000} = 0.72 \end{aligned}$$

(b) Compute the delivery rating for 9 m steel tubular pole

$$D_{r2} = \frac{\sum_{j=1}^{j=4} Kj \times Qd}{Qo}$$

Compute K_j , the weighting factors for the four staggered deliveries:

$$K_1 = 1$$

$$K_2 = 1$$

$$K_3 = 1$$

$$K_4 = \frac{(70-30)}{70} = 0.57$$

$$\text{Therefore } D_{r2} = \frac{500 \times 1 + 900 \times 1 + 450 \times 1 + 500 \times 0.57}{2500} \\ = \frac{2135}{2500} = 0.85$$

(c) Compute the delivery rating for 7.5 m steel tubular pole

$$D_{r2} = \frac{\sum_{j=1}^{j=4} K_j \times Q_d}{Q_o}$$

Compute K_j , the weighting factors for the four staggered deliveries:

$$K_1 = 1$$

$$K_2 = 1$$

$$K_3 = 1$$

$$K_4 = \frac{(70-60)}{70} = 0.14$$

$$\text{Therefore } D_{r3} = \frac{1000 \times 1 + 950 \times 1 + 500 \times 1 + 500 \times 0.14}{3000} \\ = \frac{2520}{3000} = 0.84$$

Step 1.4: Compute the delivery rating for Lot/Contract (Steel Tubular Poles) using the

formula

$$\text{DR (Lot/Contract)} = \frac{\sum_{i=1}^{i=N} D_{ri} \times P_i}{\sum_{i=1}^{i=N} P_i}$$

$$\text{DR (Lot/Contract)} = \frac{\sum_{i=1}^{i=N} D_{ri} \times P_i}{\sum_{i=1}^{i=N} P_i} \\ = \frac{0.84 \times 3,000,000 + 0.85 \times 5,000,000 + 0.72 \times 3,000,000}{3,000,000 + 5,000,000 + 3,000,000} \\ = 0.81$$

Step 1.5: Compute quality and delivery ratings and indices for the Lot/Contract

$$QRI = 0.95 \times 100 = 95$$

$$DRI = 0.81 \times 100 = 81$$

Step 1.6: Compute the VPI for the Contract

$$VPI = 0.4 \times QRI + 0.6 \times DRI = 0.4 \times 95 + 0.6 \times 81 = 86.6$$

Appendix 4: Utility of VPI

VPI	Action
$79 \leq \text{VPI} \leq 100$	No action
$70 \leq \text{VPI} \leq 79$	Debar for one (1) year
$60 \leq \text{VPI} \leq 69$	Debar for two (2) years
$50 \leq \text{VPI} \leq 59$	Debar for three (3) years
$\text{VPI} \leq 50$	Debar indefinitely

In the absence of VPI for both phases of vendor performance review, the available VPI shall be used for the purpose of decision making.