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# SECTION X - PRICE VARIATION CLAUSE (PVC) METHODOLOGY BASED ON JPC MARKET PRICE

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# Price Variation Clause (PVC)

## Introduction

- ✓ Provision of **Price Variation Clause (PVC)** is given in a Tender to take into account the fluctuations in **raw material** cost in a Tender.
- ✓ Objective of PVC in a Tender is not to mirror the actual market price of raw materials. PVC methodology will only reflect the trend of raw material price over a period.
- ✓ PVC methodology is based on data available in **JPC REPORT ON STEEL PRICES** released by **Joint Plant Committee (JPC), constituted by Govt. of India**. It is noted from said report that the prices reported in the JPC Fortnightly Price Report are retail market prices of leading items of iron and steel in the four metro cities (Delhi, Mumbai, Chennai and Kolkata) of the country and covering the leading producers as well as units in the Other Producers segment.
- ✓ **The first JPC Price Report released for a month shall be considered for PVC calculations.**
- ✓ Average of Rates as declared in JPC for four metro cities (**Delhi, Mumbai, Chennai and Kolkata**) shall be considered for PVC calculation. In case, the rate for an item is not available then the average of the other available rates shall be considered for calculation.
- ✓ **The increase / decrease in the Rate for each of the Rate Schedules would be governed by the following formula:**

### PVC FORMULA

$$P1 = P0 + (S1 - S0)$$

Where

**P1** - Escalated / de-escalated price for a Rate Schedule

**P0** - Rate at which contract is finalized for a rate schedule

**S1** – (The JPC rate for the month for which PVC is being calculated) \* (Corresponding % as given in BOM)

**S0** – (The JPC rate for the Tender opening (Part I opening) month) \* (Corresponding % as given in BOM)

- ✓ Contract price in respective Rate Schedule based on above formula shall be adjusted for any increase or decrease on account of variation in raw material prices and same shall be calculated as difference of **S1 & S0**.
- ✓ Reference month for **S0** calculation is the month of **Tender opening i.e. Part I opening**.
- ✓ Reference month for **S1** month calculation shall be **2 Months** from Purchase Order Placement Month (**i.e. PO Month + 2 Months**) or (**GR Month – 1 Month**), **whichever is earlier**. However, if (GR – 1 Month) falls before PO month then PO placement month shall be considered for PVC calculation.
- ✓ GR date referred is the first GR date for the PO Line item
- ✓ **PVC will be calculated monthly**. Adjusted Contract rates based on PVC shall be fixed for a month.
- ✓ **Price Variation Clause (PVC)** is applicable for **Raw Material component (except Fasteners)**.
- ✓ PVC for a Rate Schedule/Item shall not be admissible if the increase/decrease is in the range of  $\pm 2\%$  of the finalized rates. In other words, no extra payment shall be made to Vendor/no recovery shall be done from Vendor if the PVC rates is in the range of  $\pm 2\%$  of the finalized rates.

**SECTION-X – PVC FOR RAW MATERIALS****PRICE VARIATION CLAUSE (PVC) METHODOLOGY BASED ON JPC MARKET PRICE**

- ✓ **A ceiling of  $\pm 20\%$  shall be applied.** In other words, the PVC rates shall be capped at  $\pm 20\%$  of the finalized rate. For E.g.: If the PVC rate for a Rate Schedule/Item has increased by more than 20% of the finalized rate then maximum admissible PVC shall be 20% of the finalized rate. Similarly, If the PVC rate for a Rate Schedule/Item has decreased by more than 20% of the finalized rate then maximum admissible PVC shall be [minus (-) 20%] of the finalized rate.

**Illustration of Ceiling:**

Description	Rs/MT	% Increase / Decrease wrt Finalised price	Final adjusted contract price based on PVC (Rs/MT)
Finalized contract price for a Rate Schedule (RS)	1,00,000		
Contract price based on PVC for Month-1	1,01,000	1%	1,00,000
Contract price based on PVC for Month-2	1,02,000	2%	1,00,000
Contract price based on PVC for Month-3	1,10,000	10%	1,10,000
Contract price based on PVC for Month-4	1,20,000	20%	1,20,000
Contract price based on PVC for Month-5	1,25,000	25%	1,20,000
Contract price based on PVC for Month-6	99,000	-1%	1,00,000
Contract price based on PVC for Month-7	98,000	-2%	1,00,000
Contract price based on PVC for Month-8	90,000	-10%	90,000
Contract price based on PVC for Month-9	80,000	-20%	80,000
Contract price based on PVC for Month-10	75,000	-25%	80,000

- ✓ Rates mentioned in JPC are inclusive of GST. So, while calculation of PVC, JPC rates excluding GST shall only be considered for calculation purpose. For e.g.: If JPC rate for an Item is Rs. 80,000 per MT then for PVC calculation following rate shall be considered:
- Rs. 80,000 per MT - GST
- ✓ Bill of Material (BOM) of respective rate schedules forms an integral part of tender terms and conditions. Generally, BOM of a rate schedules consists of various elements such as Plates, Angle, Beams, Channels, Sheets of different grades and sizes. Hence, in order to accommodate various material categories as given in BOM, the Rates of following ITEMS as given in JPC shall be considered for PVC calculation for different types/groups of materials in BOM:

**Table 1**

Sl. No.	Category	Types/groups of materials as per Bill of Material (BOM)	ITEM TO BE CONSIDERED FOR PVC CALCULATION AS PER JPC
1	ROUNDS	Rounds $\leq 12\text{MM}$	Rounds 12 MM
2	ROUNDS	12 MM < Rounds < 16 MM	Rounds 12 MM
3	ROUNDS	16 MM $\leq$ Rounds < 25 MM	Rounds 16 MM
4	ROUNDS	Rounds $\geq 25\text{ MM}$	Rounds 25 MM
5	ANGLES	All sizes and all Thickness of Angles upto and excluding 75 MM	ANGLES 50X50X6 MM
6	ANGLES	All sizes and all Thickness of Angles above and including 75 MM	ANGLES 75X75X6 MM
7	BEAM	All sizes of Beams (including NPB, UC, UB) upto and excluding 200 MM	JOISTS 125X70 MM
8	BEAM	All sizes of Beams (including NPB, UC, UB) above and including 200 MM	JOISTS 200X100 MM

## SECTION-X – PVC FOR RAW MATERIALS

## PRICE VARIATION CLAUSE (PVC) METHODOLOGY BASED ON JPC MARKET PRICE

Sl. No.	Category	Types/groups of materials as per Bill of Material (BOM)	ITEM TO BE CONSIDERED FOR PVC CALCULATION AS PER JPC
9	CHANNELS	All sizes of Channels (including Square Hollow Section (SHS)) upto and excluding 150 MM	CHANNELS 75X40 MM
10	CHANNELS	All sizes of Channels (including Square Hollow Section (SHS)) above and including 150 MM	CHANNELS 150X75 MM
11	PLATES (including Flats) OF ALL GRADES INCLUDING CORTEN, ALLOY STEEL, STAINLESS STEEL PLATES	Plates $\leq$ 6 MM	PLATES 6 MM
12		6 MM < Plates < 10 MM	PLATES 6 MM
13		10 MM $\leq$ Plates < 12 MM	PLATES 10 MM
14		12 MM $\leq$ Plates < 25 MM	PLATES 12 MM
15		Plates $\geq$ 25MM	PLATES 25 MM
16	SHEETS OF ALL GRADES INCLUDING STAINLESS STEEL, CORTEN, ALLOY STEEL SHEETS	Sheets $\leq$ 2 MM	H. R. COILS 2.00 MM
17		2 MM < Sheets < 2.5 MM	H. R. COILS 2.00 MM
18		2.5 MM $\leq$ Sheets < 3.15 MM	H. R. COILS 2.50 MM
19		Sheets $\geq$ 3.15 MM	H. R. COILS 3.15 MM
20	PIPE & TUBES OF ALL SIZES & GRADES	PIPE & TUBES	PLATES 6 MM

- ✓ **Rate Schedule (RS) wise BOM shall be declared upfront in NIT and same shall be used for PVC calculation. RS wise BOM enclosed in Section II-B [Rate Schedule-wise Bill of Material (BOM)] shall be used for PVC calculation.**

## ILLUSTRATION OF PVC CALCULATION

- Tender floated on 1<sup>st</sup> Dec'2021 and Bill of Material (BOM) given in Tender is as given below:

RS Description	Material Description	Percentage By Weight
<b>RS01</b> [Auto-weld Beams & Boxes for XYZ project]	PLATE 20.0 MM - IS2062E250A	35.35%
	PLATE 25.0 MM -IS2062E250BR	24.16%
	PLATE 16.0 MM - IS2062E250A	17.80%
	PLATE 32.0 MM -IS2062E250BR	7.36%
	ANGLE 200 x 200 x 20-IS2062E250A	5.99%
	PLATE 50.0 MM - IS2062E250BR	5.28%
	PLATE 40.0 MM -IS2062E250BR	3.15%
	PLATE 5.00 MM-IS2062E250A	0.55%
	PLATE 8.00 MM -IS2062E250A	0.23%
	BOLT-M24x100 -4.6-IS1363P1	0.09%
	ANGLE 130 x 130 x 12-IS2062E250A	0.02%
	NUT -M24 -CL4-IS1363P3	0.02%
	HEX HD BOLT M24X110-4.6 IS:1363(P-1)	35.35%

- Tender opened (Part I) – 11<sup>th</sup> Dec' 2021
- Tender Finalised – 13<sup>th</sup> Jan' 2022
- Finalised Rate for **RS01** – Rs. 1,05,000 per MT.

**Case-1**

PO Number: XYZ | PO Date: 15<sup>th</sup> Jan 2022

PO Delivery Date: 14<sup>th</sup> June 2022 (5 Months from PO date) | GR Date: 10<sup>th</sup> June 2022

**Steps for calculating PVC for Case-1****Step 1:**

Reference month for **S0** calculation is the month of Tender opening i.e. Part I opening. In this case, **Tender opened (Part I opening) on 11<sup>th</sup> Dec' 2021**, so Reference month for **S0** calculation would be **Dec'2021**

## SECTION-X – PVC FOR RAW MATERIALS

## PRICE VARIATION CLAUSE (PVC) METHODOLOGY BASED ON JPC MARKET PRICE

**Step 2:**

Reference month for **S1** calculation is **(PO Month + “2” Months)** or **(GR Month – 1 Month)**, whichever is earlier.

**PO Date: 15<sup>th</sup> Jan 2022; GR Date: 10<sup>th</sup> June 2022**

**(PO Month + 2 Months) = (Jan + 2 Months) = March 2022**

**(GR Month - 1 Month) = (June - 1 Month) = May 2022**

So, in this case **(PO + 2 Month) i.e. March 2022** is earlier than **(GR Month - 1 Month) i.e. May 2022**, hence, reference month for **S1** calculation is **March 2022**. Hence, JPC rates for **March 2022** shall be used for PVC calculations.

**Step 3:** Identification of **ITEM TO BE CONSIDERED FOR PVC CALCULATION AS PER JPC** for each material as given in BOM:

RS Description	Material Description as given in BOM	Percentage By Weight	ITEM TO BE CONSIDERED FOR PVC CALCULATION AS PER JPC
<b>RS01</b> [Auto-weld Beams & Boxes for XYZ project]	PLATE 20.0 MM - IS2062E250A	35.35%	PLATES 12 MM
	PLATE 25.0 MM - IS2062E250BR	24.16%	PLATES 25 MM
	PLATE 16.0 MM - IS2062E250A	17.80%	PLATES 12 MM
	PLATE 32.0 MM - IS2062E250BR	7.36%	PLATES 25 MM
	ANGLE 200 x 200 x 20-IS2062E250A	5.99%	ANGLES 75X75X6 MM
	PLATE 50.0 MM - IS2062E250BR	5.28%	PLATES 25 MM
	PLATE 40.0 MM - IS2062E250BR	3.15%	PLATES 25 MM
	PLATE 5.00 MM-IS2062E250A	0.55%	PLATES 6 MM
	PLATE 8.00 MM -IS2062E250A	0.23%	PLATES 6 MM
	BOLT-M24x100 -4.6-IS1363P1	0.09%	Not Applicable
	NUT -M24 -CL4-IS1363P3	0.02%	Not Applicable
	HEX HD BOLT M24X110-4.6 IS:1363(P-1)	0.02%	Not Applicable
<b>Total</b>		<b>100%</b>	

**Step 4:** Calculating **(S1 – S0)** for **RS01** [Auto-weld Beams & Boxes for XYZ project]

Material Description	Percentage By Weight	ITEM TO BE CONSIDERED FOR PVC CALCULATION AS PER JPC	AVG. JPC RATE FOR TENDER OPENING (Part 1 opening) MONTH i.e. DEC 2021 (Rs. per MT)	S0 = B * D	AVG. JPC RATE FOR PVC CALCULATION MONTH i.e. MARCH 2022 (Rs. per MT)	S1 = B * F	(S1 – S0)
A	B	C	D	E	F	G	H
PLATE 20.0 MM - IS2062E250A	35.35%	PLATES 12 MM	68,150	24,091.10	74,948	26,494.12	2,403.02
PLATE 25.0 MM - IS2062E250BR	24.16%	PLATES 25 MM	69,626	16,821.69	76,650	18,518.52	1,696.83
PLATE 16.0 MM - IS2062E250A	17.80%	PLATES 12 MM	68,150	12,130.74	74,948	13,340.74	1,210.01
PLATE 32.0 MM - IS2062E250BR	7.36%	PLATES 25 MM	69,626	5,124.49	76,650	5,641.40	516.91
ANGLE 200 x 200 x 20-IS2062E250A	5.99%	ANGLES 75X75X6 MM	50,192	3,006.51	65,797	3,941.23	934.72
PLATE 50.0 MM - IS2062E250BR	5.28%	PLATES 25 MM	69,626	3,676.26	76,650	4,047.09	370.83
PLATE 40.0 MM - IS2062E250BR	3.15%	PLATES 25 MM	69,626	2,193.23	76,650	2,414.46	221.23
PLATE 5.00 MM-IS2062E250A	0.55%	PLATES 6 MM	66,026	363.15	75,222	413.72	50.58
PLATE 8.00 MM - IS2062E250A	0.23%	PLATES 6 MM	66,026	151.86	75,222	173.01	21.15
BOLT-M24x100 - 4.6-IS1363P1	0.09%	Not Applicable	NA	NA	NA	NA	NA
NUT -M24 -CL4-IS1363P3	0.02%	Not Applicable	NA	NA	NA	NA	NA

## SECTION-X – PVC FOR RAW MATERIALS

## PRICE VARIATION CLAUSE (PVC) METHODOLOGY BASED ON JPC MARKET PRICE

Material Description	Percentage By Weight	ITEM TO BE CONSIDERD FOR PVC CALCULATION AS PER JPC	AVG. JPC RATE FOR TENDER OPENING (Part 1 opening) MONTH i.e. DEC 2021 (Rs. per MT)	S0 = B * D	AVG. JPC RATE FOR PVC CALCULATION MONTH i.e. MARCH 2022 (Rs. per MT)	S1 = B * F	(S1 – S0)
A	B	C	D	E	F	G	H
HEX HD BOLT M24X110-4.6 IS:1363(P-1)	0.02%	Not Applicable	NA	NA	NA	NA	NA
						<b>Total</b>	<b>7425.28</b>

**Note: JPC Rates mentioned above are exclusive of GST.**

**Step 5:** Calculating **PVC** for **RS01** [Auto-weld Beams & Boxes for XYZ project]

$$P1 = P0 + (S1 - S0)$$

$$P1 = \text{Rs. 1,05,000 per MT} + \text{Rs. 7425.28 per MT}$$

$$P1 = \text{Rs. 1,12,425.28}$$

So, the final PVC rate for **March 2022** for **RS01** is = **Rs. 1,12,425.28**

✓ **For better understanding of how the proposed methodology will work in different scenarios following cases with illustrations have been explained below:**

Sl. No.	Date of Tender opening (Part I opening)	PO Date	PO Delivery from PO Date	PO Month+2 Month	GR Date	GR Month- 1 Month	<b>Applicable Month for PVC</b> [Earlier of (PO Month +2 Month) or (GR Month - 1 Month)]	<b>Impact on P1*</b>
1	05-03-2021	05-05-2021	4 Months	July 2021	01-10-2021	Sep 2021	July 2021	Will change (+/-)
2	05-03-2021	05-05-2021	4 Months	July 2021	29-05-2021	April 2021	#May 2021	Will change (+/-)
3	05-04-2021	05-05-2021	5 Months	July 2021	20-08-2021	July 2021	July 2021	Will change (+/-)
4	05-04-2021	30-04-2021	5 Months	June 2021	20-09-2021	Aug 2021	June 2021	Will change (+/-)
5	05-04-2021	20-08-2021	4 Months	Oct 2021	30-11-2021	Oct 2021	Oct 2021	Will change (+/-)

**#As GR Month - 1 Month i.e. April 2021 is before PO Placement month (May 2021), so PO Month i.e. May 2021 is being considered as Applicable Month for PVC.**

**\*Final adjusted contract price shall be subjected to the ceiling.**