**Detailed Explanation of the Proposed Price Variation Clause (PVC):**

The proposed PVC is a method to adjust the pricing of a component based on changes in material costs and manufacturing costs. Here’s a breakdown of how the calculations are made:

**1. Component Cost Composition:**

* **Material Cost**: 30% of the component’s total cost is attributed to raw materials.
* **Manufacturing Process Cost**: 70% of the component’s total cost comes from manufacturing, labour, and energy expenses.

2**. Estimated Cost Formula:**

* The total estimated cost is calculated using the following formula:

Estimated Cost= (0.3×Base PO Cost × Change in Raw Material Cost Factor) +(0.7×Base PO Cost× (1.03) ^n)

Where:

**Base PO Cost**: The base cost of the component as per the First purchase order (BPO).

* **Change in Raw Material Cost Factor**: Adjusted based on the change in prices of key raw materials (Nickel, Cobalt, Chromium).
* **1.03**: Represents a 3% year-over-year (YoY) hike in manufacturing costs.
* **n**: (Number of Days elapsed from the Base PO date to 1 day Prior to Current PO Release Date) /365.

**3. Change in Raw Material Cost Calculation:**

The change in raw material cost is determined by the price variations of key alloying elements (Nickel, Cobalt, Chromium) between two periods: Base Date, Month & Year X (Base PO) and Current Date, Month &Year Y (Current PO).

The formula for calculating the change in raw material cost is:

Change in Raw Material Cost Factor=1+∑(Mi×PiY) −∑(Mi×PiX) ∑(Mi×PiX)

Where:

* **Mi**: Percentage (weight composition) of the element (Ni, Co, Cr) in the alloy.
* **PiX**: Price of the element in Date, Month & Year X (Base PO).
* **PiY**: Price of the element in Current Date, Month & Year Y (Current PO).

**4. Example of Material Cost Change Calculation:**

Given the following data:

| **Element** | **Price in Base Date, Month & Year X (USD/ton)**  | **Price in Current Date, Month & Year Y (USD/ton)**  | **Weight of Elements (kg of alloy)** |
| --- | --- | --- | --- |
| Nickel (Ni) | 10,000 | 15,000 | 0.624 |
| Cobalt (Co) | 25,000 | 40,000 | 0.095 |
| Chromium (Cr) | 2,000 | 2,500 | 0.140 |

**Step 1:** Calculate the total material cost for Base Date, Month & Year X and Current Date, Month & Year Y:

ΣMiPiy = (0.624\*15000+0.095\*40000+0.14\*2500) = 13510

ΣMiPix = (0.624\*10000+0.095\*25000+0.14\*2000) =8895

**Step 2:** Calculate the Change in Raw Material Cost Factor: = 1+ (ΣMiPiy - ΣMiPix)/ (ΣMiPiX)

 = 1+ (13510-8895) /8895

 =1+ 0.51=1.51

**Step 3**: Calculate the adjusted material cost (A):

Material Cost (A)=0.3×Base PO Cost×Change in Raw Material Cost Factor

Example: If the Base PO Cost is 10,000 in Supplier’s Local Currency:

Material Cost in Base PO = 0.3 x 10,000

Material Cost in Current PO (A)=0.3×10000×1.51=4,530

**5. Manufacturing Cost Calculation:**

Manufacturing cost increases annually by 3%. The formula to calculate the manufacturing cost in current PO (B) is:

Manufacturing Cost in Base PO = 0.7 x 10,000

Manufacturing Cost in current PO (B)=0.7×Base PO Cost× (1.03) ^n

Where **n** represents the number of years from the Base PO to the present.

Example: If **n = 2 years** and **Base PO Cost = 10,000 in Supplier’s Local Currency**:

Manufacturing Cost (B)=0.7×10000× (1.03)^2=7,427.29

**6. Final Price Calculation:**

The final price for the new PO placement is the sum of the adjusted material cost (A) and the adjusted manufacturing cost (B):

Final Price=Material Cost (A)+Manufacturing Cost (B))

Final Price=4,530+7,427.29=11,957.29

**Remarks:-**

* The change in raw material costs is driven by fluctuations in the price indices of Nickel, Cobalt, and Chromium-LME / https://eaindustry.nic.in will be taken one day before date of PO Release Date
* Manufacturing costs increase by 3% year-over-year.
* The final price is determined by summing up the adjusted material cost and the adjusted manufacturing cost.