Cost object controlling
Period end steps and variance calculation
Explanation

Published by Team of SAP Consultants at SAPTOPJOBS Visit us at www.sap-topjobs.com

Copyright 2007-09@SAPTOPJOBS

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means electronic or mechanical including photocopying, recording or any information storage and retrieval system without permission in writing from SAPTOPJOBS.
## TABLE OF CONTENTS

**INTRODUCTION** .................................................................................................. 3  
Scenario 1............................................................................................................. 4  
  1) Display Process order to see the cost and other details ............................ 4  
  2) Display Standard cost estimate .................................................................. 10  
  3) Overhead calculation ............................................................................... 11  
  4) WIP process calculation ........................................................................... 13  
  5) Variance calculation .................................................................................. 15  
  6) Settlement ................................................................................................ 36  
Scenario 2........................................................................................................... 39  
  1) Display Process order to see the cost and other details .......................... 39  
  2) Calculate Overhead .................................................................................. 41  
  3) Calculate WIP .......................................................................................... 44  
  4) Variance calculation .................................................................................. 46  
  5) Settlement ................................................................................................ 48
INTRODUCTION

Period end closing in Controlling has always been a challenge. Variance calculation and its explanation has invariably sent shivers down the spine of all SAP consultants. WIP calculation too has at times been complex to understand.

We are delighted to present to you the complete Period end steps in Cost Object Controlling. In this document we will cover this whole process including variance calculation and WIP by taking a single process order and churning it all through.

Alright lets have a ball today friends!

Merry Christmas and a Happy New Year..
Scenario 1

In this scenario we will cover the calculation of variance on the process order and its settlement.

1) **Display Process order to see the cost and other details**

Please note that process order is used in the process industry. In other industries the production order is used. Both are cost objects and do the same function of carrying cost.

We take a process order to see the status and the costs on it.

Use the following path

Accounting ➔ Controlling ➔ Product Cost Controlling ➔ Cost Object Controlling ➔ Product Cost by Order ➔ Order ➔ Process Order ➔ COR3 - Display
The status of the process order is **DLV (Delivered)**. This means that this particular process order will not have any WIP and will be relevant for variance calculation.

Note the Order Qty is 2000 (Total qty). The Qty delivered shown is 2000.

Now let us go and see the costs on this process order.

But before that let us understand how are costs debited on the process order.

The costs debited on to the process order are as follows:-

1) Raw Materials are issued to the process order by the Stores department
2) Packing Materials are issued to the process order by the Stores department.

3) Production department confirms the various operations done on the process order such as Machine, Labour, Quality and so on. This results in these costs being debited on the process order.

The process order also has a credit. What is this credit?

The production department has confirmed completion of the production of the order quantity. This results in finished goods being delivered and a credit on to the process order.
Click to see the details of each cost lines
We see 4 columns above Plan, Actual, Planned Qty and Actual quantity.

The Plan costs are for information.

From where do plan costs come?

**Plan costs explanation**
In the process order there is a costing variant for planned costs. These costing variants have settings which picks up the price in case of Raw Material and Packing material from the material master on the date of creation of process order and multiplies it with the Bill of material quantities.
The prices for the activities are obtained from the activity prices in the cost center and multiplies it with the quantities mentioned in the Master Recipe (Routing) and the overhead from the overhead rate in the costing sheet.

The credits in the plan cost are picked from the standard price of the finished goods * order Qty. Thus in plan costs itself you see a Balance or a variance.

**Planned Qty explanation**
The planned Qty is picked up from the BOM (Bill of Material) and Master Recipe (Routing).

**Actual explanation**

In the process order there is a costing variant for actual costs which picks up the actual costs.

The Actual column shows the actual costs debited on the process order.

Raw Material and packing material the actual costs calculated is:-
Actual Qty * Actual price (moving average price)

For activities the actual cost calculated is:-
Actual Qty * Plan activity price

The credit in the actual is through the standard price * qty delivered

**Actual Qty explanation**

The actual qty of material and activities issued to the process order

The total actual debits on the process order are 731,235.21. There is still no debit on account of overhead in actual. This will be debited once the overhead calculation program is executed.
The credit posting in actual is 753,661.20 which is the standard cost. The order shows a balance of 22,425.99 – (credit balance)
2) Display Standard cost estimate

Let us see the standard cost estimate for this product.

Use the following path:-

Accounting → Controlling → Product Cost Planning → Material Costing → Cost Estimate with Quantity Structure → CK13N – Display

The standard cost estimate is 376,830.61 for the costing lot size 1000 litres.

The process order is for 2000 litres.

Let us now proceed for the period end steps.
3) **Overhead calculation**

The first step starts with the overhead calculation on the process order.

Use the following path:-

Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Overhead → KGII - Individual Processing

Update the following:-

![Actual Overhead Calculation: Order](image-url)
The total Raw Material Cost and Packing Cost amounts to 708268.28 in the above process order.

As you see in the above calculation the system has calculated an Overhead at 0.9% on total Raw material and packing material amounting to 6374.58.

Check the process order now.

Use transaction code COR3.

The overhead costs of 6374.58 are now updated on the process order in Actual column.
Now the balance show on the process order is 16,051.41- (credit). This is the variance between the actual costs and the standard cost of the product.

Now it is difficult to explain the variance figure above and what has resulted in the variance. The variance calculation program helps us to understand this variance.

4) WIP process calculation

Let us now calculate WIP if any for this process order.

Use the following path:-
Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Work in Process → Individual Processing → KKAX - Calculate

Update the following fields:

**WIP Calculation**

**Order**: 580819581

**Parameters**

- WIP to period: 11
- Fiscal year: 2005

**Processing options**

- Background processing
- Test run
- Log information messages
- Save log

**Output options**

- Display orders with errors
  - Displayed currency: COMP. CODE CUR.
  - Display variant:
The WIP is 0 since the status of the order is DLV (Delivered)

5) Variance calculation

This is the most important step which actually explains the variance on the process order. The total variance visible on the process order after the overhead calculation step is 16,051.41- (credit).

You are not able to understand the reason for variance.

SAP breaks down this variance into variance categories which is as follows:-

<table>
<thead>
<tr>
<th>Total variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input side</td>
</tr>
<tr>
<td>Output side</td>
</tr>
<tr>
<td>Input price variance</td>
</tr>
<tr>
<td>Input Quantity variance</td>
</tr>
<tr>
<td>Resource usage variance</td>
</tr>
<tr>
<td>Remaining input variance</td>
</tr>
<tr>
<td>Output price variance</td>
</tr>
<tr>
<td>Mixed price variance</td>
</tr>
<tr>
<td>Lot size variance</td>
</tr>
<tr>
<td>Remaining variance</td>
</tr>
</tbody>
</table>
Variance on the Input side:-

These are variances based on goods issues; internal activity allocations, overhead allocation and GL account postings.

Input price variance
Input price variances are caused by difference between the planned and actual prices of the material and activities used.

Formula:
Input price variance = Control cost (actual costs) – (Actual qty/Target qty) * Target costs

Input Quantity variance
Input quantity variances are caused by differences between the planned and actual consumption quantities of material and activities

Formula:
Input quantity variance = (Actual quantity / Target input qty – 1) * Target costs

Resource Usage Variance
Resource usage variances are caused by usage of different materials and activities than were planned.

Formula:
Resource usage variance = Control cost (Actual costs) – Target costs – Input price variance

Remaining input variance
If the system cannot assign a variance on the input side to any of the above variance categories, it assigns the variance to the remaining input variance

Remaining input variance = Control costs (Actual costs) – Target costs – Input price variance – Input qty variance – Resource usage variance

Variance on the Output side:-

These variances result from lower or higher quantity of actual output compared to the planned quantity being delivered. Also it is possible that the delivered quantity was valued differently.

Output price variance
These are calculated in the following situation:-
If the standard price has changed between the time point of delivery to stock and the time point when the variances are calculated.
If the price used to valuate the inventory is not a mixed price.

Output price variance = Allocated costs (means confirmed qty * Std. costs) – Std costs

**Mixed price variance**

Mixed price variances arise when the system valuates inventories using a mixed cost estimate for the material. This is caused by a difference between the target credit (confirmed quantity X standard cost of Procurement alternative) determined by variance calculation and the actual credit that was posted when the goods were received (confirmed quantity X Standard price). The standard price corresponds to the mixed price.

Formula:
Mixed price variance = Target credit – Target Credit Mixed costing

**Lot size variance**

Lot size variances are differences between the planned costs that do not vary with the lot size and the actual costs that do not vary with the lot size, which are passed on to inventory when you put the order quantity into inventory. A lot size variance arises when a portion of a material’s total cost does not change when you change the quantity of goods manufactured.

The formula is:
Lot size variance = Lot size independent target cost X (1 – Control qty / Planned qty)

**Remaining variance**

Difference between the target costs and the allocated actual costs that cannot be assigned to any other variance category are reported as remaining variances.

Formula:

Remaining variance = Target costs – Act. costs allocated (Std. costs) – Output price variance – Mixed price variance – Output qty variance – Lot size variance

Let us now do the variance calculation for the process order.

Use the following path:-
Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Variances → KKS2 - Individual Processing

Update the following fields:
In the above screen you will see the following:

Target costs (737,699.45): Cost in the standard cost estimate for the material that vary with the lot size are divided by the costing lost size and multiplied by the quantity delivered (the yield). Costs that do not vary with the lot size are used directly as target costs.

Actual costs (737,609.79): This is the actual debits on the process order.

Act. Costs allocated (753,661.20): This is the standard cost estimate of the finished goods for 2000 litres.

The variance shown is 16,051.41-

For further explanation,

Double click 16,051.41-

Thus you see above:

Variance input side = Control costs (actual costs) – Target costs
This is broken down into
Input price variance = 6,910.99-
Input qty variance = 6,842.15
Remaining input variance = 20.82-

Further you see above
Output side variance = Target costs – Act. Costs allocated (standard costs)

= 737,699.45 - 753,661.20
= 15,961.75-

The output side variance is broken down into:
Output price variance = 0.02
Lot size variance = 14,753.75-
Remaining variance  = 1,208.02 -

Click back

Click

Cost Elements

In above screen you can see a detailed variance against each cost element and Material.
The input variance = Actual costs – Target costs
The output variance = Target costs – Standard costs

To actually get a further breakup on the input and output side material wise let us select another variant

Click Variant...
Select **Variance Categories** by positioning the cursor
### Variance Calculation: List

<table>
<thead>
<tr>
<th>Cost elem</th>
<th>Dest</th>
<th>Material</th>
<th>Partner object</th>
<th>Target costs</th>
<th>Input price var</th>
<th>Res usage var</th>
<th>Input qty var</th>
<th>Remain input var</th>
<th>Lot size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5881837</td>
<td>24,823.32</td>
<td>75.98</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5891690</td>
<td>29,367.95</td>
<td>740.93</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5891777</td>
<td>1,050.50</td>
<td>0.62</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5882627</td>
<td>179,484.44</td>
<td>249.91</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5882186</td>
<td>5,082.64</td>
<td>0.24</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5882326</td>
<td>430,018.00</td>
<td>3,522.43</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5887810</td>
<td>59,599.00</td>
<td>46.98</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5880809</td>
<td>43,142.44</td>
<td>983.37</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E3010BE</td>
<td>5880025</td>
<td>10,336.00</td>
<td>1,553.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Output side

| 20009BE | 5888424 | 737,669.45 | 6,910.99 | 0.00 | 5,842.15 | 22.22 |

*Note: The table contains data for variance calculation, including cost elements, materials, partner objects, target costs, and various variances such as input price var, res usage var, input qty var, and remain input var. The lot size is also included for some rows.*
### Variance Calculation: List

**Display variant Variance Categories List sorted by Costelement, OriginGroup, Material**

<table>
<thead>
<tr>
<th>Costelement</th>
<th>Dreh</th>
<th>Material</th>
<th>Partner object</th>
<th>QM var</th>
<th>Input qty var</th>
<th>RemainInput var</th>
<th>Lot size var</th>
<th>Output qty var</th>
<th>Remaining var</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E391000</td>
<td>E80137</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80196</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80137</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80227</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E802110</td>
<td></td>
<td></td>
<td>0.00</td>
<td>4,507.16</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80229</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80319</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80380</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>E391000</td>
<td>E80325</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7543080</td>
<td>ATY PK58401/542615</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7550091</td>
<td>ATY PK58401/542638</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7553318</td>
<td>ATY PK58401/542638</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7533690</td>
<td>ATY PK58401/542638</td>
<td></td>
<td></td>
<td>0.00</td>
<td>1,386.35</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>7530098</td>
<td>ATY PK58401/542638</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>20.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Output side**

<table>
<thead>
<tr>
<th>Material</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E808424</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>14.753.75</td>
<td>0.02</td>
<td>1,200.02</td>
<td></td>
</tr>
<tr>
<td>*</td>
<td></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>14.753.75</td>
<td>0.02</td>
<td>1,200.02</td>
<td></td>
</tr>
</tbody>
</table>

Again click 💻 **Variant...**

Heruvariance01
### Variance Calculation: List

Display variant here, variance list by Costelement, Dringgroup, Material

<table>
<thead>
<tr>
<th>Cost element</th>
<th>Name</th>
<th>Material</th>
<th>Std cost estimate</th>
<th>Std cost estimate</th>
<th>Actual quantity</th>
<th>Var</th>
<th>Target costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input side</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5881237</td>
<td>12,411.00</td>
<td>94.70</td>
<td>199.520 K5</td>
<td>24,823.32</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5881655</td>
<td>14,063.00</td>
<td>51.500</td>
<td>193.900 K5</td>
<td>29,367.36</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5881237</td>
<td>53.25</td>
<td>8.10</td>
<td>9.300 K5</td>
<td>186.56</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5882077</td>
<td>59,771.22</td>
<td>19.200</td>
<td>29,400 K5</td>
<td>179,542.44</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5882116</td>
<td>2,041.32</td>
<td>12.300</td>
<td>44.700 K5</td>
<td>5,882.84</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5882220</td>
<td>230,969.00</td>
<td>400.200</td>
<td>999.020 K5</td>
<td>490,816.00</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5883716</td>
<td>4,269.40</td>
<td>17.510</td>
<td>35.000 K5</td>
<td>8,906.96</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5883605</td>
<td>21,571.22</td>
<td>169.430</td>
<td>258.040 K5</td>
<td>43,142.44</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>RM Cons</td>
<td>5883826</td>
<td>9,658.00</td>
<td>214.844</td>
<td>429.069 K5</td>
<td>19,336.60</td>
<td></td>
</tr>
</tbody>
</table>

| **Output side** |       |          |                  |                  |                |     |              |
| 33010000     | MIF abt at SEM | 588424  | 376,226.60       | 1,023.374       | 0.000 K5       | 737,890.45 |

### Variance Calculation: List

Display variant here, variance list by Costelement, Dringgroup, Material

<table>
<thead>
<tr>
<th>Cost element</th>
<th>Name</th>
<th>Material</th>
<th>Std cost estimate</th>
<th>Std cost estimate</th>
<th>Actual quantity</th>
<th>Var</th>
<th>Target costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input side</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>169.520 K5</td>
<td>26,623.32</td>
<td>24,999.22</td>
<td>0.000</td>
<td>75.90</td>
<td>75.90</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>163.369 K5</td>
<td>26,528.43</td>
<td>26,528.43</td>
<td>0.000</td>
<td>748.63</td>
<td>748.63</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>0.369 K5</td>
<td>106.48</td>
<td>106.48</td>
<td>0.000</td>
<td>6.02</td>
<td>6.02</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>23.490 K5</td>
<td>173.542.44</td>
<td>173.292.53</td>
<td>0.000</td>
<td>249.91</td>
<td>249.91</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>44.720 K6</td>
<td>5,688.64</td>
<td>13,296.01</td>
<td>0.000</td>
<td>4,557.37</td>
<td>4,557.37</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>260.320 K5</td>
<td>309,495.90</td>
<td>309,495.90</td>
<td>0.000</td>
<td>3,522.42</td>
<td>3,522.42</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>35.029 K5</td>
<td>8,933.98</td>
<td>8,933.98</td>
<td>0.000</td>
<td>46.98</td>
<td>46.98</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>260.349 K5</td>
<td>43,144.42</td>
<td>42,259.67</td>
<td>0.000</td>
<td>883.37</td>
<td>883.37</td>
<td></td>
</tr>
<tr>
<td>63010000</td>
<td>429.899 L</td>
<td>17,300.90</td>
<td>17,300.90</td>
<td>0.000</td>
<td>1,530.02</td>
<td>1,530.02</td>
<td></td>
</tr>
<tr>
<td>75420000</td>
<td>12</td>
<td>1,716.36</td>
<td>1,716.36</td>
<td>0.000</td>
<td>6.06</td>
<td>6.06</td>
<td></td>
</tr>
<tr>
<td>75660000</td>
<td>9</td>
<td>623.76</td>
<td>623.76</td>
<td>0.000</td>
<td>6.06</td>
<td>6.06</td>
<td></td>
</tr>
<tr>
<td>75900000</td>
<td>0.964 W</td>
<td>14,753.75</td>
<td>14,753.75</td>
<td>0.000</td>
<td>6.06</td>
<td>6.06</td>
<td></td>
</tr>
<tr>
<td>75900000</td>
<td>25.249 H</td>
<td>4,460.70</td>
<td>5,955.06</td>
<td>1,389.20</td>
<td>6.06</td>
<td>1,389.20</td>
<td></td>
</tr>
<tr>
<td>75902000</td>
<td>0.369 L</td>
<td>6,395.48</td>
<td>5,374.58</td>
<td>0.000</td>
<td>26.02</td>
<td>26.02</td>
<td></td>
</tr>
</tbody>
</table>

| **Output side** |       |          |                  |                  |                |     |              |
| 55010000     | 0.369 K5 | 737,890.45 | 753,561.20       | 14,753.01       | 1,237.94       | 15,061.75 |
| 0.369 K5     | 737,890.45 | 753,561.20 | 14,753.01       | 1,237.94       | 15,061.75      |
To get a detailed Variance explanation

Click

![Variance Calculation: Explanation](image)

### Control costs

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>42,259.07</td>
<td>0.00</td>
<td>42,259.07</td>
</tr>
<tr>
<td>Scrap</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Work in process</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42,259.07</td>
<td>0.00</td>
<td>42,259.07</td>
</tr>
</tbody>
</table>

### Input side

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control costs</td>
<td>42,259.07</td>
<td>0.00</td>
<td>42,259.07</td>
</tr>
<tr>
<td>Target costs</td>
<td>43,142.44</td>
<td>0.00</td>
<td>43,142.44</td>
</tr>
<tr>
<td>Var. input side</td>
<td>883.37-</td>
<td>0.00</td>
<td>883.37-</td>
</tr>
</tbody>
</table>

### Input price variance

- Calculation of input price variance with existing quantities:
  
  \[
  \text{Input price variance} = \text{Control costs} - \left( \frac{\text{Control quantity}}{\text{Target input qty}} \right) \times \text{Target costs}
  \]

Click
### Variance Calculation: Explanation

**Target cost version**: 0  
**Act. ord. cost <> Current std. cost BY**: PKR

**Order**: 5000195001  
**DEITAPHOS BULK**

**Costing lot size**: 1,000,000 L  
**Actual quantity**: 2,000,000 L

#### Variance overview

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual costs</td>
<td>737,668.79</td>
<td>22,948.93</td>
<td>714,660.86</td>
</tr>
<tr>
<td>Scrap</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Work in process</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>737,668.79</td>
<td>22,948.93</td>
<td>714,660.86</td>
</tr>
</tbody>
</table>

#### Input side

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control costs</td>
<td>737,668.79</td>
<td>22,948.93</td>
<td>714,660.86</td>
</tr>
<tr>
<td>Target costs</td>
<td>737,668.79</td>
<td>22,948.93</td>
<td>714,660.86</td>
</tr>
<tr>
<td>Var. input side</td>
<td>89.66</td>
<td>2,244.54</td>
<td>2,334.20</td>
</tr>
<tr>
<td>Input price variance</td>
<td>6,910.99</td>
<td>0.00</td>
<td>6,910.99</td>
</tr>
<tr>
<td>Input qty variance</td>
<td>6,842.15</td>
<td>2,244.54</td>
<td>4,597.61</td>
</tr>
<tr>
<td>Resource-usage var.</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Remaining input var.</td>
<td>26.82</td>
<td>2,244.54</td>
<td>2,334.20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>89.66</td>
<td>2,244.54</td>
<td>2,334.20</td>
</tr>
</tbody>
</table>

#### Output side

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act. costs allocated</td>
<td>753,661.20</td>
<td>35,458.20</td>
<td>718,203.00</td>
</tr>
<tr>
<td>Target credit</td>
<td>753,661.22</td>
<td>35,458.14</td>
<td>718,203.08</td>
</tr>
<tr>
<td>Tgt credit MixedCost</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Output side variance</td>
<td>15,961.75</td>
<td>14,753.81</td>
<td>1,207.94</td>
</tr>
</tbody>
</table>

Click [Website Logo]
The input price variance calculation is as follows:-

In the above screen shot let us take 1 raw material:-

5881837

Input price variance = Control costs (actual costs) - Actual qty/ Target qty * Target costs
= 24899.22 - 189.52/189.52 * 24823.32
= 24899.22 - 24823.32
= 75.90

Like input price variance is calculated for each raw material packing material and activities are calculated.
Thus the total input price variance is 6910.99- which can be see above with explanations

Let us now move on to Input Quantity variance
Control = Actual

Input Quantity variance = (Control qty / Target input qty – 1) * Target costs

Let us take raw material 5882116 from the above screen shot

= (44.720 / 24.72 – 1) * 5682.64
= 4597.61

Therefore system calculates for each raw material, packing material and activities and gives us the total input quantity variance = 6,842.15

Let us now move on to Resource usage variance
Formula for Resource usage variance

Let us take the total cost shown above:-

Resource usage variance = Control costs (actual costs) – Target costs – Input price variance

= 24899.22 – 24823.32 - 75.9
= 0
Let us now move on to Remaining input variance:

Remaining input variance = Control costs – Target costs – Input price variance – Input qty variance – Resource usage variance

= 737,609.79 - 737,699.45 – (-6,910.99) - 6,842.15 - 0
= -89.66 + 6910.99 – 6842.15
= - 20.82

Variance input side = Control costs (actual costs) – Target costs

= 737,609.79 - 737,699.45
= 89.66-

Let us now move to output price variance:
Output price variance = Allocated cost (means confirmed qty * std price) – Standard cost
= 753,661.20 - 753,661.22
= 0.02

Mixed price variance = 0
Lot size variance = Lot Size Independent target costs * (1 – Actual Qty/ costing lot size)

\[ = 14,753.75 \times (1 - \frac{2000}{1000}) \]
\[ = 14,753.75 \times (-1) \]
\[ = 14,753.75 \] 

In the above case number of hrs taken for the activity 562001 for costing lot size 1000 litres is 5 hrs and for 2000 also it is 5hrs.
Let us move on to the last variance category on the output side which is Remaining variance.

Remaining variance = Target costs – Act. Costs allocated (Std. costs) – Output
Price variance – Mixed price variance – Output qty variance – Lot size variance

= 737,699.45 - 753,661.20 - 0.02 – 0 – 0 – (14,753.75-)

= -15961.77 + 14,753.75

= -1208.02
Thus we have now understood the various variance categories and how it is calculated.

Finally we go to the last step in the period end steps which is Settlement of process orders.

6) Settlement

This is the last step in the period end closing of cost object controlling. Here the variance calculated on the process order will be settled to FI, PCA and Profitability Analysis. If any WIP exists on the process order it will be posted to FI and PCA in this transaction.
Use the following path:

Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Settlement → KO88 - Individual Processing

Update the following fields:
Click on to see the document.

This will show various documents from FI, PCA and Profitability Analysis.

The accounting entry passé for variance calculation is :-

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in FG Dr</td>
<td>16,051.41</td>
</tr>
<tr>
<td>Production variance Cr.</td>
<td>16,051.41</td>
</tr>
</tbody>
</table>

The Variance category can be individually updated to various value fields which can give an analysis of the type of variance. Alternatively, it can be updated on a single value field.
Scenario 2

In this scenario we will cover the WIP calculation and its settlement to FI.

1) Display Process order to see the cost and other details

We take a process order to see the status and the costs on it.

Use the following path:

Accounting ➔ Controlling ➔ Product Cost Controlling ➔ Cost Object Controlling ➔ Product Cost by Order ➔ Order ➔ Process Order ➔ COR3 - Display
Note that the status of the process order is not DLV (Delivered) or TECO (Technically Complete). It is REL (Released).

This means that the process order is relevant for WIP calculation.

Click Goto Costs Analysis
Note that only Materials have been issued to the process order, no confirmation of the various activities has happened so far.

The total debits on the process order are 879,611 at the month end. After Overhead calculation the overheads will be added to these costs.

2) Calculate Overhead

Let us do the overhead calculation on the process order.

Use the following path:-
Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Overhead → KGI2 - Individual Processing

Update the following:-
### Actual Overhead Calculation: Order Debits

<table>
<thead>
<tr>
<th>Sender</th>
<th>Receiver</th>
<th>Debit cost</th>
<th>Value COCurr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTR PK60700</td>
<td>ORD 500019502</td>
<td>7900200</td>
<td>7,916.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7,916.50</td>
</tr>
</tbody>
</table>

Check the process order now
The process order has now bee debited with the overheads of 7916.50. The total costs on the process order are now 887,527.50

There are no credits on the process order, since nothing is delivered.

3) **Calculate WIP**

Let us now calculate WIP for this process order.

Use the following path:-

Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Work in Process → Individual Processing → KKAX - Calculate
The system has calculated a W IP which is 887,527.50. (This was the balance remaining on the order). The status of the order is REL (Released)

4) **Variance calculation**

Let us now do the variance calculation for the process order.

This step is actually not relevant for this process order since system has already calculated WIP. There will be no variance calculation done.

Nevertheless, we still do it to see what the result is.

Use the following path:-

Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Variances → KKS2 - Individual Processing
Update the following fields:

![Variance Calculation: Initial Screen](image)

Order: 500019502, DELTAPHOS BULK

Period: 11
Fiscal year: 2005

The system gives error message “Order does not have status DLV or TECO”
5) Settlement

This is the last step in the period end closing of cost object controlling. The WIP calculated on the process order will be posted to FI and PCA in this step.

Use the following path:-

Accounting → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Single Functions → Settlement → KO08 - Individual Processing

Update the following fields:
The following accounting entry is passed:-

WIP Dr. 887,527.50
Change in WIP Cr. 887,527.50

This brings us to an end of the Period end steps in cost object controlling. Hope you enjoyed reading it.