

Job Costing

User Manual

Job Costing

Block: 0 - Unknown | Activity: 0 - Unknown | Coin Group: 01 - Time Group A | Clock Date: 2020-08-24

Select Employees | Filter | Select All | Deselect All | Change Categories

No	Date	Employee	Coin Group	Block	Activity	Start Time	End Time	Total Time	Hourly Rate	OT Factor	Total Cost	PW Units	Time Type
27	2020-08-24	Pieter Le Roux	01 - Time Group A	0 - Unknown	0 - Unknown	05:00:00	09:00:00	04:00:00	22.22	1.0	88.89	0.00	Normal
27	2020-08-24	Pieter Le Roux	01 - Time Group A	0 - Unknown	0 - Unknown	09:15:00	10:00:00	00:45:00	22.22	1.0	16.67	1.00	Piecework
27	2020-08-24	Pieter Le Roux	01 - Time Group A	0 - Unknown	0 - Unknown	10:00:00	12:00:00	02:00:00	22.22	1.0	44.44	0.00	Normal
27	2020-08-24	Pieter Le Roux	01 - Time Group A	0 - Unknown	0 - Unknown	12:30:00	14:00:00	01:30:00	22.22	1.0	33.33	0.00	Normal
27	2020-08-24	Pieter Le Roux	01 - Time Group A	0 - Unknown	0 - Unknown	14:00:00	16:59:00	02:59:00	33.33	1.5	99.44	0.00	Normal
								11:14:00			282.78	1.00	

Reports: Select a Report | Print

Total PW Units: 1.00 | Total Time: 11:14:00 | Total Cost: 282.78



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Preface

The Job Costing module in Payroll Africa is supplemental to the Costing module in Donkerhoek Data's Farm Management Africa software. Still, it may be used as a standalone cost-estimation utility.

The purpose of the Job Costing module is to break down each employee's time spent working into its different components and to associate an hourly rate to each component. It is then possible to estimate the total cost of each job type across all employees.

The estimation of total cost per job type is instrumental in the labor industry. These estimations often determine future budgets for projects requiring labor or help determine whether a project is currently running under or over budget.

Payroll Setup

Before using the Job Costing module, a few things need to be set up first. Read through the following two sub-sections to understand how to correctly set up your Piecework Categories and the Allocation Export File options.

Piecework Categories

In order to use the Job Costing module, you will need a correct Piecework Category setup. Go to **Piecework** → **A Piecework Categories**:

*Code	Description
0	None
1	GM 1
2	GM 2
3	GM 3
4	GM 4
5	GM 5
6	GM 6
7	GM 7
8	GM 8
9	GM 9

Ordering and Naming of Piecework Categories

Your Piecework Categories may be described however you wish. They do not need to be named “Block”, “Activity” and “Cultivar” as depicted here. The descriptions do not affect the application logic.

The ordering of the Piecework Categories is most important: if “Block” is the first category you select on the clocking device, Payroll Africa expects the first Piecework Category to be set up with the “Block” entries. Likewise, if “Activity” is the second category you select on the device, the second Piecework Category in Payroll Africa should have the “Activity” entries.

Entry Code Rules

When setting up entries, try to use “1”, “2”, “3”, etc. for the entry Code values, instead of “01”, “02”, “03”, etc. as the Job Costing module will strip any leading zero-padding characters while processing the jobs.

For systems that already have their Piecework Categories set up with leading

zero-padding characters, the Job Costing module will interpret all "01" values as "1", all "02" values as "2", etc.

This behaviour is due to the fact that most hardware already strips the leading zero characters before the data is imported into Payroll Africa.

NB: Only use numeric values when setting up codes. Special characters and alphabetic characters A through Z are not allowed.

Allocation Export File

The Job Costing module allows for the creation of two export files during Period End that instructs the FMA Costing module how the total hours and wages for the pay period are split across different Piecework Categories and employees.

For one of these files, a specific setup is required.

Go to **Clock Systems** → **M Job Costing** → **D Edit Allocation File Setup**:

Field Name	Value
Day Hours	A035+A036+A046+A047+A057+A058+A068+A069+A079+A080
Day Wage	A037+A048+A059+A070+A081
Overtime1 Hours	A090+A091
Overtime1 Wage	A092
Overtime2 Hours	
Overtime2 Wage	
Piecework Hours	
Piecework Wage	

Since the design of the pay screen varies between different systems, there is no standard way for Payroll Africa to determine which pay field values to include in the calculation for the FMA Allocation Export File.

Donkerhoek Data strives to ensure that this setup remains correct after any system changes, but when starting the use of the Job Costing module, it is imperative that this setup be done correctly.

Next to each section on the Edit Allocation File Setup screen you'll find two buttons: the first allows you to select which fields to include in that section, while the second will allow you to clear the currently selected fields.

Click the "..." button next to each section, and select all the pay screen fields that are applicable to that section. For instance, when setting up the "Day Hours" section, select all pay screen fields that are used to determine an employee's day hours on their payslip. When setting up the "wage" sections, select all the fields that are used to calculate the employee's wage for that category.

NB: Be careful not to select fields that are already included in the value calculations of other fields. For example: do not select the different "hour" fields if you already have a "total hours" field which adds all the hour fields together. Always try to use formula fields if possible.

Employee Information

After the Job Costing module is activated, all employee profiles have to be modified to set how their pay is calculated. If you already use ETI, this information will be set automatically.

Go to each employee profile, and select the **ETI/Job Costing** tab:



The screenshot shows a software interface with two tabs: "General" and "ETI/Job Cost.". The "ETI/Job Cost." tab is selected. Below the tabs, there are three columns of fields:

Payment per Hour/Day	Min. Wage	Actual ETI Wage
Hour	19	19.00

Below these fields, there is a label "SEZ" followed by a dropdown menu showing "NON - Non SEZ Employer".

Ensure that the Payment per Hour/Day is set correctly. This value should be "Hour" when an employee is paid on an hourly basis, and "Day" when an employee is paid on a daily basis. This information is required to calculate the estimated job costs when you have employees that are paid both Hourly and Daily on the same Payroll Africa system.

NB: If the Payment per Hour/Day setting is set to the incorrect value, the cost estimation calculations for the relevant employees will be incorrect.

Job Costing Calculations

The bulk of work done by the Job Costing module happens when calculating the Jobs for each day.

The calculation process looks at all the clock records for an employee on a specific day and determines the type, duration and categories of work done. It then determines the employee's hourly wage for that day, and generates a cost estimate for each job. It totals all the jobs' costs and hours to give you a detailed breakdown of how much was spent where, doing what, for any particular day.

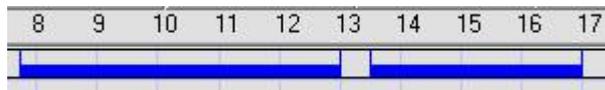
All costing calculations are based on the actual wage the employee gets paid (as defined on the pay input screen and on the employee profile screen, under the **ETI/Job Costing** tab):

Examples of how the hours calculated on the Validate Data graph is converted into Jobs on the Job Costing screen can be seen below:

Example 1: Normal hours. Same Block and Activity throughout the day

An employee does the same job throughout the day. They work on Block 18, performing Activity 1 - Picking. The employee had a break between 13:00 and 13:30.

On the validate data graph you'd see:



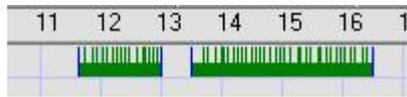
When calculating the jobs, it would be represented like this:

Block	Activity	Start Time	End Time	Total Time	Total Cost
18 - GM AVD 1	01 - Picking	07:45:00	13:00:00	05:15:00	99.75
18 - GM AVD 1	01 - Picking	13:30:00	17:00:00	03:30:00	66.50
				08:45:00	166.25

Example 2: Piecework. Varying Block and Activity throughout the day

An employee pruned on Block 2 from 11:38 until their break at 13:00. After their break, they started sanitizing on Block 3 until 16:30.

On the validate data graph, you'd see this:



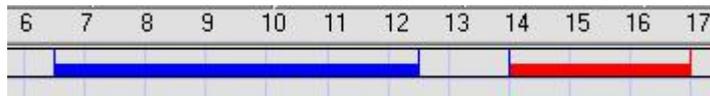
And when calculating the jobs, it would be represented like this:

Block	Activity	Start Time	End Time	Total Time	Total Cost
02 - GM 2	02 - Pruning	11:38:01	13:00:00	01:21:59	25.96
03 - GM 3	03 - Sanitation	13:30:00	16:30:06	03:00:06	57.03
				04:22:05	82.99

Example 3: Different Job Types throughout the day

An employee started working normal hours at 06:30 until their break started at 12:30. They were booked off sick for the rest of the afternoon, and the graph was manually updated stating the sick status.

The graph would look like this:



While the calculated jobs would resemble the following:

Blocks	Activity	Start Time	End Time	Total Time	Total Cost	Time Type
0 - None	0 - None	06:30:00	12:30:00	06:00:00	51.36	Normal
0 - None	0 - None	14:00:00	17:00:00	03:00:00	25.68	Sick
				09:00:00	77.04	

A Note on Absent Hours

Absent With Leave and Absent Without Leave, although editable on the Validate Data graph, will never calculate or export in the Job Costing module. This is due to the fact that we don't associate monetary values to Absent hours on payslips. Those hours are, in effect, excluded from the cost calculations and cannot be allocated in the Farm Management Africa software.

Calculate Jobs For The Current Pay Period

There are two ways of performing the job costing calculations:

Directly from the Validate Data Graph

The first way is to do it while you're validating data on the Validate Data graph.

Once the Job Costing module is activated on your Payroll Africa system, open any day on the Validate Data screen. You'll find the Job Costing button below the graph section. Clicking on it will bring up the Job Costing screen, where the various jobs for the day will be displayed.

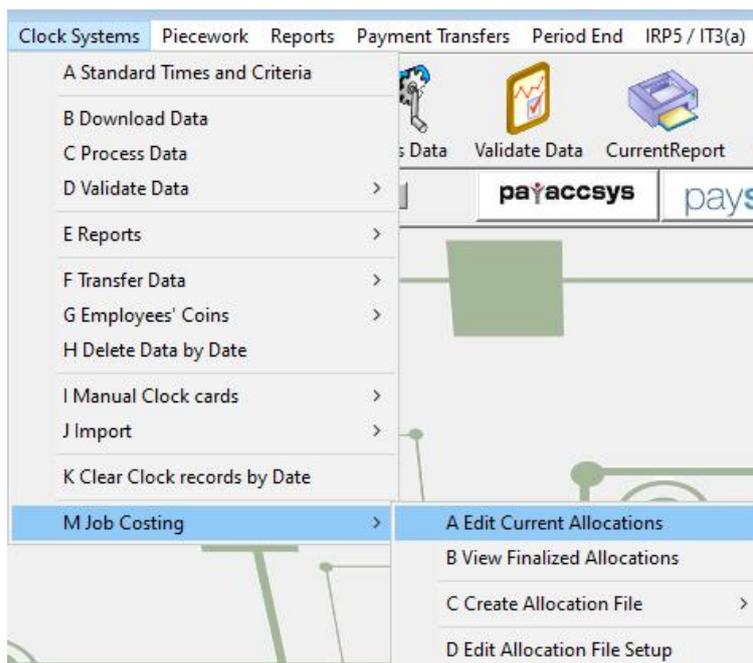


Your Coin Group selection on the Validate Data graph determines the default Coin Group filters applied to the Job Costing screen automatically.

NB: Please remember to shift all employees to Standard Times before editing/viewing the Job Costing information. Clock records must be fully validated and finalized before the Job Costing calculations are performed in order to get the correct results.

Using the Clock Systems menu

Alternatively, you can perform the calculations by using the **Clock Systems** → **M Job Costing** → **A Edit Current Allocations** option.



Please note that using this option implies that you've already validated the data. Only fully validated days will be displayed in the **Edit Current Allocations** option. When opening from the Validate Data graph, the validation happens automatically, whereas when opening from the Clock Systems menu, validation does not happen automatically.



The image shows a dialog box titled "Change Current Allocations" with a close button (X) in the top right corner. Below the title bar, there is a blue notice: "NB: Only fully validated dates can be changed." The dialog contains three dropdown menus: "Date" with the value "2020-06-04", "From Coin Group" with the value "01 - Seasonal Summer 9", and "To Coin Group" with the value "04 - Picking support". At the bottom, there are two buttons: "Cancel" and "Change".

From this dialog, you may select which date to calculate and edit, as well as the default Coin Group filters that are applied to the Job Costing screen automatically.

The Job Costing Screen

Please see the [next section](#) for details on the workings of the Job Costing screen.

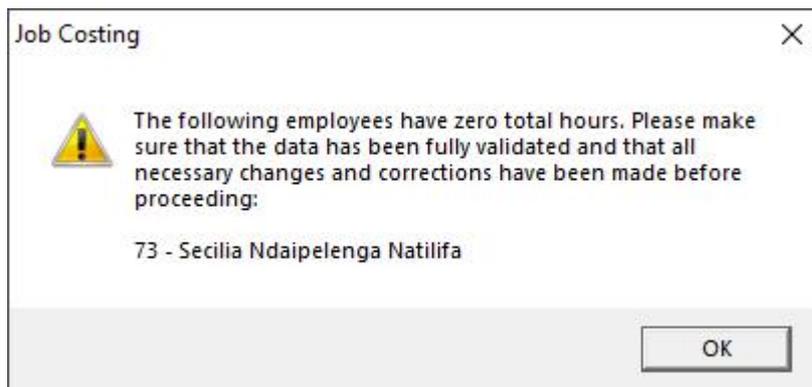
The Job Costing Screen

Upon choosing to calculate the Job Costing, you are presented with the Job Costing screen:

No	Date	Employee	Coin Group	Block	Activity	Start Time	End Time	Total Time	Hourly Rate	OT Factor	Total Cost	PW Units	Time Type
2	2020-06-16	Zolisi Badi	02 - Seasonal/Winter 8	01 - GM 1	01 - Picking	07:45:00	13:00:00	05:15:00	19.00	1.0	99.75	1.00	Piecework
2	2020-06-16	Zolisi Badi	02 - Seasonal/Winter 8	02 - GM 2	02 - Pruning	13:30:00	14:20:07	00:50:07	19.00	1.0	15.87	1.00	Piecework
2	2020-06-16	Zolisi Badi	02 - Seasonal/Winter 8	03 - GM 3	01 - Picking	14:20:07	17:00:00	02:39:53	19.00	1.0	50.63	1.00	Piecework
								08:45:00			166.25	3.00	

Reports: Select a Report [Print] Total PW Units: 3.00 Total Time: 08:45:00 Total Cost: 166.25

When entering the Job Costing screen, you may encounter the following warning message:



This means that the employee clocking data is incomplete (missing in or out clock) for the listed employees. You will need to manually fix the clocking data using the Validate Data graph, or retry downloading your clocking data. When you've completed all fixes, you may try to enter the Job Costing screen again.

If all clocking data is valid and the screen opened without warning, you'll find various options and filters to choose from. Let's look at the options from the top-left to bottom-right:

Piecework Category Filters

At the top-left you'll find a set of filters for the Piecework Categories. These filters contain the entries as set up in your Piecework Category setup (see the [Payroll Setup section.](#))

Block	Activity
0 - None	0 - None
24 - GM AVO 7	05 - Unkown

You may change these to filter the displayed data in the Job Costing grid.

Coin Group Filter

By default the Coin Group filters are set outside the Job Costing screen. When opening from the Validate Data graph, the Coin Group filters are automatically set to the same filters as set on the graph. When opening from the Clock Systems menu, they are chosen just before the screen opens. See [Calculate Jobs For The Current Pay Period](#)

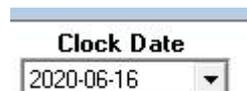


The image shows two identical dropdown menus stacked vertically. Each menu has a title 'Coin Group' above it. The selected option in both is '02 - Seasonal Winter 8'.

You may change these filters to filter the data displayed in the grid.

Date Filter

The Job Costing screen limits the viewable dates to one at a time. This makes it easier to reason about the data you're seeing. The Clock Date filter allows you to choose which date you want to view or calculate jobs for.



The image shows a dropdown menu with the title 'Clock Date'. The selected date is '2020-06-16'.

When opening from the Validate Data graph, the Clock Date value is automatically set to the same date as you have open on the Validate Data graph. When opening from the Clock Systems menu, the date is selected just before the screen is opened.

Employee Selection

In the event that you want to further filter a specific subset of employees or a single employee, you may use the Select Employees function. Clicking here will open up a list of employees from which you can select.



The image shows a rectangular button with the text 'Select Employees' centered on it.

Please note that this only filters the grid, and does not affect the selections in the grid itself.

Filter Action



The image shows a rectangular button with the text 'Filter' centered on it.

Once you've made your filter selections, you may click Filter to apply the selection.

Global Grid Selection Controls

In the event that one or more employees clocked on the incorrect set of categories, you may change those categories from the Job Costing screen. This will modify the clock records to have the correct category values. As a result, each job in the grid is selectable.

You may use the Select All and Deselect All functions to globally select or deselect jobs in the grid.



Change Categories

Once you've selected the applicable jobs you want to change, use the Change Categories function.



It will present you with a screen asking for the new category values:



Here you may choose whether you want to change only one or both of the values. Leaving a value blank means not making a change to the existing value.

Job Costing Grid

The grid will resemble the following when there are valid jobs for the current filter criteria:

No	Date	Employee	Coin Group	Block	Activity	Start Time	End Time	Total Time	Total Cost	Time Type
2	2020-06-16	Zolisile Badi	02 - Seasonal Winter 8	01 - GM 1	01 - Picking	07:45:00	13:00:00	05:15:00	99.75	Piecework
2	2020-06-16	Zolisile Badi	02 - Seasonal Winter 8	02 - GM 2	02 - Pruning	13:30:00	14:20:07	00:50:07	15.87	Piecework
2	2020-06-16	Zolisile Badi	02 - Seasonal Winter 8	03 - GM 3	01 - Picking	14:20:07	17:00:00	02:39:53	50.63	Piecework
								08:45:00	166.25	

You'll notice the employee number, the date, employee name, coin group, piecework categories, times, totals, cost estimates and types. [Some columns omitted for brevity]

After all the jobs for each employee, a yellow line is added to indicate the totals for that employee for the filtered criteria (date and categories).

You may double-click on a line in the grid to select it, or use the Select All or Deselect All functions to globally toggle the selections. When a line is selected, it will have a "+" symbol at the start of the row:

No	Date	Empl
+ 2	2020-06-16	Zolisi
+ 2	2020-06-16	Zolisi
+ 2	2020-06-16	Zolisi

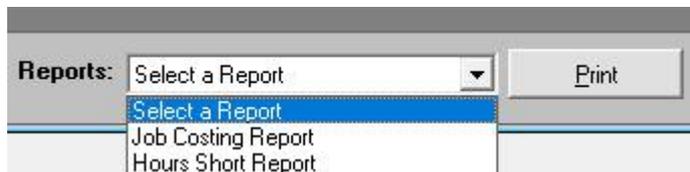
Overtime Selection

Note that when the last part of the day is overtime, selecting the job preceding the overtime job will automatically include all following overtime jobs in the selection as well. This is done because the overtime jobs are typically determined artificially (i.e. the employees usually don't physically clock to start working overtime), and usually match the preceding job's Piecework Categories. When editing the preceding job, the overtime parts should also be edited.

Should the overtime part of the day actually be allocated towards another set of Piecework Categories, you may select the overtime parts individually and modify their Piecework Categories without affecting the preceding job.

Reports

At the bottom-left of the screen you'll find the reports selection. Please see the [reports section](#) of the manual for more information.



Grand Totals

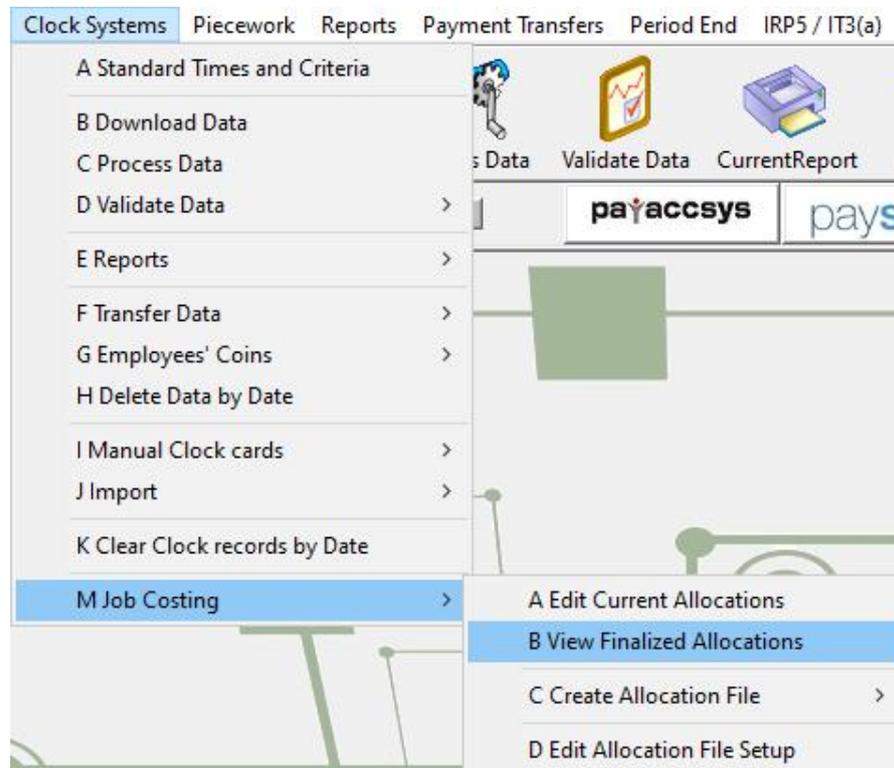
At the bottom right of the screen, the totals for all the currently-filtered jobs are displayed.

Total Pw Units	Total Time	Total Cost
3.00	08:45:00	166.25

These values indicate the total Piecework Units, Total Time and Total Cost for the selected filter range (date and categories).

Viewing Job Costing For Previous Pay Periods

It is possible to view the Job Costing calculations done in a previous pay period, or for dates that are already transferred. Go to **Clock Systems** → **M Job Costing** → **A View Finalized Allocations**



You'll be presented with a dialog asking the date and coin group filters:

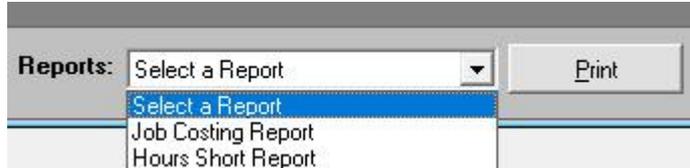


After you make your selection, you'll be taken to the same Job Costing screen as you would normally have used while calculating the current allocations. The difference here is that you may not modify anything for records already transferred and finalized.

See [The Job Costing Screen](#) section for more details on what you'll see.

Reporting

Currently there are two available reports from the Job Costing screen: the Job Costing list Report, and the Hours Short Report.



Job Costing Report

The Job Costing Report is a printed version of the grid you see on the Job Costing screen. Whatever is currently displayed in the grid, will be printed in the report. To change what the report prints, you have to change the filters for the Job Costing grid.

Job Costing from 2020-06-16 to 2020-06-16										
#	Date	Employee	Block	Activity	Coin Group	Start	End	Tot Time	Tot Cost	Units
2	2020-06-16	Zolisile Badi	01 - GM 1	01 - Picking	02 - Seasonal Winter 8	07:45:00	13:00:00	05:15:00	99.75	1.00
2	2020-06-16	Zolisile Badi	02 - GM 2	02 - Pruning	02 - Seasonal Winter 8	13:30:00	14:20:07	00:50:07	15.87	1.00
2	2020-06-16	Zolisile Badi	03 - GM 3	01 - Picking	02 - Seasonal Winter 8	14:20:07	17:00:00	02:39:53	50.63	1.00
								08:45:00	166.25	3.00

Hours Short Report

This report calculates any hours short for the selected filter criteria.

Hours short from 2020-06-16 to 2020-06-16								
#	Employee	Coin Group	Date	Day Length	Hours Worked	Hours Allocated	Hours Not Allocated	Hours Worked Short
2	Zolisile Badi	02 - Seasonal Winter 8	2020-06-16	08:45:00	08:45:00	08:45:00	00:00:00	00:00:00
					08:45:00	08:45:00	00:00:00	00:00:00

There are various time-related columns, each of which represent important information:

Day Length: The length of the day, as specified by the Standard Times & Criteria, for the Coin Group the employee was in at the time of work.

Hours Worked: The total hours worked across all filtered jobs.

Hours Allocated: The total hours worked where the Piecework Category values were set correctly, and the system knows what type of work the employee performed. These hours will be correctly allocated when exporting to Farm Management Africa.

Hours Not Allocated: The total hours worked where the Piecework Category values for the jobs were not set correctly. The system does not know what work the employee performed for this portion of the day. This will show up as unallocated hours and wages when exporting to Farm Management Africa.

Hours Worked Short: The difference between the day length and the Total Hours Worked column.

Export Costing For The Active Pay Period

Once you've transferred your clocking data to the pay screen as you normally would, you then have two options of exporting the costing information to Farm Management Africa: wait until period end where Payroll Africa will automatically export the information as required, or use the Clock Systems menu to manually export the information before period end.

NB: NB: All Active employees are processed when exporting Job Costing data, and not only employees that have clocking data on the Validate Data graph. This means that it is possible to have hours and wages exported for employees with information on their Pay Input screen, where there may not be allocation data from your clocking systems for these employees. This will result in unallocated hours and wages in the Farm Management Africa system. You will have to manually allocate those values in the Farm Management Africa system.

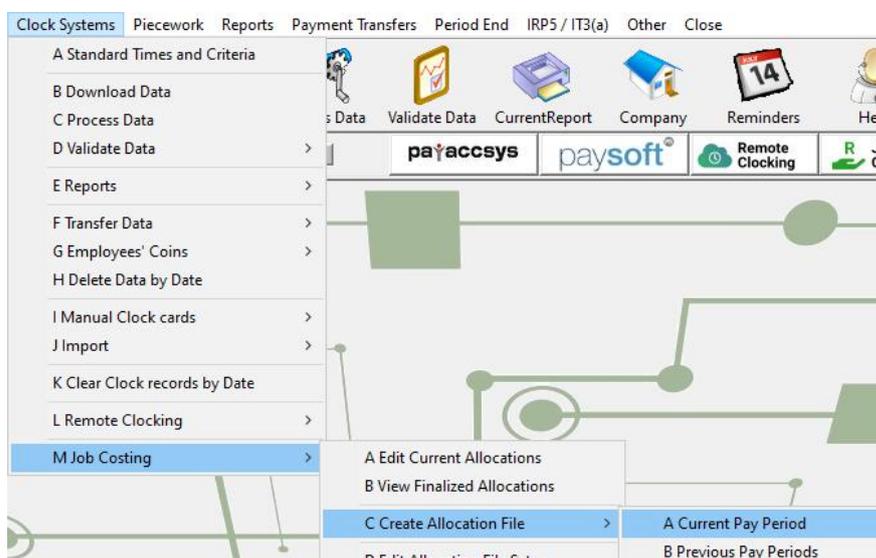
During Period End

When closing off your pay period, one of the steps will automatically export the costing information to Farm Management Africa. A progress dialog will be shown during period end to indicate the export progress.

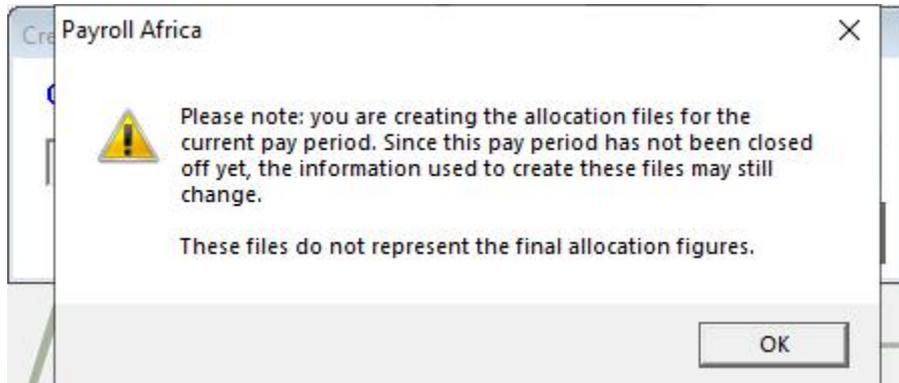


Using the Clock System menu

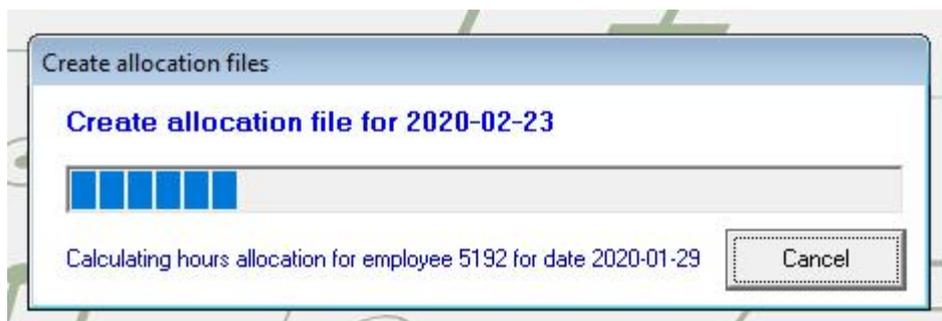
In the event that you want to export the costing information before period end, you may do so by going to **Clock Systems** → **M Job Costing** → **C Create Allocation File** → **A Current Pay Period**:



Using this option will automatically bring up a disclaimer explaining that you are exporting information that may still be changed before the period end process exports the information again:



Clicking OK will allow you to continue the export process. The same dialog that is shown during the period end calculation of costing information will be shown here:



Leave Hours and Custom Time Types

In addition to regular hours worked, the following Time Types on the Validate Data graph will also be exported as Normal Time to Farm Management Africa:

- Leave
- Sick Leave
- Compassionate Leave
- User-customizable time types (1-5)

This means that the Normal Hours value in Farm Management Africa will be equal to the sum of all the above-mentioned hour types (transferred from the Validate Data graph) plus the actual normal hours total.

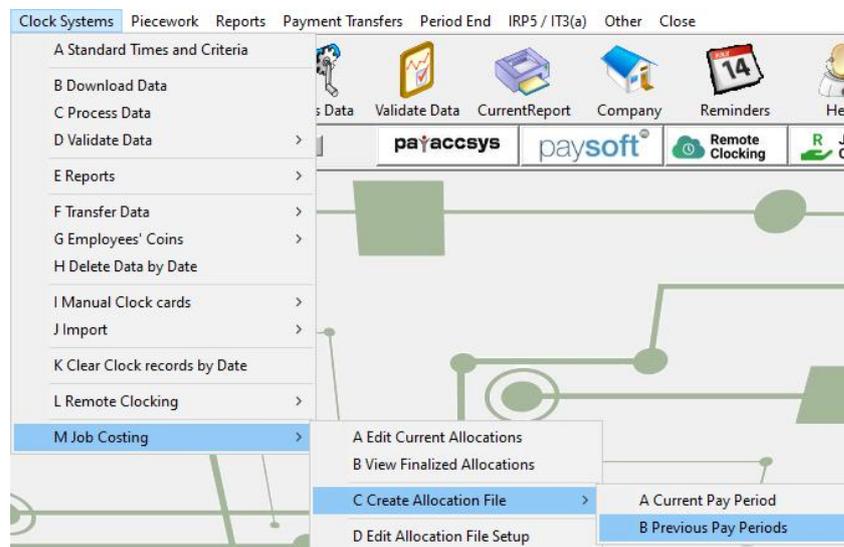
$\text{NormalHours} = \text{ActualNormalHours} + \text{Leave} + \text{SickLeave} + \text{CompLeave} + \text{Type1} \dots \text{Type5}$

Export Costing For Previous Pay Periods

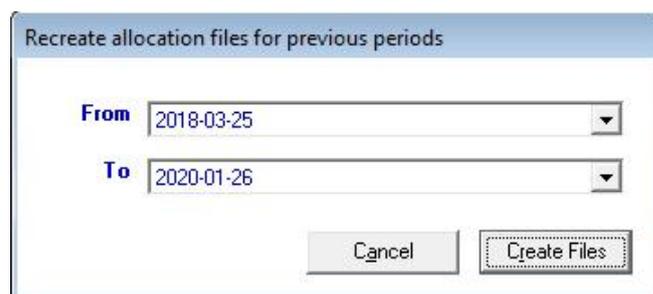
When starting to use the Job Costing system for the first time, it may be necessary to create back-dated export files for the pay periods where Job Costing was not activated on your system. This is one of the reasons why you may re-export Job Costing information for previous pay periods.

NB: Allocation Files can only be recreated for pay periods where the Job Costing module was active. If you are starting with Job Costing in this pay period, you will only be able to recreate Allocation Files from this pay period going forward.

To do this, go to **Clock Systems** → **M Job Costing** → **C Create Allocation File** → **B Previous Pay Period**:



A dialog asking the period range to export will be shown:



Clicking **Create Files** will start the re-creation process. A progress dialog will be shown to indicate the progress for each pay period in the selected range:

