



GE VERNOVA

DIGITAL

# PROFICY PLANT APPLICATIONS

Excel Add-In 64 Bit User Guide

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# Chapter 1. Overview

## Using the Plant Applications Add-in

The Plant Applications Excel Add-In is the dynamic link used to retrieve Plant Applications information directly into Microsoft Excel worksheets. It is specifically a Microsoft Excel based client application tool that can be used by any user.

The Plant Applications Excel Add-In 64 bit Add-In provides the ability to draw data directly from the Proficy Plant Applications databases into an Excel spreadsheet. Using this tool, you can create ad hoc reports that help you retrieve and analyze data stored in Plant Applications or in your Historian.

See

- [Common Functionality \(on page 11\)](#)
- [Event Summaries \(on page 101\)](#)
- [Finding Attributes \(on page 86\)](#)
- [Plant Applications Site Parameters \(on page 73\)](#)
- [Run Summary \(on page 92\)](#)
- [Searches \(on page 75\)](#)
- [Targets and Limits \(on page 90\)](#)
- [Variable \(Test\) Data \(on page 122\)](#)

# Chapter 2. Four Types of Information

## Four Types of Information

Using the Plant Applications Add-In for Excel, you can gain access to four types of data:

- [Run Summary \(on page 92\)](#)
- [Captured \(on page 10\)](#)
- [Test \(on page 10\)](#)
- [Specifications \(on page 10\)](#)

### Run Summary

Run Summary information, created by Plant Applications, summarizes key process and quality information over a product or product run. Run average values, along with key control and variation statistics, are available for each run and manufacturing variable.

### Captured Data

Through the Plant Applications Operator Display, you can create a captured data set, which is a snapshot of current operating conditions for future reference. Using the Plant Applications Add-In, you can import this snapshot information into your worksheet.

For more information on using Operator Displays, see "operator display" in the *Plant Applications Administrator's Online Help*.

### Test Data

Stored in the Plant Applications database, test data are discreet data elements that represent time- and event-based summarized process data and manually entered data. This test data typically originates from the control system or process data historian.

### Specification

Specifications are operating or quality targets and limits applied to manufacturing variables in the plant. Specifications are maintained historically in order to compare historical conditions to the specification employed at a specific time.

# Chapter 3. Common Functionality

## Common Functionality

Within the Plant Applications Add-in there are certain actions that are common to many of the dialog boxes. These include selecting cells on your worksheet for input and selecting cells on your worksheet for output.

See

- [Output Orientation \(on page 17\)](#)
- [Select Cells for Input \(on page 14\)](#)
- [Select Cells for Output \(on page 15\)](#)
- [Select Start and End Times \(on page 16\)](#)

## Security

Anyone can install and run the Excel Add-in because these tasks are completed from within Excel. However, any tasks that touch Plant Applications, such as searching for variables, will be affected by the security configurations in Plant Applications.

To use the functions within the Excel Add-in, you must be added as a UAA user and also added as a site user in the Plant Applications Administrator. For more information, see [Adding Site Users \(on page 11\)](#).

If [security groups \(on page 14\)](#) are configured for variables, products, specifications, and properties, only members of the security group (or the administrator) may see variables (or products, specifications, properties) in the search dialog box. Because these variables (or products, specifications, properties) are hidden from non-members, they cannot create reports for these directly. However, once reports are created, by others who have access to these variables, any user may run the reports. However, once reports are created, any user may run the reports.

If no security has been configured for variables, products, specifications, and properties, then all the functions and features in the Excel Add-in are available to any Plant Applications site user.

See [Security Management Overview \(on page 14\)](#)

## Adding Site Users

### About this task

In order to grant access to Plant Applications, you must create a site user. Site users can be added in the following ways:

- Manually adding users.
- Importing current operating system users.
- Importing existing Plant Applications users.

### Procedure

1. Manually add site users.
2. Import system users.
3. Import Plant Applications users.

## Manually Add Site Users

### Procedure

1. Expand **Security Management**.
2. Right-click **Site Users**, and then click **Add New User**.  
An editable field displays under the `Site Users` folder.
3. Type the name of the site user, and press Enter.  
User names can be a maximum of 30 characters. You can use any combination of special characters, such as & or #, number, and letter.
4. Right-click on the site user and click **Edit <user name> Properties**.  
The **Edit User** dialog box appears.
5. Edit one or more of the following:
  - **Short description**: Enter a brief description to help you identify the site user, particularly if your company uses ID numbers for the site user's name.
  - **Password**: Add or change the site's user password. If you leave the password field blank, then anyone who knows site user's name can access Plant Applications. Passwords can be a maximum of 30 characters. You can use any combination of special characters, such as & or #, number, and letter.
  - **Windows Info**: Allows you to copy the site user's Windows user account information. If you do, the site user will have to use their name, network name, and password to log into Plant Applications, unless the **Mixed Mode** option is selected. If the **UseProficiencyClient** site parameter is set to "**True**" you must use fully qualified domain name (FQDN).
  - **Default View**: Allows you to define a default view for a site user. When the user logs into the Plant Applications Client program, the default view appears automatically.
  - **Active**: Allows the site user to log in to any of the Plant Applications programs.

- **Role-Based:** Adds the site user to a role before being made part of security group.
  - **Mixed Mode:** Allows the site user to log into Plant Applications using either their Plant Applications user name and password or their Windows network user name and password, if it has been copied using the **Windows Info** field.
6. Click **Close**.

## Import Plant Applications Site Users

### Procedure

1. Open the Excel workbook that contains the exported site user information.
2. In the workbook, under the **Selected** column, type an x in the cell corresponds to the site users you want to import.
3. In the Plant Applications Administrator program, expand **Security Management**.
4. Right-click **Site Users**, and click **Import Configuration (From Excel)**.
5. To complete the import, click **OK**.
6. Refresh the server to see the imported site users.

## Import Operating System Users

### Procedure

1. Expand **Security Management**.
2. Right-click **Site Users**, and then click **Import Operating System Users**.  
The **Import Windows Users** dialog appears.
3. Do the following:
  - a. Under **Available Domains**, select the required network domain.
  - b. Under **Available Windows Users**, select one or more of the network domain users to import as Plant Applications site users.
  - c. Under **Copy Security from User**, select the Plant Applications user whose security group membership and access level you want to copy.
  - d. Click **OK**.

The selected domain users are now added as Plant Applications site users.



#### Note:

When you use this method to add a site user to Plant Applications, the site user is automatically given a randomly generated password which cannot be viewed without accessing the SQL table. It is important to edit the site users information and change the password to something that you know and can remember.

## Security Management Overview

Security Management enables you to control access to Plant Applications and to control to your Plant Applications display data. Additionally, Security Management is where you assign access rights to the members of a security group. Once your security groups are created, you can then assign one of the security groups to variables, specifications, production units, production lines, and displays.



**Note:**

In order to configure security in Plant Applications, you must have Administrator access in the **Administrator security** group.

Before anyone can log in and use the Plant Applications Administrator, they must be added as a site user and be made a member of the Administrator security group. For more information, see the *Proficy Plant Applications Add-in Help*.



**Note:**

If you do not assign a security group to an entity in Plant Applications, any Plant Applications user has the equivalent of Manager access to that entity.

## Administrator Security Group

Access to the Plant Applications Administrator is controlled by the **Administrator** security group. Plant Applications users need atleast **Read** access to the Administrator security group to access the Plant Applications Administrator. The Administrator security group is created by default when you first install the Plant Applications client applications. This special security group cannot be deleted.



**Note:**

Even though you can assign the Administrator security group to Plant Applications entities (such as variables and displays), we recommend that you use the Administrator group only to control access to the Plant Applications Administrator program. This way, you can more easily control and monitor who has access to the Administrator program.

## Select Cells for Input

To select cells in your worksheet for input into a dialog box, you can select the cell(s) on your worksheet and click in the **Input** box in the dialog box. Depending on your monitor size and resolution, it might be difficult to see the cells you need to select. When you select a cell as input and click in the **Input** field,

change the contents of the cell, Excel will automatically update the formula that references the selected cell. This works great for quickly changing start and end times. **For example:**

### Procedure

1. Open any **Plant Applications Add-in** dialog box. This example uses the **Plant Applications Variable Limits** dialog box.
2. Under **Variable(s)**, click in the empty box.
3. Select the cell or cells on your worksheet and click in the **Variable(s)** box.  
The cell reference is automatically filled in the **Variable(s)** box.

## Select Cells for Output

After you have found, filtered and selected the information you want to include on your worksheet, you will need to tell the Plant Applications Add-in where on your worksheet you want to put the information. You will need to select either a single cell (Output Cell) or a range of cells (Output Range). The dialog box will prompt you to let you know which you need to select.



### Note:

If output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

Figure 1. Output Cell

Figure 2. Output Range

An important thing to realize, though, is that if you are selecting a range of cells, your input will be limited by the range of cells you select on your worksheet. For example, if you have selected 20 items in a dialog box, you need to make sure you select at least 20 cells in your output range. If you select less than 20 cells, then Plant Applications will output only the number of items that will fit in the specified range.

The methods for selecting cells for output are identical to the methods for selecting cells for input. You can select the cell that contains data on your worksheet and click in the appropriate input field of **Input** dialog box. For more information, see [Select Cells for Input \(on page 14\)](#).

## Select Start and End Times

There are several tasks in the Add-in that require at least a start date, with most requiring both start and end dates. More often than not, it is better to include a time, along with a date. This allows you to focus in on a very specific time frame.



### Note:

By default, if you enter only a date, the time is assumed to be midnight of that day (for example, 12:00:00 AM).

There are three ways to provide start and end dates and times:

- You can use the **Date Selector** option or **Calendar** (📅) icon to select a specific date.
- You can manually type the date and time with the format specified (dd-mm-yyyy hh:mm:ss).
- You can select cells on your worksheet that contain the start and end dates and times. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).

## Output Orientation

Depending on your search criteria, you are sometimes offered the choice of outputting your data in either columns or rows. If you select the **Columns** option, the data is listed in a single column. If you select the **Rows** option, the data is listed in a single row.

Variable ID	Variable Description
309	Alarm Variable
445	Alias
446	Base Variable
136	C1 Push Brake Loss
140	C1 Push Dimension X
141	C1 Push Dimension Y

Variable ID	Variable Description
309	Alarm Variable
445	Alias
446	Base Variable
136	C1 Push Brake Loss
140	C1 Push Dimension X
141	C1 Push Dimension Y

## Automatically Fit Text to Cells

### Procedure

To access this dialog box, in Excel, from the **Plant Applications** menu, select **My settings from User profile**.

There are two options that control how text is formatted in a cell. One option controls headers and the other option controls data. You can select one or both of these options.



#### Note:

These options control only the text that is input from Plant Applications and do not affect text that is manually typed or pasted into a cell.

- **Adjust header column width:** Select this option to automatically size the columns to fit the header text.
- **Adjust data column width:** Select this option to automatically size the columns to fit the data.

## Set your Add-in Options

### Procedure

1. From the **Plant Applications** menu, select **My settings from User profile**.
2. In the **Plant Applications Add-In Options** dialog box, make the required changes.
3. Do one of the following:

- To permanently save your changes, click **Save** and then click **Cancel** to close the dialog box.
- To restore all the default settings, click **Default** and then click **Cancel** to close the dialog box.

## Change the User Interface Language

### Procedure

1. In Excel, from the **Plant Applications** menu, select **My settings from User profile**.

You can change the language that is used for menu options and dialog box text.

2. To change the user interface language, under **Language**, click the drop-down list, and select a language.

## Connect to a Server

### Procedure

1. In Excel, from the **Plant Applications** menu, select **My settings from User profile**.

The **Plant Applications Add-In Options** dialog box displays the current server, the name of the current user, and the status of the server connection. If you click **Edit**, you can connect to a different server, add a new server, or delete a server.



#### Note:

If your server information displays "Unknown," that typically means that you have not performed any tasks in the Add-In. To verify that you are connected, click **Edit** to view server information.

2. In the **Connect Server** dialog box, select **Add**.

## Add a server

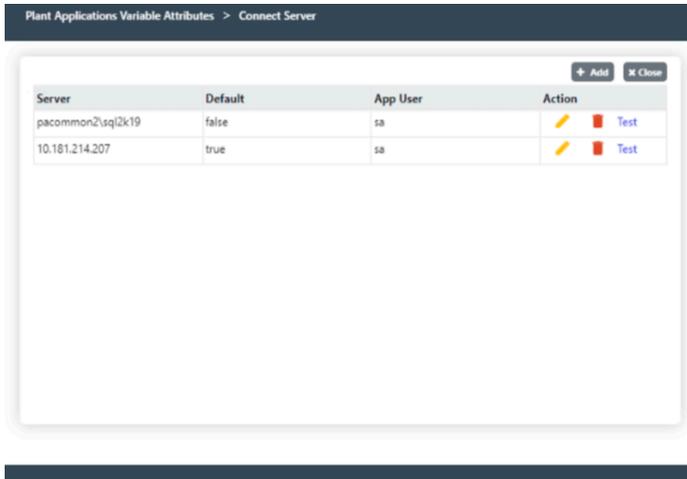
### Before you begin

Plant Applications Server should be with 2022GA SIM3 or later SIM versions.

### Procedure

1. From the **Plant Applications Add-In Options** dialog box, click **Edit**.

The **Connect Server** dialog box appears.



Using the **Connect Server** dialog box, you can:

- Connect to or disconnect from an existing Proficy Server.
  - Add, test, and delete a Proficy Server.
  - Edit an existing Proficy Server.
2. Select **Add**.  
The **Server** dialog box appears.
  3. Do the following:
    - a. In the Database **Server Name** box, type the name of the Proficy Server.
    - b. In the Database **User Name** box, type the user name.
    - c. In the Database **Password** box, type the user password.
    - d. In the **Plant Applications Database Name** box, type the Database name.
    - e. In the **Plant Applications User Name** box, type the Plant Applications user name.
    - f. In the **Plant Applications User Password** box, type the Plant Applications user password.
    - g. In the **Proficy Authentication Server Name** field, type the name of the Authentication Server Name.
    - h. In the **Proficy Authentication Port Number** field, type the name of the Authentication Port Number.
    - i. In the **Client Id** field, type the name of the client id.
    - j. In the **Client Secret** field, type the client password.

Plant Applications AddIn Options > Connect Server > Server

Database Server Name\*  
pacommon2\sql2k19

Database User Name\*  
sa

Database Password\*  
[Empty]

Plant Applications Database Name\*  
SOADB

Plant Applications User Name\*  
comcient

Plant Applications User Password\*  
\*\*\*\*

Proficy Authentication Server Name\*  
pacommon2

Proficy Authentication Port Number  
443

Client Id\*  
pacommon2\_paexcel

Client Secret\*  
\*\*\*\*\*

Set as Default Server

Ok Cancel

4. Click **Set as Default Server** to make this the default server or to automatically connect to the server when Excel is started.
5. Click **OK**.

## Display Headers

### Procedure

1. In Excel, from the **Plant Applications** menu, select **My settings from User profile**.
2. Do one of the following:
  - **Show header label**: Select this option to include row or column headers on your worksheet.
  - **Hide header label**: Select this option if you do not want to include row or column headers on your worksheet.

## Format Column and Row Headers

### Procedure

1. In Excel, from the **Plant Applications** menu, select **My settings from User profile**.

You can decide whether to display headers and the color of the headers.

2. Do one of the following:

To display headers:

- **Show header label** : Select this option to include row or column headers on your worksheet.
- **Hide header label**: Select this option if you do not want to include row or column headers on your worksheet.

To specify header color:

- Under **Color**, click the drop-down list and select a color.
- To display the header text in bold, select the **Bold** option.

## Handle "Blank" Values

### Procedure

1. In Excel, from the **Plant Applications** menu, select **My settings from User profile**.  
You can specify whether you want blank values to display as empty cells or to display the word "None."
2. Do one of the following:
  - **No. leave blank**: Select this option to display blank values as empty cells.
  - **Yes. Substitute None**: Select this option to display "None" for blank values.

## Two Ways to Recalculate

There are basically two conditions that will cause Excel to automatically re-execute a query:

- Opening a workbook that contains Plant Applications functions.
- Changing the information in a dependent cell.

For example, many functions rely on start and end dates that you enter as criteria. If you change either the start date or the end date within the worksheet, Excel re-executes the query and recalculates the data based on the new date(s).

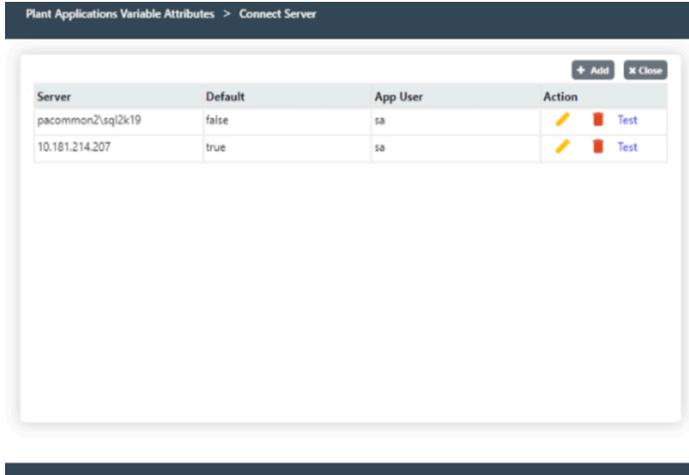
## Connect Server

### About this task

To open the **Connect Server** dialog box, in Excel, from the **Plant Applications** menu, select **My settings from User profile**, and then click the **Edit** option.

The **Connect Server** dialog box is where you can:

- Connect to or disconnect from an existing Proficy Server.
- Add, test, and delete a Proficy Server.
- Edit an existing Proficy Server.



## Production Event Search for Multiple Variables

In order to find time stamps for multiple variables, you must first retrieve all the time stamps for all production events within the selected time frame. This will give you a list of every time stamp for every production event that occurred during the selected time frame.

### Procedure

1. In Excel, click the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Search Production Events**.

The **Plant Applications Event Search** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line, then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter a start and end time. For more information on entering start and end dates, see [Selecting Start and End Times](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet and click in the **Product Code** or **Product ID** box.

**Note:**

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see ProdCodelsNum Site Parameter.
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.

6. Under **Filter By**, do one of the following:

- Under **Plant Order Number**, enter the plant order number.
- Under **Customer Code**, enter the customer code.
- Under **Shipment Number**, enter the shipment number
- Under **Primary Event Number**, enter the primary event number.

**Note:**

Keep in mind that the results you get might not be the expected results simply because of the filters you have chosen. If you are not sure of your results, it's best to use fewer filters.

7. **Optional:** Under **Crew Schedule Filter**, do one of the following:

- Under **Crew Description**, click the drop-down list to select a crew.
- Under **Shift Description**, click the drop-down list to select a shift.

**Note:**

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the Display list.

8. **Optional:** Under **Event Status Filter**, do one of the following:

- If you do not want to filter on event status (for example, Consumed, In Progress, Hold, and so on), select the **Do Not Filter By Event Status** option.
- If you want to filter on event status, select the **Filter By Specific Event Status In List Below** option. Then, in the **Status To Exclude** list, select one or more of the event statuses you want to include, then click **Move Selected** to move the event statuses to the **Status To Include** list.

9. Under **Display**, select **Time Stamp**. This retrieves the time stamps for all the production events within the selected time frame.

10. Under **Output Range**, first select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell range reference you selected to

import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).

11. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
12. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Dynamic Queries

The functions within the Plant Applications Add-In are *dynamic* queries that are the foundation for creating dynamic reports that can be updated by simply changing the information in a single cell.

# Chapter 4. How To Search, Retrieve, or Calculate Data

## Build a Product Search

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Build Product Search**.  
The **Plant Applications Product Search Selector** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Search Type**, click the drop-down list and do one of the following:
  - Select **Product** to search for product codes. You can retrieve all products or all products within a specific group.
  - Select **Product Group** to retrieve product groups. You can then use one of these groups as input for filtering.
  - Select **Property/Characteristic** to retrieve a specific property and all associated characteristics.
  - Select **Product Group and Prop/Char** to retrieve product groups, properties and characteristics.



#### Note:

Using the **Product Group and Prop/Char** results as a filter will return results that match either the product group or the property and characteristic. In other words, it uses OR logic and not AND logic.

4. Select the output cell on your worksheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).



#### Note:

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.



#### Note:

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

5. Select either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
6. Click **OK**.

## Calculate Run Data for Variables

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Variables**, then select **Run Data Calculations**.

The **Plant Applications Run Data Calculation** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable(s)**, select the Variable IDs on your worksheet. For more information on selecting cells, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, enter the start date and time. If required, enter an end date and time. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter**, select a Product Code or Product ID on your worksheet and click in the **Product Code** or **Product ID box**.



**Note:**

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select only one run statistic.
7. Under **Statistic Calculation**, select one or more calculations to perform.
8. Under **Output Cell**, first select the cell where you want to input your run statistics and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
9. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one Variable ID, these options are not available.

10. Click **OK**.

## Calculate Run Summary Statistics

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, then select **Run Summary Calculations**.

The **Plant Applications Run Summary Calculations** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet and click in the **Product Code** or **Product ID** box.



#### Note:

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select only one of the statistics.
7. Under **Statistics Calculation**, select one or more of the calculations you want to perform.
8. Under **Output Cell**, first select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
9. Under **Output Orientation**, click **Columns** to list the statistics in multiple columns or click the **Rows** option to list the statistics in multiple rows. For more information, see [Output Orientation \(on page 17\)](#).
10. Click **OK**.

## Find Characteristic Attributes

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, then select **Characteristic**. The **Plant Applications Characteristic Attributes** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Characteristic(s)**, select the Characteristic IDs on your worksheet for which you want to find the attributes and click in the **Characteristic(s)** box.
4. Under **Attribute(s)**, select one or more of the attributes you want to include on your worksheet.
5. Under **Output Cell**, first select the cell on your worksheet where you want to import your characteristic attributes and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
6. If you selected only one Characteristic ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one Characteristic ID, these options are not available.

7. Click **OK**.

## Find Product Attributes and ProdCodelsNum Is Set to 0 (Zero) (False)

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Products**. The **Plant Applications Product Attributes** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or if you need to connect to the selected server, click **Browse** (  ).
3. Under **Product Code(s)**, select the Product ID or Product Code of the products for which you want to find attributes from your worksheet and click in the **Product Code(s)** box.



**Note:**

You can select products by Product ID or by Product Code. You cannot use Product Descriptions.

4. Under **Attribute(s)**, select one or more of the available attributes.
5. Under **Output Cell**, first select the cell on your worksheet where you want to begin your output and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

6. If you selected only one Product ID or Product Code, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Product ID or Product Code, these options are not available.

7. Click **OK**.

## Find Product Event Attributes and EventNumIsNumber Is Set To 0 (Zero)(False)

### Procedure

1. Do one of the following:
  - From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, then select **Production Event**.
  - From the **Plant Applications Excel Add-In** main menu, select **Event Summary**, then select **Production Event Attributes**.

The **Plant Applications Product Info** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Event Number(s)**, select either the Primary Event Numbers or Event IDs on your worksheet, and click in the **Event Number(s)** box.
5. Under **Display**, select one or more of the attributes that you want to include on your worksheet.

**Note:**

Excel limits you to selecting a maximum of 29 attributes at one time.

6. Under **Output Cell**, first select the output cell on your worksheet, and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
7. If you selected only one Primary Event Number or Event ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Primary Event Number or Event ID, these options are not available.

8. Click **OK**.

## Find Product Event Attributes and EventNumIsNumber Is Set to 1(True)

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, then select **Production Event**.

The **Plant Applications Product Info** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Event Numbers(s)**, select the Primary Event Numbers on your worksheet, and click in the **Event Number(s)** box.
  - To use your Event IDs, select the Force ID option. Then, under Event IDs, select the Primary Event IDs on your worksheet, and click in the in the Event ID(s) box.
5. Under **Display**, select one or more of the attributes that you want to include on your worksheet.

**Note:**

Excel limits you to selecting a maximum of 29 attributes at one time.

6. Under **Output Cell**, first select the output cell on your worksheet, and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
7. If you selected only one Primary Event Number or Event ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Primary Event Number or Event ID, these options are not available.

8. Click **OK**.

## Find Property Attributes

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, then select **Property**.  
The **Plant Applications Property Attribute** dialog box appears.
2. Under **Server**, drop-down list to select a different server. If you need to add a new server or connect to a different server, click the **Browse** (  ).
3. Under **Properties**, select the Property IDs on your worksheet and click in the **Properties** box.

**Note:**

You can not select Property Descriptions.

4. Under **Attributes**, select one or more property attributes.
5. Under **Output Cell**, first select the cell on your worksheet where you want to import your property attributes and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
6. If you selected only one Property ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Property ID, these options are not available.

7. Click **OK**.

## Find Specification Attributes

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, then select **Specification**.  
The Plant Applications Specification Attributes dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Specification(s)**, select the Specification IDs on your worksheet for which you want to find the attributes and click in the **Specification(s)** box.
4. Under **Attribute(s)**, select one or more of the attributes you want to include on your worksheet.
5. Under **Output Cell**, first select the cell on your worksheet where you want to import your specification attributes and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
6. If you selected only one Specification ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Specification ID, these options are not available.

7. Click **OK**.

## Find Specification Level limits

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Limits**, then select **Specification Level**.  
The **Plant Applications Variable Limits** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Specification(s)**, select the Specification IDs on your worksheet, and click in the **Specification(s)** box.

**Note:**

You can select multiple specification IDs.

4. To see what the specification values were on a specific date, do one of the following:
  - Under **Time [Opt]**, select the cell on your worksheet that contains the date time and click in the **Time [Opt]** box.
  - Click **View Calendar** () and select the required date.
  - Type the time stamp with the format specified (dd-mm-yyyy hh:mm:ss).

5. Under **Characteristics**, select the Characteristic ID or Description on your worksheet and click in the **Characteristics** box.

**Note:**

You can select only one Characteristic ID or Description.

6. Under **Specifications**, select one or more of the following specifications.

- Target
- Lower Warning Limit
- Upper Warning Limit
- Lower Reject Limit
- Upper Reject Limit
- Lower Entry Limit
- Upper Entry Limit
- Upper Control Limit
- Target Control Limit
- Lower Control Limit
- Effective Date
- Expiration Date
- Lower User Limit
- Upper User Limit
- Test Frequency
- Comment
- Transaction Comment

7. Under **Output Cell**, first select the cell on your worksheet where you want to import your specifications and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
8. If you selected only one Specification ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Specification ID, these options are not available.

9. Click **OK**.

## Find the Parent or Child of a Production Event

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Production Event Genealogy**.

The **Plant Applications Event Genealogy** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Event Number**, enter the event number. You can either type the Primary Event Number or Event ID, or you can select the Primary Event Number or Event ID from your worksheet and click in the **Event Number** or **Event ID** box. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).



### Note:

Whether you are required to select Primary Event Number or Event ID is determined by the site parameter, EventNumIsNumber. For more information, see [EventNumIsNumber Site Parameter \(on page 73\)](#).

5. Under **Relationship Sought**, select either **Parent** or **Child**.
6. Under **Display**, select one or more of the attributes you want to include on your worksheet.
7. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Cell** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of relationships is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
8. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



### Note:

If you select more than one output cell, these options are not available.

9. Click **OK**.

## Find Variable Attributes

**Procedure**

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Variables**.  
The **Plant Applications Variable Attributes** dialog box appears.
2. Under **Variable(s)**, select the variables for which you want to find attributes and click in the **Variable(s)** box.

**Note:**

You can use either Variable IDs or Variable Descriptions.

3. Under **Attribute(s)**, select the attributes you want to include on your worksheet.
4. Under **Output Cell** first select the output cell on your worksheet and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
5. If you selected only one variable, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
6. Click **OK**.

## Find Variable Level Limits

**Procedure**

1. From the **Plant Applications Excel Add-In Main** menu, select **Limits**, then select **Variable Level**.  
The **Plant Applications Variable Limits** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Variables**, select the variables on your worksheet, and click in the **Variables(s)** box.

**Note:**

You can select multiple variables.

4. To see what the specification values were on a specific date, do one of the following:
  - Under **Time [Opt]**, select the cell on your worksheet that contains the date time and click in the **Time [Opt]** box.
  - Click **View Calendar** (  ) and select the required date.
  - Type the time stamp with the format specified (dd-mm-yyyy hh:mm:ss).
5. Under **Product Code**, select the Product Code or Product ID on your worksheet and click in the **Product Code** or **Product ID** box.



**Note:**

You can select only one Product Code or Product ID.

6. Under **Specifications**, select one or more of the following specifications.

- Target
- Lower Warning Limit
- Upper Warning Limit
- Lower Reject Limit
- Upper Reject Limit
- Lower Entry Limit
- Upper Entry Limit
- Upper Control Limit
- Target Control Limit
- Lower Control Limit
- Effective Date
- Expiration Date
- Lower User Limit
- Upper User Limit
- Test Frequency
- Comment
- Transaction Comment

7. Under **Output Cell**, first select the cell on your worksheet where you want to import your specifications and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

8. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one Variable ID, these options are not available.

9. Click **OK**.

## Import Just the Variable Tags

### Procedure

1. After you have entered your search criteria in the **Tag Mask** field, click **Search**.
2. Under **Search Display**, click the **Tag Names** option to display the actual tag names or click the **Tag Descriptions** option to display the short tag description.
3. In the **Found** box, do one of the following:
  - If you want to import all of the found variable tags, click **Move All**.
  - Select the tags that you want to import and click **Move Selected**.
4. Under **Output Display**, do one or more of the following:
  - Select the **Tag Descriptions** option to include the short tag description on your worksheet.
  - Select the **Engineering Units** option to include the engineering units on your worksheet.
5. Under **Output Cell**, first select an output cell on your worksheet and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
7. Click **OK**.

## Import the Variable Tags and the Excel Function

### About this task

By default, you can include the Excel function when you export your tags into your worksheet. By manipulating the Excel function, you can import different tags without re-opening the **Plant Applications Variable Tag Search** dialog box.

### Procedure

1. After finding and filtering the tags that you want to import into your worksheet, under **Output Display**, do one or more of the following:
  - Select the **Tag Descriptions** option to include the short tag description on your worksheet.
  - Select the **Engineering Units** option to include the engineering units on your worksheet.
2. Under **Output Range**, first select the range of cells on your worksheet where you want to import the variable tags and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).



#### Note:

When you select a range of cells, you must select as many cells as the number of tags you want. If you have selected five tags, but only select four cells, then only the first four of the five selected tags will be imported into your worksheet.

3. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
4. Click **OK**.

## Perform Calculations on Test Values

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, point to **Variable Data** and click **Calculations**.  
The **Plant Applications Tests Calculation** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable(s)**, enter one or more Variable IDs or Variable Descriptions. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, enter the start time and end time. For information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet.



#### Note:

- If you filter on a product, the options **Original Product** and **Applied Product** will be available.
- If you do not select a product, the information will be for all products associated with the selected variables for the specified time period.
- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see ProdCodelsNum Site Parameter.

6. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
7. Under **Statistic Calculation**, select one or more of the calculations you want to include on your worksheet.
8. Under **Output Cell**, first select the cell on your worksheet where you want to import the information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

- If you select only one variable, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one variable, these options are not available.

- Click **OK**.

## Perform Production Event Calculations

### Procedure

- From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Product Event Calculations**.

The **Plant Applications Event Calculations** dialog box appears.

- Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
- Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
- Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
- If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet.

**Note:**

If you do not select a product, the calculations for the selected dimension will be for all production events on the selected production unit for the specified time period. Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

- Under **Run Statistic**, select only one of the statistics.
- Under **Statistics Calculation**, select one or more of the calculations you want to perform.
- Under **Output Cell**, first select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting an output cell on your worksheet, see [Select Cells for Output \(on page 15\)](#).

9. Under **Output Orientation**, click **Columns** to list the statistics in multiple columns or click the **Rows** option to list the statistics in multiple rows. For more information, please see [Output Orientation \(on page 17\)](#).
10. Click **OK**.

## Retrieve Alarm Event Summary Information

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Alarm Summary**.  
The **Plant Applications Alarm Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Variable**, enter the Variable ID for which you want to retrieve Alarm event information. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
5. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
6. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.



#### Note:

- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the Alarm event information will be for all products associated with the selected variable for the specified time period.
- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

7. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
8. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.

**Note:**

Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Alarm events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Alarm events that have a Level 1 Reason and a Level 3 Reason associated with the Alarm event.

9. To retrieve information for only acknowledged alarms, select the **Get acknowledged alarms only** option.
10. Under **Display**, select one or more of the information categories to include on your worksheet.
11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Retrieve Calculated Detail Data

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, then select **Detailed Data**.  
The **Plant Applications Details Data** dialog box appears.
2. **Optional:** Under **Historian**, click the drop-down list to select a different historian.
3. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
4. Under **Variable Tag(s)**, select one or more variable tags. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. Under **Time Range**, enter the start and end times. For information on entering start and end times. See [Select Start and End Times \(on page 16\)](#).

6. Under **Mode**, click the drop-down list and select **Calculated Data**.
7. Under **Interval**, enter the interval for which you want to interpolate the actual values.
8. Under **Time Unit**, click the drop-down list and select the unit of time for which you want to interpolate the actual values.



**Note:**

To calculate values at 20-second intervals, you would enter 20 in step 7, and then select Seconds in step 8. This will give you what the calculated values would be every 20 seconds.

9. Under **Calculation Type**, click the drop-down list and select the type of calculation you want performed on the data.
10. Under **Display**, select one or more of the attributes you want to include on your worksheet.
11. Under **Output Range**, first select the range of cells on your worksheet where you want to import your information and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).



**Note:**

Keep in mind that your output will be limited to the lesser of the detail records or the number of output cells. For example, if there are 12 detail records, but you select only 10 cells, you will get only the first 10 detail records. On the other hand, if you select 14 output cells, you will get all 12 detail records.

12. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the attributes starting with the most recent estimated time stamp (for example, from newest to oldest).
  - Select the **Descending** option to sort the attributes starting with the earliest estimated time stamp (for example, from oldest to newest).
13. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one output cell, these options are not available.

14. Click **OK**.

## Retrieve Captured Data for Variables

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, then select **Captured Data**.  
The **Plant Applications Captured Data Set Data** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable(s)**, select one or more variables on your worksheet and click in the **Variable(s)** box. If required, enter an end date and time. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, enter the start and end times. For information on entering start and end times. See [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter**, select a **Product Code** or **Product ID** on your worksheet.



#### Note:

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select one or more of the run statistics you want to include on your worksheet.
7. Under **Output Range**, first select the range of cells where you want to input your run statistics and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).



#### Note:

When you select your output range, you will need to select the number of columns you want, which will determine the number of time stamps you will receive.

8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
9. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Variable ID, these options are not available.

10. Click **OK**.

## Retrieve Captured Data for Production Units

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, and select **Captured Data Sets**.  
The **Plant Applications Captured Data Set Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a **Product Code** or **Product ID** on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select one or more of the statistics.
7. Under **Output Range**, first select the range of cells where you want to input your run statistics and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
9. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

10. Click **OK**.

## Retrieve Detailed Downtime Event Information

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Down Time Detail**.

The **Plant Applications Down Time Detail** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** () .
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Downtime event information.
  - Select the unit information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve Downtime event information.
  - Select the unit location information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
6. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
7. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a **Product Code** or **Product ID** on your worksheet.



**Note:**

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the Downtime event information will be for all products on the selected production unit for the specified time period.

8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
9. Under **Display**, select one or more of the information categories to include on your worksheet.



**Note:**

Excel limits you to selecting a maximum of 11 of the 16 items in the list.

10. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
11. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Retrieve Detailed Raw Data

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, then select **Detailed Data**.

The **Plant Applications Details Data** dialog box appears.

2. **Optional:** Under **Historian**, click the drop-down list to select a different historian.
3. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
4. Under **Variable Tag(s)**, select only one variable tag. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).



#### Note:

When you retrieve Raw Data, you can select only one Variable Tag.

5. Under **Time Range**, enter the start and end times. For information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
6. Under **Mode**, click the drop-down list and select **Raw Data**.
7. Under **Display**, select one or more of the attributes you want to include on your worksheet.
8. Under **Output Range**, first select the range of cells on your worksheet where you want to import your information and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).



#### Note:

Keep in mind that your output will be limited to the lesser of the detail records or the number of output cells. For example, if there are 12 detail records, but you select only 10 cells, you will get only the first 10 detail records. On the other hand, if you select 14 output cells, you will get all 12 detail records.

9. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the attributes starting with the most recent estimated time stamp (for example, from newest to oldest).
  - Select the **Descending** option to sort the attributes starting with the earliest estimated time stamp (for example, from oldest to newest).
10. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

11. Click **OK**.

## Retrieve Detailed Alarm Event Information

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Alarm Detail**.  
The **Plant Applications Alarm Detail** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (.
3. Under **Variable**, enter the Variable ID for which you want to retrieve detailed Alarm event information. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Reasons**, enter the **Reason(s)** and/or **Action(s)** you want to filter on.
5. Under **Time Range**, enter the start and end time during which you want to retrieve the Waste event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
6. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a **Product Code** or **Product ID** on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodeIsNum. For more information, see [ProdCodeIsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the Alarm event information will be for all products on the selected production unit for the specified time period.

7. To retrieve information for only acknowledged alarms, select **Get acknowledged alarms only**.
8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.

9. Under **Display**, select one or more of the information categories to include on your worksheet.

**Note:**

Excel limits you to selecting a maximum of 11 of the 22 items in the list.

10. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of rows is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
11. Under **Output Sort**, do one of the following:
- Select the **Ascending** option to sort the statistics starting with the most recent Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Start Time (for example, from newest to oldest).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Retrieve Downtime Event Summary Information

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Down Time Summary**.  
The **Plant Applications Down Time Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Downtime event information.
  - Select the unit information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:

- Type the unit location for which you want to retrieve Downtime event information.
  - Select the unit location information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
  6. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
  7. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet.

**Note:**

- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the Downtime event information will be summarized for all products on the selected production unit for the specified time period.
- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
9. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.  
Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Downtime events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Downtime events that have a Level 1 Reason and a Level 3 Reason associated with the Downtime event.
10. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 18 items in the list.
11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

- If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

- Click **OK**.

## Retrieve Interpolated Detailed Data

### Procedure

- From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, then select **Detailed Data**.

The **Plant Applications Details Data** dialog box appears.

- Optional:** Under **Historian**, click the drop-down list to select a different historian.
- Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
- Under **Variable Tag(s)**, select one or more variable tags. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
- Under **Time Range**, enter the start and end times. For information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
- Under **Mode**, click the drop-down list and select Interpolated Data.
- Under **Interval**, enter the interval for which you want to interpolate the actual values.
- Under **Time Unit**, click the drop-down list and select the unit of time for which you want to interpolate the actual values.

To interpolate values at 20-second intervals, you would enter 20 in step 8, and then select Seconds in step 9. This will give you what the estimated values would be every 20 seconds.

- Under **Display**, select one or more of the attributes you want to include on your worksheet.
- Under **Output Range**, first select the cells on your worksheet where you want to import your information and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

**Note:**

Keep in mind that your output will be limited to the lesser of the detail records or the number of output cells. For example, if there are 12 detail records, but you select only 10



cells, you will get only the first 10 detail records. On the other hand, if you select 14 output cells, you will get all 12 detail records.

11. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the attributes starting with the most recent estimated time stamp (for example, from newest to oldest).
  - Select the **Descending** option to sort the attributes starting with the earliest estimated time stamp (for example, from oldest to newest).
12. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Retrieve Last Run Data for Variables

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, then select **Last Run Data**.  
The **Plant Applications Last Run Data** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. On your worksheet, select the variables for which you want to retrieve the selected statistics. For information about selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Select a Product Code or Product ID on your worksheet.

**Note:**

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

5. Under **Run Statistic**, select one or more of the statistics.

6. Under **Output Cell**, select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information about selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
7. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Variable ID, these options are not available.

8. Click **OK**.

## Retrieve Last Run Statistics for Production Units

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, then select **Last Run Summary**.  
The **Plant Applications Last Run Summary Information** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. **Optional:** If you want to filter on a specific product, under **Product Filter**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
5. Under **Run Statistic**, select one or more of the statistics.
6. Under **Output Cell**, first select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output [Select Cells for Output \(on page 15\)](#).
7. Under **Output Orientation**, click **Columns** to list the statistics in multiple columns or click the **Rows** option to list the statistics in multiple rows. For more information, see [Output Orientation \(on page 17\)](#).
8. Click **OK**.

## Retrieve Product Change Event Information

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Search Product Changes**.

The **Plant Applications Product Change Search** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line and then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter a start time and, if you wish, enter an end time. For information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under Product Code [Opt], select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.



### Note:

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.

6. Under **Display**, select one or more of the attributes you want to include on your worksheet.
7. Under **Output Range**, first select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
9. If select only one cell for output, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

10. Click **OK**.

## Retrieve Run Statistics for Variables by Time Frame

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, then select **Run Data By Time Frame**.

The **Plant Applications Run Data** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Variable(s)**, select one or more Variable IDs on your worksheet. For instructions on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, select a start date. If required, you can also select an end date.
5. **Optional:** Under **Product Filter**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select one or more statistics to include in your worksheet.
7. Under **Output Range**, first select the cells on your worksheet where you want to import your statistics and click in the **Output Range** box, you can see the cell range reference you selected to import data. For instructions on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
9. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one Variable ID, these options are not available.

10. Click **OK**.

## Retrieve Run Summaries by Time Frame

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, and select **Run Summary By Time Frame**.

The **Plant Applications Run Summary Information** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down arrow to select a production unit.
4. Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under Product Filter, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

6. Under **Run Statistic**, select one or more of the statistics.
7. Under **Output Range**, first select the range of cells where you want to input your run statistics and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (or example, from newest to oldest).
9. If you a range of cells, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

10. Click **OK**.

## Retrieve Test Data by Time Frame

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, then select **Data By Time Frame**.

The **Plant Applications Test Data By Time** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable(s)**, select the Variable ID(s) or Variable Description(s) on your worksheet. For information about selecting cells for input, see [Search for Variables \(on page 75\)](#).
4. Under **Time Range**, enter the start time and end time. For information about entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the test data will be for all products associated with the specified variable(s) for the specified time period.

6. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
7. Under **Display**, select one or more of the attributes to include on your worksheet.

**Note:**

- If you select more than one variable, the last attribute you select will be the only attribute that is repeated for each variable.
- If you select more than one variable, only the first variable's information will coordinate with the Result Time Stamp, unless the all the variables have the same time stamps.

8. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
9. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Start Time (for example, from newest to oldest).
10. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

11. Click **OK**.

## Retrieve Test Value Audit History

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Audit History**.  
The **Plant Applications Tests History** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Variable**, select the Variable ID or Variable Description of the variable for which you want the audit history.
4. Under **Result Time Stamp**, enter a valid Result date and time for the selected variable.

To find a variable's Result Time Stamp, see [Retrieving Test Data by Time Frame \(on page 122\)](#).

5. Under **Display**, select one or more of the attributes you want to include on your worksheet.
6. Under **Output Range**, first select the cells on your worksheet where you want to import your information and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).



**Note:**

Keep in mind that your output will be limited to the lesser of the number of audit records or the number of output cells. For example, if there are 12 audit records, but you select only 10 cells, you will get only the first 10 audit records. On the other hand, if you select 14 output cells, you will get all 12 audit records.

7. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the attributes starting with the most recent Entry Time Stamp (for example, from newest to oldest).
  - Select the **Descending** option to sort the attributes starting with the earliest Result Time Stamp (for example, from oldest to newest).
8. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one output cell, these options are not available.

9. Click **OK**.

## Retrieve Test Values for a Specific Event

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Data By Specific Event**.  
The **Plant Applications Test Value By Event** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Variable(s)**, select one or more Variable IDs or Variable Descriptions. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).



**Note:**

If you select more than one variable, you can select only one event.

4. Under **Event Number** (or **Events**), select one or more Primary Event Numbers or Event IDs. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).



**Note:**

- If you select more than one Event, you can select only one variable.
- Whether you are required to select Primary Event Number or Event ID is determined by the site parameter, EventNumIsNumber. For more information, see [EventNumIsNumber Site Parameter \(on page 73\)](#).

5. Under **Display**, select one or more of the attributes to include on your worksheet.
6. Under **Output Cell**, first select the cell on your worksheet where you want to import the information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
7. If you select only one variable, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one variable, these options are not available.

8. Click **OK**.

## Retrieve the Most Recent Test Value

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Current Data**.  
The **Plant Applications Current Test Value** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. **Optional:** Under **Variable(s)**, select one or more Variable IDs or Variable Descriptions. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Display**, select one or more of the attributes to include on your worksheet.

- Under **Output Cell**, select the cell on your worksheet where you want to import the information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
- If you select only one variable, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one variable, these options are not available.

- Click **OK**.

## Retrieve Time-Specific Test Data

### Procedure

- From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, then select **Data By Specific Time**.  
The **Plant Applications Test Value By Time** dialog box appears.
- Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
- Optional:** Under **Variable(s)**, select one or more Variable IDs or Variable Descriptions. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
- Under **Result Time**, enter the result date and time for which you want to see the information.  
The Result Time is the time generated by Plant Applications based on the sampling interval specified in the variable's data sheet. If you enter only a date, the time is assumed to be 12:00 AM.
- Under **Display**, select one or more of the attributes you want to include on your worksheet.
- Under **Output Cell**, first select the cell on your worksheet where you want to import the information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
- If you select only one variable, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one variable, these options are not available.

- Click **OK**.

## Search for Actions

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Actions**.
2. In the **Plant Applications Action Search** dialog box, click the **Event Type** drop-down list and select an event type.
3. Click the **Unit** drop-down list and select a production unit.



**Note:**

The units available in the Unit drop-down list will be the same if you select Waste or Alarm event types.

4. Click the **Location** drop-down list and select a location. The level 1 Actions will be displayed in the **Available Actions** box and will be listed in the **Action 1** drop-down box. Then, do one of the following:
  - If you want to see the level 2 Actions associated with a specific level 1 Action, go to the next step.
  - If you either do not want to see the level 2 Action, or if you haven't configured level 2 Reasons in the Plant Applications Administrator, go to step 7.



**Note:**

If there are no locations available, then the selected event type has not been associated with the selected unit in the Plant Applications Administrator.

5. Click the **Action 1** drop-down list and select the level 1 Action for which you want to view the level 2 Actions. Then, do one of the following:
  - If you want to see the level 3 Actions associated with a specific level 2 Action, go to the next step.
  - If you do not want to see the level 3 Actions, or if you did not configure level 3 Actions in the Plant Applications Administrator, go to step 7.
6. Click the **Action 2** drop-down list and select the level 2 Action for which you want to view the level 3 Actions. Then, do one of the following:
  - If you want to see the level 4 Actions associated with a specific level 3 Action, go to the next step.
  - If you do not want to see the level 4 Actions, or if you did not configure level 4 Actions in the Plant Applications Administrator, go to step 7.

7. Click the **Action 3** drop-down list and select the level 3 Action for which you want to view the level 4 Actions.
8. In the **Available Actions** box, do one of the following:
  - Select the available reasons you want to include in your worksheet, and then click the **Move Selected Right** (  ) to move the selected reasons to the **Selected Actions** box.
  - Click the **Move All Right** (  ) to move all of the available reasons to the **Selected Actions** box.
  - In the **Selected Actions** box, select the reasons you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected reasons to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the reasons from the **Selected Actions** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
9. If you want to include all the levels associated with a selected Action, select the **Include Hierarchy** check box to include the following information:
  - Event Type
  - Unit
  - Unit ID
  - Location
  - Location ID
  - Action levels above the selected Actions
  - Action Descriptions

If you do not select the **Include Hierarchy** check box, only Action Description will be included in your worksheet.

10. Select the output cell on your worksheet and and click inside the **Output Cell** box to see the output cell reference selected.  
The selected output cell is where the first Action will be entered. Be sure to include an additional row or column for the headings.

**Note:**

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

11. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
12. Click **OK**.

## Search for Characteristics

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Characteristics**.
2. In the **Plant Applications Characteristic Search** dialog box, click the **Product Properties** drop-down list and do one of the following:
  - Select **[All]** to retrieve a list of all characteristics.
  - Select a specific product property to retrieve only those characteristics associated with the selected product property.



#### Note:

If you want to select more than one product property, but not all product properties, you can select a product property one after the other, and the characteristics for each product property are then added to the **Selection Found** box.

3. In the **Selection Found** box, do one of the following:
  - Select the characteristics you want to include on your worksheet, then click the **Move Selected Right** () to move the characteristics to the **Selected Characteristics** box.
  - Click the **Move All Right** () to move all the characteristics to the **Selected Characteristics** box.
  - In the **Selected Characteristics** box, select the characteristics you want to exclude from your spreadsheet and click **Move Selected Left** () to move the selected characteristics to the **Selection Found** box.
  - Click **Move All Left** () to move all the characteristics from the **Selected Characteristics** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
4. Select the **Characteristics Descriptions** check box to include characteristic descriptions on your worksheet.

**Note:**

If you do not select the **Characteristics Descriptions** check box, only the characteristic IDs (an integer assigned by Plant Applications to each characteristic) will be included on your worksheet.

5. Select the **Property Descriptions** check box to include a description of the property associated with each characteristic.
6. Select the output cell on your worksheet and click inside the **Output Cell** box to see the output cell reference selected.

**Note:**

The selected output cell is where the first Characteristic will be entered. Be sure to include an additional row or column for the headings.

**Note:**

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

7. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
8. Click **OK**.

## Search for Product Attributes and ProdCodelsNum is Set to 1(True)

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Products**.
2. **Optional:** In the **Plant Applications Product Info** dialog box, under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Do one of the following:
  - To use your Product Codes, under **Product Code(s)**, select the Product Codes on your worksheet, and click in the **Product Code(s)** box.
  - To use Product IDs, select the Force ID option. Then, under Product IDs, select the Product IDs on your worksheet, and click in the **Product ID(s)** box.



**Note:**

You can select products by Product ID or by Product Code. You cannot use Product Descriptions.

4. Under **Attribute(s)**, select one or more of the available attributes.
5. Under **Output Cell**, select the cell on your worksheet where you want to begin your output and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, [Select Cells for Output \(on page 15\)](#).
6. If you selected only one Product ID or Product Code, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one Product ID or Product Code, these options are not available.

7. Click **OK**.

## Search for Products

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, then select **Products**.
2. In the **Plant Applications Product Search** dialog box, do one or more of the following:
  - **Product Group**: Click the drop-down list to select a product group.
  - **Product Code Filter**: Enter any combination of numbers and letters to filter the products.
  - **Server**: Click the drop-down list to select a different server.
  - **Display**: Click the **Product Codes** check box to include product codes for the selected products. Click the **Product Description** check box to include product descriptions for the selected products.



**Note:**

If you do not select the Product Description option, only Product IDs an integer assigned by Plant Applications to each product will be included on your worksheet.

3. Click **Search**.
4. In the **Selection Found** box, do one of the following:

- Select the product(s) you want to include on your spreadsheet, and then click **Move Selected Right** (  ) to move the selected products to the **Selected Products** box.
  - Click **Move All Right** (  ) to move all of the products to the **Selected Products** box.
  - In the **Selected Products** box, select the products you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected products to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the products from the **Selected Products** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
5. Select the output cell on your worksheet and click inside the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).

**Note:**

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.

**Note:**

When output cell is not selected, the result will be loaded in last active cell you selected before navigating menu.

6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
7. Click **OK**.

## Search for Property IDs

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Properties**.  
The **Plant Applications Property Search** dialog box appears.
2. **Optional:** If you need to select a different server, click the drop-down list and select a different server.
3. Do one of the following:

- Select the product properties you want to include on your worksheet, and then click **Move Selected Right** (  ) to move them to the **Selected Properties** box.
  - Click **Move All Right** (  ) to move all the product properties to the **Selected Properties** box.
  - In **Selected Properties** box, select the properties you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected properties to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the properties from the **Selected Properties** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
4. Select the output cell on your worksheet and click inside the **Output Cell** box to see the output cell reference selected.



**Note:**

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.



**Note:**

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

5. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
6. Select the **Property Descriptions** check box to include property descriptions on your worksheet.



**Note:**

If you do not select the **Property Descriptions** option, only Property IDs and integer assigned by Plant Applications to each property will be included on your worksheet. The **Property ID** is an integer assigned by Plant Applications to each property.

7. Click **OK**.

## Search for Reasons

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, then select **Reasons**.
2. In the **Plant Applications Reason Search** dialog box, click the **Event Type** drop-down list and select an event type.
3. Click the **Unit** drop-down list and select a production unit.

The units available in the **Unit** drop-down list will be the same if you select Waste or Alarm event types.

4. Click the **Location** drop-down list and select a location. The level 1 Reasons will be displayed in the **Available Reasons** box and will be listed in the **Reason 1** drop-down box. Then, do one of the following:
  - If you want to see the level 2 Reasons associated with a specific level 1 Reason, go to the next step.
  - If you either do not want to see the level 2 Reasons, or if you haven't configured level 2 Reasons in the Plant Applications Administrator, go to step 7.

If there are no locations available, then the selected event type has not been associated with the selected unit in the Plant Applications Administrator.

5. Click the **Reason 1** drop-down list and select the level 1 Reason for which you want to view the level 2 Reasons. Then, do one of the following:
  - If you want to see the level 3 Reasons associated with a specific level 2 Reason, go to the next step.
  - If you do not want to see the level 3 Reasons, or if you did not configure level 3 Reasons in the Plant Applications Administrator, go to step 7.
6. Click the **Reason 2** drop-down list and select the level 2 Reason for which you want to view the level 3 Reasons. Then, do one of the following:
  - If you want to see the level 4 Reasons associated with a specific level 3 Reason, go to the next step.
  - If you do not want to see the level 4 Reasons, or if you did not configure level 4 Reasons in the Plant Applications Administrator, go to step 7.
7. Click the **Reason 3** drop-down list and select the level 3 Reason for which you want to view the level 4 Reasons.
8. In the **Available Reasons** box, do one of the following:
  - Select the available reasons you want to include in your worksheet, and then click **Move Selected Right** (  ) to move the selected reasons to the **Selected Reasons** box.
  - Click **Move All Right** (  ) to move all of the available reasons to the **Selected Reasons** box.

- In the **Selected Reasons** box, select the reasons you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected reasons to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the reasons from the **Selected Reasons** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
9. If you want to include all the levels associated with a selected Reason, select the **Include Hierarchy** check box to include the following information:
- Event Type
  - Unit
  - Unit ID
  - Location
  - Location ID
  - Reason levels above the selected Reasons
  - Reason Descriptions



**Note:**

If you do not select the **Include Hierarchy** check box, only Reason Description will be included in your worksheet.

10. Select the output cell on your worksheet and click inside the **Output Cell** box to see the output cell reference selected.
- The selected output cell is where the first Reason will be entered. Be sure to include an additional row or column for the headings.



**Note:**

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

11. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
12. Click **OK**.

## Search for Specification Variables

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, then select **Specifications**.
2. In the **Plant Applications Specification Search** dialog box, do one or more of the following:
  - **Product Properties:** Click the drop-down list to select the product property.
  - **Specification Description Filter:** Enter any combination of numbers or letters that you want to filter the selected specifications.
  - **Server:** Click the drop-down list to select a different server.
  - **Display:** Click the **Specification Descriptions** check box to include specification descriptions on your worksheet. Click the **Property Descriptions** check box to include property descriptions on your worksheet.
3. Click **Search**.
4. In the **Selection Found** box, do one of the following:
  - Select the specifications you want to include on your worksheet, and then click **Move Selected Right** (  ) to move the selected specifications to the **Selected Specifications** box.
  - Click **Move All Right** (  ) to move all the specifications to the **Selected Specifications** box.
  - In **Selected Specifications** box, select the specifications you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected specifications to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the specifications from the **Selected Specifications** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
5. Select the output cell on your worksheet and click inside the **Output Cell** box to see the output cell reference selected.



### Note:

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.



### Note:

When output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
7. Click **OK**.

## Search for Variable Tags

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variable Tags**.

The **Plant Applications Variable Tag Search** dialog box appears.

2. Click the **Historian** drop-down list to select a different historian, if necessary.
3. **Optional:** If you need to select a different server, click the **Server** drop-down list and select a different server.
4. In the **Tag Mask** field, do one of the following:
  - If you want to retrieve a list of all variable tags, type an asterisk (\*) in the **Tag Mask** field.
  - If you have a list of variable tags on your worksheet, select the appropriate cells on your worksheet that contain the variable tags and click in the **Tag Mask** field. It shows the cell references you selected.
  - If you want to limit the list of found tags to only tags that contain certain letters or numbers, type the letters or numbers in the **Tag Mask** field. For example, typing \*p1\* will find only those tags that contain the letter "p" and the number "1" adjacent to each other.

## Set your Add-in Options

### Procedure

1. From the **Plant Applications** menu, select **My settings from User profile**.
2. In the **Plant Applications Add-In Options** dialog box, make the required changes.
3. Do one of the following:
  - To permanently save your changes, click **Save** and then click **Cancel** to close the dialog box.
  - To restore all the default settings, click **Default** and then click **Cancel** to close the dialog box.

# Chapter 5. Plant Applications Site Parameters

## Plant Applications Site Parameters

There are a couple of site parameters that are set in the Plant Applications Administrator that affect the functionality of some of the dialog boxes in the Plant Applications Add-In.

See

- [ProdCodelsNum Site Parameter \(on page 73\)](#)
- [EventNumIsNumber Site Parameter \(on page 73\)](#)

### ProdCodelsNum Site Parameter

The way you search for product attributes is affected by how the site parameter, ProdCodelsNum, has been set in the Plant Applications Administrator (**Plant Applications Administrator > Global Settings > Site Parameters > Edit Site Parameters**). If ProdCodelsNum has a value of 1(True), it tells the Plant Applications Add-in that the Product Codes are all numeric. Since Product IDs are also numeric, when you search for product attributes you need to tell Plant Applications whether you are using Product Codes or Product IDs.

#### **What if some Product Codes are numeric and some alpha-numeric?**

If some of your Product Codes are numeric and some alpha-numeric, and ProdCodelsNum has a value of 1(True), you can simply use your Product Codes to find the associated attributes. However, if you are using Product IDs, you will need to select the **Force ID** option.

### EventNumIsNumber Site Parameter

The way you search for product attributes will be affected by how the site parameter, EventNumIsNumber, has been set in the Plant Applications Administrator (**Plant Applications Administrator > Global Settings > Site Parameters > Edit Site Parameters**). If EventNumIsNumber has a value of 1(True), it tells the Plant Applications Add-In that the Primary Event Numbers are all numeric. Since Event IDs are also numeric, when you search for production event attributes you will need to tell Plant Applications whether you are using Primary Event Numbers or Event IDs.

#### **What if some Primary Event Numbers are numeric and some alpha-numeric?**

If some of your Primary Event Numbers are numeric and some alpha-numeric, and EventNumIsNumber has a value of 1(True), you can simply use your Primary Event Numbers to find the associated attributes. However, if you are using Event IDs, you will need to select **Force ID** option.

# Chapter 6. Searches

## Searches

You use the Plant Applications Add-in to retrieve a variety of data. When retrieving data, you may need to provide certain information, such as variables or product IDs. Unless you happen to know the specific information you need, you can use the Search command to populate your spreadsheet with the required information. For example, if you want to view the attributes of one or more variables, you will need to provide the variable(s) for which you want to view the attributes.

See

- [Build Product Search \(on page 78\)](#)
- [Searching for Characteristics \(on page 79\)](#)
- [Searching for Downtime, Waste, or Alarm Actions \(on page 80\)](#)
- [Searching for Downtime, Waste, or Alarm Reasons \(on page 79\)](#)
- [Searching for Product Change Events \(on page 80\)](#)
- [Searching for Products \(on page 77\)](#)
- [Searching for Property IDs \(on page 79\)](#)
- [Searching for Specifications \(on page 79\)](#)
- [Searching for Variable Tags \(on page 80\)](#)
- [Search for Variables \(on page 75\)](#)
- [Searching for Variables by Test Name \(on page 83\)](#)

## Search for Variables

### **About this task**

Using the Plant Applications Add-In, you can search for all the variables you have configured for use in Plant Applications. To help limit the number of variables returned in a search, Plant Applications provides a number of filters to help you specify the variables you want to include in your spreadsheet. You can filter on one or more of the following:

- Production line
- Production unit
- Variable group
- Variable description

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
2. In the **Plant Applications Variable Search** dialog box, do one or more of the following:
  - **Production Line:** Click the drop-down list to select a production line.
  - **Production Unit:** Click the drop-down list to select a production unit. When you select a production line, only the production units associated with the selected line will be available.
  - **Production Group:** Click the drop-down list to select a variable group. When you select a production unit, only the variable groups associated with the selected production unit will be available.
  - **Variable Description Filter:** Enter any combination of numbers or letters. Keep in mind that the variables displayed will be those that contain exactly what you enter. For example, 50#Gloss, 50#Matte, 60#Gloss, 70#Matte, Alarm, Reelspeed

If you enter	You will get
5	50#Gloss 50#Matte
A	50#Matte 70#Matte Alarm
E	50#Matte 70#Matte Reelspeed
At	50#Matte 70#Matte
#a	No variables are returned.

- **Server:** If you need to select a different server, select the drop-down list and select a server.
- **Display:** Select the Variable Descriptions check box to include a description of the selected variables on your spreadsheet. Select the Engineering Units check box to include the engineering units (#, LF, lbs, kg) for the selected variables on your spreadsheet.

If you do not select the Variable Description option, only the Variable ID (an integer assigned by Plant Applications to each variable) will be included on your worksheet.

3. Click **Search**.
  4. In the **Selection Found** box, do one of the following:
    - Select the variables you want to include on your spreadsheet and click **Move Selected Right** () to move the selected variables to the **Selected Variables** box.
    - Click **Move All Right** () to move all of the variables to the **Selected Variables** box.
    - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** () to move the selected variables to the **Selected Found** box.
    - Click **Move All Left** () to move all the variables from the **Selected Variables** box to the **Selected Found** box.
    - Enable range selection check box provides option to multiselect the items with the **Shift** option.
  5. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).  
The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.
-  **Note:**  
If output cell is not selected, the result data will be loaded in last active cell you selected before.
6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
  7. Click **OK**.

## Searching for Products

You can use the Plant Applications Excel Add-In to find all of the products produced in the plant. You can search for all products, or you can select a product group and find the products within the selected group. The product groups are created in the Plant Applications Administrator and are a way of logically grouping related products. If you have not associated any products with a product group in the Plant Applications Administrator, your search will not find any products.

If your plant has more than one Plant Applications server, only the products configured on the selected server will be found.

An alternate method of searching for products can be found at Build Product Search. Using the alternate method, you can search for a product group, product properties and characteristics, or a combination of product group and properties and characteristics, rather than returning a list of specific products.

See [Search for Products \(on page 66\)](#).

## Build Product Search

### About this task

The Build Product Search function is the only way within the Plant Applications Add-In to search for product groups, as opposed to searching for a single product. If you want to search for just a single product, you can use the product search. Using this function, you can retrieve properties and characteristics, instead of having to search for them separately. What this means is that you can then use a product group as a filter, which will give you all the products within the specified group, rather than being limited to filtering on only a single product.

### Procedure

1. From the **Excel Add-In Main** menu, click **Build Product Search**.  
The **Plant Applications Product Search Selector** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Search Type**, click the drop-down list and do one of the following:
  - Select **Product** to search for product codes. You can retrieve all products or all products within a specific group.
  - Select **Product Group** to retrieve product groups. You can then use one of these groups as input for filtering.
  - Select **Property/Characteristic** to retrieve a specific property and all associated characteristics.
  - Select **Product Group** and **Prop/Char** to retrieve product groups, properties and characteristics.

Using the **Product Group** and **Prop/Char** results as a filter will return results that match either the product group or the property and characteristic. In other words, it uses OR logic and not AND logic.

4. Select the output cell on your worksheet worksheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).  
The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.

**Note:**

If output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

5. Select either the **Columns** option or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
6. Click **OK**.

## Searching for Specifications

You can search for specifications that you have configured in the Plant Applications Administrator, which are stored on the selected server. You can either search for all specifications or you can select a property and search for specifications within the selected property.

Specifications are created in the Plant Applications Administrator. If you have not associated any specifications with a property, your search will come up empty.

See [Search for Specification Variables \(on page 70\)](#).

## Searching for Property IDs

You can use the Plant Applications Add-in to search for properties that have been created in the Product Management module in Plant Applications Administrator.

See [Search for Property IDs \(on page 67\)](#).

## Searching for Characteristics

You can search for characteristics associated with properties that have been defined in the Product Management module in the Plant Applications Administrator.

See [Search for Characteristics \(on page 64\)](#).

## Searching for Downtime, Waste, or Alarm Reasons

You can search for reasons associated with Downtime, Waste, or Alarm Events that have been configured in the Plant Applications Administrator. Keep in mind that only these three event types have reasons associated with them.

See [Search for Reasons \(on page 68\)](#).

## Searching for Downtime, Waste, or Alarm Actions

You can search for Actions associated with Downtime, Waste, or Alarm Events that have been configured in the Plant Applications Administrator. Keep in mind that only these three event types have Actions associated with them.

See [Search for Actions \(on page 62\)](#).

## Searching for Variable Tags

The Search command lets you search for all the tags in the selected historian. You can either search for all the tags, or you can search for tag names that contain specific letters and numbers.

Additionally, when you import the variable tags into your worksheet, you can import just the tag names or you can import the function that finds the variable tags. What this allows you to do is search for additional variable tags from the Excel worksheet, rather than opening the **Plant Applications Variable Tag Search** dialog box, by manipulating the Excel function within the cell. However, when you select this option, you must use the **Tag Mask** to filter any unwanted tags. You will not be able to use the **Move All** or **Move Selected** options.

See

- [Search for Variable Tags \(on page 72\)](#)
- [Import Just the Variable Tags \(on page 36\)](#).
- [Import the Variable Tags and the Excel Function \(on page 37\)](#).

## Searching for Product Change Events

You can retrieve specific information about product change events during a specified time period. You can refine your search to include information about a specific product.

See [Retrieve Product Change Event Information \(on page 53\)](#).

# Searching for Production Events

## About this task

You can find specific information about each production event in Plant Applications. These production events are associated with a production unit. When you search for production events, you must specify a start time. Additionally, the Plant Applications Add-In provides you with multiple filters that you can use to limit or refine your search results.

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, then select **Search Production Events**.

The **Plant Applications Event Search** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter a start and end time. For more information on entering start and end dates, see [Selecting Start and End Times](#).
5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box. If you filter on a product, the options original product and applied product will be available.



### Note:

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.

6. If the choice is available, under **Product Filter As**, select:
  - **Original Product** to filter on the original product.
  - **Applied Product** to filter on the applied product. The applied product is the final product that a particular production event is assigned. This is used to indicate a different product than the production event was originally built as. The starting or initial product is the original product.

7. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see [Non-productive Time Summary Information \(on page 119\)](#). For information about Force ID, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
8. Under **Filter By**, do one or more of the following:
  - Under **Plant Order Number**, enter the plant order number.
  - Under **Customer Code**, enter the customer code.
  - Under **Shipment Number**, enter the shipment number.
  - Under **Primary Event Number**, enter the primary event number.



**Note:**

Keep in mind that the results you get might not be the expected results simply because of the filters you have chosen. If you are not sure of your results, it is best to use fewer filters.

9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Under **Crew Description**, click the drop-down list to select a crew.
  - Under **Shift Description**, click the drop-down list to select a shift.



**Note:**

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the Display list.

10. **Optional:** Under **Event Status Filter**, do one of the following:
  - If you do not want to filter on event status (for example, Consumed, In Progress, Hold, and so on), select the **Do Not Filter By Event Status** option.
  - If you want to filter on event status, select the **Filter By Specific Event Status In List Below** option. Then, in the **Status To Exclude** list, select one or more of the event statuses you want to include, then click **Move Selected** to move the event statuses to the **Status To Include** list.
11. Under **Display**, select one or more of the attributes you want to include on your worksheet.
12. Under **Output Range**, select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
13. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).

14. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

If you select more than one output cell, these options are not available.

15. Click **OK**.

## Searching for Variables by Test Name

### About this task

You can use the variable test name to retrieve test values for one or more variables for a specific event. If a selected variable is not part of the specified event, no value will be returned. If a selected event is not an event-based variable, "Variable Not Event Based" will be displayed in the associated cell.

To retrieve the test values, you need to first search for the variable test name. The variable test name is also known as the variable alias name in the Variable Sheet.

### Procedure

1. Open **Excel** and from the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Test Variable Name**.
2. In the **Test Variable Name Search** dialog box, do one or more of the following:
  - **Server:** If you need to select a different server, click the drop-down list and select a server.
  - **Production Line:** Click the drop-down list to select a production line.
  - **Production Unit:** Click the drop-down list to select a production unit. When you select a production line, only the production units associated with the selected line will be available.
  - **Production Group:** Click the drop-down list to select a variable group. When you select a production unit, only the variable groups associated with the selected production unit will be available.
  - **Test Variable Name Filter:** Enter any combination of numbers or letters. Keep in mind that the variable test names displayed will be those that contain exactly what you enter. For example, 50#Gloss, 50#Matte, 60#Gloss, 70#Matte, Alarm, Reelspeed

If you enter	You will get
5	50#Gloss 50#Matte
A	50#Matte 70#Matte Alarm

If you enter	You will get
E	50#Matte 70#Matte Reelspeed
At	50#Matte 70#Matte
#a	No variables are returned.

3. Click **Search**.

4. Under **Selection Found**, do one of the following:

- Select the test variable names you want to include on your spreadsheet and click **Move Selected Right** (  ) to move the selected variables to the Selected Test Variables Names.
- Click **Move All Right** (  ) to move all of the variables to the **Selected Test Variables Names** box.
- In the **Selected Test Variable Names** box, select the test variable names you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected test variable names to the **Selection Found** box.
- Click **Move All Left** (  ) to move all the test variable names from the **Selected Test Variable Names** box to the **Selection Found** box.
- Enable range selection check box provides option to multiselect the items with the **Shift** option.

5. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.



**Note:**

If output cell is not selected, result will be loaded in last active cell you selected before navigating the menu.

6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

7. Click **OK**.

Now that you have selected your variable test name(s), you can retrieve test values for all the variables that share the same test name (variable alias name). See [Retrieve Test Data by Test Variable Name](#) (*on page 125*).

# Chapter 7. Finding Attributes

## Finding Attributes

The Plant Applications Add-in for Excel helps you find the attributes associated with the following:

- Variables
- Products
- Properties
- Characteristics
- Specifications
- Production Events

See

- [Finding Characteristic Attributes \(on page 88\)](#)
- [Finding Property Attributes \(on page 88\)](#)
- [Finding Production Event Attributes \(on page 89\)](#)
- [Finding Property Attributes \(on page 88\)](#)
- [Finding Specification Attributes \(on page 89\)](#)
- [Finding Production Event Attributes \(on page 89\)](#)

## Finding Variable Attributes

To access this dialog box, from the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Variables**.

You can find specific information for each variable in Plant Applications. You can find attributes for one or more variables and choose the attributes that you want to include on your worksheet.

Make sure you have already imported variables into your worksheet before you find the variable attributes. For information about finding variables, see [Searching for Variables](#).

See [Find Variable Attributes \(on page 34\)](#).

## Find Product Attributes

You can find specific information for each product in Plant Applications. You can find attributes for one or more products and choose the attributes that you want to include on your worksheet. Make sure you have

already imported products into your worksheet before you find the product attributes. For information about finding products, see [Searching for Products \(on page 77\)](#). This function is controlled by the site parameter, ProdCodelsNum, which is set in Plant Applications Administrator. For more information on this site parameter, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

### About this task

Use this procedure to find product attributes and ProdCodelsNumber is set to 0 (zero).

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Products**. The **Plant Applications Product Attributes** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or if you need to connect to the selected server, click **Browse** (  ).
3. Under **Product Code (s)**, select the **Product ID** or **Product Code** of the products for which you want to find attributes and click in the **Product Code (s)** box.



#### Note:

You can select products by Product ID or by Product Code. You can not use Product Descriptions.

4. Under **Attribute(s)**, select one or more of the available attributes.
5. Under **Output Cell**, first select the cell on your worksheet where you want to begin your output and click in the **Output Cell** box, you can see the cell reference you selected to import data. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
6. If you selected only one Product ID or Product Code, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



#### Note:

If you select more than one Product ID or Product Code, these options are not available.

7. Click **OK**.

## Search for Product Attributes and ProdCodelsNum is Set to 1

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Products**. The **Plant Applications Product Attributes** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or if you need to connect to the selected server, click **Browse** ()
3. Do the following:
  - To use your Product Codes, under **Product Code(s)**, select the Product Codes on your worksheet, and click in the **Product Code(s)** box.
  - To use your Product Codes, under **Product Code(s)**, select the Product Codes on your worksheet, and click in the **Product Code(s)** box.

You can select products by Product ID or by Product Code. You cannot use Product Descriptions.

4. Under **Attribute(s)**, select one or more of the available attributes.
5. Under **Output Cell**, first select the cell on your worksheet where you want to begin your output and click in the **Output Cell** box, you can see the cell reference you selected to import data. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#)
6. If you selected only one Product ID or Product Code, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



**Note:**

If you select more than one Product ID or Product Code, these options are not available.

7. Click **OK**.

## Finding Property Attributes

To access this dialog box, from the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Property**.

You can find specific information for each property in Plant Applications. You can find attributes for one or more properties and choose the attributes that you want to include on your worksheet.

Make sure you have already imported properties into your worksheet before you find the product attributes. For information about finding properties, see [Search for Property IDs \(on page 67\)](#).

See [Find Property Attributes \(on page 31\)](#).

## Finding Characteristic Attributes

To access this dialog box, from the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Characteristics**.

You can find specific information for each characteristic in Plant Applications. You can find attributes for one or more characteristics and choose the attributes that you want to include on your worksheet.

Make sure you have already imported characteristics into your worksheet before you find the attributes. For information about finding characteristics, see [Searching for Characteristics \(on page 79\)](#).

See [Find Characteristic Attributes \(on page 27\)](#).

## Finding Specification Attributes

To access this dialog box, from the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Specification**.

You can find specific information for each specification in Plant Applications. You can find attributes for one or more specifications and choose the attributes that you want to include on your worksheet.

Make sure you have already imported specifications into your worksheet before you find the attributes. For information about finding specifications, see [Searching for Specifications \(on page 79\)](#).

See [Find Specification Attributes \(on page 31\)](#).

## Finding Production Event Attributes

To access this dialog box, from the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Production Event**.

You can find specific information for each production event in Plant Applications. You can find attributes for one or more production events and choose the attributes that you want to include on your worksheet.

Ensure you have already imported production events into your worksheet before you find the attributes. For information about finding production events, see [Searching for Production Events \(on page 81\)](#).

This function is controlled by the site parameter, EventNumIsNumber, which is set in the Plant Applications Administrator. For more information about this site parameter, see [EventNumIsNumber Site Parameter \(on page 73\)](#).

See

- [Find Product Event Attributes and EventNumIsNumber Is Set to 1\(True\) \(on page 30\)](#)
- [Find Product Event Attributes and EventNumIsNumber Is Set To 0 \(Zero\)\(False\) \(on page 29\)](#)

# Chapter 8. Targets and Limits

## Targets and Limits

The Plant Applications Add-in can be used to gather the specification targets and limits at the variable level or at the specification, or central, level.

See

- [Finding Limits at the Specification \(Central\) Level \(on page 90\)](#)
- [Finding Limits at the Variable Level \(on page 90\)](#)

## Finding Limits at the Specification (Central) Level

- To access this dialog box, from the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Limits**, then select **Specification Level**.

Specification variables are created at the central level and then mapped to variables at the unit level. Using the Plant Applications Add-In, you can gather the specification targets and limits for each specification variable for each characteristic.

You will need to have Specification IDs and Characteristic IDs or Descriptions on your worksheet to use as input. For information about specification IDs, see [Searching for Specifications \(on page 79\)](#). For information about characteristic IDs, see [Searching for Characteristics \(on page 79\)](#).

See [Find Specification Level limits \(on page 32\)](#).

## Finding Limits at the Variable Level

- To access this dialog box, from the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Limits**, then select **Variable Level**.

You can use the Plant Applications Add-In to gather specifications for every variable that belongs to a specific product. You can also select a date to see what the specifications values were on the selected date.

Before you can gather the variable specification limits, you need to first have [Variable IDs \(on page 75\)](#) and [Product Codes or Product IDs \(on page 77\)](#) on your worksheet to use as input.

See [Find Variable Level Limits](#) (on page 35).

# Chapter 9. Run Summaries

## Run Summary

After each product change on a production unit, Plant Applications automatically calculates statistics for each variable on a production unit. Certain variable statistics are combined to calculate overall statistics for the production unit. The Plant Applications Add-in for Excel can be used to gather run summary statistics for both variables and production units.

Production unit statistics are calculated by time-weighting certain variables found on the production unit.

## Calculate Run Data for Variables

### Before you begin

Before you begin, you will need to have Variable IDs available on your worksheet. For information on searching for Variable IDs, see [Search for Variables \(on page 75\)](#).

### About this task

You can perform calculations on variable statistics from product runs that occur during a specified time period. You can perform calculations on the following statistics:

- Average
- Standard Deviation
- % In Warning
- % In Limit
- Cpk
- Conformance Index
- Minimum
- Maximum
- Number Of Samples

You can choose to perform one or more of the following calculations:

- Average
- Time of Minimum
- Minimum
- Time Of Maximum
- Maximum

- Standard Deviation
- Total

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, and **For Variables**, and then select **Run Data Calculations**.

The **Plant Applications Run Data Calculation** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable(s)**, select the Variable IDs on your worksheet and click in the **Variable(s)** box. For more information on selecting cells, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, enter the start date and time. If required, enter an end date and time. For more information on entering start and end times, see [Selecting Start and End Times](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter**, select a Product Code or Product ID on your worksheet, and click in the **Product code [Opt]** or **Product ID [Opt]** box. Whether you are required to select Product Code or Product ID is determined by the site parameter, `ProdCodelsNum`. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
6. Under **Run Statistic**, select only one run statistic.
7. Under **Statistic Calculation**, select one or more calculations to perform.
8. Under **Output Cell**, first select the cell where you want to input your run statistics and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
9. If you selected only one Variable ID, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).



#### Note:

If you select more than one Variable ID, these options are not available.

10. Click **OK**.

## Calculate Run Summary Statistics for Production Units

### About this task

You can perform calculations on production unit statistics from product runs during a specific time period. You can perform calculations on the following run summary statistics:

- Duration
- % In Warning
- % In Limit
- Conformance Index

You can perform the following calculations on the run summary statistics:

- Average
- Time of Minimum
- Minimum
- Time Of Maximum
- Maximum
- Standard Deviation
- Total

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, then select **Run Summary Calculations**.

The **Plant Applications Run Summary Calculations** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.  
Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
6. Under **Run Statistic**, select only one of the statistics.
7. Under **Statistics Calculation**, select one or more of the calculations you want to perform.
8. Under **Output Cell**, first select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

9. Under **Output Orientation**, click the **Columns** to list the statistics in multiple columns or click the **Rows** option to list the statistics in multiple rows. For more information, see [Output Orientation \(on page 17\)](#).
10. Click **OK**.

## Retrieve Captured Data for Production Units

### About this task

You can retrieve statistics captured over a specified time period for a specific production unit. You can also filter the information to include only one product.

### Procedure

1. From the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, and then select **Captured Data Sets**.
2. Retrieve the following statistics:
  - Operator
  - Time Stamp
  - Product Code
  - Comment

See [Retrieve Run Statistics for Variables by Time Frame \(on page 55\)](#).

## Retrieve Captured Data for Variables

You can retrieve the captured value of one or more variables over a specific time period. You can, optionally, specify a product.

### Before you begin

Before you perform this function, you will need to already have Variable IDs on your worksheet. For information on finding Variable IDs, see [Search for Variables \(on page 75\)](#).

### Procedure

1. From the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, and then select **Captured Data**.

Do not use this function for multiple variables unless you're sure that all variables share the exact time stamps. If you select more than one variable, only the captured values of first variable will correspond directly to the time stamp. The captured test values for the remaining variables will simply be the first values that match the output range limit and that fall within the specified time. For example, if you select two variables (A and B), a time range of one month, and your output

range allows for 12 columns of time stamps. You will get 12 captured values for Variable A that correspond to the 12 time stamps. However, the captured values for the remaining variable (B) will be only the captured values that occurred between the start time and the end time; they will not correspond with the 12 time stamps. This means that you might have anywhere from zero to 12 variables, depending on the test frequency of the second variable.

2. Retrieve the following statistics:

- Time Stamp
- Product Code
- Captured Value

See [Retrieve Captured Data for Variables \(on page 95\)](#).

## Retrieve Last-Run Statistics for Production Units

You can retrieve statistics from the last time a product was run on a production unit.

### Procedure

1. From the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Run Summary** and **For Units**, and then select **Last Run Summary**.

If you want to filter on a specific product, you will need to already have the Product Codes or Product IDs on your worksheet. For more information, see [Searching for Products \(on page 77\)](#).

2. You can retrieve one or more of the following statistics:

- Run Start Time
- Run End Time
- Duration
- Product Code
- % In Warning
- % In Limit
- Conformance Index
- Comment

See [Retrieve Last Run Statistics for Production Units \(on page 53\)](#).

## Retrieve Last-Run Statistics for Variables

You can use the Plant Applications Add-In to gather statistics for multiple variables from the last product run that used the variable. You can filter on a specific product, if you wish.

**Before you begin**

Before you search for run data for variables, you will need to have a worksheet with Variable IDs to use as input. For more information, see [Search for Variables \(on page 75\)](#).

**Procedure**

1. From the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, and then select **Last Run Data**.
2. Select one or more of the following run statistics:

<b>Run Statistic</b>	<b>Definition</b>
Run Start Time	When the run starts.
Run End Time	When the run ends.
Product Code	<p>An abbreviated description to identify a product.</p> <p><b>Example</b></p> <p>A brewery's product management lists 55 Brew Unit as a product family.</p> <p>The 55 Brew Unit product family lists a product identified as 55 Dark Ale (55 Dark).</p> <p>Where</p> <ul style="list-style-type: none"> <li>◦ 55 Dark Ale is the product description.</li> <li>◦ (55 Dark) is the product code.</li> </ul>
Average	<p>String: Value that is in the RSum table, based on the raw count of the most commonly occurring value.</p> <p>Float: Average value for the run.</p> <p>Integer: Average value for the run.</p>
Standard Deviation	Standard deviation of the critical value (e.g. weight, length) within the last run.
% In Warning	Percent of time the values for the variable were inside the warning limits during the time of the

Run Statistic	Definition									
	run, meaning above Lower Warning and below Upper Warning.									
Conformance Index	Calculated value that combines conformance to target and variation. The data quality reject features for variables and units can also be applied to the data used in the calculations. The variable reject and unit reject features apply to this data as well as to run summaries.									
Cpk	<p>Process Capability Index analyzes how closely the last run was on target and how consistent it was around its average performance.</p> <p>The Cpk targets performance between the Upper and Lower reject limits.</p> <div data-bbox="862 940 1419 1885" style="border: 1px solid #0070C0; border-radius: 10px; padding: 10px; background-color: #E6F2FF;"> <p> <b>Note:</b></p> <p>The further apart the reject limits are, the less likely that any item will be outside those limits. Possible results in the last run include:</p> <p><b>Result</b></p> <table border="1" data-bbox="938 1304 1406 1885"> <thead> <tr> <th></th> <th>Cpk</th> <th>Cp</th> </tr> </thead> <tbody> <tr> <td>The last run performed with minimum variation; however the item values were close to the Upper or Lower reject limits.</td> <td>Low</td> <td>High</td> </tr> <tr> <td>Item values were on average exactly on target, but</td> <td>Low</td> <td>High</td> </tr> </tbody> </table> </div>		Cpk	Cp	The last run performed with minimum variation; however the item values were close to the Upper or Lower reject limits.	Low	High	Item values were on average exactly on target, but	Low	High
	Cpk	Cp								
The last run performed with minimum variation; however the item values were close to the Upper or Lower reject limits.	Low	High								
Item values were on average exactly on target, but	Low	High								

Run Statistic	Definition		
	 the variation in performance is high (but still lower than the tolerance band, for example, specification interval).		
	Item values are meeting the target consistently with minimum variation.	High	High
Minimum	Minimum value within the last run.		
Maximum	Maximum value within the last run.		
Number of Samples	Number of data points within the last run.		

See [Retrieve Last Run Data for Variables \(on page 52\)](#).

## Retrieve Run Summaries by Time Frame for Production Units

You can use the Plant Applications Add-in to gather statistics for a production unit from the last product run, within a specified time. You can filter on a specific product, if you wish. If you do not filter on a product, all products will be considered.

### Procedure

1. From the **Plant Applications Excel Add-in**, click the **Plant Applications** menu, point to **Run Summary** and **For Units**, and click **Run Summary By Time Frame**.
2. Select one or more of the following statistics:
  - Run Start Time
  - Run End Time
  - Duration
  - Product Code
  - % In Warning
  - % In Limit

- Conformance Index
- Comment

See [Retrieve Run Summaries by Time Frame \(on page 56\)](#).

## Retrieve Variable Run Statistics by Time Frame

You can use the Plant Applications Add-in to gather statistics for multiple variables from the last product run that used the variable, within a specified time. You can filter on a specific product, if you wish. If you do not filter on a product, all products will be considered.

### Procedure

1. From the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, and then select **Run Data By Time Frame**.
2. Select one or more of the following run statistics:
  - Run Start Time
  - Run End Time
  - Product Code
  - Average
  - Minimum
  - Maximum
  - Standard Deviation
  - % In Warning
  - % In Limit
  - Cpk
  - Conformance Index
  - Number of Samples

See [Retrieve Run Statistics for Variables by Time Frame \(on page 55\)](#).

# Chapter 10. Event Summaries

## Event Summaries

You can use the Event Summary functions to retrieve information about the various Plant Applications events. These events are:

- Production
- Product Change
- Waste
- Downtime
- Alarm

See

- [Alarm Event Detail Information \(on page 114\)](#)
- [Alarm Event Summary Information \(on page 112\)](#)
- [Calculations for Production Event \(on page 104\)](#)[Downtime Event Detail Information \(on page 107\)](#)
- [Downtime Summary Information \(on page 105\)](#)
- [Find Product Attributes \(on page 86\)](#)
- [Parent-Child Production Events \(Genealogy\) \(on page 33\)](#)
- [Searching for Production Events \(on page 102\)](#)
- [Waste Event Detail Information \(on page 110\)](#)
- [Waste Event Summary Information \(on page 109\)](#)

## Finding Production Event Attributes

To access this dialog box, from the **Plant Applications Excel Add-In**, click the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Production Event**.

You can find specific information for each production event in Plant Applications. You can find attributes for one or more production events and choose the attributes that you want to include on your worksheet.

Ensure you have already imported production events into your worksheet before you find the attributes. For information about finding production events, see [Searching for Production Events \(on page 81\)](#).

This function is controlled by the site parameter, `EventNumIsNumber`, which is set in the Plant Applications Administrator. For more information about this site parameter, see [EventNumIsNumber Site Parameter \(on page 73\)](#).

See

- [Find Product Event Attributes and EventNumIsNumber Is Set to 1\(True\) \(on page 30\)](#)
- [Find Product Event Attributes and EventNumIsNumber Is Set To 0 \(Zero\)\(False\) \(on page 29\)](#)

## Searching for Production Events

You can find specific information about each production event in Plant Applications. These production events are associated with a production unit. When you search for production events, you must specify a start time. Additionally, the Plant Applications Add-in provides you with multiple filters that you can use to limit or refine your search results.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Search Production Events**.  
The **Plant Applications Event Search** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line, then click the second drop-down arrow to select a production unit.
4. Under **Time Range**, enter a start and end time. For more information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box. If you filter on a product, the options original product and applied product will be available.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, `ProdCodelsNum`. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
6. If the choice is available, under **Product Filter As**, select:

- **Original Product** to filter on the original product.
  - **Applied Product** to filter on the applied product. The applied product is the final product that a particular production event is assigned. This is used to indicate a different product than the production event was originally built as. The starting or initial product is the original product.
7. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For information about Force ID, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
8. Under **Filter By**, do one or more of the following:
- Under **Plant Order Number**, enter the plant order number.
  - Under **Customer Code**, enter the customer code.
  - Under **Primary Event Number**, enter the primary event number.

Keep in mind that the results you get might not be the expected results simply because of the filters you have chosen. If you are not sure of your results, it's best to use fewer filters.

9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
- Under **Crew Description**, click the drop-down list to select a crew.
  - Under **Shift Description**, click the drop-down list to select a shift.

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the Display list.

10. Under **Event Status Filter**, do one of the following:
- If you do not want to filter on event status (for example, Consumed, In Progress, Hold, and so on), select the **Do Not Filter By Event Status** option.
  - If you want to filter on event status, select the **Filter By Specific Event Status In List Below** option. Then, in the Status To Exclude list, select one or more of the event statuses you want to include, then click the **Move Selected** option to move the event statuses to the **Status To Include** list.
11. Under **Display**, select one or more of the attributes you want to include on your worksheet.
12. Under **Output Range**, first select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
13. Under **Output Sort**, do one of the following:
- Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).

14. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

15. Click **OK**.

## Calculations for Production Event

You can use the Plant Applications Add-in to perform a variety of calculations on specific dimensions for production events on a specific production unit during a specific period of time. If you want dimensions calculated for a specific product, you can specify the product.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Production Event Calculations**.

The **Plant Applications Event Calculations** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Production Line**, click the drop-down list to select a production line, and then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter the start time and end time. Entering an end time is optional. For more information on entering start and end times, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box. If you do not select a product, the calculations for the selected dimension will be for all production events on the selected production unit for the specified time period.
6. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For information about Force ID, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
7. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Under **Crew Description**, click the drop-down list to select a crew.
  - Under **Shift Description**, click the drop-down list to select a shift.

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the Display list.

8. Under **Dimension Sought**, select only one of the statistics.
9. Under **Display**, select one or more of the calculations you want to perform.

10. Under **Output Cell**, first select the cell on your worksheet where you want to input the statistic information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting an output cell on your worksheet, see [Select Cells for Output \(on page 15\)](#).
11. Under **Output Orientation**, click **Columns** to list the statistics in multiple columns or click the **Rows** option to list the statistics in multiple rows. For more information, see [Output Orientation \(on page 17\)](#).
12. Click **OK**.

## Searching for Product Change Events

You can retrieve specific information about product change events during a specified time period. You can refine your search to include information about a specific product, if you wish.

See [Retrieve Product Change Event Information \(on page 53\)](#).

## Downtime Summary Information

### About this task

You can retrieve summarized Downtime event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the Downtime events for, or you can simply see all the Downtime events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Down Time Summary**.  
The **Plant Applications Down Time Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Downtime event information.
  - Select the unit information from your worksheet and click in the **Unit** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve Downtime event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.

6. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.

Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Downtime events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Downtime events that have a Level 1 Reason and a Level 3 Reason associated with the Downtime event.

7. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see [Non-productive Time Summary Information \(on page 119\)](#).
8. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
10. Click the **Crew Description** drop-down list to select a crew.
11. Click the **Shift Description** drop-down list to select a shift.
12. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the Downtime event information will be summarized for all products on the selected production unit for the specified time period.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
13. Under **Display**, select one or more of the information categories to include on your worksheet. You can display one or more of the following:
  - The Reason Name: This is the name of the Reason assigned to Downtime.
  - Number of Occurrences: This is the number of Downtime events that were assigned this particular Reason for the specified time period.
  - Total Reason Minutes: These are the total number of minutes of Downtime that were assigned this particular Reason for the specified time period.
  - Average Reason Minutes: This is the average number of minutes of Downtime assigned this Reason for the specified time period.
  - Total Downtime Minutes: This is the total number of Downtime minutes for the specified time period.

- Total Uptime Minutes: This is the total number of Uptime minutes for the specified time period.
  - Average Uptime Minutes: This is the average number of Uptime minutes for the specified time period.
  - Total Operating Minutes: This is the total number of operating minutes for the specified time period.
14. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
  15. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

16. Click **OK**.

## Downtime Event Detail Information

### About this task

You can retrieve detailed Downtime event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the Downtime events for, or you can simply see all the Downtime events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Down Time Detail**.  
The **Plant Applications Down Time Detail** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Downtime event information.
  - Select the unit information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:

- Type the unit location for which you want to retrieve Downtime event information.
  - Select the unit location information from your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
  6. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see [Non-productive Time Summary Information \(on page 119\)](#).
  7. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, please see [Select Start and End Times \(on page 16\)](#).
  8. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
    - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
    - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "r;Applied Product" will be added to the Display list.
    - If you do not select a product, the Downtime event information will be for all products on the selected production unit for the specified time period.
  9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
    - Click the **Crew Description** drop-down list to select a crew.
    - Click the **Shift Description** drop-down list to select a shift.
  10. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 16 items in the list.
  11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
  12. Under **Output Sort**, do one of the following:
    - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
    - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
  13. If you a select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

14. Click **OK**.

## Waste Event Summary Information

### About this task

You can retrieve summarized Waste event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the Waste events for, or you can simply see all Waste events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Waste Summary**.  
The **Plant Applications Waste Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Waste event information.
  - Select the unit information from your worksheet and click in the **Unit** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve Waste event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
6. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
7. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet.

- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the Waste event information will be for all products on the selected production unit for the specified time period.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
    - Click the **Crew Description** drop-down list to select a crew.
    - Click the **Shift Description** drop-down list to select a shift.
  9. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.

Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Waste events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Waste events that have a Level 1 Reason and a Level 3 Reason associated with the Waste event.
  10. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results.
  11. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 18 items in the list.
  12. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
  13. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

14. Click **OK**.

## Waste Event Detail Information

### About this task

You can retrieve detailed Waste event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the Waste events for, or you can simply see all the Waste events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Waste Detail**.  
The **Plant Applications Waste Detail** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (  ).
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Waste event information.
  - Select the unit information from your worksheet and click in **Unit** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve Waste event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
6. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see [Non-productive Time Summary Information \(on page 119\)](#).
7. Under **Time Range**, enter the start and end time during which you want to retrieve the Waste event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
8. **Optional:** If you want to filter on a specific product, under **Product Filter** (or **Product Code**), select a Product Code or Product ID on your worksheet.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the Waste event information will be for all products on the selected production unit for the specified time period.
9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:

- Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
10. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 16 items in the list.
  11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
  12. Under **Output Sort**, do one of the following:
    - Select the **Ascending** option to sort the statistics starting with the most recent Start Time (for example, from oldest to newest).
    - Select the **Descending** option to sort the statistics starting with the earliest Start Time (for example, from newest to oldest).
  13. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).  
If you select more than one output cell, these options are not available.
  14. Click **OK**.

## Alarm Event Summary Information

### About this task

You can retrieve summarized Alarm event information for a particular variable during a specified time period. Additionally, you can specify the product you want to see the Alarm events for, or you can simply see all Alarm events for the specified variable.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Alarm Summary**.  
The **Plant Applications Alarm Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** (⋮).
3. Under **Variable**, enter the Variable ID for which you want to retrieve Alarm event information. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.

5. Under **Time Range**, enter the start and end time during which you want to retrieve the Downtime event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
6. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the Alarm event information will be for all products associated with the selected variable for the specified time period.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
7. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
8. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.  
 Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Alarm events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Alarm events that have a Level 1 Reason and a Level 3 Reason associated with the Alarm event.
9. To retrieve information for only acknowledged alarms, select **Get acknowledged alarms only**.
10. Under **Display**, select one or more of the information categories to include on your worksheet.
11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## Alarm Event Detail Information

### About this task

You can retrieve detailed Alarm event information for a particular variable during a specified time period. Additionally, you can specify the product you want to see the Alarm events for, or you can simply see all the Alarm events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Alarm Detail**.  
The **Plant Applications Alarm Detail** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Variable**, enter the Variable ID for which you want to retrieve detailed Alarm event information. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
5. Under **Time Range**, enter the start and end time during which you want to retrieve the Waste event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
6. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.



#### Note:

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the Alarm event information will be for all products on the selected production unit for the specified time period.

7. To retrieve information for only acknowledged alarms, select the **Get acknowledged alarms only** option.
8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.

9. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 22 items in the list.
10. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Selecting Cells for Output](#).
11. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Start Time (for example, from newest to oldest).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

## User-defined Summary Information

### About this task

You can retrieve summarized User-defined event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the User-defined events for, or you can simply see all the User-defined events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **User-Defined Event Summary**.  
The **Plant Applications User-Defined Event Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve User-defined event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).

4. Under **Event Subtype**, do one of the following:
  - Type the event subtype.
  - Select the cell on your worksheet that contains the event subtype and click in the **Event Subtype** box.
5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
6. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.
 

Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the User-defined events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the User-defined events that have a Level 1 Reason and a Level 3 Reason associated with the User-defined event.
7. Under **Data Option**, select **Get acknowledged events only** to select only those user-defined events that have been acknowledged.
8. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see the topic Non-Productive Time.
9. Under **Time Range**, enter the start and end time during which you want to retrieve the User-defined event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
10. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
11. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the User-defined event information will be summarized for all products on the selected production unit for the specified time period.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
12. Under **Display**, select one or more of the information categories to include on your worksheet. You can display one or more of the following:
  - The Reason Name: This is the name of the Reason assigned to User-defined.
  - Number of Occurrences: This is the number of User-defined events that were assigned this particular Reason for the specified time period.

- Total Reason Minutes: These are the total number of minutes of User-defined that were assigned this particular Reason for the specified time period.
  - Average Reason Minutes: This is the average number of minutes of User-defined assigned this Reason for the specified time period.
  - Total User-defined Minutes: This is the total number of User-defined minutes for the specified time period.
  - Total Operating Minutes: This is the total number of operating minutes for the specified time period.
13. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
14. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

15. Click **OK**.

## User-defined Event Detail Information

### About this task

You can retrieve detailed User-defined event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the User-defined events for, or you can simply see all the User-defined events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **User-defined Event Details**.

The **Plant Applications User-Defined Event Details** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. **Optional:** Under **Location**, do one of the following:

- Type the unit location for which you want to retrieve User-defined event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Under **Event Subtype**, do one of the following:
    - Type the event subtype.
    - Select the cell on your worksheet that contains the event subtype and click in the **Event Subtype** box.
  5. **Optional:** Under **Reasons**, enter the Reason(s) and/or Action(s) you want to filter on.
  6. Under **Data Option**, select **Get acknowledged events only** to select only those user-defined events that have been acknowledged.
  7. Select **Filter Out Non Productive Time** to exclude non-productive time from the search results. For more information on non-productive time, see the topic Non-Productive Time.
  8. Under **Time Range**, enter the start and end time during which you want to retrieve the User-defined event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
  9. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
    - Click the **Crew Description** drop-down list to select a crew.
    - Click the **Shift Description** drop-down list to select a shift.
  10. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
    - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
    - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
    - If you do not select a product, the User-defined event information will be for all products on the selected production unit for the specified time period.

For information about Force ID, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

11. Under **Display**, select one or more of the information categories to include on your worksheet. Excel limits you to selecting a maximum of 11 of the 16 items in the list.
12. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
13. Under **Output Sort**, do one of the following:

- Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
14. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

15. Click **OK**.

## Non-productive Time Summary Information

### About this task

You can retrieve summarized Non-productive Time event information for a particular unit during a specified time period. Additionally, you can specify the product you want to see the Non-productive Time events for, or you can simply see all the Non-productive Time events for the specified unit.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Down Time Summary**.  
The **Plant Applications Non Productive Time Summary** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ()
3. Under **Unit**, do one of the following:
  - Type the unit for which you want to retrieve Non-productive Time event information.
  - Select the unit information from your worksheet and click in the **Unit** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. **Optional:** Under **Location**, do one of the following:
  - Type the unit location for which you want to retrieve Non-productive Time event information.
  - Select the unit location information from your worksheet and click in the **Location** field. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
5. **Optional:** Under **Reasons**, enter the Reason(s) you want to filter on.
6. Under **Reason Level To Report**, click the drop-down list and select the specific information you want summarized on your report.

Your results will depend on the reason level you select and any Reason or Action filters you entered. For example, if you want to see Reason 3 information on your worksheet, and do not filter anything, then you will get all of the Non-productive Time events that have a Level 3 Reason. On the other hand, if you filter on a Level 1 Reason, then you will get only the Non-productive Time events that have a Level 1 Reason and a Level 3 Reason associated with the Non-productive Time event.

7. Under **Time Range**, enter the start and end time during which you want to retrieve the Non-productive Time event information. For information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
8. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
9. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
  - If you do not select a product, the Non-productive Time event information will be summarized for all products on the selected production unit for the specified time period.

For information about Force ID, see [ProdCodelsNum Site Parameter \(on page 73\)](#).

10. Under **Display**, select one or more of the information categories to include on your worksheet. You can display one or more of the following:
  - The Reason Name: This is the name of the Reason assigned to Non-productive Time.
  - Number of Occurrences: This is the number of Non-productive Time events that were assigned this particular Reason for the specified time period.
  - Total Reason Minutes: These are the total number of minutes of Non-productive Time that were assigned this particular Reason for the specified time period.
  - Average Reason Minutes: This is the average number of minutes of Non-productive Time assigned this Reason for the specified time period.
  - Total Non-productive Time Minutes: This is the total number of Non-productive Time minutes for the specified time period.
  - Total Productive Minutes: This is the total number of productive minutes for the specified time period.
  - Average Productive Minutes: This is the average number of productive minutes for the specified time period.
  - Total Operating Minutes: This is the total number of operating minutes for the specified time period.

11. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
12. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

13. Click **OK**.

# Chapter 11. Variable (Test) Data

## Variable (Test) Data

Test data are discrete data elements stored in the Plant Applications database that represent manually entered date and time-and event-based summarized process data. The Plant Applications Add-in provides several ways to retrieve this variable, or test data.

- [Detailed Data from Historians \(on page 127\)](#)
- [Most-Recent Test Values \(on page 122\)](#)
- [Retrieving Test Data by Time Frame \(on page 122\)](#)
- [Retrieving Test Data for a Specific Time \(on page 123\)](#)
- [Retrieving Time Stamps for Multiple Variables \(on page 141\)](#)
- [Test Value Audit History \(on page 124\)](#)
- [Test Value Calculations \(on page 124\)](#)
- [Test Values for Specific Event \(on page 125\)](#)

## Most-Recent Test Values

You can retrieve the most recent test value for selected variables. The test value returned will be the last entry made for the selected variable.

You can retrieve one or more of the following attributes:

- Event Indicator
- Event Status
- Product Code
- Test Value
- Test Status
- Entry Time Stamp
- Comment

See [Retrieve the Most Recent Test Value \(on page 60\)](#).

## Retrieving Test Data by Time Frame

You can retrieve test values for one or more variables during a specific time period. You can filter on a specific product, if you wish, as well as select a specific crew and shift. Multiple variables are returned with timestamps. Refer to the GE Intelligent support site for examples in the Knowledge Base.

If you select more than one variable, only the captured values of first variable will correspond directly to the time stamp. The captured test values for the remaining variables will simply be the first values that match the output range limit and that fall within the specified time. For example, if you select two variables (A and B), a time range of one month, and your output range allows for 12 columns of time stamps. You will get 12 captured values for Variable A that correspond to the 12 time stamps. However, the captured values for the remaining variable (B) will be only the captured values that occurred between the start time and the end time; they will not correspond with the 12 time stamps. This means that you might have anywhere from zero to 12 variables, depending on the test frequency of the second variable.

Before you retrieve test data, you will need to have the Variable ID(s) or Variable Description(s) on your worksheet. For more information see [Search for Variables \(on page 75\)](#).

## Retrieving Test Data for a Specific Time

You can retrieve test values for selected variables based on the specified result time (based on the sampling interval specified in the Plant Applications Administrator). The returned information is based on the exact date and time that you specify. Multiple variables are returned with timestamps. Refer to the GE Intelligent support site for examples in the Knowledge Base.

If you select more than one variable, only the captured values of first variable will correspond directly to the time stamp. The captured test values for the remaining variables will simply be the first values that match the output range limit and that fall within the specified time. For example, if you select two variables (A and B), a time range of one month, and your output range allows for 12 columns of time stamps. You will get 12 captured values for Variable A that correspond to the 12 time stamps. However, the captured values for the remaining variable (B) will be only the captured values that occurred between the start time and the end time; they will not correspond with the 12 time stamps. This means that you might have anywhere from zero to 12 variables, depending on the test frequency of the second variable.

Before you perform this function, you will need to already have Variable IDs on your worksheet. For information on finding Variable IDs, see [Search for Variables \(on page 75\)](#).

One or more of the following attributes can be selected:

- Event Indicator
- Event Status
- Product Code

- Test Value
- Test Status
- Entry Time Stamp
- Comment

See [Retrieve Time-Specific Test Data \(on page 61\)](#).

## Test Value Audit History

You can retrieve the audit history of a variable based on a specific Result Time. The audit history shows you when the values were entered and by whom.

You can select one or more of the following attributes:

- Result Time Stamp
- Entry Time Stamp
- Test Value
- Test Status
- Entered By

See [Retrieve Test Value Audit History \(on page 58\)](#).

You should have Variable IDs or Variable Descriptions on your worksheet. For information on searching for variables, see [Search for Variables \(on page 75\)](#).

## Test Value Calculations

You can perform calculations on specific variables during a specified time period. Additionally, you can limit your search to a specific product.

You can perform the following calculations:

- Average
- Time of Minimum
- Minimum
- Time of Maximum
- Maximum
- Standard Deviation

- Total
- Count

See [Perform Calculations on Test Values \(on page 38\)](#).

## Test Values for Specific Event

You can retrieve test values for one or more variables for a specific event. If a selected variable is not part of the specified event, no value will be returned. If a selected event is not an event-based variable, "Variable Not Event Based" will be displayed in the associated cell.

You can select one or more of the following attributes:

- Event Status
- Result Time Stamp
- Product Code
- Test Value
- Test Status
- Entry Time Stamp
- Comment

Before you begin, you should have [Variable IDs or Variable Descriptions \(on page 75\)](#) and [Primary Event Numbers or Event IDs \(on page 81\)](#) on your worksheet.

See [Retrieve Test Values for a Specific Event \(on page 59\)](#).

## Retrieve Test Data by Test Variable Name

### Before you begin

To retrieve the test values, you need to first search for the variable test name. See [Searching for Variables by Test Name \(on page 83\)](#). The variable test name is also known as the variable alias name in the Variable Sheet.

### About this task

You can use the variable test name to retrieve test values for one or more variables for a specific event. If a selected variable is not part of the specified event, no value will be returned. If a selected event is not an event-based variable, "Variable Not Event Based" will be displayed in the associated cell.

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Data By Test Variable Name** to open the **Test Data By Test Variable Name** dialog box.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Test Variable Name**, select the test name on your worksheet. For information on selecting cells for input, see [Select Cells for Input \(on page 14\)](#).
4. Under **Time Range**, do one or more of the following:
  - Type a start date in the **Start Time** box. This date determines how far back in time data will be retrieved.
  - Type an end date in the **End Time** box. This date determines the end date of when data will be retrieved. This is optional.

Click **View Calendar** () to view a calendar from which you can select a specific date.

5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.



### Note:

- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
- If you do not select a product, the information will be for all products.

6. **Optional:** Under **Crew Schedule Filter**, select the crew or shift that you want to filter one. You can filter on one or both.
7. Under **Display**, select one or more of the attributes to include on your worksheet.
8. Under **Output Range**, first select the range of cells on your worksheet where you want to import the information and click in the **Output Range** box, you can see the cell range reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
9. Under **Output Sort**, choose the sort order, either Ascending (A - Z) or Descending (Z - A).
10. Under **Output Orientation**, click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
11. Click **OK**.

# Chapter 12. Detailed Variable Data from Historians

## Detailed Data from Historians

You can retrieve detailed data from your process historian for specific variable tags over a specified period of time. For each data type, you can display the time stamp and the associated value.

- From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and then select **Detailed Data**.

You can retrieve three types of data:

- [Retrieving Raw Data \(on page 127\)](#)
- [Retrieving Interpolated Data \(on page 127\)](#)
- [Retrieving Calculated Detail Data \(on page 127\)](#)

## Retrieving Raw Data

- To access this dialog box, from the Plant Applications Excel Add-In, click the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and then select **Detailed Data**.

You can retrieve raw data for a specified period of time for a specific variable tag. The retrieved data is the actual time stamp and associated value for the specified variable tag.

Retrieving raw data is good place to start if you intend to retrieve interpolated or calculated data.

See [Retrieve Detailed Raw Data \(on page 47\)](#).

## Retrieving Interpolated Data

- To access this dialog box, from the Plant Applications Excel Add-In, click the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Detailed Data**.

You can retrieve interpolated data for a specified period of time for one or more variable tags. The retrieved values are estimated values based on the specified time interval.

See [Retrieve Interpolated Detailed Data \(on page 51\)](#).

## Retrieving Calculated Detail Data

- To access this dialog box, from the Plant Applications Excel Add-In, click the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Detailed Data**.

You can use the Plant Applications Add-in to perform calculations on the raw historian data. Based on the specified time frame and the specified time interval, the following calculations can be performed on the historian data:

- Average
- Minimum
- Maximum
- Standard Deviation
- Total

See

- [Retrieve Calculated Detail Data \(on page 41\)](#)
- [Retrieving Interpolated Data \(on page 127\)](#)
- [Retrieving Raw Data \(on page 127\)](#)

# Chapter 13. Excel Tips & Tricks

## Introduction to the Plant Applications Add-In

The Plant Applications Add-In for Microsoft Excel is a tool you can use to create ad hoc reports that help you retrieve and analyze data stored in Plant Applications or in your historian. Because it is an Excel Add-in, you gain all the features and functionality of Excel, coupled with the ability to quickly and easily import Plant Applications data into your workbook. The combination of the two is a powerful assistant that helps you analyze and present information in unlimited ways.

See

- [Connect to a Server \(on page 18\)](#)

## Excel Tips & Tricks

There are a few tips and tricks that may help you use the Plant Applications Add-in. These tips and tricks deal mainly with using Excel features. If you would like additional information about using Excel, you can access Excel's online help by pressing the F1 key.

### **Recalculating an Array**

**Ctrl + Shift + Enter.** By pressing all three keys simultaneously, you can manually cause a formula you've edited to recalculate.

### **Copying Plant Applications Formulas**

To copy formulas to other locations in the spreadsheet, you'll need to determine the part of the formula that points to a cell that should update and point to a new cell. This requires removing absolute cell references.

### **Formatting a Report**

Using the IF and ISNUMBER functions can help improve the look of your report. You can also use date and time functions, such as:

**=TODAY()** This function returns the current date.

**=NOW()** This function returns the current date and time.

### **Determining Valid EOM Dates**

See [Determining Valid EOM Dates \(on page 132\)](#).

## Formatting Cells

You can use the **Format Cells** command to determine the format of your dates and to specify text alignment options. To access the **Format Cells** command, right-click on the cell you want to format and click **Format Cells** on the pop-up menu. Click the **Number** tab to select a date format. Click the **Alignment** tab to specify your text alignment options (for example, wrap text).

## Set the Plant Applications Add-in Options

To access this dialog box, in Excel, from the **Plant Applications** menu, select **My settings from User profile**.

The Plant Applications Add-in for Excel provides you with options that you can use to customize the Add-in. You can set options that determine how your output is formatted, the language used in the dialog boxes and menus, and which server is the default server. The saved settings are associated with the current user, so that each user can customize the Add-in to suit their needs.

### Automatically Fit Text to Cells

There are two options that control how text is formatted in a cell. One option controls headers; the other option controls data. You can select one or both of these options. These options control only the text that is input from Plant Applications. These options will not affect text that is manually typed or pasted into a cell.

- **Adjust header column width:** Select this option to automatically size the columns to fit the header text.
- **Adjust data column width:** Select this option to automatically size the columns to fit the data.

### Changing the User Interface Language

You can change the language that is used for menu options and dialog box text.

To change the user interface language, under **Language**, click the drop-down list and select a language.

### Handling "Blank" Values

You can specify whether you want blank values to display as empty cells or to display the word "None."

- **No. leave blank:** Select this option to display blank values as empty cells.
- **Yes. Substitute None:** Select this option to display "None" for blank values.

## Displaying Headers

- **Show header label:** Select this option to include row or column headers on your worksheet.
- **Hide header label:** Select this option if you do not want to include row or column headers on your worksheet.

## Specifying Header Color

To specify a header color, under Color click the drop-down list and select a color. If you want the header text to be in bold text, select the **Bold** option.

## Server Connections

The **Plant Applications Add-In Options** dialog box displays the current server, the name of the current user, and the status of the server connection. If you click the **Edit** option, you can connect to a different server, add a new server, or delete a server.

If your server information displays "Unknown," that typically means that you have not performed any tasks in the Add-in. To verify that you are connected, click the **Edit** option to view server information.

## Array Limits

Excel 2002 has an array size limit of 32767 cells, while Excel 2000 and Excel 97 have an array size limit of 5460 cells.

Problems arise if a worksheet is created in Excel 2002 that has more than 5460 cells in an array and is opened with Excel 2000 or Excel 97. If this happens #VALUE! is displayed in each of the cells in the array.

## Copying Plant Applications Formulas

To copy formulas to other locations in the spreadsheet, you will need to determine the part of the formula that points to a cell that should update and point to a new cell. This requires removing absolute cell references.

## Formatting Cells

You can use the Format Cells command to determine the format of your dates and to specify text alignment options. To access the Format Cells command, right-click on the cell you want to format and click **Format Cells** on the pop-up menu. Click the **Number** tab to select a date format. Click the **Alignment** tab to specify your text alignment options (for example, wrap text).

## Formatting a Report

Using the IF and ISNUMBER functions can help improve the look of your report. You can also use date and time functions, such as:

- **=TODAY()** This function returns the current date.
- **=NOW()** This function returns the current date and time.

## Determining Valid EOM Dates

You can use the following formulas to determine if the 30th and 31st are valid days in a month:

**=IF(MONTH(\$A\$2)=2,"",C43+1)**

If the month = 2, then blank out the date; otherwise add 1 day to the previous date in cell C43.

**=IF(DAY(EOMONTH(\$A\$2,0))=31,C44+1,"")**

The EOMONTH function returns the number of the last day of the month (located in cell A2). Then, the IF function checks if the last day of the month = 31. If it is, it looks at the date in C44 and adds one day to that date. If the last day of the month ≠ 31, it returns nothing (for example, it blanks out the cell).

In order to use the EOMONTH function, you will need to install the Analysis ToolPak Add-in.

**=ISNUMBER(A5)**

This function returns True if the value in A5 is a number, False if it is not.

**=IF(ISNUMBER(GBGetTestData(Monthly\_Operating!\$D\$7,Monthly\_Operating!\$C10,"None",0,"Any",1,1,"VAL")),GBGetTestData(Monthly\_Operating!\$D\$7,Monthly\_Operating!\$C10,"None",0,"Any",1,1,"VAL"),"")**

If the value returned by the GBGetTestData function is a number then the IF function returns the results to the cell otherwise it returns nothing to the cell.

**=IF(TODAY()>=\$C29,IF(ISNUMBER(GBGetTestData(Monthly\_Operating!\$D\$7,Monthly\_Operating!\$C29,"None",0,"Any",1,1,"VAL")),GBGetTestData(Monthly\_Operating!\$D\$7,Monthly\_Operating!\$C29,"None",0,"Any",1,1,"VAL"),""),"")Monthly\_Operating!\$D\$7,Monthly\_Operating!\$C10,"None",0,"Any",1,1,"VAL"),""):**

This function adds an extra IF function to determine if the date today is greater than or equal to the date in a cell and if it is then return a value for this formula otherwise return nothing.

## Automatic Recalculation

Because the Plant Applications functions are dynamic, anytime Excel determines the need for a recalculation, your information is automatically updated for you.

You must have automatic calculation activated in Excel.

### Two ways to recalculate

There are basically two conditions that will cause Excel to automatically re-execute a query:

- Opening a workbook that contains Plant Applications functions
- Changing the information in a dependent cell

For example, many functions rely on start and end dates that you enter as criteria. If you change either the start date or the end date within the worksheet, Excel re-executes the query and recalculates the data based on the new date(s).

## Recalculating an Array

**Ctrl + Shift + Enter.** By pressing all three keys simultaneously, you can manually cause a formula you have edited to recalculate.

## Lists as Cell Reference

Excel has a feature that you can use to create lists of items, and then use the list as a reference for input into other Plant Applications functions. This functionality is lost when the report is published to the web or saved as an HTML report.

### Procedure

1. [Create a list \(on page 133\)](#).
2. [Reference the list \(on page 134\)](#).

## Create a list

### Procedure

1. On a separate worksheet, retrieve product codes (Search > Products).
2. Highlight the items in the list.
3. In the **Name** box, type the name for the range.
4. Click **Enter**.

## Lists as Cell Reference

Excel has a feature that you can use to create lists of items, and then use the list as a reference for input into other Plant Applications functions. This functionality is lost when the report is published to the web or saved as an HTML report.

### Procedure

1. [Create a list \(on page 133\)](#).
2. [Reference the list \(on page 134\)](#).

## Reference the list

### Procedure

1. On another worksheet, select the cell where you want the drop-down list.
2. From Excel's **Data** menu, click **Validation**.
3. In the **Data Validation** dialog box, under **Allow**, select **List** from the drop-down list.
4. Under **Source**, enter the name of the list. Ensure that the list name is preceded by an equal sign (=).  
On occasion, you might have to also include the worksheet name. In that case, the list reference would be in this format: **=SheetName!ListName**
5. Click **OK**.

In order to see the drop-down list, you will first have to select the cell that contains the list.

Now, you can create a report and reference the cell where the list is located. This way, all you have to do is select a different item from the list and your report will automatically update the information for you. In this example, we used product codes, but you can create lists of variables or events or any number of items.

## Create a Drop-down List

### Procedure

1. [Create a list \(on page 133\)](#).
2. [Reference the list \(on page 134\)](#).

## Build a Product Search

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, click **Build Product Search**.  
The **Plant Applications Product Search Selector** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Search Type**, click the drop-down list and do one of the following:
  - Select **Product** to search for product codes. You can retrieve all products or all products within a specific group.
  - Select **Product Group** to retrieve product groups. You can then use one of these groups as input for filtering.
  - Select **Property/Characteristic** to retrieve a specific property and all associated characteristics.

Using the **Product Group and Prop/Char** results as a filter will return results that match either the product group or the property and characteristic. In other words, it uses OR logic and not AND logic.

4. Select the output cell on your worksheet. For more information, see [Select Cells for Output \(on page 15\)](#).

**Note:**

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.

**Note:**

If output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

5. Select either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
6. Click **OK**.

# Chapter 14. Sample Reports

## Evaluate Process Capability Using Historical Data

### About this task

This example demonstrates how to evaluate process capability. You can retrieve Cpk statistics for any variable and product that specification limits have been defined for. You can also retrieve Average and Standard Deviations for variables. This example will also demonstrate how to use a list as a cell reference for product codes.

### Procedure

1. On your worksheet, enter a start time and an end time.
2. Create a drop-down list of product codes. For information on creating a drop-down list, see [Create a Drop-down List \(on page 134\)](#).
3. Retrieve a list of variables. For information on searching for variables, see [Search for Variables \(on page 75\)](#).
4. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, then **For Variables**, and then select **Run Data Calculations**.
5. Under **Time Range**, select the start time and end time on your worksheet.
6. Under **Product Filter**, select the cell where you placed the list of product codes.
7. Under **Run Statistic**, select **Cpk**.
8. Under **Statistic Calculation**, select **Average**, **Minimum**, and **Maximum**.
9. Under **Output Cell**, first select the cell on your worksheet where you want to place the information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
10. Click **OK**.
11. Select a different product code from the **Product** drop-down list to evaluate different products.

## Retrieving Production Event Data

### About this task

Using a variety of functions within the Add-in, you can retrieve specific data associated with a specific production event, such as a new batch, lot or reel. These steps will show you how to find these events and then find information associated with a specific event. Specifically, this report will show the target and test values for variables during a specific production event.

This example is meant to demonstrate how you can dynamically update the information on your worksheet by simply changing the data in a single cell. Additionally, this example will show you how you can use multiple functions within the Add-in to build reports.

### Procedure

1. [Enter the Start and End Time \(on page 137\)](#).
2. [Find Production Events \(on page 137\)](#).
3. [Create Cell Reference for Event ID \(on page 138\)](#).
4. [Find Attributes Associated with a Selected Event \(on page 138\)](#).
5. [Find Variables \(on page 139\)](#).
6. [Find the Variables' Specification Targets \(on page 140\)](#).
7. [Find the Variables' Test Values \(on page 141\)](#).

## Enter the Start and End Time

### About this task

You determine the time frame during which you want to search for production events. You can search either a very wide or narrow time frame. Along with specific dates, you can also enter a specific time. The information in these cells will be used as references.

- On your worksheet enter the start time in one cell and the end time in another cell.

## Find Production Events

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Search Production Events**.  
The **Plant Applications Event Search** dialog box appears.
2. Do the following:
  - If you want to find all events within a specific time frame, go to step 3.
  - If you want to find events on a specific unit, under **Production Line**, click the drop-down list to select a production line, then click the second drop-down arrow to select a production unit.
3. Select the cell on your worksheet that contains the start time and click in the **Start Time** box.
4. Select the cell on your worksheet that contains the end time and click in the **End Time** box.
5. **Optional:** Under **Product Filter** (or **Product Code**), click an empty cell on your worksheet and then click in the box.
6. **Optional:** Under **Filter By**, do one or more of the following:

- Under **Plant Order Number**, enter the plant order number.
- Under **Customer Code**, enter the customer code.
- Under **Shipment Number**, enter the shipment number.
- Under **Primary Event Number**, enter the primary event number.

Keep in mind that the results you get might not be the expected results simply because of the filters you have chosen. If you are not sure of your results, it is best to use fewer filters.

7. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
- Under **Crew Description**, click the drop-down list to select a crew.
  - Under **Shift Description**, click the drop-down list to select a shift.

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the Display list.

8. **Optional:** Under **Event Status Filter**, do one of the following:
- If you do not want to filter on event status (for example, Consumed, In Progress, Hold, and so on), select the **Do Not Filter By Event Status** option.
  - If you want to filter on event status, select the **Filter By Specific Event Status In List Below** option. Then, in the **Status To Exclude** list, select one or more of the event statuses you want to include, then click **Move Selected** to move the event statuses to the Status To Include list.
9. Under **Display**, select one or more of the attributes you want to include on your worksheet.
10. Under **Output Range**, first select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
11. Click **OK**.

## Create Cell Reference for Event ID

### About this task

#### Procedure

1. In a empty cell, type `Event ID`.
2. Right click on one of the Event ID cells and select **Copy** from the pop-up menu.
3. Right-click on an empty cell adjacent to the cell created in step 1 and select **Paste Special** from the pop-up menu.
4. In the **Paste Special** dialog box, under **Paste**, select the **Values** option.
5. Click **OK**.

## Find Attributes Associated with a Selected Event

## Procedure

1. On a new worksheet, do one of the following:
  - From the **Plant Applications Excel Add-In Main** menu, select **Attributes**, and then select **Production Event**.
  - From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Production Event Attributes**.
2. In the **Plant Applications Production Event Attributes** dialog box, under **Event Number(s)**, select the Event ID cell on the first worksheet, and click in the **Event Number(s)** box.  
 You must have the site parameter, EventNumIsNumber, set to a value of 1 in the Plant Applications Administrator. Using the Event ID, rather than the Event Number prevents us from having to select a Production Line and Production Unit. If the EventNumIsNumber site parameter has a value of 0 (zero), then you will have to select a Production Line and Production Unit.
3. **Optional:** Under **Force Event As ID**, select the **Force ID** option.
4. Under **Display**, select the following attributes:
  - Production Event Number
  - Production Unit
  - Time Stamp
  - Event Status
  - Original Product
5. Under **Output Cell**, select a cell on the second worksheet, and in the **Output Cell** box.
6. Click the **Rows** option.
7. Click **OK**.

## Find Variables

### About this task

You can retrieve the variables for which we want to view target values and test values. By using the available filters, you can narrow your search results. If you want to retrieve all variables, simply click **Search** in the Plant **Applications Variable Search** dialog box.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
2. In the **Plant Applications Variable Search** dialog box, under **Production Line**, click the drop-down list to select a production line.
3. Under **Production Unit**, click the drop-down list to select a production unit. If you selected a production line, only the production units associated with the selected line will be available.

4. **Optional:** Under **Production Group**, click the drop-down list to select a variable group. If you selected a production unit, only the variable groups associated with the selected production unit will be available.
5. **Optional:** Under **Variable Description Filter**, enter any combination of numbers or letters. Keep in mind that the variables displayed will be those that contain exactly what you enter.
6. Under **Display**, select the **Variable Descriptions** check box to include a description of the selected variables on your spreadsheet. Select the **Engineering Units** check box to include the engineering units (#, LF, lbs, kg) for the selected variables on your spreadsheet.
7. Click **Search**.
8. In the **Selection Found** box, do one of the following:
  - Select the variables you want to include on your spreadsheet and click **Move Selected Right** (  ) to move the selected variables to the **Selected Variables** box.
  - Click **Move All Right** (  ) to move all of the variables to the **Selected Variables** box.
  - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected variables to the **Selected Found** box.
  - Click **Move All Left** (  ) to move all the variables from the **Selected Variables** box to the **Selected Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
9. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected.
10. Click the **Columns** option.
11. Click **OK**.

## Find the Variables' Specification Targets

### About this task

Use this procedure to find the target value for the selected variable(s).

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Limits**, and then select **Variable Level**.
2. In the **Plant Applications Variable Limits** dialog box, under **Variables**, select the variables on your worksheet, and click in the **Variable(s)** box.
3. Under **Time [Opt]** select the cell on your worksheet that contains the time stamp and click in the **Time [Opt]** box.
4. **Optional:** Under **Product Code**, select the **Original Product** on your worksheet.

5. Under **Specifications**, select **Target**.
6. Under **Output Cell**, select the cell on your worksheet next to the Engineering Units and click in **Output Cell** box.
7. Click **OK**.

## Find the Variables' Test Values

### About this task

Use this procedure to retrieve the test values for the selected variable(s).

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and select **Data By Specific Event**.
2. In the **Plant Applications Test Value By Event** dialog box, under **Variable(s)**, select the variables on your worksheet and click in the **Variable(s)** box.
3. Under **Events**, select the **Primary Event Number** on your worksheet and click in the **Events** field.
4. Under **Display**, select **Test Value**.
5. Under **Output Cell**, select the cell on your worksheet where you want to import the information and click in the **Output Cell** box.
6. Select the **Columns** option.
7. Click **OK**.

## Retrieve Data for Multiple Events and Multiple Variables

### About this task

By following these three steps, you can retrieve accurate data for multiple variables. If you select more than one attribute, only the last attribute in the group of selected attributes will be repeated for each variable.

### Procedure

1. [Search for production events \(on page 141\)](#).
2. [Search for variables \(on page 143\)](#).
3. [Retrieve test data by time frame \(on page 145\)](#).

## Search for production events

## Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Event Summary**, and then select **Search Production Events**.

The **Plant Applications Event Search** dialog box appears.

2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** ().
3. Under **Production Line**, click the drop-down list to select a production line, then click the second drop-down list to select a production unit.
4. Under **Time Range**, enter a start and end time. For more information on entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
5. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.
  - Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
  - If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the Display list.
6. **Optional:** Under **Filter By**, do one or more of the following:
  - Under **Plant Order Number**, enter the plant order number.
  - Under **Customer Code**, enter the customer code.
  - Under **Shipment Number**, enter the shipment number.
  - Under **Primary Event Number**, enter the primary event number.

Keep in mind that the results you get might not be the expected results simply because of the filters you have chosen. If you are not sure of your results, it is best to use fewer filters.

7. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Under **Crew Description**, click the drop-down list to select a crew.
  - Under **Shift Description**, click the drop-down list to select a shift.



### Note:

Notice that if you select a crew description or shift description, "Crew Description" and "Shift Description" are added to the **Display** list.

8. **Optional:** Under **Event Status Filter**, do one of the following:

- If you do not want to filter on event status (for example, Consumed, In Progress, Hold, and so on), select the **Do Not Filter By Event Status** option.
  - If you want to filter on event status, select the **Filter By Specific Event Status In List Below** option. Then, in the **Status To Exclude** list, select one or more of the event statuses you want to include, then click **Move Selected** to move the event statuses to the **Status To Include** list.
9. Under **Display**, select one or more of the attributes you want to include on your worksheet.
  10. Under **Output Range**, first select the range of cells where you want to input your production event attributes and click in the **Output Range** box, you can see the cell reference you selected to import data. For information on how to select cells for output, see [Select Cells for Output \(on page 15\)](#).
  11. Under **Output Sort**, do one of the following:
    - Select the **Ascending** option to sort the statistics starting with the most recent Run Start Time (for example, from oldest to newest).
    - Select the **Descending** option to sort the statistics starting with the earliest Run Start Time (for example, from newest to oldest).
  12. If select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).  
If you select more than one output cell, these options are not available.
  13. Click **OK**.

## Search for variables

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
2. In the **Plant Applications Variable Search** dialog box, do one of the following:
  - **Production Line:** Click the drop-down list to select a production line.
  - **Production Unit:** Click the drop-down list to select a production unit. When you select a production line, only the production units associated with the selected line will be available.
  - **Production Group:** Click the drop-down list to select a variable group. When you select a production unit, only the variable groups associated with the selected production unit will be available.
  - **Variable Description Filter:** Enter any combination of numbers or letters. Keep in mind that the variables displayed will be those that contain exactly what you enter. For example, 50#Gloss, 50#Matte, 60#Gloss, 70#Matte, Alarm, Reelspeed

If you enter	You will get
5	50#Gloss 50#Matte

If you enter	You will get
A	50#Matte 70#Matte Alarm
E	50#Matte 70#Matte Reelspeed
At	50#Matte 70#Matte
#a	No variables are returned.

- **Server:** If you need to select a different server, click the drop-down list and select a server.
- **Display:** Select the **Variable Descriptions** check box to include a description of the selected variables on your spreadsheet. Select the **Engineering Units** check box to include the engineering units (#, LF, lbs, kg) for the selected variables on your spreadsheet.

If you do not select the **Variable Description** option, only the Variable ID and integer assigned by Plant Applications to each variable will be included on your worksheet.

3. Click **Search**.
4. In the **Selection Found** box, do one of the following:
  - Select the variables you want to include on your spreadsheet and click **Move Selected Right** (  ) to move the selected variables to the **Selected Variables** box.
  - Click **Move All Right** (  ) to move all of the variables to the **Selected Variables** box.
  - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected variables to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the variables from the **Selected Variables** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
5. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).

**Note:**

The selected output cell is where the first variable will be entered. Be sure to include an additional row or column for the headings.

**Note:**

If output cell is not selected, the result will be loaded in last active cell you selected before navigating the menu.

6. Click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).
7. Click **OK**.

## Retrieve test data by time frame

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data** and then select **Data By Time Frame**.  
The **Plant Applications Test Data By Time** dialog box appears.
2. **Optional:** Under **Server**, click the drop-down list to select a different server. If you need to add a new server or connect to the selected server, click **Browse** .
3. Under **Time Range**, enter the start time and end time. For information about entering start and end dates, see [Select Start and End Times \(on page 16\)](#).
4. **Optional:** If you want to filter on a specific product, under **Product Code [Opt]**, select a Product Code or Product ID on your worksheet and click in the **Product Code [Opt]** or **Product ID [Opt]** box.

**Note:**

- Whether you are required to select Product Code or Product ID is determined by the site parameter, ProdCodelsNum. For more information, see [ProdCodelsNum Site Parameter \(on page 73\)](#).
- If you filter on a product, the options Original Product and Applied Product will be available. Additionally, "Original Product" and "Applied Product" will be added to the **Display** list.
- If you do not select a product, the test data will be for all products associated with the specified variable(s) for the specified time period.

5. **Optional:** Under **Crew Schedule Filter**, do one or more of the following:
  - Click the **Crew Description** drop-down list to select a crew.
  - Click the **Shift Description** drop-down list to select a shift.
6. Under **Display**, select one or more of the attributes to include on your worksheet.
  - If you select more than one variable, the last attribute you select will be the only attribute that is repeated for each variable.
  - If you select more than one variable, only the first variable's information will coordinate with the Result Time Stamp, unless the all the variables have the same time stamps.
7. Under **Output Range**, first select the range of cells where you want to import the information on your worksheet and click in the **Output Range** box, you can see the cell range reference you selected to import data. Keep in mind that if the number of reasons is greater than the number of cells you selected, you will get only the number of cells you select. For more information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
8. Under **Output Sort**, do one of the following:
  - Select the **Ascending** option to sort the statistics starting with the most recent Start Time (for example, from oldest to newest).
  - Select the **Descending** option to sort the statistics starting with the earliest Start Time (for example, from newest to oldest).
9. If you select only one cell, you can click either the **Columns** or **Rows** option. For more information, see [Output Orientation \(on page 17\)](#).

**Note:**

If you select more than one output cell, these options are not available.

10. Click **OK**.

## Retrieve Specification (Recipe) Data

### About this task

This example will demonstrate how to retrieve specification, or recipe, data for selected variables for a specified product at a specific time.

### Procedure

1. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
2. In the **Plant Applications Variable Search** dialog box, select the production line.
3. **Optional:** Select the production unit.
4. **Optional:** Select a variable group.

5. **Optional:** In the **Variable Description Filter** box, enter part of the names of the variables you want to find.
6. Click **Search**.
7. In the **Selection Found** box, do one of the following:
  - Select the variables you want to include on your spreadsheet and click **Move Selected Right** (  ) to move the selected variables to the **Selected Variables** box.
  - Click **Move All Right** (  ) to move all of the variables to the **Selected Variables** box.
  - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected variables to the **Selection Found** box.
  - Click **Move All Left** (  ) to move all the variables from the **Selected Variables** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
8. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected.
9. Click **OK**.
10. From the **Plant Applications Excel Add-In Main** menu, select **Limits**, and then select **Variable Level**. The **Plant Applications Variable Limits** dialog box appears.
11. Under **Variables**, select the variables on your worksheet, and click in the **Variable(s)** box.
12. Under **Time [Opt]**, and select the cell on your worksheet that contains the date and click in the **Time [Opt]** box.
13. Under **Product Code [Opt]**, select the Product Code on your worksheet, and click in the **Product Code [Opt]** box.
14. Under **Specifications**, select one or more specifications.
15. Under **Output Cell**, first select the cell on your worksheet where you want to import your specifications and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#) .
16. Click **OK**.

## Retrieve Summary Data

### About this task

This example demonstrates how to retrieve run summary data for variables during specified time frame and, optionally, for a specific product. In this example, you can find the Average for each variable and the associated Result Time Stamp.

## Procedure

1. On your worksheet, enter a start time, an end time, and a product.
2. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
3. In the **Plant Applications Variable Search** dialog box, select the production line.
4. **Optional:** Select the production unit.
5. **Optional:** Select a variable group.
6. **Optional:** In the **Variable Description Filter** box, enter part of the names of the variables you want to find.
7. Click **Search**.
8. In the **Selection Found** box, do one of the following:
  - Select the variables you want to include on your spreadsheet and click **Move Selected Right** (  ) to move the selected variables to the **Selected Variables** box.
  - Click **Move All Right** (  ) to move all of the variables to the **Selected Variables** box.
  - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** (  ) to move the selected variables to the **Selected Found** box.
  - Click **Move All Left** (  ) to move all the variables from the **Selected Variables** box to the **Selected Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.
9. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected.
10. Click **OK**.
11. From the **Plant Applications Excel Add-In Main** menu, select **Run Summary**, select **For Variables**, and select **Run Data By Time Frame**.  
The **Plant Applications Run Data** dialog box appears.
12. Under **Variable(s)**, select one or more of the Variable IDs on your worksheet and click in the **Variable(s)** box.
13. Under **Time Range**, select the start and end times on your worksheet.
14. **Optional:** Under **Product Code [Opt]**, select the Product Code on your worksheet and click in the **Product Code [Opt]** field. If you select the product on your worksheet, your run summary statistics will be limited to the product run during the selected time frame.
15. Under **Run Statistic**, select **Run Start Time and Average**.
16. Under **Output Range**, first select the range of cells on your worksheet where you want to import your statistics and click in the **Output Range** box, you can see the cell range reference you selected

to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).

17. Click **OK**.

## Performing Calculations on Variable Data

### About this task

This example demonstrates how to perform calculations on variables within a specific time frame, use a simple calculation to determine the end date, and easily recalculate the data by simple changing the information in a single cell.

### Procedure

1. On your worksheet, do the following:
  - a. Enter a start time.
  - b. Reserve a cell for the end time (we will put a calculation in this cell later).
  - c. Enter 30 for the number of days (this is the number of days we want to add to our start time).
  - d. Enter a product code or leave the cell blank.
2. In the empty cell for the end time, enter a calculation to determine the end date based on the start time and the number of days. In our example, the calculation would be =B1+B3. This will add 30 days to the start date.
3. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
4. In the **Plant Applications Variable Search** dialog box, select a production line and unit. Optionally, you can select a variable group.
5. **Optional:** Under **Variable Description Filter**, enter search criteria.
6. Click **Search**.
7. In the **Selection Found** box, do one of the following:
  - Select the variables you want to include on your spreadsheet and click **Move Selected Right** () to move the selected variables to the **Selected Variables** box.
  - Click **Move All Right** () to move all of the variables to the **Selected Variables** box.
  - In **Selected Variables** box, select the variables you want to exclude from your spreadsheet and click **Move Selected Left** () to move the selected variables to the **Selection Found** box.
  - Click **Move All Left** () to move all the variables from the **Selected Variables** box to the **Selection Found** box.
  - Enable range selection check box provides option to multiselect the items with the **Shift** option.

8. Select the output cell on your spreadsheet and click in the **Output Cell** box to see the output cell reference selected. For more information, see [Select Cells for Output \(on page 15\)](#).
9. Click **OK**.
10. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and then select **Calculations**.  
The **Plant Applications Tests Calculations** dialog box appears.
11. Under **Variable(s)** select the variables on your worksheet and click in the **Variable(s)** box.
12. Under **Time Range**, select the cells on your worksheet that contain the Start Time and the End Time.
13. **Optional:** Under **Product**, select the cell that contains the product code.
14. Under **Statistic Calculation**, select one or more of the calculations.
15. Under **Output Cell**, first select the cell adjacent to the first cell under the **Engineering Units** column and click in the Output Cell box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
16. Click **OK**.  
Now that you have the output, you can change the number of days and see how the Add-in automatically recalculates the data for you.

## Retrieve Production Counts

### About this task

This example demonstrates how to retrieve production counts by using two of the Add-in functions. First, search for the variable that maintains the production counts and then retrieve the test values for that variable.

### Procedure

1. On your worksheet, enter a start time and an end time.
2. **Optional:** Enter a product code.
3. From the **Plant Applications Excel Add-In Main** menu, select **Search**, and then select **Variables**.
4. In the **Plant Applications Variable Search** dialog box, under **Variable Description Filter**, enter the name or a portion of the name of the production count variable.
5. Under **Selection Found**, select the production count variable and click **Move Selected Right** () to move the variable to the **Selected Variables** box.
6. Under **Output Cell**, first select the cell on your worksheet where you want to place the selected variable information and click in the **Output Cell** box, you can see the cell reference you selected to import data. For information on selecting cells for output, see [Select Cells for Output \(on page 15\)](#).
7. Under **Display**, select the **Variable Descriptions** and the **Engineering Units** options.

8. Click **OK**.
9. From the **Plant Applications Excel Add-In Main** menu, select **Variable Data**, and then select **Data By Time Frame**.
10. In the **Plant Applications Test Data By Time Frame** dialog box, under **Variable(s)**, select the production count variable on your worksheet.
11. Under **Time Range**, select the Start Time and the End Time from your worksheet.
12. **Optional:** Select the product code on your worksheet.
13. Under **Display**, select Result Time Stamp and Test Value.
14. Under **Output Range**, first select the range of cells on your worksheet and click in **Output Range** box, you can see the cell range reference you selected to import data.
15. Click **OK**.

# Chapter 15. Troubleshooting

## Troubleshooting Excel Add-In 64 Bit

**Issue: Error Installing Functions - One or more Add-In failed to install or load custom functions**

To load Add-In, follow the steps given below:

1. Select **Error installing functions/Error loading Addins** from the footer.
2. Select **One or more Addin Failed to load**. See that your Addins"-Office Addin pop-up appears.
3. Select **Refresh** from Office Add-Ins pop-up and close the pop-up.

Add-In loads successfully.

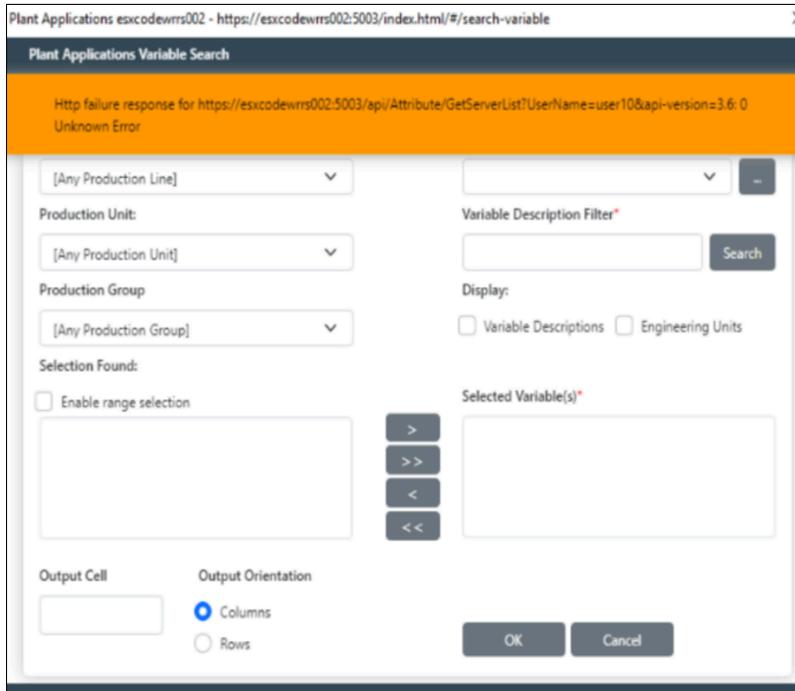
### **Error Message When User Logs In with Invalid Credentials**

**Issue: When logged in with invalid credentials, an error message is displayed in the main menu and error message persists**

To resolve this issue, log in with valid credentials or clear the cache to remove the error message.

### **Error When User Tries to Execute Any Query**

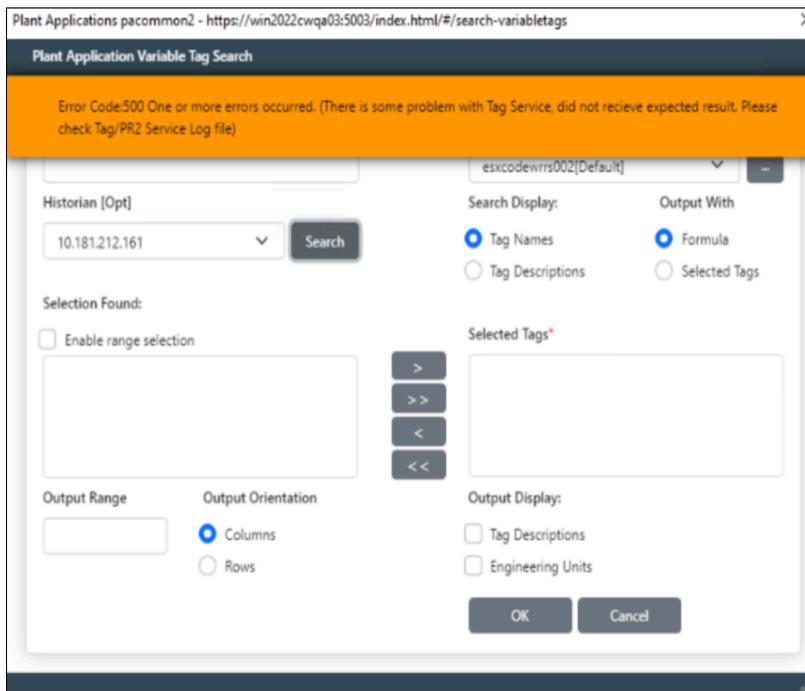
**Issue: When user tries executing any query in Excel Add-In, the following error is displayed:** `Http failure for https://ExcelAddinInstalledServer:5003/Module/GetServerList?UserName=user10&api-version=3.9:0Unknown Error`



To resolve this issue, logout and login with valid credentials.

## Error on Plant Applications Variable Tag Search

**Issue: Error on Plant Applications Variable Tag Search - Error code 500 one or more errors occurred**



There is some problem with tag service and did not receive expected results. Check tag/PR2 Service log file.

To resolve this issue, verify that Historian client tools are installed on the server where PR-2 is installed.

## Main Menu List Shows Empty

**Issue: Main Menu list shows empty**



Resolution:

Method 1: Logout and Login.

Method 2: Clear Cache and login. Follow the steps below:

1. From Excel menu, select **File > More > Options > Trusted center > Trusted center settings > Trusted Addin Catalogs.**
2. Select the checkbox **Next time office starts, clear all previously-started web add-ins cache.**
3. Select **OK.**
4. Select **OK** in **Manage Add-ins Catalogs.**
5. Select **OK.**
6. Relaunch Excel.
7. From Excel menu, select **Insert > My Addins > Shared Folder.**
8. Select **Plant Applications** from Add-ins.
9. Select **Add.**
10. From Excel menu, select **Home.**

Add-In is displayed.

11. Select **Plant Applications**.
12. Login with valid credentials.

### **Shows #NAME as Output Data on Execution of Any Query**

**Issue: Clear the cache and login. Still output data is as #NAME**

Follow post installation configuration again by replacing manifest file in new folder.

1. From excel menu, select **File > More > Options > Trusted center > Trusted center settings > Trusted Addin Catalogs**.
2. Select the checkbox **Next time office starts, clear all previously-started web add-ins cache**.
3. Select **OK**.
4. Select **OK** in **Manage Add-ins Catalogs**.
5. Select **OK**.
6. Relaunch Excel.
7. From Excel menu, select **Insert > My Addins > > Shared Folder**.
8. Select **Plant Applications** from Add-ins.
9. Select **Add**.
10. From Excel menu, select **Home**.

Addin is displayed.

11. Select **Plant Applications**.
12. Login with valid credentials.