

## **DataNet Quality Systems Knowledgebase**

### **Plant Monitor Layouts Overview**

#### Introduction

The primary purpose of managing violations is to bring processes that are out of statistical control into statistical control. The Plant Monitor module within WinSPC simplifies the task of monitoring data and managing violations across multiple processes in your WinSPC database simultaneously.

#### Layout Organization

Data monitoring and Violation managing are done via Plant Monitor Layouts. A Layout consists of a matrix of rows and columns. Rows fall into one of 2 categories:

- A) Separator Rows – These act as dividers that help to graphically organize the Layout.
- B) Station Rows – These rows represent information about the current state of your processes at stations across your WinSPC environment.

Each Station Row contains 3 areas:

Row Numbers: This column is farthest to the left. Then number represents the absolute row number of the currently loaded Layout. Row Descriptors: This column is the 2nd from the left. By default, Row Descriptors show the station name where the data collection activity is physically taking place. You can also modify or replace these values to display anything you like, such as a process step or a station location, if you are using Manual Layouts (see Automatic Layouts, below). Characteristic Cells: Columns to the right of the Row Descriptor column consist of square cells. Each cell represents a single characteristic from a Collection Plan.

Each Station Row can show data collection activity from no more than a single station.

There is no limit to how many Rows or Columns you can have in a Plant Monitor Layout. As more cells and rows are added to a layout, scrollbars will appear to help you navigate that Layout, depending on the Plant Monitor Layout's window size and your monitor's resolution.

#### Layout Types

There are 2 types of Plant Monitor Layouts; Automatic and Manual.

##### Automatic

Automatic Layouts allow you to set a time range, between 1 hour and 31 days, that automatically generates a layout of all characteristics active in that time range. Each Station Row represents a single data collection station. Automatic Layouts cannot be edited or saved.

##### Manual

Manual Layouts are configured by a user. While each Station Row can only represent a single data collection station, a single data collection station can be added to multiple rows, depending on how you want to organize your processes. Characteristic cells can be added to each Station Row. Spacer rows can also be added manually. A Spacer Rows' text is always blue.

Manual Layouts can be saved as either a Public Layout or a Private Layout. Public Layouts, when saved, are available to all WinSPC users who have permissions to use Plant Monitor. Private layouts are only visible to the user who created it.

## Layout Visual Elements

Characteristics in a Plant Monitor Layout are represented by individual cells. The cells can display different visualization elements like flashing, colors, and numbers. These different effects have a certain meaning as denoted below.

### Flashing

In a Plant monitor layout, unacknowledged violations will be denoted by the characteristic's cell color as flashing. Clicking on the characteristic's cell will bring up the Violation Browser where violations can be viewed and acknowledged (Violation Browser is not covered in this article). When all violations, for the characteristic cell, have been acknowledged, the cell will change from flashing to solid. The color the characteristic cell will be determined by color of the last subgroup collected in that characteristic.

### Colors

In a Plant monitor layout, the color of the characteristic's cell is determined by which subgroup level test was violated. These colors are the same color as they appear in Control Charts across WinSPC. The following is a list of the standard WinSPC colors and their meaning:

#### – Gray

Indicates there are no test result records, suggesting that no data for that characteristic has been collected at the station, the characteristic data is not subject to a test or the test result records have been deleted. (Note: Test result records are deleted when their corresponding characteristic or Collection Plan is deleted. They are also deleted if they are thirty days old and the database used for the WinSPC implementation is an Oracle or InterBase database. If the WinSPC database platform used is Microsoft SQL Server, the DBSweep utility, contained in the WinSPC Remote Directory must be run to delete old test result records.)

#### – Green

Indicates the test result records contain no violations and the corresponding process is considered to be In Control.

#### Solid Yellow

Indicates the test result records contain one or more Trending violations and that these have all been acknowledged.

#### – Solid Purple

Indicates the test result records contain one or more Mixture/Stratification violations and that these have all been acknowledged.

- Solid Red

Indicates the test result records contain one or more Out-of-Control violations and that these have all been acknowledged.

- Flashing Yellow

Indicates the test result records contain one or more Trending violations and that, of these, one or more are unacknowledged.

- Flashing Purple

Indicates the test result records contain one or more Mixture/Stratification violations and that, of these, one or more are unacknowledged.

- Flashing Red

Indicates the test result records contain one or more Out-of-Control violations and that, of these, one or more are unacknowledged.

- Solid White

This cell, at the right end of each Station Row of a Manual Layout, allows you to add new characteristic cells to the rows of that Layout.

If a characteristic's test result records contain multiple types of unacknowledged violations, the cell color will be that of the most severe violation. The levels of severity (from highest to lowest) are:

Red Purple Yellow Green Grey

The cell color will indicate the highest severity level, and will change to the color of the most severe unacknowledged (flashing) violation. If there are no unacknowledged (flashing) violations, the cells will display the color of the most recent subgroup collected.

For example, if an Out-of-Control violation, a Mixture/Stratification violation and a Trending violation have occurred in the same characteristic, then the characteristic's cell will be red. This is because, by default, Out-of-Control violations are regarded as the most severe.

## Numbers

If a number is present in a flashing characteristic cell, this indicates that the characteristic has multiple violations that are unacknowledged (2 or more). The specific number in the cell represents the number of unacknowledged violations. For example: The number '4' contained within a cell indicates four unacknowledged violations. A flashing cell with no number indicates the characteristic has only one violation.

## White Triangles

A white triangle in the upper left corner of a cell indicates that, on some workstation in the organization, the

characteristic's collection plan is open in the Data Collection module.

## Red Row Descriptor

When a Row Descriptor turns red, this indicates that this station has been removed from the list of stations in the Administrator Window.

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