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Welcome to Envision

**ENVISION** enterprise solution helps companies to optimize automation processes, minimize unnecessary maintenance, and increase production throughput. In the scope of process diagnostics and quality management, ENVISION’s patented technology is a quantum leap beyond traditional motion sensing diagnostics tools.

Whereas existing diagnostic tools use vibration sensors or other signals, ENVISION creates digital traces of all sets of events pertaining to the automated or manufacturing processes. Envision solution LISTENS to the rhythm of machine and automated operations; ILLUMINATES untapped and currently invisible process data to pinpoint possible problem areas before a critical failure; and TRANSFORMS how systems’ operational and quality performance is measured and managed.

**CAPTURING THE HEARTBEAT OF AUTOMATION: ENVISION** monitors and records every automated motion and process in real-time. ENVISION actually acts as an EKG of an automated system – comparing the actual process performance against ideal (design intended) cycle time to gauge the health of the system.

**Beet Analytics Technology** brings the power of digital technology and advanced knowledge of factory automation together, creating a powerful Automation Intelligent System, ENVISION™.

**ENVISION** demystifies the industrial operations by digitizing each automated process down to every minute detail and presents it in a simple and intuitive way.

**ENVISION** enables true Preventive Maintenance to minimize downtime, improve production throughput and achieve faster problem solving.

**ENVISION** creates a competitive advantage by addressing key operational challenges including:

- Provides accurate real-time and historical machine and process performances information to the right user at the right time.
- Enables proactive preventive maintenance by highlighting potential problem areas and providing prioritized list of “Hotspots” in the manufacturing and automation processes.
- Enables all users to monitor and analyze the system performance anywhere via web.
- Delivers high return-on-investment by increasing throughput, reducing machine downtime and achieving faster root-cause analysis.
What’s New
More Information

Here is some general text for a topic. Replace this with your own content.
Installation Introduction

Delete this text and replace it with your own content.
Installation

Envision Pilot Checklist

1) Update all hot fixes in Windows and Drivers
2) Update Software / Application
   a) Check/Update Kepware License
   b) Check/Update OPC System License
   c) Check/Update Envision License
3) If there is SAN,
   a) Network Cable from SPA/SPB to Switch
   b) Fiber Cables connect to Server HBAs
   c) Follow SANs Checklist
4) KVM Switch
   a) EAS (Envision Application Server)
   b) EDC (Envision Data Collector)
5) UPS check Battery Condition
6) Connect Monitor / Keyboard / Mouse Console
7) Network Cable from Servers to Switch
8) Network Cable from RSAs to Switch
9) VPN Installed and Tested
10) 200 ft of CAT5e Extension cord
11) NEMAL 620-ft Extension cord
12) 2 IP be able to accessed Internet
13) 1 IP for PLC

Customer Requirements

1) NEMAL6-30R
2) 1-portonPLC
3) 1-portonLAN
4) Loaner Agreement Signed
5) Shipper Document Signed
Software Application

Envision features many helpful tools to help maximize productivity. The following section describes those features in detail, as well as giving instruction on how to use them.
Navigation

Plant Navigation

In ENVISION, your plant is broken down into a hierarchy of manufacturing categories.

The Factory Plant defines the organizational tree down to the component level. The top 3 levels (Areas, Lines, Stations) are used to organize the tree into a meaningful and friendly navigation structure. The lower 2 levels (Assets, Groups) are the data objects.

Main Tree Object and Description

AREA The Area of the Plant where a particular assembled part is built (example: RWD and FWD Transmission Assembly Areas).

LINE A part/place of the Area that is responsible for assembling a part of the assembly (Example: Internal and External parts assembly Lines).

STATION A Station within the Line that is responsible for the collection of Assets (Example: Gear build, valve body, and torque converter build Stations).

ASSETS Assets are used to define a repeatable set of motions/activities (Groups) that have defined Start and End signals (Example: Builds the Valve body and inspects/quality check assets).

GROUPS A Group is a collection of OPS (individual motions/event data objects). Assets are a collection of Groups that describe a particular sequence of events that comprise one complete cycle for the Asset (Example: A part enters On-Deck, then Part is present On-Deck, signal to show OP is complete).
How to navigate with ENVISION

Navigating to the area of your plant you would like to monitor can be done at any time using the top navigation bar in the ENVISION browser. Navigate to any object to view in depth critical performance data. If you are reopening, it may return to the area of the object tree you were previously viewing. If not, then it will open to the Dashboard with only the **Object Tree**. Select the **Object Tree** Icon to proceed.

**Top Navigation Bar**

When first opening Envision, it will open to the Dashboard window. The head navigation bar can be found at the top of your ENVISION browser.

1. The top navigation area can be used to access any of the different features of Envision: Dashboard, Cycle view, Hotspots, Reporting, and Notes.
2. The plant breakdown can be used to navigate to the object you want to view.

Click **Object Tree** on the to open a window to navigate to the Object desired.

You can also navigate by using the Object String next to the Object Tree Icon. “Click” on the Object label Icon to open a window to proceed to the next level down. Or hover over an Object label and a drop down option will appear to go to the next level down.
Main Tree Navigation

Select the **Object Tree** tab from the plant navigation panel to reveal the **Main Tree** window.

Select the [+] box next to each item to further expand the areas. Continue to expand areas until you reveal the object you desire, then "Click" on the Object to open the cycle browser. This will open the browser window with the last 100 cycles.
Top Menu Tab Navigation

You can also reach the object you desire by using the top menu tab. Simply hover over each section to reveal a drop down menu. Continue selecting the areas you want until you reach the object you're looking for, then select to open the Cycle browser as seen below.

Once selected, the Cycle view browser will open with the last 100 cycles displayed for that object. The upper graph will be empty (No Cycle Selected), until you select a cycle to view. Simply select a cycle to view by clicking on the lower graph in the Cycle view browser.
The cycle browser provides graphical data on your processes cycle status, including the machine heartbeat.

Location

Make sure you have the Cycle view tab selected on the ENVISION top menu.

You can then access the cycle browser by using the Main Tree window to navigate to your desired object. “Click” on the + sign beside the object. This will reveal the lower level objects. Proceed until you reach the object desired. “Click” on the object and the Cycle Browser will open. After selecting the desired object, the cycle browser will launch to this browser. A cycle has not been selected yet, so the upper graph will be empty and say No Cycle Selected.
Select any cycle from the history view panel portion of the Cycle View browser. This will reveal a new color coded bar graph in the area that previously was blank and labeled “No Cycle Selected”.

Hovering with the curser, over the selected cycle will also open a window within the lower graph that will reveal data on that cycle.
View Options

Below is a list of View options you can apply to your cycle view. These buttons are in the top right corner of the cycle browser.

1. **X-Axis**
   - Toggle to show or suppress x-axis labels.

2. **Baseline**
   - Toggle to show the Heartbeat of the machine by blue line or Blue bracket in Sequence mode.

3. **Tolerance**
   - Toggle to suppress or show if the object is in the allowable range to maintain a healthy state.

4. **States**
   - Toggle to suppress or show the State Labels in Sequence view only.

Located in the top right corner of your cycle browser, are Cycle view tabs. X-Axis, Baseline, Tolerance, and States. The States tab is only active in the Sequence view as shown 4 in the figure below. Below is a list of options you can apply to your Cycle view.
Object Properties

The Object Properties are located in the top left of the cycle browser. **Model**, **AGV**, **Part**, **CycleNumber**, **Cycle time**, and **time data** can all be located here. The highlighted Cylctime is dependent on the status of the cycle. It can be Green (Good), Yellow (Watch), Orange (Warning), Purple (Missing), or Red (Fault).

View Types

Located in the top right of your cycle browser, are 2 buttons to change the views to either **Heartbeat** or **Sequence**.

**Heartbeat View** is the default view. The **Heartbeat line** can only be viewed in Heartbeat view.

**Sequence view** contains state label which can only be seen in the sequence view.
Notes

Within Cycle View browser, there is a button you can use to make notes about the object. Simply “Click” on the Notes button and a window will open labeled Cycle Notes. “Click” on the Category space to reveal a drop down menu with choices. Select the proper Sub Category (Other in this example), then fill in your comments in the Comments section provided.

When you are finished, “Click” Save to hold the position, or X Close.
Cycle History

Overview

Cycle history can be used to identify areas of concern quickly. Located on the bottom of the cycle browser, the cycle history window shows the cycles of an object in sequence across a preset date range.

Color Code

The history module provides performance history for any selected objects. Each cycle's object status is indicated by a color code:

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Toggle Filter Good</td>
<td>Normal, Optimum Performing Range</td>
</tr>
<tr>
<td>2</td>
<td>Toggle Filter Watch</td>
<td>Watch, Not Optimum but Within Defined Tolerance Window</td>
</tr>
<tr>
<td>3</td>
<td>Toggle Filter Warning</td>
<td>Warning, Outside Defined Tolerance Window</td>
</tr>
<tr>
<td>4</td>
<td>Toggle Filter Fault</td>
<td>FAULT</td>
</tr>
<tr>
<td>5</td>
<td>Toggle Filter</td>
<td>Missing Data due to Stoppage or Missing Input / Output</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Design Time Line Color, The Optimum Value</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Object is inactive or actual cycle length is zero</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Selected Object or Cycle</td>
</tr>
</tbody>
</table>
Location

Make sure you have the Cycle view tab selected on the ENVISION top menu:

Use the Main Tree navigate to the object you would like to view for cycle information.

Selecting your object will launch the cycle browser. The cycle history module is located in the bottom portion of the cycle browser.
History Filter Options

A list of cycle history options highlighted in Red, is located in the top right corner of the bottom window.

There is a .xls button to download to an Excel spreadsheet if needed. Selecting this will Export the last 1000 Cycles to Excel.
History Filter Options Reference Sheet 2

**Column Chart** – This show a column graph with the last 100 cycles. Hover over a cycle to view data or select one to display the cycle in the upper graph area of the Cycle view browser.

**Bar Chart** – This chart displays bars in relation to time. A colored bar represents an object in process. An empty gray area represents an object not in process and or downtime.

**User Parameters** – This displays a window within the Cycle browser that displays the Parameter history.

**Table View in New Window** – This displays a new window with a table of cycle parameters.

**Export last 1000 Cycles to Excel** – This displays a spreadsheet program to view data.

**Toggle Filter Good** – Toggle this filter to suppress Good data cycles

**Toggle Filter Watch** – Toggle this filter to suppress Watch data cycles

**Toggle Filter Warning** – Toggle this filter to suppress Warning data cycles

**Toggle Filter Fault** – Toggle this filter to suppress Fault data cycles

**Toggle Filter Missing** – Toggle this filter to view Missing data cycles

**Toggle Trend Line** – This turns on a trend line in the lower graph in Column chart view only.

**Collapse Table** – This will collapse the graph or table in the lower Cycle browser window. When collapsed, hover over the icon to pop up graph temporarily. “Click” on it to leave it up.
History Filter Options Reference Sheet 3

**Column Chart** – This displays a column graph with the last 100 cycles in the lower browser window. Hover over a cycle to view data or select one to display the cycle in the upper graph area of the Cycle view browser.

**Bar Chart** – This displays bars in relation to time. A colored bar represents an object in process. An empty gray area represents an object not in process and or downtime. This shows delays, downtime, starved objects and other problems relating to time.

**User Parameters** – This displays a window within the upper Cycle browser that displays the Parameter history.

**Table View in New Window** – This displays a new window with a table of cycle parameters. A user can “Click” on a line to view that cycle in the upper Cycle view browser window. You can utilize a second monitor, so you can view the data as well as see the Cycle Browser and History View Panel. Clicking on a line on the Table will update the Cycle Browser and History View panel.
Export last 1000 Cycles to Excel

From the Cycle Browser screen, you can select the .xls button to Export the last 1000 Cycles to Excel. This opens a spreadsheet program to view and plot data.

Click on the .xls button and History Export window will open so that you can figure what you want on your report.

First, set the date range by clicking on the edit box. A calendar will appear. Click on date on the calendar to set the start date. Click again to set the end date. You can also use the presets at the bottom of the calendar window. Check off any of the statuses that you want to omit from your excel report. Check off any Tags you want to omit from your report. When you are done setting up the excel report, click the Export button.

The History Report window will disappear and you’ll receive a Notice in a green window that will let you know that it may take several minutes and it will notify you when the download is complete, with another small green window. The download tab at the bottom left of the browser will open and start downloading. When it is finished, click on the pull down tab to reveal the menu. Chose Open, this will open an excel file with the data configuration that was selected.
An excel document will now open with the data selected. It can now be viewed, plotted, and sent as needed. The file is in your Downloads folder.
History Filter Options Reference Sheet 4

The Toggle Filters allow a user to remove/suppress the toggles cycles for viewing.

- **Toggle Filter Good** – Toggle this filter to suppress Good data cycles
- **Toggle Filter Watch** – Toggle this filter to suppress Watch data cycles
- **Toggle Filter Warning** – Toggle this filter to suppress Warning data cycles
- **Toggle Filter Fault** – Toggle this filter to suppress Fault data cycles
- **Toggle Filter Missing** – Toggle this filter to suppress Missing data cycles

**Toggle Trend Line** – This displays a trend line in the lower graph in Column chart view only. “Click” again to remove the Trend Line.

**Collapse Table** – This button will collapse the graph or table in the lower Cycle browser window. When its collapsed, hovering over the icon will restore the graph temporarily, until the cursor is moved off the lower graph, then it will collapse again. “Click” on the icon again to leave it up.
Cycle Date Options

A list of cycle date options, is located in the top left corner of the bottom graph window.

You can also select the date tab 1 on the left to access open a new graph chart, “Click” on the date range 2 and a calendar 3 will open that can be used to view any date range (Custom Range View).

Simply select the year, month, and date in the Custom Range view, to be included in the range, by using the drop down tabs on the calendar. Other options are available as well. By selecting the Last 7 days, 30 days, This Month, and Last month, this will open another Graphic chart in the window that will display the selection chosen:

After submitting the selected view, this will open another Graphic chart in the middle of the Cycle browser window that will display the selection chosen (as seen below highlighted in RED).
Cycle History View types

There are 4 different view types in the cycle history options tab. In all 4 views, you can “Click” on the green object area to view data for that cycle as well as the Table in the New Window. The **Blue** Table in the New Window button is located on the history menu to the left of the other 3 buttons. The content in the upper browser window will update to the selected cycle or point.

- **History View** – Shows the last 100 cycles for a selected object.
- **Model View** – Shows the variances for each cycle.
- **Table View** – Opens a scrollable table where the graph was.
- **Table View in New Window** – Opens a table of parameters in a New Window.
Table View in the New Window

Once a window is opened, it can be viewed on a separate monitor if needed. The new window view also can group data by column. Simply “Click” and hold on the column desired, then drag it up to the bar above the columns to group by columns.

The table will update to represent the parameters by the group selected (PartNumber). Add more groups to sort even further for more accuracy.

At any time, you can “Click” on any of the parameters on the table and it will update the graphs in the Cycle View Window. “Click” on the [X] of the groups selected to remove the group if desired. This will update the window to the active groups.
Cycle History Day View

Use the date panel in the cycle history browser to access the day view for your object. Or “Click” forward or backward to get to the date desired.

Selecting either the "yesterday" or "today" tab will reveal an hourly view for that day in your cycle history browser. Simply select the hour you would like to see a cycle breakdown for:

Doing so will reveal a graph (Hour View) with bars representing each cycle in the selected hour. Roll the mouse pointer over single bar for more information on that cycle:

Selecting the Show Day View tab, from the top menu will reveal history day view variance data:
Cycle History Higher Level View

Overview

You can view cycle history for objects at levels higher than asset or group. Simply “Click” any folder or labeled object above the asset or group level in the main tree.

Doing so will reveal a history graph indicating the status percentage of the object day-by-day.

You can also select the State Duration tab in the top right corner to see a graph indicating how long the object was in the fault, blocked, and starved states, day-by-day:
Baseline Editor (Learn)

The Learned Baseline Editor is an application/tool within the ENVISION Cycle browser, that can take a selection of objects at the Asset level and filter the data values to view the baseline data. Within the LBE, lies a baseline table that you can filter and sort to see the data averages of certain values.

Opening the Baseline Editor

The LBE can only be used in the Cycle View browser. Open the Cycle View browser and drill down to an Asset level. In the lower part of the Cycle View browser (History Display Panel), Select a cycle from the History Display Panel. From there, navigate to the upper part of the Cycle View browser, on the upper right above the upper graph window. Select the light blue button with the oxford cap (graduation cap) on it.

After selection of the Baseline Editor button, the Learn – Baseline Editor setup window will open. It displays an editing area, Select Learn Mode and Select # of Cycles, where you can select the number of Cycles to display. You can choose up to a ~ 1000 cycles if needed. After you select the number of cycles and Learn mode, click on the Confirm button to the left of the edit box.
After selecting the Confirm button, the **Learn – Baseline Editor** window will open. In this window, it offers a selection of options to filter and sort the available data.

The Object data is separated into three groups. **Model, Group, and Tag**. They are sortable. The available data values are the Events, SD (Standard Deviation), Cycle Len. (Length), Min Tol. (Minimum Tolerance), Max Tol. (Maximum Tolerance), Min Normal (Minimum Normal), and Max Normal (Maximum Normal).

To sort the Object data columns, you can utilize the **Filtering feature** to the right of each edit box. Clicking on it reveals your filtering choice. Click on the filter button and input the object value and it will start to auto display some choices.

- Is equal to
- Is not equal to
- Starts with
- Contains
- Does not contain
- Ends with

Except for Events and SD, the others can be adjusted by clicking on the value. It will then highlight and offer you a choice to increase or decrease the value. You can also manually input the number to make it exact.
Dashboard Overview

When you log into Envision, you will be greeted by the dashboard screen. There are several graphs available that provide critical object data in the Dashboard panel. You can navigate Up or Down the Object Tree by using the Object Tree Icon or by utilizing the Object String next to it. A drop down menu will appear if you hover over the Object Labels.
Dashboard Item and Description

1. Navigation Panel: The main panel used to navigate the Envision interface.

2. Child History Table: A quick overview of the cycle performance of your main factory zones.

3. Offload Efficiency Table: Lets you know how efficiently cycles are being completed.

4. OEE Chart: A chart that quickly visualizes OEE data calculated automatically by Envision.

5. Cycle Status Graph: Visualize how positively or negatively cycle time is trending.

6. Notes Panel: Contains user created notes that are attached to specific machine processes. Can also be found in the notes section.

7. State Duration Graph: Visualize how often shifts were in certain states.

8. Fault Table: Visualizes what objects have most recently recorded a fault.

9. Hotspots Panel: Visualizes which objects have accumulated the most faults in a predetermined time-frame.
Hotspots

Overview

The Hotspot module displays the list of motions that accumulate the variances over a period of time. It also shows the number of occurrences each day that contributed to the accumulated variances. ENVISION only uses non-faulted cycles for the hotspots calculation. This module shows the accumulated effects of minor variances in certain motions that can cause significant production loss (leakage) over time. For example, for a 60 second cycle time machine, a one second delay in one motion will cause approximately one part per hour production leakage.

Navigation

Use the Main Tree to navigate to the objects you want to view a hotspot report on.

Once you have chosen your object, “Click” on the Hotspot tab from the top menu.

The module will launch after selecting the Hotspot tab. Each colored box in the module represents the number of over cycle Occurrences that occurred for the object in a given hour on a given day. The number in each cell represents the number of occurrences in that particular hour span.
Hotspot Options

Set Date Range

You can select the date range you would like for the hotspot module using the dropdown calendar located in the upper left corner.

Variance

Use the Variance Accumulation tab located in the right corner of the module for the variance view. In the Variance view, the module lets you see the amount of over cycle variance for each hour (in Minutes) of your object cycle.

Hour Detail

By Clicking on any of the individual cells in the hotspot module, you can access a more detailed breakdown of over cycle processes in that hour. The number 29 represents the Overcycle occurrences for that hour.
By selecting the Hour 29 on the figure above, this will display detail for to reveal a comprehensive breakdown of processes that contributed to accumulated over cycle time for that hour selected. Hovering over the bar will display the data for your selection.

Clicking on the object bar will display a table of object data that may be grouped by dragging a column header to the top line.

The View Cycle button will open a new browser window with the object data for that selected cycle object.
Hotspot Views

In the top right corner of the hotspot module are options for other table views you can access.

| Timeline | Count/Accumulation | AGV Breakdown | Model Breakdown |

**Timeline** The default view in the Hotspot module. A graph showing the total over cycle accumulation for each object.

**Count/Accumulation**

This tab shows the Variance Accumulation (in minutes) as well as the Overcycle Occurrences from a specific dates selected to view. This data can be exported to excel. Click the yellow button to export the data.

**Pallet Breakdown**

This reveals a graph showing which AGVs (carriers) contributed to your over cycle accumulation.

**Model Breakdown**

This reveals a graph of Occurrences and Variance based upon Model Type.
Notes

Overview

The Envision notes panel allows users to input descriptions about any given cycle they wish. This is a practical and convenient method of communicating issues as they happen across an assembly plant. Notes that have inputted at any time are persistently available to be viewed by authorized users.
Notes

Within Cycle View browser, there is a button you can use to make notes about the object. Simply “Click” on the Notes button and a window will open labeled Cycle Notes. “Click” on the Category space to reveal a drop down menu with choices. Select the proper Sub Category (Other in this example), then fill in your comments in the Comments section provided.

When you are finished with inputting the notes, “Click” Save then Close.
Live View

The live view window lets you see the status of every station in the plant in real-time. Stations are updated automatically without having to refresh the window. Several graphs with cycle data are also available in Live-view.

Opening Live View

On the Envision Browser window located in the upper right hand corner is the application buttons. Click on the Live view button (Radio Transmitter Tower) highlighted in RED.

This will open a new window for the Live View Browser. Select an area to view. This will open the area selected as seen below. At a glance, you can view the Objects and their current status. You can also zoom in and see the details of each and every Object.
In the upper right hand corner is a navigation hub. This can be used to move throughout the Object Map. It also will increase or decrease the magnifications. Once you have zoomed in, the view will enlarge and change to show the details of that station.
Production Monitor

Overview

The Production Monitor is a browser that can provide a quick live report on plant productions. The Production Monitor can display data for the entire plant, including overcycle time in accumulated events, production data for each zone hour by hour or by a selected shift.

Location

The Production Monitor button is located in the upper right hand corner of the Envision Browser window highlighted in red.

The Production Monitor Browser will open in a separate tab/window. Within this browser will be another window with an Object window. From here, select/“Click” the selection below (Transmission Plant). “Click” through the desired Objects string to get to the object desired. Once you have revealed the level desired, then “Click” the Save button. This will open a new Browser. This Production Browser can be opened in levels from AREA, LINE, STATION, to ASSET.
A browser window will open to the location selected. If there is not any data for current shift, it may be necessary to look back into the past for data. This works with current data and historical data.

Select Historical Shift

This opens and displays a window that will allow you to choose from the Current Shift all the way to the last few months. To view a specified date, scroll down to the date, and shift desired and “Click” on it. This will re-open the window (at the same level) of the day and shift selected.
Once the browser is open to the location desired, an alternate way to navigate to a higher or lower object can be done either by:

**Change Object**

This displays a window to navigate Up or Down an Object Tree. “Click” on the Object in the white part of the window **LOOP 1 ZONE** to navigate down the object tree. “Click” the **Save** button to open the objects below the selected object. “Click” in an Object in the black portion of the Object window **FWD TRANSMISSION** to navigate Upward to an Object desired.

Clicking on the Object String **1** at the top of the browser. Doing this will open a new browser with a higher view of the Object.

Clicking on the Object Title Label **2** of the upper graph will open a new Production Monitor window with a new graph of the objects below the selection.
To see further down the string, you can “Click” the Change Object button located on the upper right hand corner of the PM window. This will reveal a selection window. Select the next level down LOOP 1 ZONE 3, and the next level browser will open. This can also be done by “Click” the (graphs Title Label).

Select LOOP 1 ZONE 3 to open the next browser containing the STATIONS lower in the Object Tree. You can also “Click” on the Title Label of each graph to go to a lower part of the Object Tree.

“Click” on the Title label of the graph to proceed to objects lower than the selected object. You can navigate all the way down to the Asset level.
Navigating to a Historical Shift

Select Historical Shift

This opens and displays a window that will allow you to choose from the Current Shift all the way to the last few months. To view a specified date, scroll down to the date, and shift desired and “Click” on it. This will re-open the window (at the same level) of the day and shift selected.

Hour View and Shift View

After selecting location from the Object Tree a browser will open. This example shows the Hour View and Shift view in the upper right window. In the lower part of the browser is the lower graph in a Rollup hotspots View ON and OFF.
In this example, **FWD TRANSMISSION** is selected. This shows the **LOOP 1 ZONE 3**, in Hour by Hour. (in Minutes). The Object data is displayed in a hour by hour sequence of 10 hours.

The Units will not display on the lower graph, unless the **Production Lost** mode is selected.
Reference Sheet

Selecting **Hour** shows the data based upon an 10 hour shift in the upper graph and show the Variance Accumulations in Minutes (occ) in the lower graph.

Selecting **Shift** will show the data based upon the whole shift in the upper graph. The lower graph will be the same as Hour mode.

This is the Production Lost graph in the upper area of the browser. It is in the Hour mode. This shows the Production Lost over a 10 hour time period by the Hour.

This is the Production Lost graph of the upper area in the browsers. It is in the Shift mode. This shows the production Lost over a whole shift (10 hours).

**The** opens a table of the recorded overcycles.

<table>
<thead>
<tr>
<th>Breakdown for 94BTE-TLFE LOOP 1 ZONE 3 (Night Shift 10/26/2015)</th>
<th>Overcycle 439.71 min</th>
</tr>
</thead>
</table>

Select Historical Shift

This opens a window of the last 30 days. To view a specified date, click on a date, with a choice of Day or Night shift and the browser will refresh with the date selected.

**Reporting**

This opens a window with a selection of Reports to view by Preview, Excel, or PDF. Click on the selection under reports, then choose the option to view.

**Change Object**

This opens a window to navigate Up or Down the Object Tree. Click Save to open the browser to the desired location of the Object Tree.
Production Lost

When the Production Lost button is selected, the browser window will open to a similar window as previous, however, the bottom graph will change the scale and will have the total Units lost presented. In the upper graph, it looks similar Minutes (mode/default), but the Minutes and Units will be reversed.
Navigating the Production Monitor Browser

**Change Object**
This displays a window to navigate Up or Down an Object Tree. “Click” on the Object in the white part of the window. “Click” the **Save** button to open the objects below the selected object. “Click” in an Object in the black portion of the Object window **FWD TRANSMISSION** to navigate Upward to an Object desired.

**Select Historical Shift**
This opens and displays a window that will allow you to choose from the Current Shift all the way to the last few months. To view a specified date, scroll down to the date, and shift desired and “Click” on it. This will re-open the window (at the same level) of the day and shift selected.
**Reporting**

This displays a window with a selection of Report to view by Preview, Excel, or PDF. “Click” on the selection under reports, then choose the option to view.

When the Reporting Button is selected, a window will open with a menu in the upper left hand corner. There are 7 choices of ways to view object data.

**Screen Print**

Select Screen print will copy the current browser window and open it in a PNG format.

At the bottom left hand corner, a tab will open to view the .png file.
Select Open, and it will open a window to view the Screen Print. The background will be a lighter shade for printing and displaying.

**Over Cycle (Last 50000) and Over Cycle (Selected Shift)**

Both Over Cycle (Last 50000) and Over Cycle (Selected Shift) work the same way to download to an Excel file for viewing.
Top Assets by Groupleader, Station, and Top 3

All 3 have the same 3 view options to choose from. Selecting preview will open a preview window within the Reporting window. Choosing Excel or PDF will download and open the object data to the chosen format.

Top 3 Pallets (AVG)

This opens a window with a drop down to select the date. It also has the choices of Preview, Excel, and PDF. Preview is shown in this example.

Reference Sheet
Change Object
This opens and displays a window to navigate up or down the Object Tree. Click on the Black section to move up or click on the white section to move down the Object Tree. After the destination is reached, click the button to proceed to that Object.

Objects
Transmission Plant > FND TRANSMISSION > Black
LOOP 1 ZONE 3

Hour
Displays Object data, Hour by Hour.

Shift
Displays Objects data in a 10-hour shift.

Minutes
Displays Object date in Minutes and Units in the upper graph in the browser.

Production Lost
Displays the number of Units lost. The Minutes data is displayed as well under the Units.

Trend
Trends button displays a Green trend line on the upper graph in the Hour by Hour Mode only.

Rollup Hotspots
This button will group all the objects and display them in their own groups by station, instead of showing the top 10 accumulations.

Select Historical Shift
This displays a window of the last few months. To view a specified date, click on the date, shift, and the browser will refresh with the date selected.

Previous Shifts
Day/Week | Day  | Shift
---------|------|------
Friday   | 02/2015 | Night
Thursday | 03/2015 | Day
Thursday | 03/2015 | Night
Wednesday| 11/23/2015 | Day
Wednesday| 11/23/2015 | Night

Reporting
This displays a window with a selection of Report to view by Preview, Excel, or PDF. Click on the selection under reports, then choose the option to view.

Starved
The Object is waiting for the next part to start working.

Overcycle
A cycle that is outside the tolerance range of the cycle time for that object.

Blocked
An Object that is in a blocked state. The Object completes its work and is waiting for downstream Objects to finish so the finished part can move out of the Object.
Buttons and Descriptions

**Hour**
Displays Object data, Hour by Hour.

**Shift**
Displays Objects data in a 10-hour shift.

**Minutes**
Displays Object data in Minutes and Units in the upper graph in the browser.

**Production Lost**
Displays the number of Units lost. The Minutes data is displayed as well under the Units.

**Trend**
Trends button displays a trend line on the upper graph in the Hour by Hour Mode only.

**Rollup Hotspots**
This button will group all the objects and display them in their own groups by station, instead of showing the top 10 accumulations.

This Icon displays a window with a Table of Recorded Overcycles.

This Icon displays a window to view Notes that were taken on the Object cycle. The number indicates how many notes have been taken on that object.

**Starved**
The Object is waiting for the next part to start working.

**Overcycle**
A cycle that is outside the tolerance range of the cycle time for that object.

**Blocked**
An Object that is in a blocked state. The Object completes its work and is waiting for downstream Objects to finish so the finished part can move out of the Object.
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Glossary

EAS
Envision Application Server

EDC
Envision Data Collector

OEE
Overall Equipment Efficiency.

VPS
Virtual Private Server

xls
Excel spreadsheet
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