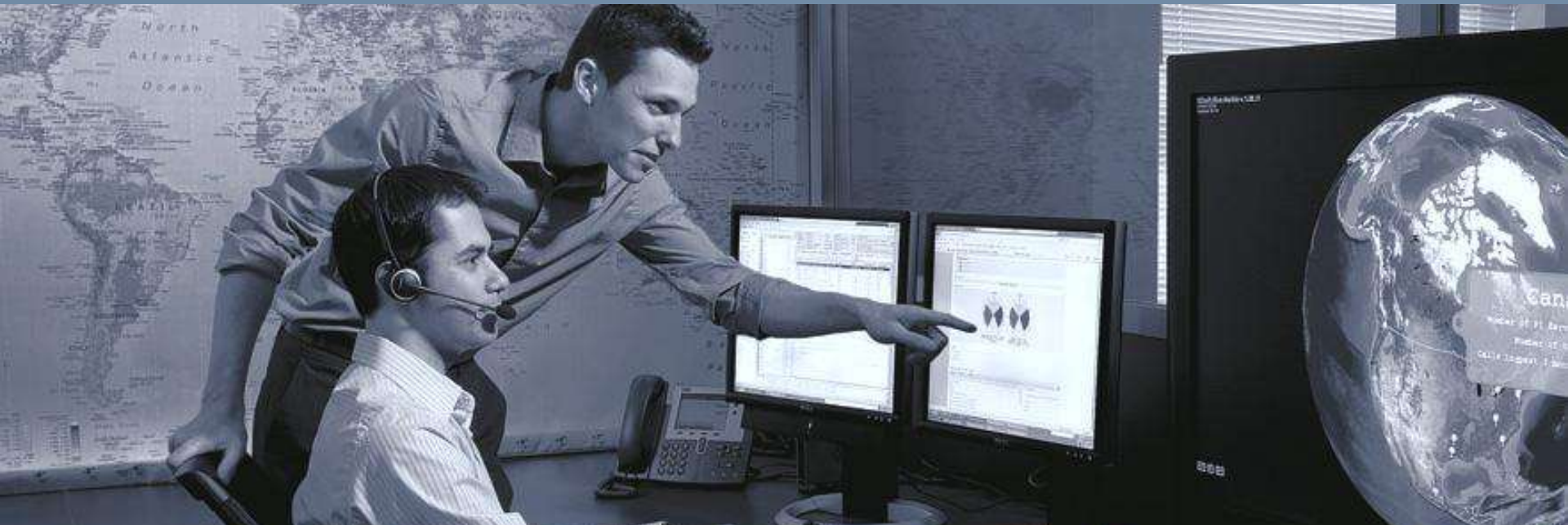




Regional Seminar Series Detroit, Michigan



Visualizing PI Data with Dashboards and Reports

October 14, 2010

Tom LeBay OSIsoft, LLC

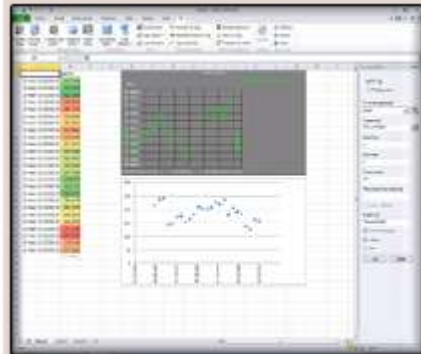
Empowering Business in Real-time.

© Copyright 2010, OSIsoft LLC. All rights Reserved.

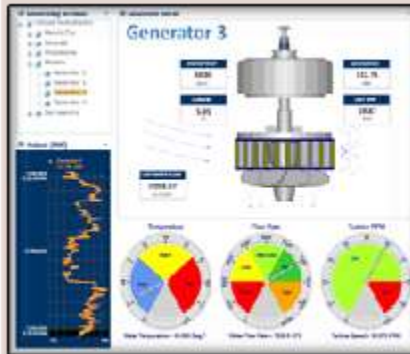
Experience



Visualization for PI System 2010



PI DataLink for
Excel 2010



PI WebParts for
SharePoint 2010



PI and PowerPivot for
Excel 2010

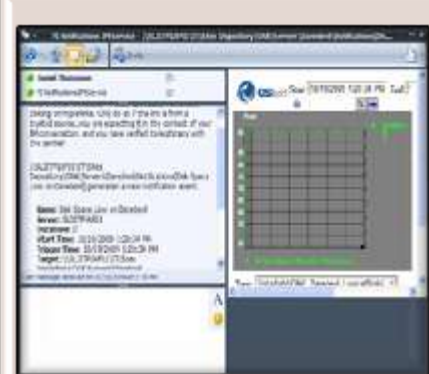


PI and PowerPivot for
SharePoint 2010

PI OLEDB
Enterprise 2010

PI Web Services
2010

PI Data Access
Technologies

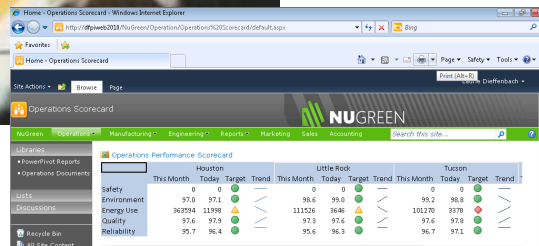
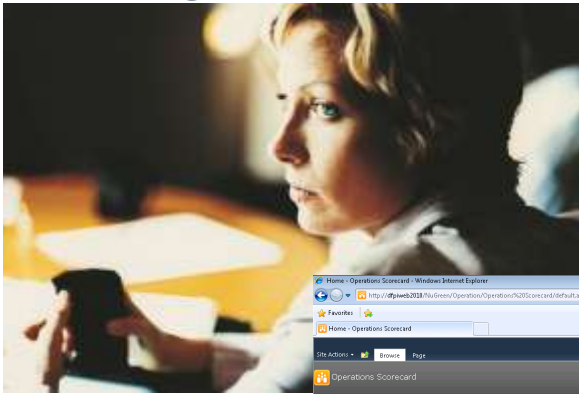


PI Notifications 1.1
OCS R2 Delivery Channel

Role-based Dashboarding



Management



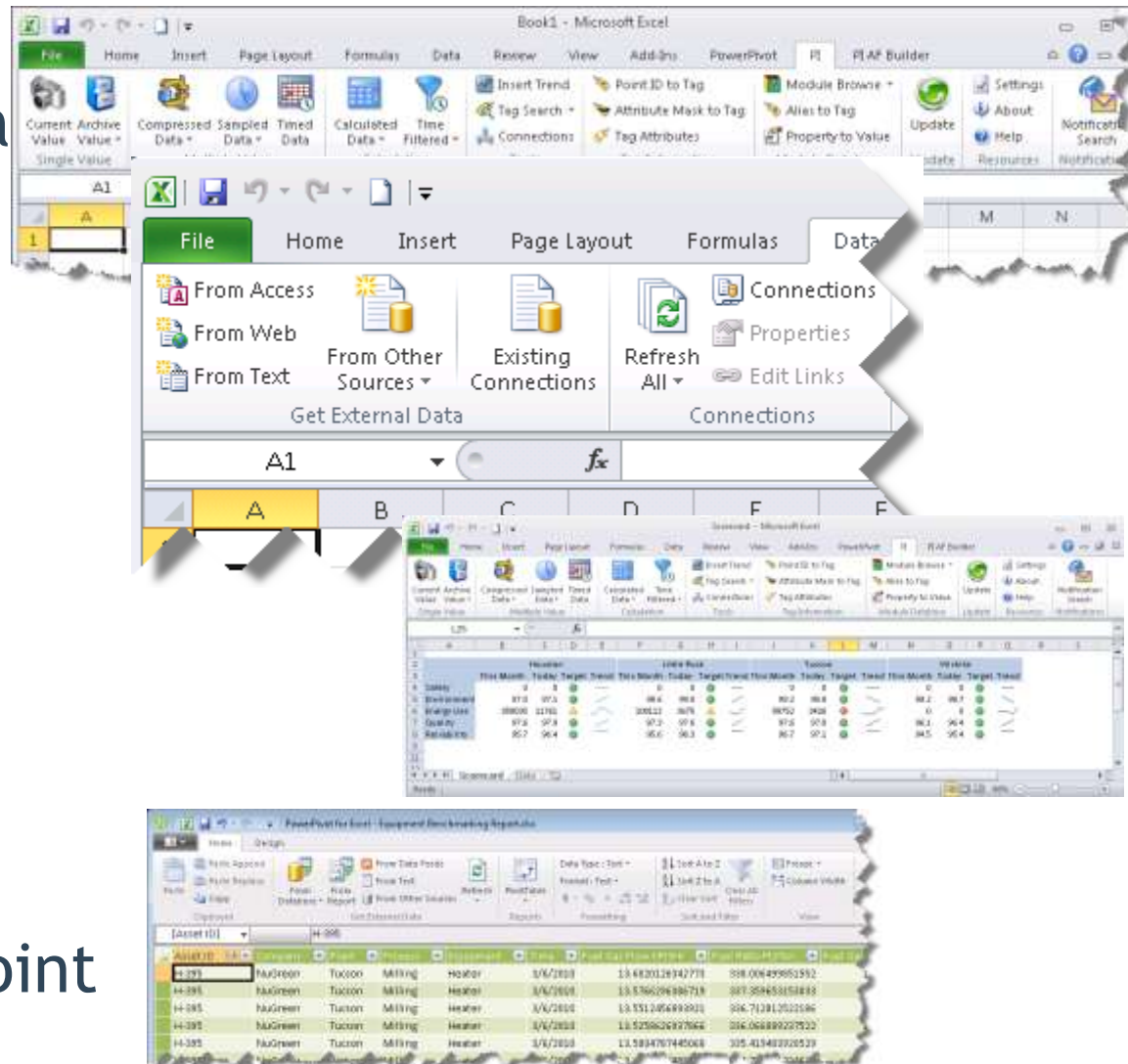
Knowledge Worker



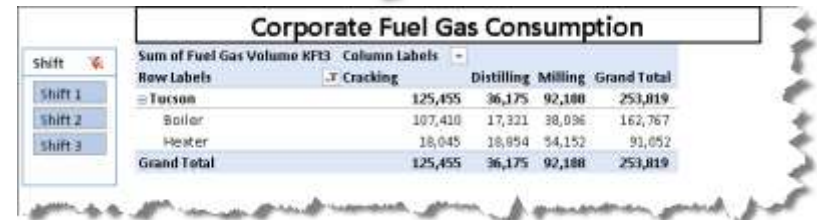
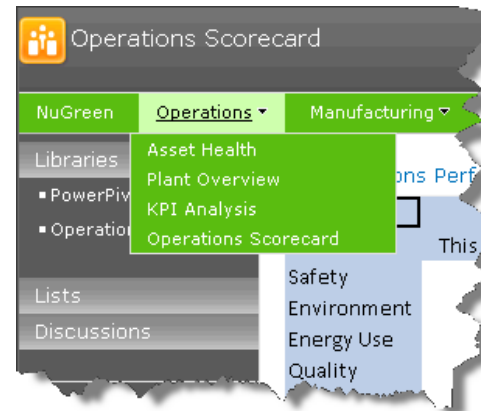
Content Creator



- Use different data sources
- Create scorecards
- Create multidimensional reports
- Publish to SharePoint

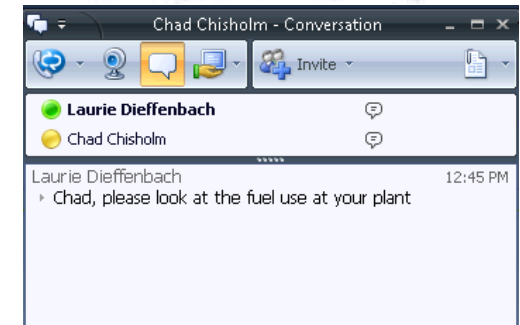


- Easy navigation to needed information
- Content is already built, but can interact with it to focus on an issue
- Easy access to assistance from experts



The screenshot displays a table titled 'Corporate Fuel Gas Consumption'. The table has columns for 'Row Labels', 'Cracking', 'Distilling', 'Milling', and 'Grand Total'. The data is organized by shift (Shift 1, Shift 2, Shift 3) and process (Tucson, Boiler, Heater, Grand Total).

Shift	Row Labels	Cracking	Distilling	Milling	Grand Total
Shift 1	Tucson	125,455	36,175	92,188	253,819
	Boiler	107,410	17,321	38,096	162,767
	Heater	18,045	18,854	54,152	91,052
	Grand Total	125,455	36,175	92,188	253,819
Shift 2	Tucson	125,455	36,175	92,188	253,819
	Boiler	107,410	17,321	38,096	162,767
	Heater	18,045	18,854	54,152	91,052
	Grand Total	125,455	36,175	92,188	253,819
Shift 3	Tucson	125,455	36,175	92,188	253,819
	Boiler	107,410	17,321	38,096	162,767
	Heater	18,045	18,854	54,152	91,052
	Grand Total	125,455	36,175	92,188	253,819

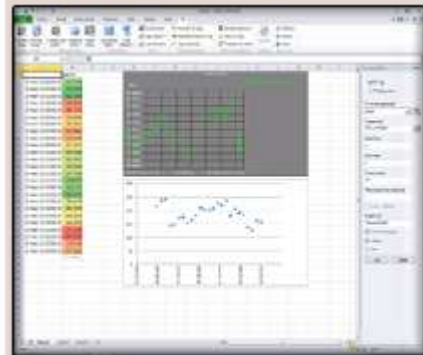


Knowledge Worker Roles

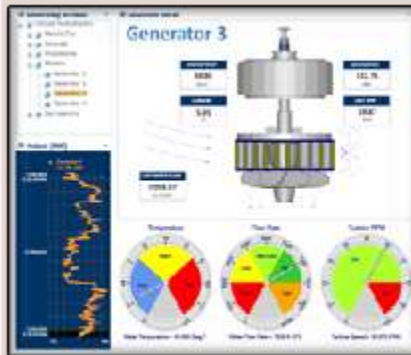
- Access to all needed tools
- Contribute material for use by others
- Act to resolve problems and prevent recurrence



Visualization for PI System 2010



PI DataLink for
Excel 2010



PI WebParts for
SharePoint 2010



PI and PowerPivot for
Excel 2010

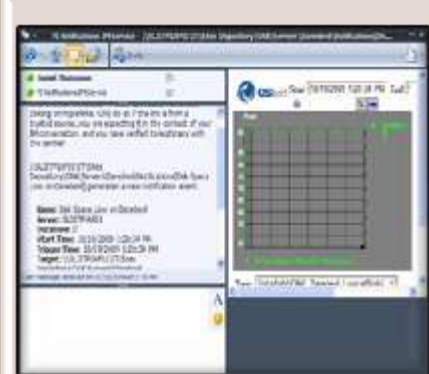


PI and PowerPivot for
SharePoint 2010

PI OLEDB
Enterprise 2010

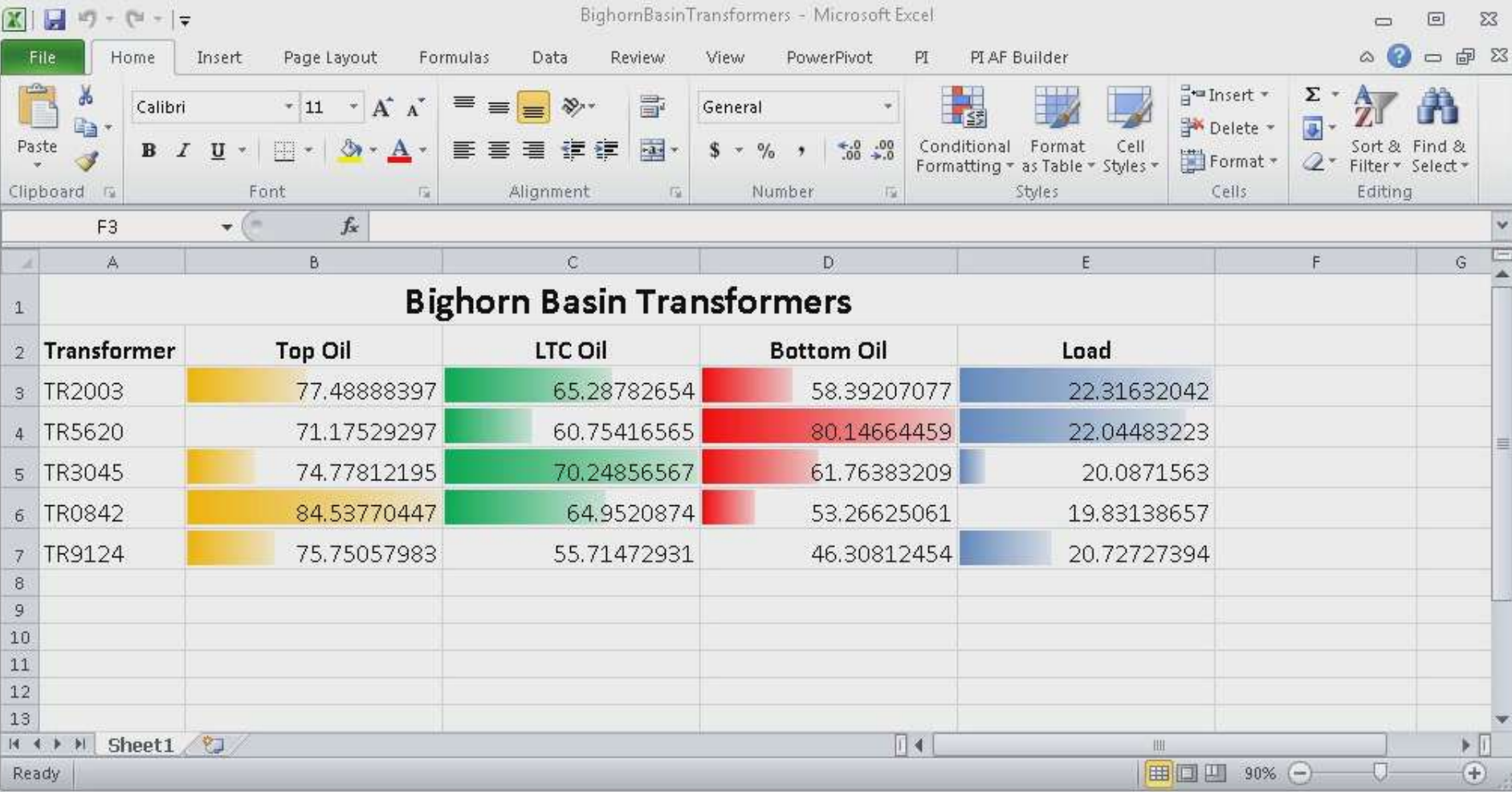
PI Web Services
2010

PI Data Access
Technologies



PI Notifications 1.1
OCS R2 Delivery Channel

[illegible]



What's New in PI DataLink 2010



- Supports Microsoft Office 2010 (32-bit)
(Office 2007 and Office 2003 as well)

- Internationalization and Localization

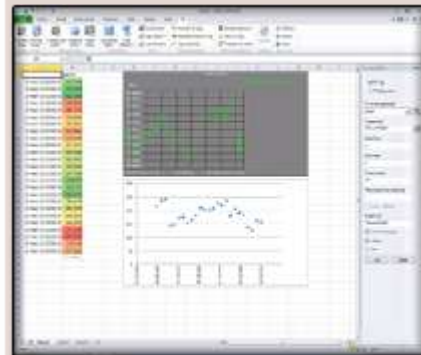
English, French, German, Spanish, Portuguese, Russian, Simplified Chinese, Japanese, Korean

- Supports SharePoint 2010 (64-bit)
(Microsoft Office SharePoint Server 2007 as well)

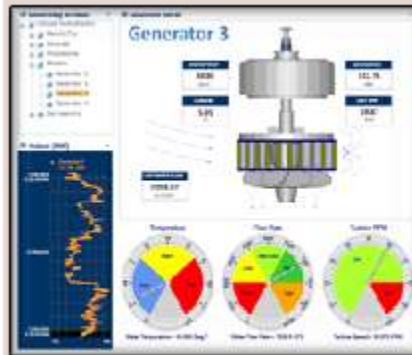
- Internationalization and Localization

English, French, German, Spanish, Portuguese, Russian, Simplified Chinese, Japanese, Korean

Visualization for PI System 2010



PI DataLink for
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PI and PowerPivot for
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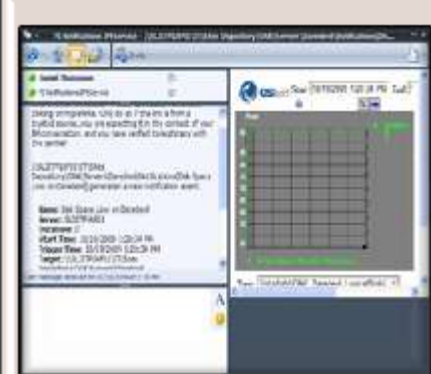


PI and PowerPivot for
SharePoint 2010

PI OLEDB
Enterprise 2010

PI Web Services
2010

PI Data Access
Technologies



PI Notifications 1.1
OCS R2 Delivery Channel

Scorecards and Dashboards in SharePoint

Home - Operations Scorecard - Windows Internet Explorer

http://dfpiweb2010/NuGreen/Operation/Operations%20Scorecard/default.aspx

Home - Operations Scorecard

Print (Alt+R) Laurie Dieffenbach

Operations Scorecard

NuGreen Operations Manufacturing Engineering Reports Marketing Sales Accounting Search this site...

Libraries

- PowerPivot Reports
- Operations Documents

Lists

Discussions

Recycle Bin

All Site Content

Operations Performance Scorecard

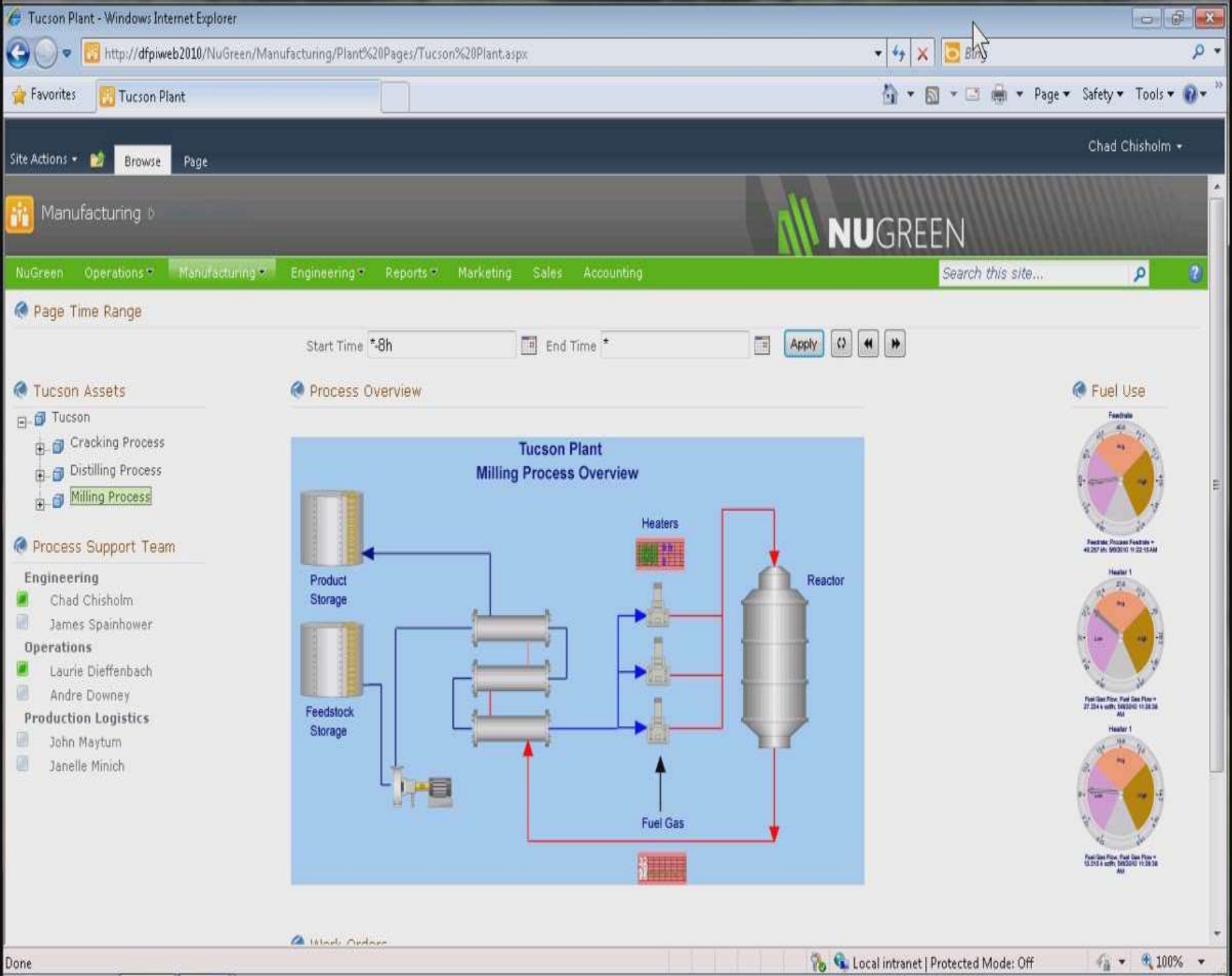
	Houston				Little Rock				Tucson			
	This Month	Today	Target	Trend	This Month	Today	Target	Trend	This Month	Today	Target	Trend
Safety	0	0	●	—	0	0	●	—	0	0	●	—
Environment	97.0	97.1	●	↗	98.6	99.0	●	↗	99.2	98.8	●	↘
Energy Use	363594	11998	▲	↘	111526	3646	▲	↘	101270	3378	◆	↘
Quality	97.6	97.9	●	↗	97.3	97.6	●	↗	97.6	97.8	●	↗
Reliability	95.7	96.4	●	↗	95.6	96.3	●	↗	96.7	97.1	●	↗

Operations Documents

Type	Name	Modified
Document	Asset_Health	4/13/2010 2:39 PM
Document	Fuel_Gas_Utilization_and_Benchmarking_Report	4/13/2010 2:39 PM
Document	KPI_Analysis	4/13/2010 2:39 PM
Document	Plant_Overview	4/13/2010 2:39 PM
Document	Production_Schedule	4/13/2010 2:31 PM

+ Add document

Done Trusted sites | Protected Mode: Off 100%





 http://dfpiweb2010/NuGreen/Manufacturing/Plant%20Pages/Tucson%20Pla



Favorites



Tucson Plant

Site Actions ▾



Browse

Page



Manufacturing ▾

NuGreen

Operations ▾

Manufacturing ▾

Engineering ▾

Reports ▾

Market



Page Time Range



Tucson Assets

Cracking Process

Extruding Process

Milling Process

Data Entry

Process Overview

Milling Assets

- Milling Process
 - Equipment
 - B-737
 - B-914
 - F-200
 - F-770
 - H-148
 - H-393
 - H-395
 - K-384
 - P-009
 - P-509

PI Trend

No Data Configured

Equipment Documents

Type	Name
	Equipment Benchmarking Report
	Fuel Gas Ratio
	Fuel Gas Utilization Report

[Add document](#)

Production Schedule

Milling Production Schedule

Production			Inventories						Today's Performance		
Rate (Tons\Hr)	Target (Tons\Hr)	Capacity (Tons\Hr)	Raw Material		Product			Energy 2%	Reliability 95%	Quality 98%	
			Available Tons	Days	Sales (Tons/Day)	Available Tons	Days				
32.9	35.0	50	30,128	35.9	1,200	10,638	8.9	86208%	9557%	9847%	
33.7	29.0	30	24,236	34.8	750	18,900	25.3	34410%	9671%	9671%	

Transformer

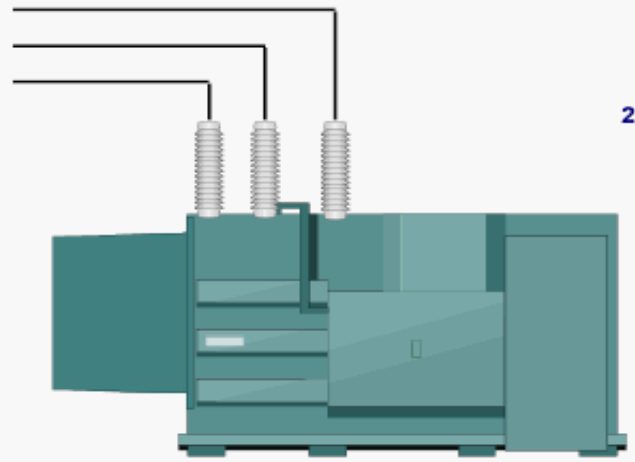
Station: **Bighorn Basin**
Asset ID: **TR0842**

Oil Temperatures (C)

Top Oil
84.1 Deg C

LTC Oil
63.5 Deg C

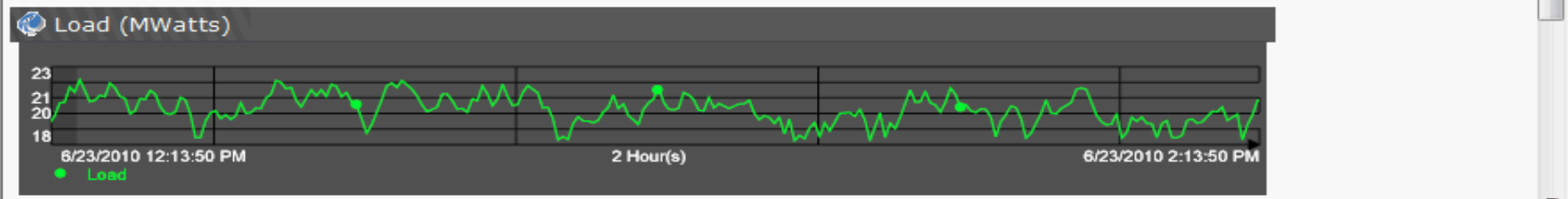
Bottom Oil
52.4 Deg C



LTC Motor
21.8 Amps **STOP**

Cooling Fans
21.8 Amps **STAGE 1**

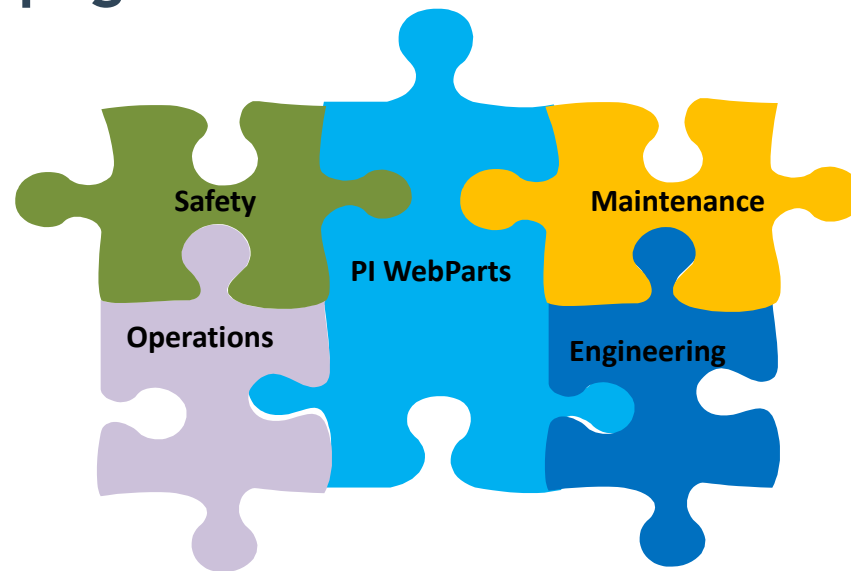
Load (MWatts)
20.8 Mwatts



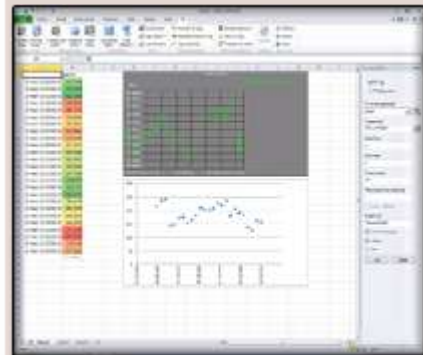
Value of PI WebParts 2010



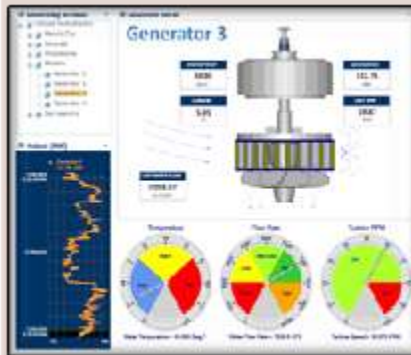
- Aligns with
 - PI for Office 2010 (2007 still supported)
 - PI Server 2010
- **Easy configuration, no code programming**
- **Leverage existing applications**
- **Fewer pages to maintain**



Visualization for PI System 2010



PI DataLink for
Excel 2010



PI WebParts for
SharePoint 2010



PI and PowerPivot for
Excel 2010

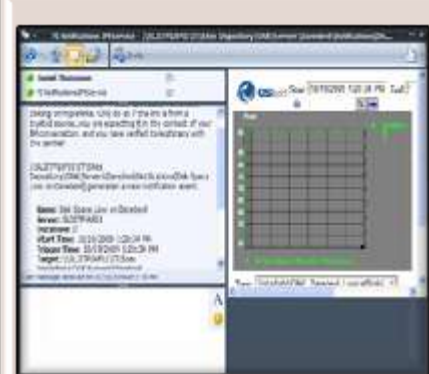


PI and PowerPivot for
SharePoint 2010

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PI Web Services
2010

PI Data Access
Technologies



PI Notifications 1.1
OCS R2 Delivery Channel

Microsoft BI Vision and Strategy

Improving organizations by providing business insights to ***all*** employees leading to better, faster, and more relevant decisions

Delivered through a familiar environment

Integrated into business productivity infrastructure

Built on a trusted and extensible platform



Self Service BI



PowerPivot for Excel



Microsoft
Excel 2010

PowerPivot for SharePoint



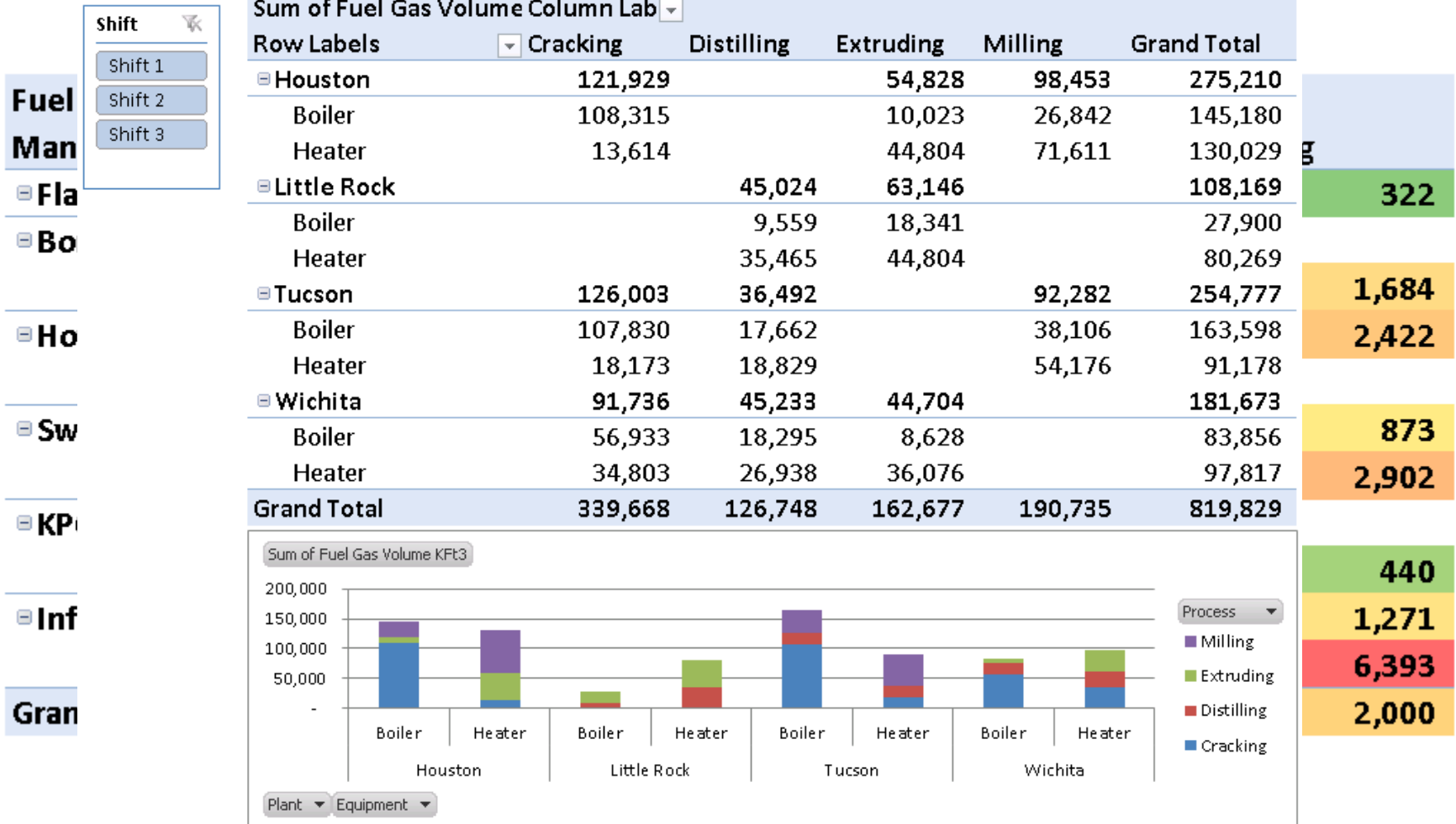
Microsoft
SharePoint 2010



Microsoft
SQL Server 2008 R2



30 Day Corporate Fuel Gas Consumption



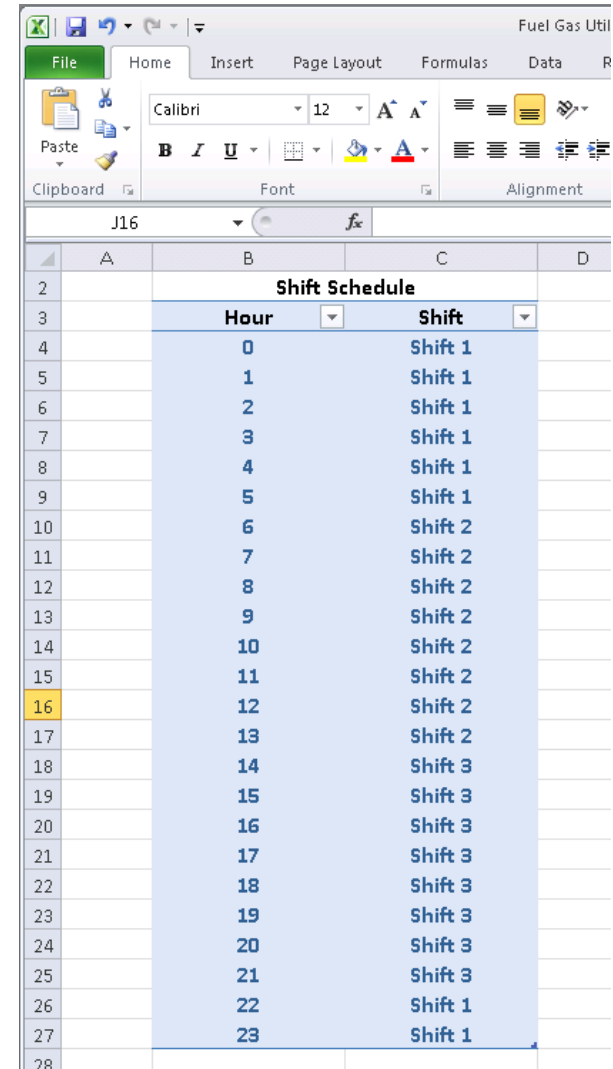
Slicing Data by Shifts

- Link in an Excel Table containing shift schedule
- Use DAX¹ to add an “Hour” column to the “Fuel Use” table;

=HOUR([Time])

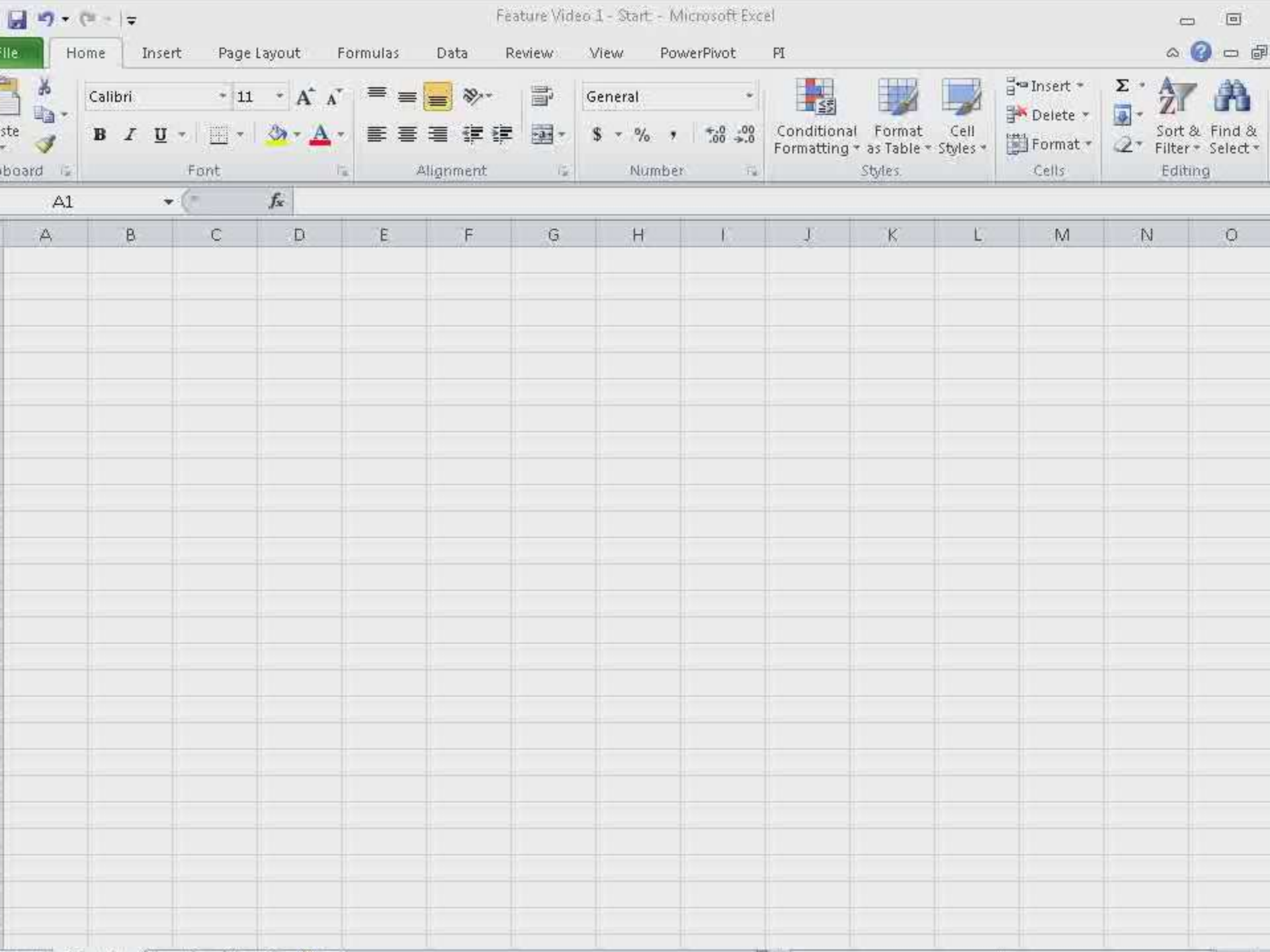
- Create a Relationship between the “Hour” columns in each table.

1. Data Analysis Expression Language

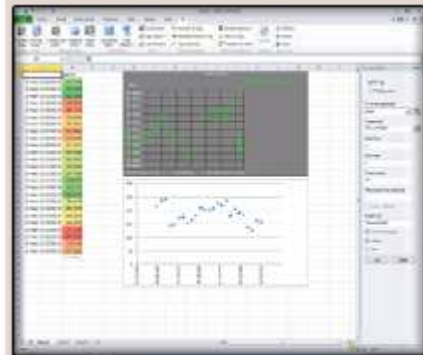


The screenshot shows an Excel spreadsheet with a table named "Shift Schedule". The table has two columns: "Hour" and "Shift". The "Hour" column lists hours from 0 to 23, and the "Shift" column lists shifts 1, 2, and 3. The table is highlighted in blue.

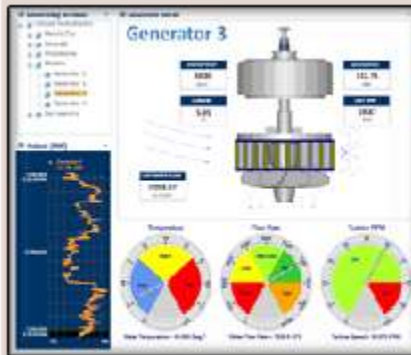
Hour	Shift
0	Shift 1
1	Shift 1
2	Shift 1
3	Shift 1
4	Shift 1
5	Shift 1
6	Shift 2
7	Shift 2
8	Shift 2
9	Shift 2
10	Shift 2
11	Shift 2
12	Shift 2
13	Shift 2
14	Shift 3
15	Shift 3
16	Shift 3
17	Shift 3
18	Shift 3
19	Shift 3
20	Shift 3
21	Shift 3
22	Shift 1
23	Shift 1



Visualization for PI System 2010



PI DataLink for
Excel 2010



PI WebParts for
SharePoint 2010



PI and PowerPivot for
Excel 2010

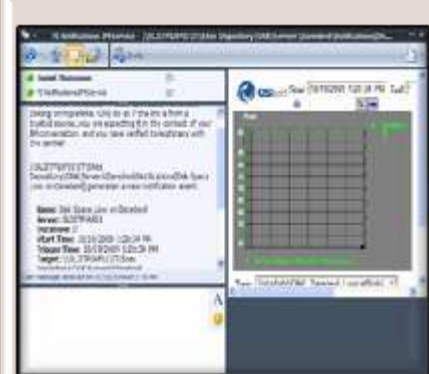


PI and PowerPivot for
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PI Web Services
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PI Data Access
Technologies



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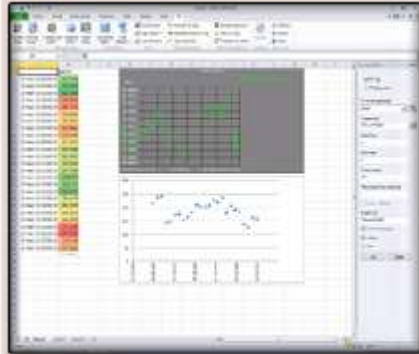
Keeping Insights Up to Date



Refreshing Data in SharePoint 2010

SharePoint can refresh the data from the specified data sources over the Web, in the cloud, from internal databases, PI System 2010, Excel files, and any other location with network connectivity.

Visualization for PI System 2010



PI DataLink for
Excel 2010



PI WebParts for
SharePoint 2010



PI and PowerPivot for
Excel 2010

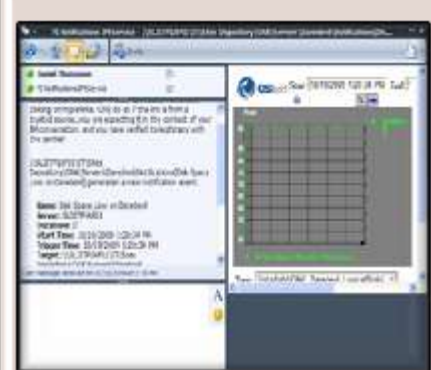


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OCS R2 Delivery Channel

Energy Use

Corporate Fuel Gas Consumption

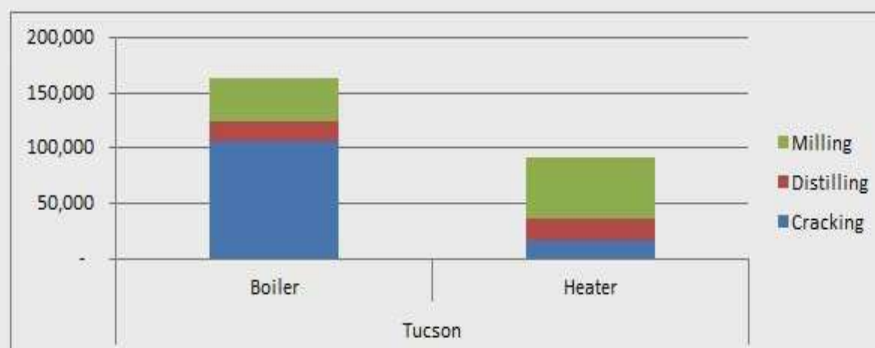
Shift

Shift 1

Shift 2

Shift 3

Sum of Fuel Gas Volume Kft3		Column Labels			
Row Labels		Cracking	Distilling	Milling	Grand Total
Tucson		125,455	36,175	92,188	253,819
Boiler		107,410	17,321	38,036	162,767
Heater		18,045	18,854	54,152	91,052
Grand Total		125,455	36,175	92,188	253,819



Process Support.

Engineering

- Chad Chisholm
- James Spainhower

Operations

- Laurie Dieffenbach
- Andre Downey
- Steve Jones

Production Logistics

- John Maytum
- Janelle Minich



Recycle Bin



Camtasia
Studio 7

Laurie Dieffenbach - Conversation

Chad Chisholm
Laurie Dieffenbach

Laurie Dieffenbach
Chad, please look at the energy consumption at your plant, there seems to be an issue with Miling. 11:14 AM

Chad Chisholm
I'll look at that now. 11:14 AM

Last message received on 4/16/2010 at 11:14 AM.

A
😊



Experience





Thank you

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