



# **Franklin Fueling Systems**

Enhanced Vapor Recovery and In-Station Diagnostics

One Company

One Order

One Phone Call

One Solution You Can Trust!



From the only company who can offer a complete solution!



# VRM – Vapor Recovery Monitoring (In-Station Diagnostics)

## Vapor Recovery Monitoring Components

TS-VFM Vapor Flow Meter





## Vapor Recovery Monitoring Components

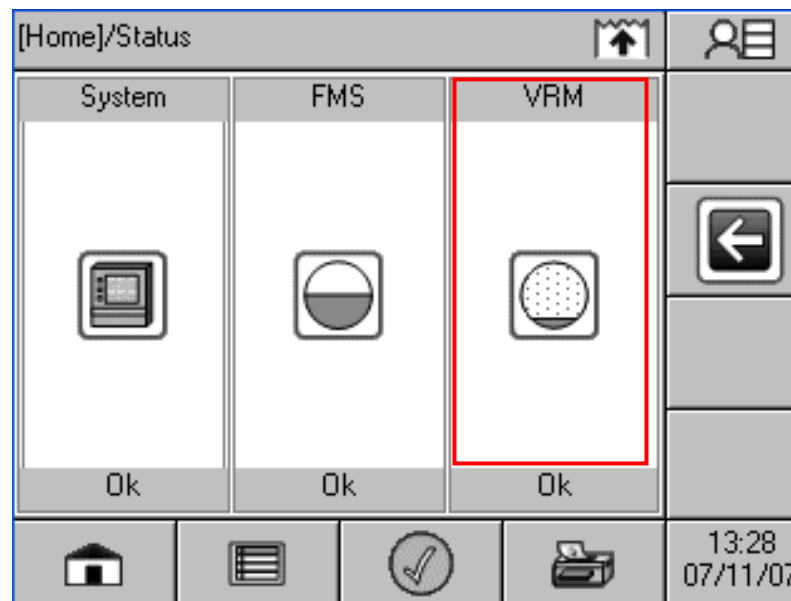
TS-VPS Vapor Pressure Sensor  
– Pressure Sensor Range +/- 8" wc





# Vapor Recovery Monitoring Components

VRM Software Option  
Installed on either...



## Vapor Recovery Monitoring Components

TS-550 or TS-5000  
Fuel Management System  
OR





## Vapor Recovery Monitoring Components

TS-EMS Environmental  
Monitoring System  
(Comes Standard with VRM  
Software (ISD), Touch Screen,  
Printer and All Communication  
Options)



## VFM Installation

- One Vapor Flow Meter per Dispenser
- Installed Either Above or Below Vapor Shear Valve or above the vacuum pump outlet
- Measures Vapors Recovered During Dispensing



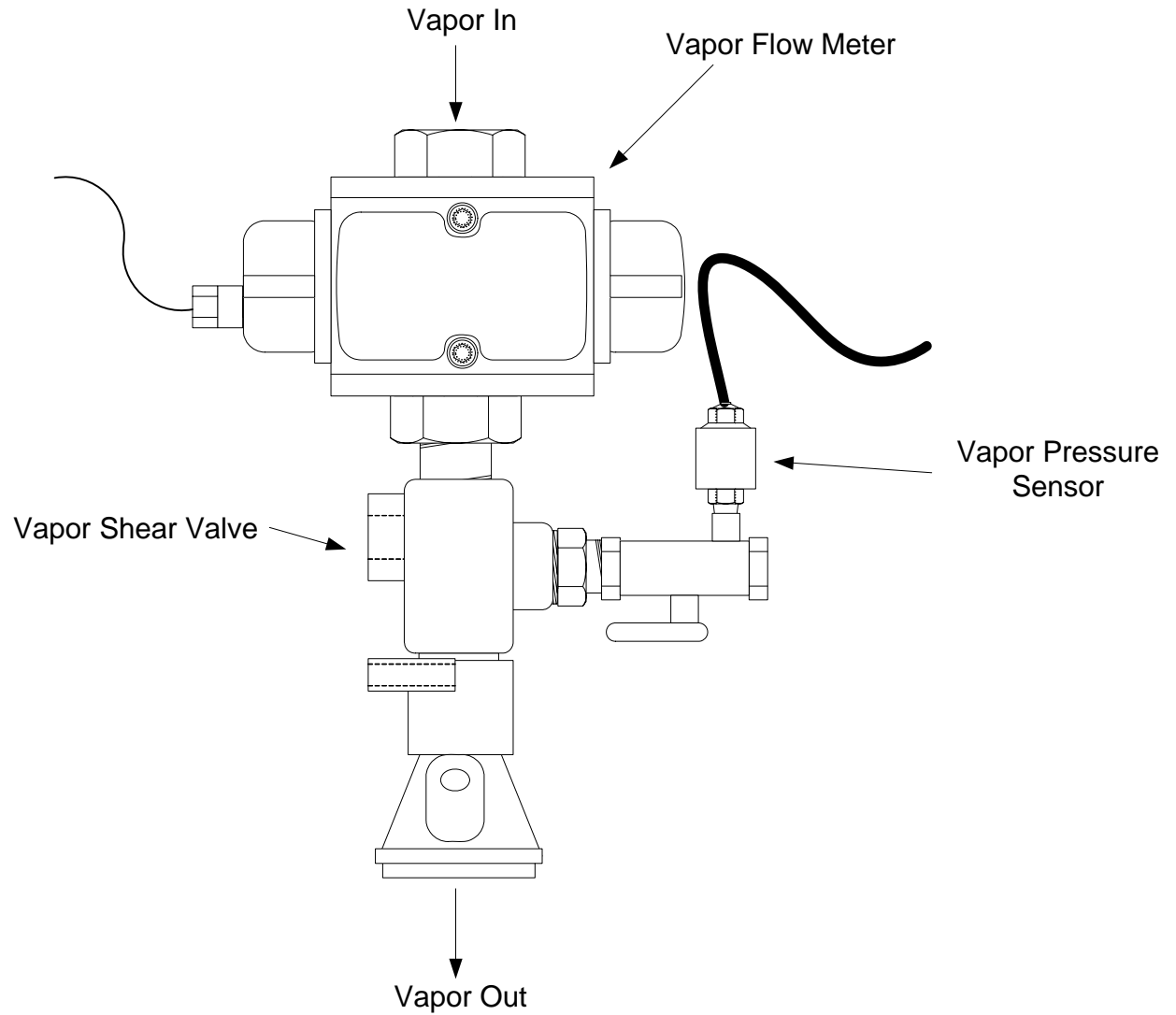


## VPS Installation

- One Vapor Pressure Sensor per Site
- Installed in the Closest Dispenser to the Tanks
- Monitors the Pressure of the Entire Vapor Containment Space  
Pressure Range +/- 8" wc



# VFM and VPS Typical Installation





## Console Installation

- VFM and VPS Wires
- All Gasoline Hook Signals
- Dispenser Interface Cable
- Dispenser Power Wires
- TS-EMS connects to existing ATG
- TS-550/5000 Connects to VFM, Probes, Sensors, Line Leak etc.



## FMS / EMS Consoles

- Communicates with Flow Meter and Pressure Sensor
- Dispenser Interface Module (Internal) records liquid volume of each transaction
- Monitors efficiency of Healy Enhanced Vapor Recovery and Vapor Containment System
- LCD Touch Screen Display
- Notifies User of System abnormalities
- Controls Dispenser Power
- TS-550/5000 FMS can also perform all Tank, Line and Containment Monitoring

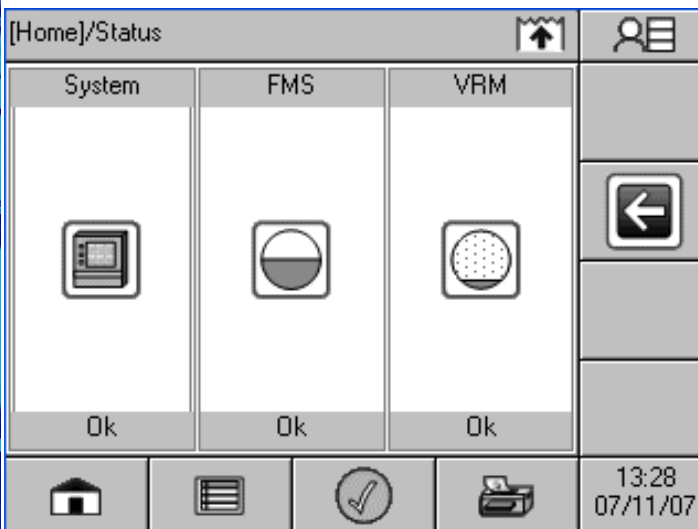




# Interfacing with the Console

- Two different methods of interfacing with the console

## LCD Touchscreen



## Standard Web Browser

Tank Sentinel AnyWare - Tank Status - Microsoft Internet Explorer provided by Franklin Electric

Address: http://dover.dyn dns.org/tank\_status.html

**Franklin Fueling Systems** Tank Status

Home System FMS VRM SCM Setup Preferences Auto Refresh  
Status Alarms Control Compliance Reports 10/23/2005 23:35:26

Tanks Lines Sensors

TANKS													
Image	Manifold ID	Tank ID	Name	Product	Alarms	Level	Gross Volume	Net Volume	Ullage	Water Level	Temperature	Max Capacity	Capacity %
	1	1	Tank 1	Unleaded	o	21.03	1,300.09	1,294.46	6,319.86	0.16	66.15	8,021.00	16.21
	1	2	Tank 2	Unleaded	o	23.80	775.38	772.21	3,034.12	0.07	65.82	4,010.00	19.34
		3	Tank 3	Super	o	17.03	600.89	598.43	4,161.46	0.03	66.58	5,013.00	11.99
		4	Tank 4	Diesel	o	25.39	429.23	428.51	1,475.90	0.52	63.71	2,005.40	21.40

MANIFOLDS							
Manifold ID	Name	Product	Gross Volume	Net Volume	Max Capacity	Capacity %	Alarms
1	Unleaded Man	Unleaded	2,075.46	2,066.67	12,031.00	17.25	o

Tank Sentinel AnyWare 0.3.0.83 Copyright © 2005 Franklin Fueling Systems. All rights reserved.



## Security

- Multiple password protected access levels
- Passwords for each level are programmable
- Guest – View ISD, Fuel Management, Alarm and Compliance Date
- User – Limited Control Functions like Re-enabling Dispensers
- Admin – Full Setup and Control ability



Guest



User

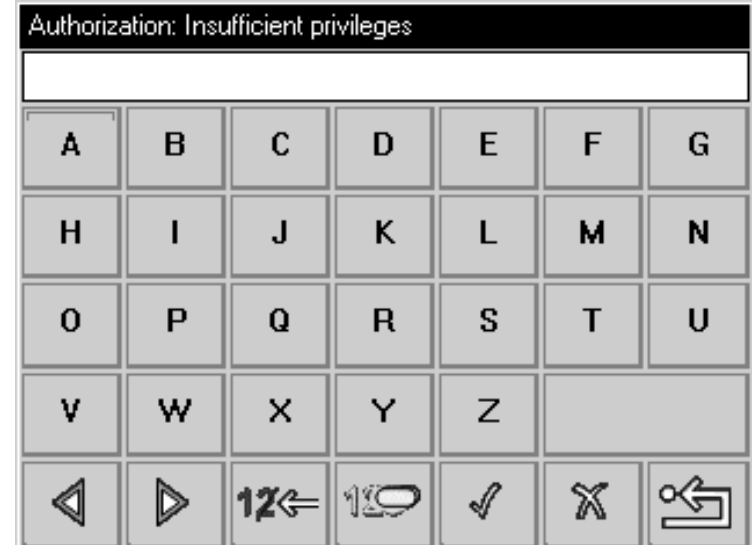
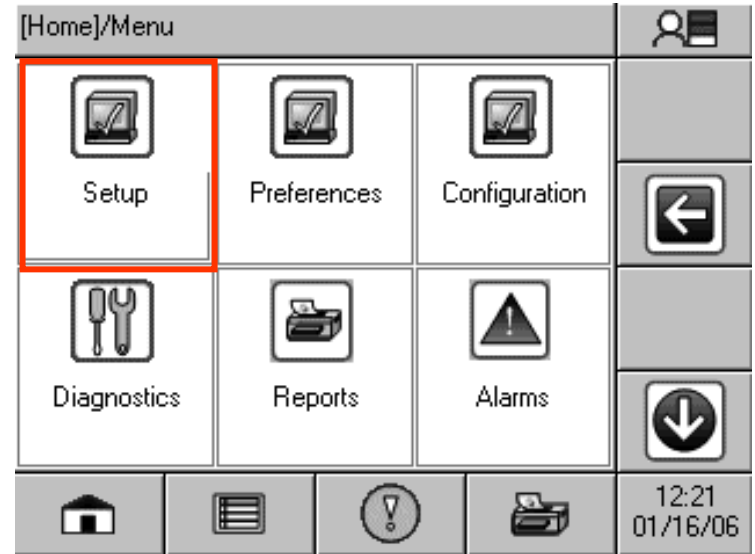


Admin



# Security

- Multiple password protected access levels
- Passwords for each level are programmable
- Guest – View ISD, Fuel Management, Alarm and Compliance Date
- User – Limited Control Functions like starting Leak Tests, Re-enable Dispensers
- Admin – Full Setup and Control ability
- Attempting to enter a restricted area or function, will prompt for entry of the appropriate password



# Start Up and Operability Testing

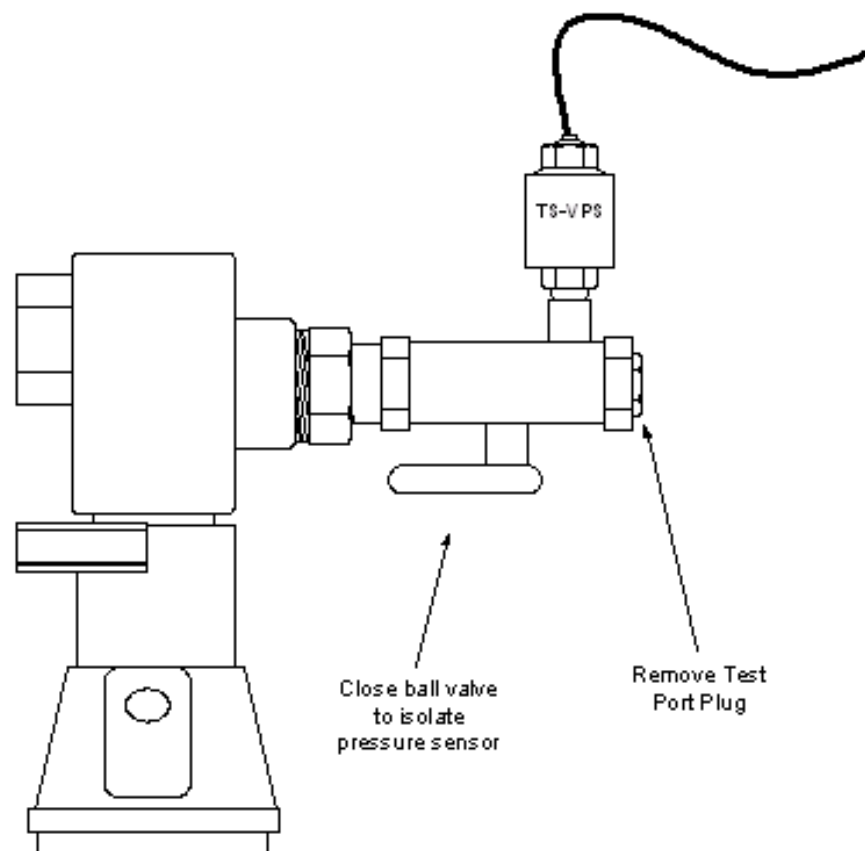
- Verify Proper V/L Reading at each Fueling Point
  - Real Time V/L Readings



[VRM]/Dispensers							
Dispenser 1		Dispenser 2		Dispenser 3			
1		2		3		4	
0.94		0.93		1.00		1.00	
Idle		Idle		Idle			
Dispenser 4		Dispenser 5		Dispenser 6			
7		8		9		10	
1.01		1.00		1.00		1.01	
Idle		Idle		Idle			
				17:04 09/05/06			

## Start Up and Operability Testing

- Atmospheric Reference (Zero) check on Vapor Pressure Sensor





# Start Up and Operability Testing

- Verify Proper V/L Reading at each Fueling Point
- Atmospheric Reference check on Vapor Pressure Sensor
- Verify Programming with Dispenser Shut Down Test

[VRM]/Dispensers											
Dispenser 1		Dispenser 2		Dispenser 3							
1		2		3		4		5		6	
0.94	0.93	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01	
Idle		Idle		Idle		Idle		Idle		Idle	
Dispenser 4		Dispenser 5		Dispenser 6							
7		8		9		10		11		12	
1.01	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	
Idle		Idle		Idle		Idle		Idle		Idle	

Confirmation

Shutdown Dispenser 4?

OK CANCEL

## Generating Reports

- Reports
  - Can be printed on the internal printer





# Generating Reports

- Reports
  - Can be printed on the internal printer
  - Or Generated within the web browser and saved or printed from the PC

Northgate Arco AM/PM 4747 Northgate Blvd Sacramento CA ISD Certification Site with Healy Systems	<b>June 2007</b>	07/11/2007 10:05:09
	<b>Daily ISD Report</b>	ISD version 1.0.0

ISD Up Time 100%

pass ✓ fail ✗ warning ! insufficient \* disabled ✖

Date	ISD Up Time	ISD Pass Time	Pressure				Fueling Points A/L Ratio							
			max	min	75th	95th	1	2	3	4	5	6	7	8
06/01/2007	100	100	-3.26	-8.40	-6.81	-5.65	✓0.93	✓0.92	✓0.98	✓0.98	✓0.96	✓0.98	✓0.98	✓1.02
06/02/2007	100	100	-1.08	-8.41	-6.61	-2.26	✓0.96	✓0.95	✓0.96	✓0.93	✓0.96	✓0.98	✓0.96	✓0.99
06/03/2007	100	100	-4.49	-8.41	-7.34	-5.65	✓0.98	✓1.00	✓0.95	✓0.99	✓0.98	✓0.96	✓1.00	✓1.03
06/04/2007	100	100	-2.77	-8.40	-4.51	-2.82	✓0.95	✓0.96	✓1.00	*0.00	✓0.91	✓0.96	✓0.96	✓0.95
06/05/2007	100	100	-5.62	-8.41	-7.56	-6.28	✓0.93	✓0.94	✓0.98	✓0.94	✓0.91	✓0.97	✓0.96	✓0.99
06/06/2007	100	100	-1.04	-8.45	-6.99	-1.69	✓0.95	✓0.97	✓1.00	✓0.99	✓0.99	✓0.96	✓0.99	✓1.02
06/07/2007	100	100	-0.97	-8.42	-7.15	-2.70	✓0.96	✓0.96	✓1.00	✓0.99	✓0.96	✓0.99	✓0.99	✓1.02
06/08/2007	100	100	-3.75	-8.41	-7.21	-3.82	✓0.97	✓0.94	✓0.99	✓0.95	✓0.97	✓0.99	✓0.96	✓0.99
06/09/2007	100	100	-3.15	-8.41	-5.06	-3.37	✓0.95	✓0.93	✓1.02	✓0.94	✓0.93	✓0.92	✓0.91	✓0.97
06/10/2007	100	100	-3.39	-8.39	-6.77	-5.32	✓0.96	✓0.84	✓0.90	✓0.97	✓0.97	✓0.95	✓0.93	✓1.03
06/11/2007	100	100	-3.08	-8.39	-6.26	-5.16	✓0.94	✓0.94	*0.00	✓0.95	✓0.98	✓0.92	✓0.97	✓1.03
06/12/2007	100	100	-4.43	-8.40	-6.79	-5.28	✓0.95	✓0.94	✓1.01	✓0.93	✓0.96	✓0.96	✓0.97	✓1.00
06/13/2007	100	100	-4.53	-8.39	-6.54	-5.22	✓0.88	✓0.92	✓0.87	✓0.90	✓0.91	✓0.88	✓0.84	✓0.98
06/14/2007	100	100	-3.57	-8.39	-7.68	-5.47	✓0.91	✓0.90	✓0.87	✓0.85	✓0.88	✓0.90	✓0.89	✓0.95



# VRM Status Page

- Shows VFM and VPS status
- Displays Ullage Pressure of the Vapor Containment space
- Indicates testing status

Northgate Arco AM/PM - Guest access level inH<sup>2</sup>O xml en es ru zh\_CN zh\_TW

**Franklin Fueling Systems VRM Status**

Home System **VRM** Setup Preferences Auto Refresh

Status Alarms Control Reports 07/12/2007 11:21:15

Dispenser	Dispenser Status	TS-VFM	Fueling Point	Current Status	Last A/L
1	Dispensing	Operational	1	✓	0.97
			2	✓	0.66
2	Idle	Operational	3	✓	0.21
			4	✓	0.93
3	Dispensing	Operational	5	✓	0.27
			6	✓	0.22
4	Dispensing	Operational	7	✓	0.22
			8	✓	0.23
5	Dispensing	Operational	9	✓	1.01
			10	✓	0.87
6	Dispensing	Operational	11	✓	0.29
			12	✓	0.18

Common	Value
Pressure Sensor	Operational
Ullage Pressure	0.26
Weekly Ullage Pressure Leak Test	Pass
Weekly Ullage Pressure Monitoring	Pass
Monthly Ullage Pressure Monitoring	Pass
Operation Time %	100
Pass Time %	100
Algorithm Version	1.0.0
Collection Method	Assist
Readiness State	Ready

pass ✓ fail ✗ warning ! insufficient \* disabled ✖

[VRM]/Status

Ullage Pressure	Operational Statistics
<p>-1.50 inH<sup>2</sup>O</p>	Up Time % 100
	Pass Time % 94
	Version 1.0.0
Compliance	
Integrity	Pass
Weekly	Pass
Monthly	Pass

16:05  
07/11/07



# VRM Status Page

- Shows Dispenser state and status
- Shows Vapor / Liquid (V/L) result from last dispense

Northgate Arco AM/PM - Guest access level inH<sup>2</sup>O | xml | en es ru zh\_CN zh\_TW

**Franklin Fueling Systems VRM Status**

Home System **VRM** Setup Preferences Auto Refresh

Status Alarms Control Reports 07/12/2007 11:21:15

Dispenser	Dispenser Status	TS-VFM	Fueling Point	Current Status	Last A/L
1	Dispensing	Operational	1	✓	0.97
			2	✓	0.66
2	Idle	Operational	3	✓	0.21
			4	✓	0.93
3	Dispensing	Operational	5	✓	0.27
			6	✓	0.22
4	Dispensing	Operational	7	✓	0.22
			8	✓	0.23
5	Dispensing	Operational	9	✓	1.01
			10	✓	0.87
6	Dispensing	Operational	11	✓	0.29
			12	✓	0.18

Common	Value
Pressure Sensor	Operational
Ullage Pressure	0.26
Weekly Ullage Pressure Leak Test	Pass
Weekly Ullage Pressure Monitoring	Pass
Monthly Ullage Pressure Monitoring	Pass
Operation Time %	100
Pass Time %	100
Algorithm Version	1.0.0
Collection Method	Assist
Readiness State	Ready

pass ✓ fail ✗ warning ! insufficient \* disabled ✖

[VRM]/Dispensers

Dispenser 1		Dispenser 2		Dispenser 3	
1	0.94	2	0.93	3	1.00
4	1.00	5	1.00	6	1.01
Idle		Idle		Idle	
Dispenser 4		Dispenser 5		Dispenser 6	
7	1.01	8	1.00	9	1.00
10	1.00	11	1.00	12	1.00
Idle		Idle		Idle	

17:04  
09/05/06



# VRM Daily Report

- Performance Indicators
  - Vapor Containment Pressure
- Average V/L per Fueling Point
  - Daily V/L Test Results

Northgate Arco AM/PM  
 4747 Northgate Blvd  
 Sacramento CA  
 ISD Certification Site  
 with Healy Systems

**June 2007**

07/11/2007 10:05:09

**Daily ISD Report**

ISD version 1.0.0

ISD Up Time 100%

pass ✓ fail ✗ warning ⚠ insufficient \* disabled ☒

Date	ISD Up Time	ISD Pass Time	Pressure				Fueling Points A/L Ratio							
			max	min	75th	95th	1	2	3	4	5	6	7	8
06/01/2007	100	100	-3.26	-8.40	-6.81	-5.65	✓0.93	✓0.92	✓0.98	✓0.98	✓0.96	✓0.98	✓0.98	✓1.02
06/02/2007	100	100	-1.08	-8.41	-6.61	-2.26	✓0.96	✓0.95	✓0.96	✓0.93	✓0.96	✓0.98	✓0.96	✓0.99
06/03/2007	100	100	-4.49	-8.41	-7.34	-5.65	✓0.98	✓1.00	✓0.95	✓0.99	✓0.98	✓0.96	✓1.00	✓1.03
06/04/2007	100	100	-2.77	-8.40	-4.51	-2.82	✓0.95	✓0.96	✓1.00	*0.00	✓0.91	✓0.96	✓0.96	✓0.95
06/05/2007	100	100	-5.62	-8.41	-7.56	-6.28	✓0.93	✓0.94	✓0.98	✓0.94	✓0.91	✓0.97	✓0.96	✓0.99
06/06/2007	100	100	-1.04	-8.45	-6.99	-1.69	✓0.95	✓0.97	✓1.00	✓0.99	✓0.99	✓0.96	✓0.99	✓1.02
06/07/2007	100	100	-0.97	-8.42	-7.15	-2.70	✓0.96	✓0.96	✓1.00	✓0.99	✓0.96	✓0.99	✓0.99	✓1.02
06/08/2007	100	100	-3.75	-8.41	-7.21	-3.82	✓0.97	✓0.94	✓0.99	✓0.95	✓0.97	✓0.99	✓0.96	✓0.99
06/09/2007	100	100	-3.15	-8.41	-5.06	-3.37	✓0.95	✓0.93	✓1.02	✓0.94	✓0.93	✓0.92	✓0.91	✓0.97
06/10/2007	100	100	-3.39	-8.39	-6.77	-5.32	✓0.96	✓0.84	✓0.90	✓0.97	✓0.97	✓0.95	✓0.93	✓1.03
06/11/2007	100	100	-3.08	-8.39	-6.26	-5.16	✓0.94	✓0.94	*0.00	✓0.95	✓0.98	✓0.92	✓0.97	✓1.03
06/12/2007	100	100	-4.43	-8.40	-6.79	-5.28	✓0.95	✓0.94	✓1.01	✓0.93	✓0.96	✓0.96	✓0.97	✓1.00
06/13/2007	100	100	-4.53	-8.39	-6.54	-5.22	✓0.88	✓0.92	✓0.87	✓0.90	✓0.91	✓0.88	✓0.84	✓0.98
06/14/2007	100	100	-3.57	-8.39	-7.68	-5.47	✓0.91	✓0.90	✓0.87	✓0.85	✓0.88	✓0.90	✓0.89	✓0.95



# VRM Daily Report

- Vapor Containment Pressure
- Average V/L per Fueling Point
- Performance Indicators

<b>INCON Engineering Systems</b>		
<b>Franklin Fueling Systems</b>		
<b>3760 Marsh Road</b>		
<b>Madison, WI 53718</b>		
<b>608-838-8786</b>		
<b>USA</b>		
<b>12/20/2005</b>	<b>11:25:39</b>	
<b>Daily ISD Report</b>		
<b>Last 30 Days</b>		
<b>Pressure: inH2O</b>		
<b>ISD Up Time 100%</b>		
<b>ISD Version: 1.0.0</b>		
<b>12/20/2005</b>		
<b>Pressure Max</b>	<b>0.26</b>	
<b>Pressure Min</b>	<b>-2.53</b>	
<b>Pressure 75<sup>th</sup></b>	<b>-0.77</b>	
<b>Pressure 95<sup>th</sup></b>	<b>-0.11</b>	
<b>FP1</b>		<b>0.98</b>
<b>FP2</b>		<b>1.03</b>
<b>FP3</b>		<b>1.03</b>
<b>FP4</b>		<b>1.05</b>
<b>FP5</b>		<b>0.98</b>
<b>FP6</b>		<b>1.01</b>
<b>FP7</b>		<b>1.01</b>
<b>FP8</b>		<b>1.05</b>
<b>FP9</b>		<b>0.97</b>
<b>FP10</b>		<b>1.02</b>
<b>FP11</b>		<b>1.03</b>
<b>FP12</b>		<b>1.05</b>



# VRM Monthly Report

- Performance Indicators
- Monthly Requirements
- Operational Requirements

Northgate Arco AM/PM  
 4747 Northgate Blvd  
 Sacramento CA  
 ISD Certification Site  
 with Healy Systems

**May 2007**

07/11/2007 11:18:49

**VRM Monthly Reports**

ISD version 1.0.0

**Statistics**

Operational Time [%]	Pass Time [%]
May 2007	
100	71

**Monitoring Requirements**

Limits	LOW	HIGH
Daily Vapor Collection A/L	0.33	1.90
Weekly Vapor Collection A/L	0.81	1.32
Weekly Ullage Pressure Monitoring		1.30
Monthly Ullage Pressure Monitoring		0.30

**Operational Requirements**

Vapor Collection Method	Assist
Vapor Collection A/L Low	0.95
Vapor Collection A/L High	1.15

**Warnings Alarms**

Device	Description	Category	Type	Date Occurred	Date Cleared
Fueling Point 6	Weekly Vapor Collection	VRM	Warning	05/20/2007 03:00:04	05/21/2007 00:51:57
Fueling Point 5	Weekly Vapor Collection	VRM	Warning	05/20/2007 03:00:04	05/20/2007 23:23:09



# VRM Monthly Report

- VRM Events for the Month
- VRM Warnings for the Month
- VRM Failures for the Month

Warnings Alarms					
Device	Description	Category	Type	Date Occurred	Date Cleared
Fueling Point 6	Weekly Vapor Collection	VRM	Warning	05/20/2007 03:00:04	05/21/2007 00:51:57
Fueling Point 5	Weekly Vapor Collection	VRM	Warning	05/20/2007 03:00:04	05/20/2007 23:23:09
Fueling Point 6	Daily Vapor Collection	VRM	Warning	05/18/2007 03:00:02	05/20/2007 03:00:04
Fueling Point 5	Daily Vapor Collection	VRM	Warning	05/18/2007 03:00:02	05/20/2007 03:00:04
	Weekly Ullage Pressure Leak Test	VRM	Warning	05/13/2007 03:00:01	05/20/2007 03:03:23
Failure Alarms					
Device	Description	Category	Type	Date Occurred	Date Cleared
	Weekly Ullage Pressure Leak Test	VRM	Failure	05/20/2007 03:00:04	05/20/2007 03:03:23
Fueling Point 6	Daily Vapor Collection	VRM	Failure	05/19/2007 03:00:02	05/20/2007 03:00:04
Fueling Point 5	Daily Vapor Collection	VRM	Failure	05/19/2007 03:00:02	05/20/2007 03:00:04
	Monthly Ullage Pressure	VRM	Failure	05/01/2007 03:00:01	05/01/2007 03:08:45
Event Alarms					
Device	Description	Category	Date Occurred		
Fueling Point 6	A/L Baseline Complete	VRM	05/21/2007 00:51:57		
Fueling Point 5	A/L Baseline Complete	VRM	05/20/2007 23:23:09		
Fueling Point 6	A/L Baseline Complete	VRM	05/20/2007 23:20:36		
Tech ID 1137	Pressure Test Alarms Cleared	VRM	05/20/2007 03:03:23		
	All Dispensers Enabled	VRM	05/20/2007 03:02:09		
	All Dispensers Shutdown	VRM	05/20/2007 03:00:04		
	Weekly Ullage Pressure Leak Test Site Shutdown Request	VRM	05/20/2007 03:00:04		
Dispenser 3	Enabled	VRM	05/19/2007 05:50:35		
Dispenser 3	Shutdown	VRM	05/19/2007 03:00:02		
Fueling Point 5	Shutdown Request	VRM	05/19/2007 03:00:02		
Tech ID 1137	Pressure Test Alarms Cleared	VRM	05/01/2007 03:08:45		
	All Dispensers Enabled	VRM	05/01/2007 03:01:38		
	All Dispensers Shutdown	VRM	05/01/2007 03:00:01		
	Monthly Ullage Pressure Site Shutdown Request	VRM	05/01/2007 03:00:01		



# VRM Monthly Report

- Performance Indicators
- Monthly Requirements
- Operational Requirements

INCON Engineering Systems  
Franklin Fueling Systems  
3760 Marsh Road  
Madison, WI 53718  
608-838-8786  
USA  
12/20/2005 11:25:39

VRM Monthly Report  
June 2007

**STATISTICS**  
Operation [%] 100  
Pass [%] 100

**OPERATION REQUIREMENTS**  
Vapor Collect Method  
Assist  
A/L Low 0.95  
A/L High 1.15

**MONITORING REQUIREMENTS**  
Dly Vapor Coll. A/L  
Low  
0.24  
High  
2.01

Wkly Vapor Coll. A/L  
Low  
0.71  
High  
1.44

Wkly Ullage Pressure Monitor  
High  
1.30" wcg

Mthy Ullage Pressure Mon  
High  
0.30" wcg



# VRM Monthly Report

- VRM Warnings for the Month



- VRM Failures for the Month



- VRM Events for the Month



<b>WARNINGS</b>	
<b>Occurred</b>	
12/09/2005	00:05:00
<b>Cleared</b>	
12/10/2005	02:15:00
<b>Daily Vapor Collection Fueling Point 10</b>	
<b>FAILURES</b>	
<b>11/27/2005</b>	<b>00:00:05</b>
<b>Weekly Ullage Pressure Leak</b>	
<b>EVENTS</b>	
<b>Occurred</b>	
12/20/2005	07:07:14



# Vapor Recovery Alarms

- Types
  - Monitoring Alarms
    - Example: **Weekly Vapor Collection, Fueling Point 6**
  - Component Alarms
    - Example: **VFM Missing, VFM 3**

Northgate Arco AM/PM  
4747 Northgate Blvd  
Sacramento CA  
ISD Certification Site  
with Healy Systems

Year 2007

07/12/2007 07:16:13

## Alarm History Report

Device	Description	Category	Type	Date Occurred	Date Cleared
	Pressure Sensor Open Circuit	VRM	Alarm	06/28/2007 14:48:12	06/28/2007 14:48:30
ISD Pressure Input	4-20mA Input Error	System	Alarm	06/28/2007 14:48:12	06/28/2007 14:48:30
VFM 3	VFM Missing	VRM	Alarm	05/30/2007 16:18:32	05/30/2007 16:31:08
Fueling Point 6	Weekly Vapor Collection	VRM	Warning	05/20/2007 00:00:04	05/20/2007 21:51:57
Fueling Point 5	Weekly Vapor Collection	VRM	Warning	05/20/2007 00:00:04	05/20/2007 20:23:09
	Weekly Ullage Pressure Leak Test	VRM	Failure	05/20/2007 00:00:04	05/20/2007 00:03:23



# Vapor Recovery Monitoring Thresholds

- Vapor Collection

Monitoring Area	Duration	EVR System	Threshold
Daily V/L	Daily	Vacuum Assist	Average V/L ratio exceeds 1.90 or less than 0.33
Weekly V/L	Calendar Week	Vacuum Assist	Average V/L ratio exceeds 1.32 or less than 0.81

- Single affected dispenser shutdown

- Vapor Containment

Monitoring Area	Duration	Threshold
Weekly Over-pressurization	Calendar Week	Pressure > 1.3"wcg for 5% of week
Monthly Over-Pressurization	Calendar Month	Pressure > 0.3"wcg for 25% of month
Weekly Leak Test	Calendar Week	Pressure Leak is greater than 2x TP-201.3

- All dispensers shutdown

*\*Tables are found on page 6 of IOM*



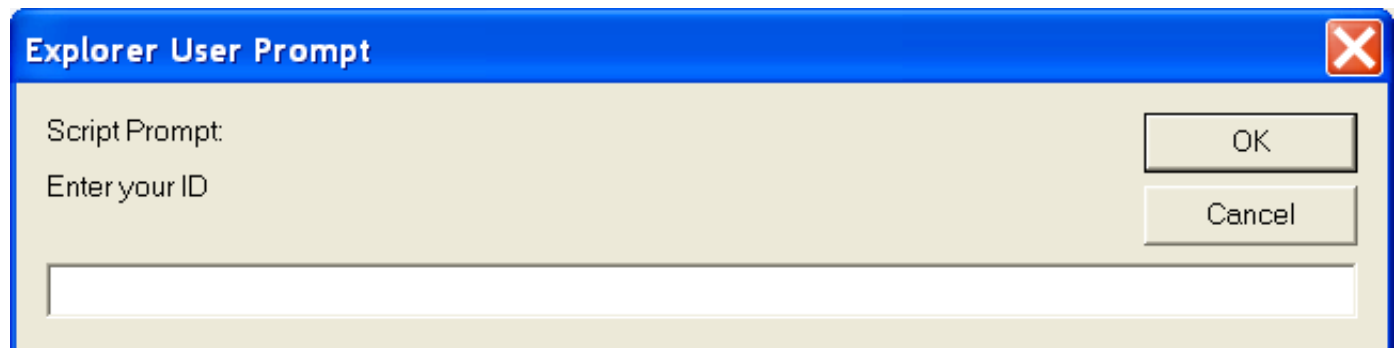
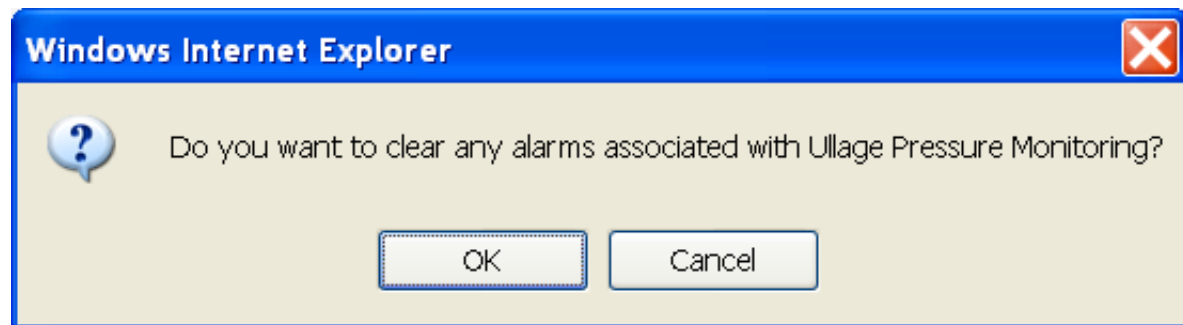
## Clearing an Alarm

- Must be done by trained technician and have Administrator rights
- **Vapor Collection Alarm**
  - Must run a Manual A/L from Control Page

INCON Engineering - Administrator access level				xml   en es ru zh_CN zh_TW	
		<b>VRM Control - A/L Test</b>			
Home System FMS VRM Setup Preferences			Start Test		
Status Alarms Control Reports			07/12/2007 10:04:08		
Calibrate Pressure Sensor		<a href="#">Manual A/L Test</a>		Manual Pressure Integrity Test Clear Monitoring Reset Statistics	
<input type="checkbox"/>	Fueling Point	Air/Liquid	Status	Date	
<input type="checkbox"/>	1	1.00	Completed	02/09/2007 16:50:47	
<input type="checkbox"/>	2	1.00	Completed	02/09/2007 16:50:47	
<input type="checkbox"/>	3	1.00	Completed	02/09/2007 16:50:47	
<input type="checkbox"/>	4	1.10	Completed	03/25/2007 04:35:33	
<input type="checkbox"/>	5	1.00	Completed	05/20/2007 23:23:09	
<input type="checkbox"/>	6	0.97	Completed	05/21/2007 00:51:57	

## Clearing an Alarm

- Must be done by trained technician and have Administrator rights
- **Vapor Collection Alarm**
  - Must run a Manual A/L from Control Page
- **Vapor Containment Alarm**
  - Run “Clear Monitoring” from Control Page
  - Records Technician Certification Number





## Clearing an Alarm

- Must be done by trained technician and have Administrator rights
- **Vapor Collection Alarm**
  - Must run a Manual A/L from Control Page
- **Vapor Containment Alarm**
  - Run “Clear Monitoring” from Control Page
  - Records Technician Certification Number
- **Component Alarm**
  - Repair Communication or Replace Component or Module

Northgate Arco AM/PM  
4747 Northgate Blvd  
Sacramento CA  
ISD Certification Site  
with Healy Systems

**Year 2007**

07/12/2007 07:16:13

**Alarm History Report**

Device	Description	Category	Type	Date Occurred	Date Cleared
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Fueling Point 5	Weekly Vapor Collection	VRM	Warning	05/20/2007 00:00:04	05/20/2007 20:23:09
	Weekly Ullage Pressure Leak Test	VRM	Failure	05/20/2007 00:00:04	05/20/2007 00:03:23



## Alarm Scenario

### Day 1

- Healy ball valve was left closed after testing on Dispenser 2 or some other vapor blockage in the dispenser vapor piping
- No vapor being collected by vacuum pump or vapor flow meter
- VRM begins collecting V/L's with value of zero
- Midnight - system issues a **Daily Vapor Collection WARNING** and notifies the user via:
  - Default - Audible Alarm, Warning LED Flashes
  - Optional – Print, Email or Fax, Notify SSA/GCA software
- Allowed to continue Dispensing
- Technician should be dispatched



## Alarm Scenario

If the problem is not resolved...

### Day 2

- Midnight - system issues a **Daily Vapor Collection ALARM**
- Audible Alarm, Alarm LED Flashes other optional user notification
- **Only Dispenser 2 is disabled**, the rest of the site continues to operate
- Dispenser should be bagged off and service dispatched
- Dispenser can be re-enabled by authorized personal with password access, if local regulations allow.

### Otherwise

- Technician performs inspection
- Ball valve is re-opened
- Technician runs Manual V/L test with passing results and clears the alarm
- Dispenser back in Service



## Re-Enabling a Shutdown Dispenser

- Determine if local Regulations allow
- Need to have “User” Level Password
- Does not clear the alarm but allows dispensing again
- Dispenser will be disabled again at midnight if the problem is not resolved
- Select dispenser shown as “Shutdown”

[VRM]/Dispensers								
Dispenser 1		Dispenser 2		Dispenser 3				
1  2	3  4	5  6						
0.95 0.00	0.00 0.95	0.00 0.95						
Dispensing	Idle	Idle						
Dispenser 4		Dispenser 5		Dispenser 6				
7  8	9  10	11  12						
0.95 0.00	0.00 0.95	0.95 0.00						
Shutdown	Idle	Idle						
				12:46 07/12/07				



# Re-Enabling a Shutdown Dispenser

Enter "User" level Password

Authorization: Insufficient privileges

A	B	C	D	E	F	G
H	I	J	K	L	M	N
O	P	Q	R	S	T	U
V	W	X	Y	Z		
◀	▶	12←	10	✓	✗	↶

Select OK

Confirmation

Enable dispenser 4?

✓ OK	✗ CANCEL
------	----------



# Re-Enabling a Shutdown Dispenser

Dispenser is re-enabled

[VRM]/Dispensers				
Dispenser 1	Dispenser 2	Dispenser 3		
1 0.94  2 0.93	3 1.00  4 1.00	5 1.00  6 1.01		
Idle	Idle	Idle		
Dispenser 4	Dispenser 5	Dispenser 6		17:04
7 1.01  8 1.00	9 1.00  10 1.01	11 1.00  12 1.00	09/05/06	
Idle	Idle	Idle		



## TS-EMS Environmental Monitoring System

- Stand alone ISD system
- Existing ATGs do not need to be replaced or upgraded!
- Interfaces with existing Tank Gauge for tank ullage information used in Vapor Containment monitoring and testing
- Includes Vapor Recovery Monitoring software, LCD Touch Screen, Printer and all communication options





## TS-EMS Advantages

- Existing ATG does not have to be replaced or upgraded
- Uses the same conduit as existing ATG dispenser sensors for VFM and VPS cables
- Easily upgraded in the future to full Fuel Management System
- The same advantages as the TS-550/5000
  - ✓ Web Access
  - ✓ Email capabilities
  - ✓ User Friendly touchscreen Interface
  - ✓ Rules Engine
  - ✓ I/O Abilities



## FFS/INCON VRM Advantages

- Dispenser based disabling won't take down the whole site
- Web access for local and remote monitoring and troubleshooting
- Rules engine emails provide immediate notification
- User friendly icon based interface
- Scalable Open Architecture for future upgrades
- Complete Fuel Management System or EMS stand alone ISD System

Northgate Arco AM/PM - Guest access level

Praxair Fueling Systems VRM Status

Home System VRM Setup Preferences Auto Refresh: 07/12/2007 11:23:15

Dispenser	Dispenser Status	TS-VRM	Fueling Point	Current Status	Last AIL
1	Dispensing	Operational	1	✓	0.97
			2	✓	0.66
2	Idle	Operational	3	✓	0.21
			4	✓	0.93
3	Dispensing	Operational	5	✓	0.27
			6	✓	0.22
4	Dispensing	Operational	7	✓	0.22
			8	✓	0.23
5	Dispensing	Operational	9	✓	1.01
			10	✓	0.87
6	Dispensing	Operational	11	✓	0.29
			12	✓	0.18

Common	Value
Pressure Sensor	Operational
Usage Pressure	0.26
Weekly Usage Pressure Leak Test	Pass
Weekly Usage Pressure Monitoring	Pass
Monthly Usage Pressure Monitoring	Pass
Operation Time %	100
Pass Time %	100
Algorithm Version	1.0.0
Collection Method	Asset
Readiness State	Ready

pass ✓ fail ✗ warning ⚠ insufficient ⚡ disabled ⛔





## Manuals and Support

- **Vapor Recovery Monitoring Installation Operation and Maintenance Manual** – Included in EO and every Console
- **Vapor Recovery Monitoring Quick Reference Guide** – Included with every Console
- **TS-VPS Installation Guide** – With every Vapor Pressure Sensor
- **TS-VFM Installation Guide** – With every Vapor Flow Meter
- **VRM Troubleshooting and Alarm Identification Guide** - Available on Franklin Fueling Systems Web Site

All Manuals are posted on the Franklin Fueling Systems website at [http://www.franklinfueling.com/service/fms\\_tech.asp](http://www.franklinfueling.com/service/fms_tech.asp)

- Technical Support is available M-F 7am to 7pm CST by calling 1-800-984-6266
- Local Area Factory Support Personnel are also available for assistance



# Training

- Technicians will initially be trained in a classroom setting
- Certification will expire two years from the date of completion
- Re-certification can be completed online
- A list of certified tech will be posted on the FFS web site
- Technicians will receive a wallet size certification card indicating
  - Certification Type
  - Date of Training
  - Expiration Date

**Franklin Fueling Systems**

John Doe - Certification #: 0123456789  
Install Company Name

<u>Certification Type</u>	<u>Expiration Date</u>
Healy Executive Order VR-202-D	Jan-08-2009
VRM In Station Diagnostics VR-202-D	Jun-28-2009

Healy Training Jan-08-2007  
VRM Training Jun-28-2007



## Forward Thinking

- The INCON TS-5 Series is state of the art Fuel Management and Environmental Monitoring technology
- How will the regulations and your ATG requirements change over the next 5-10 years?
- The TS-5 design ensures system longevity and low cost future Upgrades and Enhancements with features like:
  - The ability to do remote updates
  - Easily Upgradeable
  - Multi function modules
  - Open Architecture design
  - The ability to add modules or an Expansion Box
  - XML interface

