

Customer: A1 Chemicals, Inc.
Location: Austin, TX, United States

System: Chemical Production Plant
 (ID : 0001-0002-9868)

Date of Report: July 15, 2016
Reporting Period: January 1, 2016 to July 3, 2016

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System Health Score



	For Review
Knowledge Base Articles	5
Software Updates	128
Hardware	7
Software	0
	Open
Severity A & B Service Calls	0
Actionable Alerts	4

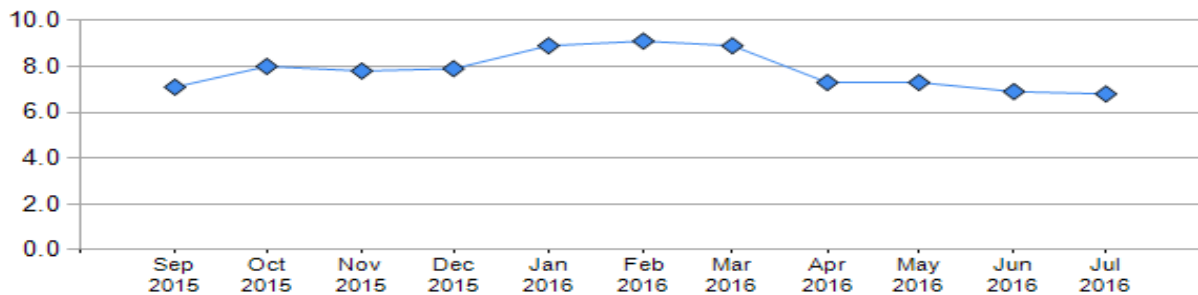


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About This Report

This report examines the service history and status of the system as recorded in Emerson's service management database. The report is a deliverable of Emerson's Guardian Support Service and was prepared by the Emerson Global Service Center with subsequent review and updates from your local Emerson Service provider.

System Content Data Collection: The method for collecting system content information for this system is the DeltaV System Registration Utility. In this report, Knowledge Base Articles and product lifecycle status changes matched to system content are reviewed and discussed.

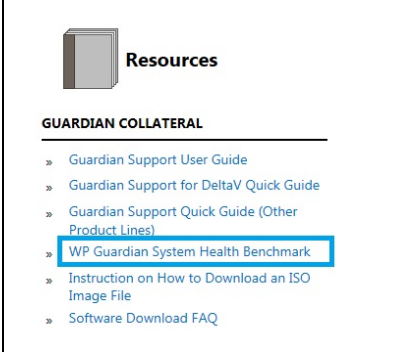
Service Event Data Collection: Service events captured and discussed in this report include:

- Technical support calls which were assigned CTS service call numbers
- Health monitor alerts received by the Emerson Global Service Center
- Material return transactions which were assigned Return Authorization numbers
- New product shipments of software media, licenses, or hardware

The System Analysis Report also includes the **System Health Score**⁽¹⁾ which indicates the health of the system based upon a comparison of specific criteria relative to other systems subscribed to Guardian Support on a global basis. The System Health Score included in this report is based on the status of the system at the end of this reporting period. Scores are recorded on a weekly basis, and the highest score of the month is included in the trend.

To learn more about how the System Health Score is calculated, please download the Whitepaper – **Guardian System Health Benchmark** in the *Resources* page. This Whitepaper provides suggestions on how to best use the health score presented in the Guardian Dashboard, its associated risk prioritization and mitigating action management capabilities.

Please contact your local Emerson Process Management service provider for further information regarding this customized system health management application.



Resources

GUARDIAN COLLATERAL

- » [Guardian Support User Guide](#)
- » [Guardian Support for DeltaV Quick Guide](#)
- » [Guardian Support Quick Guide \(Other Product Lines\)](#)
- » **[WP Guardian System Health Benchmark](#)**
- » [Instruction on How to Download an ISO Image File](#)
- » [Software Download FAQ](#)

Current and previous system analysis reports are available on the Emerson Guardian Website. You are encouraged to view the report online where you may use the website's links to inspect the detailed system information upon which this report was based.

(1) Legal Disclaimer:

The urgency and severity ratings of this notification are not tailored to individual users; users may value notifications differently based upon their system or network configurations and circumstances. The "System Health Score" presented in the Guardian dashboard website indicates the performance of the system based upon a comparison of identified risk area management relative to other systems subscribed to Guardian Support worldwide. The Guardian "System Health Score" considers only what is known to Emerson relative to a limited collection of risk factors (e.g. Knowledge Base Articles, uninstalled hotfixes, etc.) with no consideration of the processes under control, the application/configuration of that system, or the actual actions taken locally to mitigate the identified risks. A high "System Health Score" is a recognition of the efforts taken to mitigate these particular risks Guardian is capable of identifying, but in no way guarantees, or implies, that the operation of the system is risk free in any way.

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Section 1 – Knowledge Base Articles (KBAs)

TIP: To simplify and accelerate your risk mitigation processes, Guardian provides:

- An executive summary to clarify trigger conditions and identify related system node names.
- A user note feature where you can record your mitigation actions or determination of non-applicability.

Actionable KBAs describe issues identified by Emerson that have the potential to result in unexpected system behavior in a running system. At the time this report was prepared, there were 5 actionable KBAs for review for this system, based on an automated comparison of this system’s installed hardware and software against key KBA criteria.

Some issues are configuration or situation dependent, requiring additional review by the customer to completely determine a KBA’s relevance to the system. The Guardian website provides a disposition mechanism for the system’s Guardian user to close KBAs as appropriate mitigating actions are completed or issue is determined to be not relevant. This report omits KBAs which were marked as complete or not applicable in previous reporting periods.

Emerson strongly recommends that all open actionable KBAs be reviewed with the local Emerson service office. We encourage reviewing not just the product safety notice and security KBAs but also the process KBAs as these are determined by Emerson as something that could cause potential disruptive events.

Actionable KBAs (Total: 5 For Review; 2 In-Progress)

KBA Number	Title	Category	Disposition Status	User Notes
NK-1100-1102	PRODUCT QUALITY CONCERN: Process Systems and Solutions -- M and S Series Serial Cards -- Flash Upgrade or Power Cycling Serial Interface Cards May Result in Failure	Product Safety Notice	For Review	[August Behling, 6 Jun 2016 09:09]: Starting the analysis today. [August Behling, 6 Jun 2016 09:10]: Moved back to for review
NK-1500-0210	(Hotfix) Bulk Transfer Runs Automatically and Applies Device Configuration Changes without Messaging to a User	Process	For Review	[Kim Doe, 12 Oct 2015 17:26]: Applied Oct.12th...
NK-1500-0482 (with hotfix)	Loss of iSCSI (SAN) Primary or Secondary Network Causes Virtual Machines to Become Unresponsive	Process	For Review	
AK-1300-0060	Handles Leaks on Dell Precision R5500 May Increase to 2000 Per Second	Process	For Review	[Kim Doe, 14 Oct 2015 17:59]: done

KBA Number	Title	Category	Disposition Status	User Notes
AP-0900-0176	Incorrect DeltaV Operator System Configuration Utility Path Settings May Result to Users Writing to the Wrong Module	Process	For Review	
AP-0800-0140	Extra Square-like 'Carriage Return' Character Added during Bulk Edit May Cause Issues in DeltaV Applications	Process	In-Progress	[Buddy Ilao, 30 Oct 2009] Installed the hotfixes referenced by KBA.
AP-0600-0029	Extender Cables, Part Number 12P1795, Shipped After Oct 2005 May Not Meet Specifications.	Process	In-Progress	[Kho, Jennilyn 1 : 21 Jul 2008] dismiss for all reactivate on jun 23 [Ilao, Buddy : 30 Oct 2009] installed the hotfixes referenced by KBA

Table 1 – Actionable KBAs

Deferred KBAs (Total: 1 KBAs)

KBA Number	Title	Category	Deferral Date	User Notes
NK-1100-1169	Value of HART_FV Signal Drops to Zero While DVC 6000 Valve is in Open State	Process	30 Jan 2017	[Jaqueline Cruz, 1 Dec 2015 13:56]: no plans for virtualization, to date

Table 2 – Deferred KBAs

Section 2 – Service Calls

Calls opened from previous reporting period: 0
 Calls opened in this reporting period: 1
 Calls closed in the reporting period: 1
 Open calls as of end of the reporting period: 0

Tip: Use the Guardian online call submission feature to ask questions concerning the smaller items that you might not want to take time calling us about. With over 6000 DeltaV systems in service, it's possible we have the answer or can offer a suggestion.

Impact Classifications: A - Plant down, B – Process is up; yield, rate or quality jeopardized, C – Process is up; minimal risk to yield, rate or quality, D – Off-line/Non-control/demo, E – Enhancement request

Closed Service Calls (Total: 1 Closed)

Call Number	Brief Description	Severity	Days Open	Resolution
NC-1600-8414	Request for DeltaV 11.3.1 Installation Media.	D	5	Caller was referred to the local team for a copy of the installation media for v11.3.1 since only v12 and v13 are downloadable from the Guardian website.

Table 3 – Closed Service Calls

Section 3 – Actionable Alerts

Open Actionable Alerts (Total: 4 Alerts)

Call Number	Brief Description	Days Open
NC-1500-6512	Service: SHM__CH_Storage_Process_Load in ALERT Status on node DV-SPF-CHS01	23
NC-1500-6521	Service: SHM__OMSA_Global_Status in ALERT Status on node 16OPA04	13
NC-1500-6504	Service: SHM__CPU_Usage in ALERT Status on node 02DVCU-1	9
LC-1600-1233	2016-03-14 PROBLEM: SHM__CSLS_REDUN_STATUS on CTRLR-SDP1A-C01 is CRITICAL	2

Table 4 – Open Actionable Alerts

Commentary: There are total of 3 actionable alerts closed throughout the reporting period. For the complete list of these alerts, please refer to Actionable Alerts page for the system in Guardian.

Section 4 – Support Status

Emerson classifies product lifecycle stages into four support statuses for hardware and three support statuses for software:

Hardware Product Support				
		10-year Support Commitment		
Status	Current	Active	Supported	Retired
Definition	Most current offering	Replaced by Current offering, transition to Active status starts 10-year support commitment	Maintenance, products may transition from Active to Supported during 10-year support commitment	End of Support Commitment
Use	New Systems, Major Expansions	Minor expansions where consistency more important than new features and future support	Replacement parts for failures or critical spares	Subject to material availability
Support	Full support	Full support	Available, parts may be refurbished	Limited, may require special agreement
Ordering	Published pricing, Standard ordering process, Normal lead time	Published pricing, Standard ordering process, Normal lead time	Special order handling, Longer lead time	Special order handling (if available), Longer lead time

Software Support			
	Conventional Software Support - 5 Years		
Status	Current	Active	Retired
Definition	Most current offering	Replaced by Current offering	End of CSS Commitment
Use	New Systems, Major Expansions	Expansions where consistency more important than new features and future support	Systems where hotfixes and OS Security Updates are not a major concern
Support	Technical support, remote diagnostics, DeltaV hotfixes, Microsoft Security Update testing	Technical support, remote diagnostics, DeltaV hotfixes, Microsoft Security Update testing	Technical support, remote diagnostics, may require upgrade to resolve request
Training	Available	Available	Not offered

**The latest revision of each DeltaV major version will be supported. Customers should install any DeltaV Service Pack within nine (9) months after it is released. After the nine-month period ends, DeltaV hotfixes will only be created for the most current Service Pack.*

***5-Year Conventional Software Support clock begins with the release of the first Service Pack for the major version.*

Dell Workstation and Server Support			
	Availability Commitment		
Status	Current	Supported	Retired
Definition	Most current offering	Replaced by Current offering	End of Support Commitment
Support from Dell	Standard 3-year Dell ProSupport	Limited, may require special agreement with Dell	Limited, subject to material availability from Dell
Availability from Emerson	Published pricing, Standard ordering process, Normal lead time	No longer available as new, Certified refurbished unit available that will run same operating system	No longer available as new, Certified refurbished unit subject to material availability

Emerson endeavors to forecast changes in lifecycle status well in advance of the actual status change, typically providing an 18 months advance forecast. Emerson recommends that particular attention be given to products in supported status and products which are not compatible with planned future DeltaV software versions.

For more information, please refer to the Emerson Product Support Guideline, available online either from the Guardian website or from the DeltaV product support website.

Supported and Retired Hardware (Total: 3 For Review; 0 Deferred; 3 Acknowledged)

Product Name	Support Status	Disposition Status	DeltaV Compatibility	Currently Installed
PowerEdge R710	Retired	For Review	See Release Notes	2
PowerEdge T610	Retired	For Review	See Release Notes	1
DI Card, 8 Ch., 24 VDC, Isolated	Supported	For Review	>=1.1	29
DeltaV MD Controller	Retired	Acknowledged	>=5.2	25
Precision WorkStation T3500	Retired	Acknowledged	See Release Notes	3
Profibus DP Card, 1 Port, Series 2	Supported	Acknowledged	>=5.1	26

Table 5 – Supported and Retired Hardware

Other Hardware (Total: 15 Current; 0 Active; 4 Unknown)

Product Name	Support Status	DeltaV Compatibility	Currently Installed
Micro Motion 2700 Transmitter with FF	Current	>=1	17
Rosemount 3051 Fieldbus Pressure Transmitter	Current	>=7.3	127
Rosemount 8742 Magnetic Flowmeter Transmitter	Current	>=5.3	1
AI Card, 8 Ch., 4-20 mA, HART, Intrinsically Safe	Current	>=4.1	13
AI Card, 8 Ch., 4-20 mA, HART, Series 2	Current	>=4.1	9
AO Card, 8 Ch., 4-20 mA, HART, Intrinsically Safe	Current	>=7.2	9
AO Card, 8 Ch., 4-20 mA, HART, Series 2	Current	>=4.1	6
DI Card, 16 Ch., Intrinsically Safe	Current	>=4.1	16
DI Card, 32 Ch., High Density, Series 2	Current	>=4.2	1
DI Card, 8 Ch., 24 VDC, Dry Contact, Series 2	Current	>=4.1	9
DO Card, 4 Ch., Intrinsically Safe	Current	>=4.1	16
DO Card, 8 Ch., 24VDC, High Side, Series 2	Current	>=4.1	7

Product Name	Support Status	DeltaV Compatibility	Currently Installed
Fieldbus H1 Card, Series 2, 2 Ports	Current	>=6.1	27
Profibus DP Card, 1 Port, Series 2+	Current	>=5.1	1
Prog. Serial Card, 2 Ports, RS232/RS485, Series 2	Current	>=4.1	16
FIELDBUS	Unknown	Unknown	142
HART	Unknown	Unknown	1
Power Supply	Unknown	Unknown	3
PROFIBUS	Unknown	Unknown	173

Table 6 – Other Hardware

Devices that are tagged as UNKNOWN are those whose lifecycle status information are missing from our database. Reasons for this include:

- Those automatically detected devices that are not manufactured by Emerson;
- Those that are manually (and incorrectly) entered devices in our database causing a mismatch in lifecycle status data.

System Hardware Lifecycle Status Projections

Chart Notes: The presence of a bar segment indicates Emerson has scheduled future life-cycle transitions for this product, where the total length of the bar indicates the number of months from the report end date until the expected retired date and bar segment colors indicate intermediate life-cycle stages. Products not presented in this chart are in current status, with no expected change in lifecycle status within Emerson's product planning horizon.

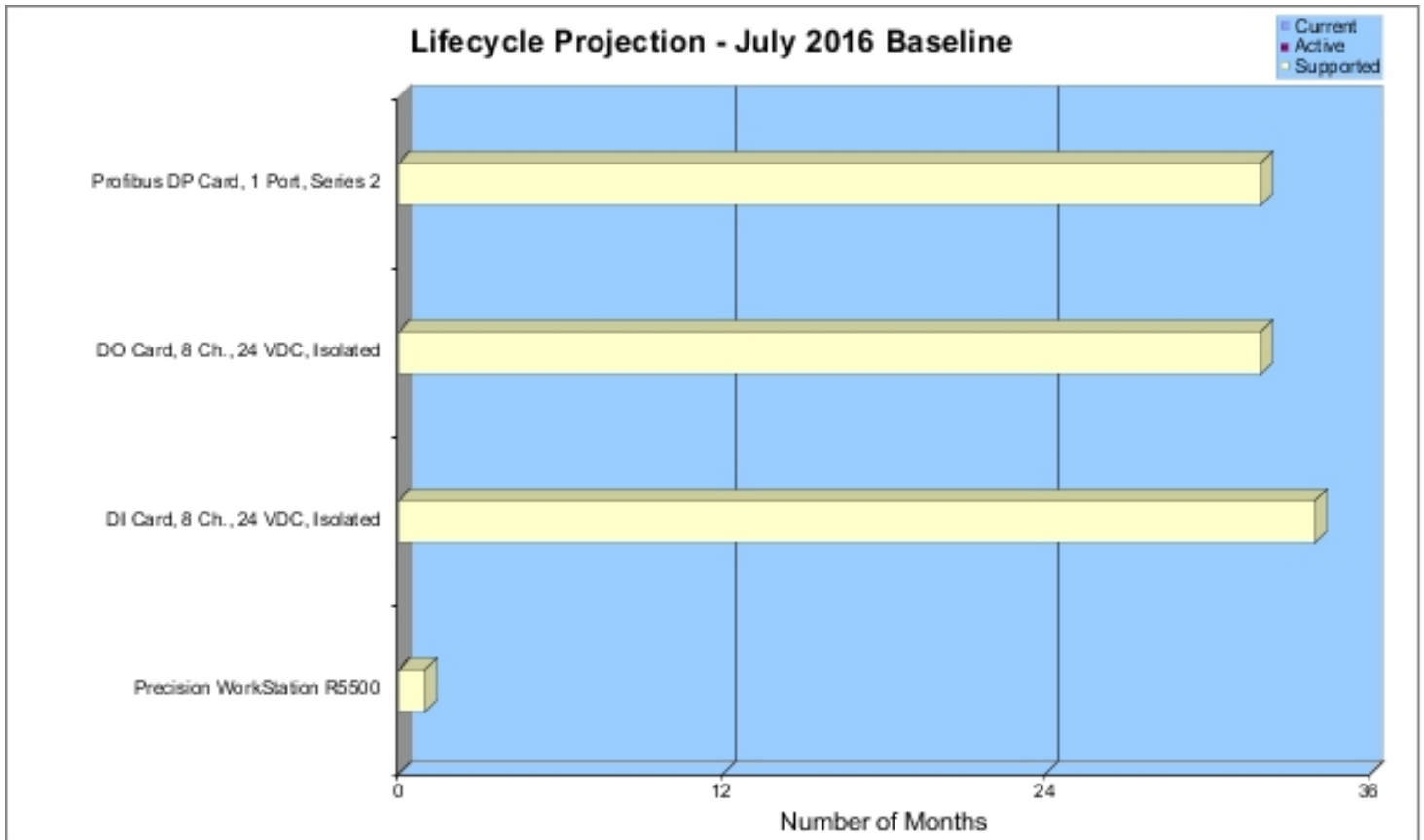


Figure 1 – System Hardware Lifecycle Status Projections

Software

Installed Version	Latest Distribution Build for the Installed Version	Support Status	Support Notes
12.3.1	12.3.1	Active	Build 12.3.1, the landing zone (final build) for Version 12, remains an active version. Version 13 is the current version of DeltaV software for English. Build 13.3 is the latest for Version 13.

Table 7 – System Software

Section 5 – System Registration

Uploads throughout the Reporting Period: 0
 Last Registration Upload: **09 Oct 2015**
 Average Interval between Uploads: **every N/A days**

Taking frequent snapshots of system content creates a valuable change history to use in problem resolution scenarios. It also ensures you receive the earliest possible notification for Knowledge Base Articles matching your actual system content.

Commentary: Emerson recommends submitting updates to system content at least once every 90 days, and anytime significant changes are made to system hardware or software content. Submitting an information update is simple. Use the SureService Registration Utility to capture system content, and then upload it to the DeltaV Support website as illustrated below:

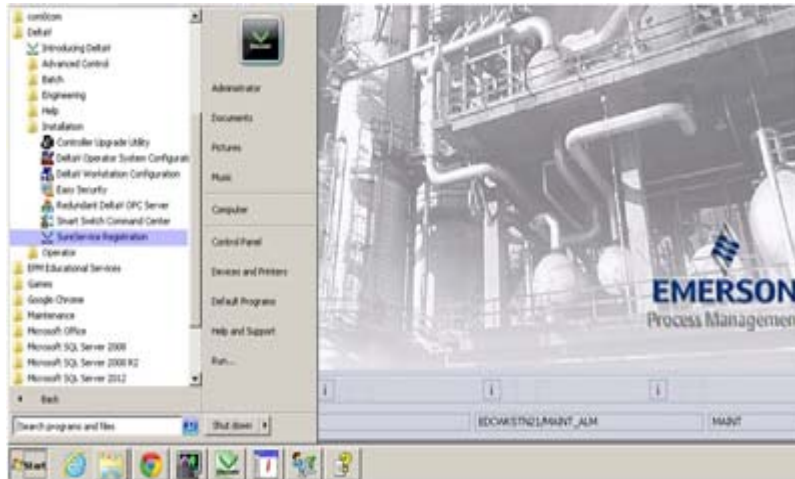


Figure 2 – Run the Registration Utility from the Professional Plus

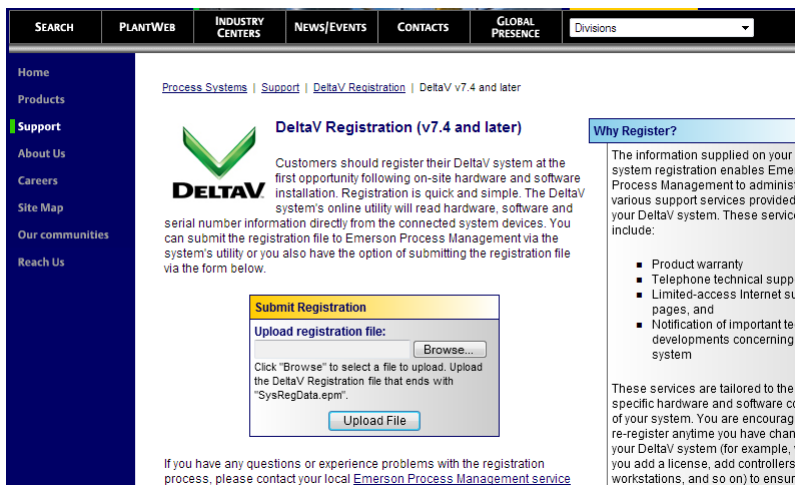


Figure 3 – Visit <http://www3.emersonprocess.com/Systems/support/registration/> to upload the file.

Guardian users can also choose to upload the registration file directly from their Guardian website:

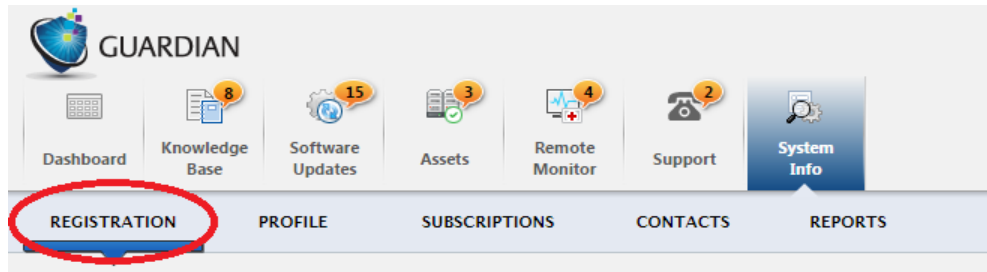


Figure 4 – Go to the Registration page under the System Info tab

<h3>Registration File Upload</h3> <p>Browse for your registration file that ends with "SysRegData.epm".</p> <input type="text"/> <input type="button" value="Browse..."/> How to generate your registration file? <input type="button" value="Start Upload"/>	<h3>WHY REGISTER?</h3> <p>The information supplied on your system registration enables Emerson Process Management to administer the various support services provided with your system. These services include:</p> <ul style="list-style-type: none">• Product warranty• Telephone technical support• Limited-access Internet support pages, and• Notification of important technical developments concerning your system
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Figure 5 – Registration File Upload page

Section 6 – Service Subscriptions

SureService Name	Expiration	Remaining
DeltaV System Analysis Reports	01 Jan 2020	41 months
Guardian Support for DeltaV Systems	01 Jan 2020	41 months
Service Documents	01 Jan 2020	41 months
System Health Monitoring	01 Jan 2020	41 months
System Reliability Services	01 Apr 2020	44 months

Table 8 – Service Subscription

Section 7 – License Assignment

System-Wide License Utilization:

License Name	Units	Capacity	Configured	Difference	Utilization	
System Size	DSTs	5400	5288	112	97.93%	
Advanced Unit Management	DSTs	1000	0	1000	0.00%	
Detailed Usage of system DSTs:						
*** (Shortage of license in this tier is being covered by the tier above it)						
Tier 1	Analog Outputs	DST	975	539	436	55.28%
Tier 2	Analog Inputs	DST	1175	1057	118	89.96%
Tier 3	Discrete Outputs	DST	1325	1208	117	91.17%
Tier 4	Discrete Inputs	DST	2450	2000	450	81.63%

Table 9 – License Assignment

Commentary:

- Licensee company and licensee location are the same as the End-user Company and End-User location.
- Licenses issued for the system are not exceeded by the user's system configuration as of 09 Oct 2015.

Section 8 – Material Returns

Commentary: No material returns from customer relating to the DeltaV product.

Section 9 – Software Updates

Emerson recommended that you review:

Approval Status	Description
Do Not Install	It has been determined that the update is <u>NOT COMPATIBLE</u> with DeltaV systems. The update should not be installed.
Not Approved	It has been determined that the vulnerability does not exist on DeltaV systems. The update will not be tested for compatibility with the DeltaV software and it should not be installed on DeltaV systems.
Approved	It has been determined that the vulnerability will exist on DeltaV systems, and the update has been tested and approved for installation on DeltaV systems.
Approved As Needed	It has been determined that the vulnerability will only exist when optional Microsoft products or operating system components are in use.

Software Updates

The table below shows the breakdown of For Review software updates matched to the nodes of your system. From all these nodes, there are a total of **128 distinct software updates for review**.

Node Name	Do Not Install	Not Approved	Approved	Approved As Needed
APPSTATION	0	0	58	20
OPER09	0	0	66	27
OPER18	0	0	66	27
OPER20	0	0	66	27
OPER21	0	0	66	27
OPER22	0	0	66	27
OPER23	0	0	66	27
OPER24	0	0	66	27
PROPLUS	0	0	58	20

Table 10 – OS Security Updates

Node Name	Approved
APPSTATION	3
AS_K162E01	3
AS_K162E01-partner	3
AS_K162E04	3

Node Name	Approved
AS_K162E04-partner	3
AS_K163E02	3
AS_K163E02-partner	3
AS_K163E04	3
AS_K163E04-partner	3
AS_K164E0	3
AS_K164E0-partner	3
AS_K165E02	3
AS_K165E02-partner	3
HT_K138E02	3
HT_K138E02-partner	3
HT_K138E04	3
HT_K138E04-partner	3
HT_K138E06	3
HT_K138E06-partner	3
HT_P138E06	3
HT_P138E07	3
HT_P138E07-partner	3
HT_P138E09	3
HT_P138E09-partner	3
HT_Q138E07	3
HT_Q138E07-partner	3
OPER09	3
OPER18	3
OPER20	3
OPER21	3
OPER22	3
OPER23	3

Node Name	Approved
OPER24	3
PROPLUS	3
System	1

Table 11 – DeltaV Hotfixes

Section 10 – Local Site Activity

Date	Reference Number	Scheduled or Call Out	Service Summary
5/23/16 – 5/27/16	WO 575	Scheduled	Performed Q2 2016 preventive maintenance <ul style="list-style-type: none"> • Update WSUS software • DeltaV software updates • Microsoft software updates • Antivirus updates • Password changes • Replace motherboard batteries • Review Windows event journal

Table 12 – Local Site Activity

{End of Report}

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