

Eighth Annual QUIKLOOK Users Group Meeting MIDAS Update

Marion, MA
August 20 & 21st, 2014

Presented by:
Mike Richard



TELEDYNE TEST SERVICES
Everywhere you look™

Design Calculation MIDAS

Test Analysis MIDATEST

Midas Calculations for All Plants ALL VALVES GL 96-05

File: Edits Tables References Tools Help

JOG-PV-11 GATE SB-3-150
JOG Complete

Valve	Operator	Motor	System	Output
Parameter	Ess	Value	Reference	
Valve Type	Y	GATE	3	
Gate Valve Disc Type	Y	Split Wedge	3	
Valve Vendor	Y	POWELL	3	
Valve Size	Y	20	3	
Valve Seat Diameter	Y	18.2	8	
Gate Valve Wedge Half-Angle	Y	5	1	
Calculation Method (close)		VF	10	
Calculation Method (open)		VF	10	
EPRI PPM Thrust (close)		0	10	
EPRI PPM Thrust (open)		0	10	
Valve Factor (close)	Y	0.67	32	
Valve Factor (open)	Y	0.67	32	
Non-Safety Related Valve Factor	Y	0	10	
HELB Related Valve Factor	Y	0	8	
Gate Valve Condition Load	Y	0	N/A	
Stuffing Box Load (close)	Y	11000	1	
Stuffing Box Load (open)	Y	11000	1	

N/A

Rev 1 Rich Enos 12/21/06 20:22 NOT APPROVED 12/21/06 20:22

MIDAS Maintenance for All Plants ALL VALVES GL 96-05

File Tables Tools Help

JOG-PV-11 GATE SB-3-150

Design Rev: 1 Verified by: NOT APPROVED on 12/21/06 20:22

FUNCTION	OPEN	Last Edit	SIGNOFF	Last Signoff	PRINT
Sensitivity Calculations		10/29/03 09:10	SIGNOFF NOT REQUIRED		
Control Circuit Changes		10/29/03 09:10		11/11/03 15:24	
Pre-Test Information		01/08/07 14:52		N/A	
Limit Switch Settings		10/29/03 09:10		N/A	
Data Review		01/01/00 00:00		N/A	
Trending		01/01/00 00:00		N/A	

Add New Work Order

Work Order	Schedule	Status	Test Date	Test of Record
R0700222	1997	Complete	4/17/97	YES

- New AC motor curves for small frame aluminum rotor motors for use with ComED WP-125 methodology. KCI report released in 2012 (PWROG WP 280-001-WP1)
- New AC motor curves for large frame aluminum rotor motors for use with ComED WP-125 methodology. KCI report released in 2014 (BWROG-TP-14-009)
- Replacement motor curves for use with BWROG DCMM. MPR 2093, Rev 3 report released in 2013
- MIDAS QA database updated to contain new motor data. AC motor data added, DC motor data added or replaced.

Revised Industry Standards – DC Motors

Motor Curve Lookup for BWROG-13s

Degraded Voltage is CALCULATED from MCC

Torque	Manufacturer	Curve	Origin	Frame	FLA	LRA	CRT	HP
15	PEERLESS	K11854	BWROG-R3	56	4.8	28	16.5	0
15	RELIANCE	4034	BWROG-R2	56	4.7	30	23.5	1
25	PEERLESS	K11858	BWROG-R3	56	7	42.75	15	0
25	RELIANCE	4027	BWROG-R2	56	7.4	47.5	35	1.8
40	PEERLESS	K11842	BWROG-R3	202	10.8	81.5	34.5	0
40	RELIANCE	1643	BWROG-R2	186	10.6	64.3	48	0
60	PEERLESS	K11851	BWROG-R3	224	17.3	95	20	0
60	RELIANCE	1516	BWROG-R2	187	16.4	100	78	0
80	PEERLESS	K11852	BWROG-R3	224	22.2	107	46	0
80	RELIANCE	1644	BWROG-R2	215	22.2	145	98	0

AC/DC
 AC
 DC

Voltage
 250

DC Method
 PECO
 BWROG

RPM
 1900

60 PEERLESS K11851
 Current Selection

OK Cancel

Implementation of BWROG DCMM in MIDAS

- During the V&V process of the DCMM in MIDAS, TTS discovered a difference in results for globe valve analysis when compared to the MPR spreadsheet implementation of the DCMM.
- The difference seemed to be related to the fact that MPR used a common spreadsheet for both Gate and Globe valve analysis. The analysis for Gate valves used additional wedging/unwedging steps that were present during the Globe valve analysis but supposedly not used.

Implementation of BWROG DCMM in MIDAS

- TTS noted that the methodology document MPR 2093 did not mention using the additional wedging steps for a Globe valve analysis. TTS modeled the MIDAS implementation after the methodology document and not the spreadsheet implementation of the document
- TTS copied the MPR Gate/Globe spreadsheet and created a unique Globe valve spreadsheet that did not contain the additional wedging steps used by the Gate valve analysis.
- TTS was able to replicate the Globe valve results calculated by MIDAS when using this revised MPR spreadsheet without the additional wedging steps. TTS was satisfied with this replication and completed the V&V of the MIDAS model.

Implementation of BWROG DCMM in MIDAS

- Upon release of MPR 2093, Rev 3 in 2013, TTS reported the differences noted during the MIDAS V&V process to several utility people in an attempt to reconcile the differences.
- At the VTRG meeting in August 2014, the utility members discussed this issue with MPR and plan to investigate the noted differences.
- The initial response to the noted differences was that the MPR spreadsheet results were conservative.
- In order for TTS to manage these differences, it was easier to modify the MIDAS methodology to add a switch to include/exclude the additional wedging steps for a Globe Valve analysis.

Implementation of BWROG DCMM in MIDAS

BWROG DC Methodology for BWROG-13s

Print Exit

General Information		Valve Information	Detailed Results		
System	Parameters	CLOSE	OPEN	CLOSE REF	OPEN REF
	Valve Type	GLOBE		821	
	Load Profile Method	Use Default		821	
General	Functional Actuator Capability				
	Use FAC for position controlled strokes?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	N/A	
	Use Gate wedging steps for Globe FAC?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	N/A	
Calculated Values		CLOSE NON-SAFETY	OPEN SAFETY		
Degraded Voltage at Motor (VDC)		198.6	198.6		
Instantaneous Actuator Torque (ft-lbs)		1808.4	1808.4		
FAC: Functional Actuator Capability (ft-lbs)		1728.8	1805.1		
Predicted Stroke Time (sec)		11.72	12.43		
Baseline Stroke Time (sec)		9.79	9.79		
Calculation Feedback					
DC Length of Upstream Piping, diameters = 0					
DC Additional Stroke Time (close) = 0					
DC Additional Stroke Time (open) = 0					
DC Seat Ring Surface Inner Diam (in) = 0					
DC Isolation to Wedging Travel (% decimal) = 0					
DC Water Inertia, lbs (close) = 0					
DC Water Inertia, lbs (open) = 0					
Gate Valve Disc Type = N/A					



Implementation of BWROG DCMM in MIDAS

BWROG DC Methodology for BWROG-13s

Print Exit

General Information Valve Information Detailed Results

Combined Plot

Close Open

Stroke	Position	Stem Thrust	Avg Stem Thrust	Avg Stem Torque	Worm Speed	Gearbox Eff	Avg Motor
0%	0.00	37508	0	0.00	0	0.000	0.00
0%	0.00	37508	37508	525.11	0	0.400	17.05
0%	0.00	37508	37508	525.11	535	0.440	15.50
0%	0.00	37508	37508	525.11	565	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
-0.1%	0.00	37508	37508	525.11	566	0.441	15.48
0%	0.00	37508	37508	525.11	566	0.441	15.48
1%	0.03	36601	37055	518.77	566	0.440	15.32
2%	0.06	34138	35370	495.18	569	0.437	14.71
3%	0.10	30726	32432	454.05	582	0.433	13.63
4%	0.13	27002	28864	404.10	604	0.427	12.29
5%	0.16	23423	25212	352.97	632	0.422	10.88
6%	0.19	20223	21823	305.52	662	0.416	9.53
7%	0.22	17480	18852	263.93	690	0.412	8.33
8%	0.25	15181	16331	228.63	716	0.408	7.29
9%	0.29	13273	14227	199.18	745	0.404	6.40
10%	0.32	11695	12484	174.78	769	0.401	5.66

Double-Click on a column for graphical representation

Revised BWROG DCMM Form in MIDAS

BWROG DC Methodology for BWROG-13s

Print Exit

General Information	Valve Information		Detailed Results	
Parameters	CLOSE	OPEN	CLOSE REF	OPEN REF
Stem Diameter at Stem Nut (inches)	2.125		821	
Stem Diameter at Packing (inches)	2.125		821	
Valve Mean Seat Diameter (inches)	5.734		821	
Valve Seat Ring Inner Diameter (inches)	5.734		821	
Globe Valve Stroke Length (inches)	3.187		821	
Globe Valve Flow Coefficient (gpm/psi ^{0.5})	435.00		821	
Packing Load (lbs)	1922	1922	N/A	821
Required Thrust (lbs)	1922	37508	N/A	N/A
Actuator Overall Ratio	76.99		821	
Motor Gear Set Ratio	0.429		N/A	
Actuator Rated Torque (ft-lbs)	1800		N/A	
Coefficient of Friction (COF)	0.0845	0.0845	821	N/A
Stem Factor (ft-lbs/lbs)	0.014	0.014	N/A	N/A
Stem Factor [Assisting] (ft-lbs/lbs)	0.00064	0.00064	N/A	N/A
Voltage at MCC (volts)	210.0	210.0	N/A	821
Cable Resistance Method	<input checked="" type="radio"/> Calculate <input type="radio"/> Input		821	
(Cable) , (TOL) Resistance (ohms)	(0.026) , (0.1441)		Multiple	
Nominal Voltage (VDC)	250		7	
Motor Type	PEERLESS 60 ft-lbs (K11851)		Multiple	
Valve Stem Lead (inches)	0.500		821	
Pullout Efficiency	0.4		N/A	
Run Efficiency	0.5		N/A	
Nominal Motor Speed (rpm)	1900		821	



Revised BWROG DCMM Report in MIDAS



BWROG/DC METHODOLOGY RESULTS

BWROG-13s V&V - Rev. 4

BWROG-13s (V&V-1)

DC MOTOR OPERATED GL96-05 GLOBE VALVE

PEERLESS 60 ft-lbs, Curve = K11851

General Information

Valve Type
Gate Valve Disc Type
Load profile method
Flow type
Fluid (blowdown only)

Valve and Actuator Information

Stem diameter at stem nut, D_{stem} (inches)
Stem diameter at packing, D_{stem} (inches)
Valve mean seat diameter, D_{msd} (inches)
Valve Seat ring inner diameter, D_{sr} (inches)
Globe valve stroke length, D (inches)
Globe valve flow coefficient, C_v (gpm/psi^{0.5})
Packing load, F_{pk} (lbs)
Required thrust (including water inertia), F_R (lbs)
Required thrust due to water inertia, F_{wI} (lbs)
Actuator overall ratio, OAR
Motor gear set ratio, MGSR
Actuator rated torque, T_{rat}
Stem factor, SF (ft-lbs/lb)
Overhauling stem factor, SF_o (ft-lbs/lb)
Voltage at MCC, V_{mcc} (volts)
Cable resistance, R_{cab} (ohms)
Thermal overload resistance, R_{to} (ohms)
Nominal voltage, V_{nom} (volts)
Motor Type: PEERLESS, Curve = K11851
Valve stem lead, lead (inches)
Pullout efficiency, O_p
Run efficiency, O_r
Nominal motor speed (rpm), n_{nom}

	Close	Open	References
Valve Type	GLOBE	GLOBE	[821]
Gate Valve Disc Type	N/A	N/A	[N/A]
Load profile method	Use Default	Use Default	[821]
Flow type	N/A	N/A	[N/A]
Fluid (blowdown only)	N/A	N/A	[N/A] [N/A]
Stem diameter at stem nut, D_{stem} (inches)	2.125	2.125	[821]
Stem diameter at packing, D_{stem} (inches)	2.125	2.125	[821]
Valve mean seat diameter, D_{msd} (inches)	5.734	5.734	[821]
Valve Seat ring inner diameter, D_{sr} (inches)	5.734	5.734	[821]
Globe valve stroke length, D (inches)	3.187	3.187	[821]
Globe valve flow coefficient, C_v (gpm/psi ^{0.5})	435	435	[821]
Packing load, F_{pk} (lbs)	1922	1922	[N/A] [821]
Required thrust (including water inertia), F_R (lbs)	1922	37508	Output
Required thrust due to water inertia, F_{wI} (lbs)	N/A	N/A	Output
Actuator overall ratio, OAR	76.99	76.99	[821]
Motor gear set ratio, MGSR	0.429	0.429	Output
Actuator rated torque, T_{rat}	1800	1800	Output
Stem factor, SF (ft-lbs/lb)	0.014	0.014	[821] [N/A]
Overhauling stem factor, SF_o (ft-lbs/lb)	0.00064	0.00064	Output
Voltage at MCC, V_{mcc} (volts)	210	210	[N/A] [821]
Cable resistance, R_{cab} (ohms)	0.026	0.026	Output
Thermal overload resistance, R_{to} (ohms)	0.1441	0.1441	Output
Nominal voltage, V_{nom} (volts)	250	250	[7]
Motor Type: PEERLESS, Curve = K11851	60 ft-lb, 250 VDC	60 ft-lb, 250 VDC	[3] [7]
Valve stem lead, lead (inches)	0.5	0.5	[821]
Pullout efficiency, O_p	0.4	0.4	Output
Run efficiency, O_r	0.5	0.5	Output
Nominal motor speed (rpm), n_{nom}	1900	1900	[821]

MIDAS Redirector



Exelon MOV Program (2014.185)

MIDAS

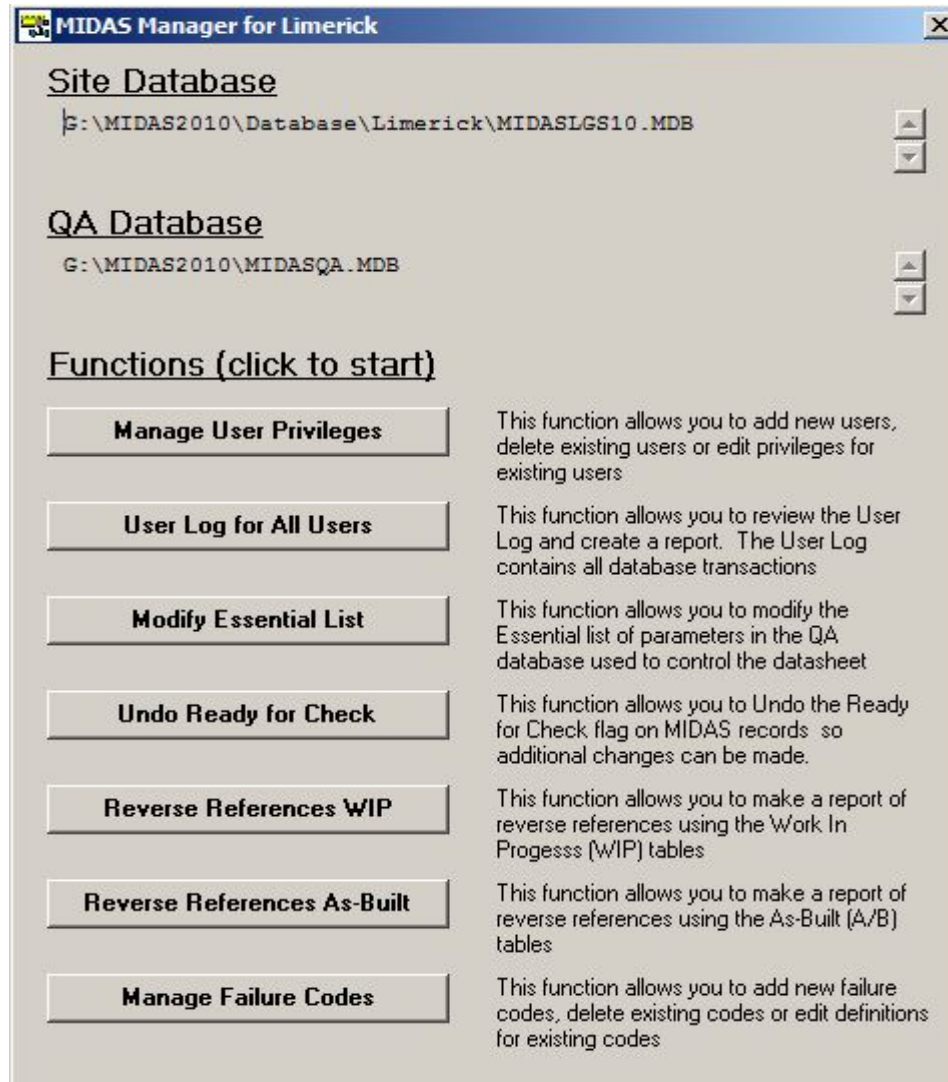
- Limerick
- Peach Bottom
- Braidwood
- Byron
- Dresden
- LaSalle
- Quad Cities
- Clinton
- Three Mile Island
- Oyster Creek
- Calvert Cliffs

new

MIDATEST

- Limerick
- Peach Bottom
- Braidwood
- Byron
- Dresden
- LaSalle
- Quad Cities
- Clinton
- Three Mile Island
- Oyster Creek
- Calvert Cliffs

MIDAS Redirector – Additional Features



MIDAS Manager for Limerick

Site Database
 G:\MIDAS2010\Database\Limerick\MIDASLGS10.MDB

QA Database
 G:\MIDAS2010\MIDASQA.MDB

Functions (click to start)

Manage User Privileges	This function allows you to add new users, delete existing users or edit privileges for existing users
User Log for All Users	This function allows you to review the User Log and create a report. The User Log contains all database transactions
Modify Essential List	This function allows you to modify the Essential list of parameters in the QA database used to control the datasheet
Undo Ready for Check	This function allows you to Undo the Ready for Check flag on MIDAS records so additional changes can be made.
Reverse References WIP	This function allows you to make a report of reverse references using the Work In Progress (WIP) tables
Reverse References As-Built	This function allows you to make a report of reverse references using the As-Built (A/B) tables
Manage Failure Codes	This function allows you to add new failure codes, delete existing codes or edit definitions for existing codes



MIDAS Redirector – Manage User Privileges

User Profiles for Limerick

List of Users

Name	Network User ID	Hits
Dave Thrall	dthrall	0
Eric Solla	esolla	0
Rich Enos	renos	0
TED NECKOWICZ	U999TSN	2
TELEDYNE	Owner	4
TELEDYNE	Michael Richard	4

Privileges for Dave Thrall

Design Software

- Save Edits
- Add References
- Add Valves
- Copy To As-Built
- Edit History
- Check Edits
- Update Test Data

Test Software

<u>Workorder</u>	<u>Sensitivity</u>	<u>Pre-Test</u>	<u>Post Test</u>	<u>Trending</u>	<u>Switches</u>
<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit
<input checked="" type="checkbox"/> Add	<input checked="" type="checkbox"/> Signoff	<input checked="" type="checkbox"/> Signoff	<input checked="" type="checkbox"/> Signoff	<input checked="" type="checkbox"/> Signoff	<input checked="" type="checkbox"/> Signoff
<input checked="" type="checkbox"/> Delete					
	<u>Misc</u>		<u>Failure</u>		
	<input checked="" type="checkbox"/> Edit Test History		<input checked="" type="checkbox"/> Edit		
			<input checked="" type="checkbox"/> Delete		

MIDAS Redirector – User Log for All Users

Sort Print Exit

Use Date	User Name	Compute
04/23/14 23:17:22	TELEDYNE	MOVJR1
05/28/11 22:01:21	TELEDYNE	MOVJR1
05/16/11 07:59:02	Jim Mitman	CCCMSCTX
05/06/11 11:35:57	Jim Mitman	CCCMSCTX
05/05/11 15:55:52	Jim Mitman	CCCMSCTX

Exit

To Sort Columns: Drag arrow to columns above. Double click Arrow for Ascending vs Descending
To Show Row Details: Double click on rows above

Select User Log for All Users

All Entries (13)

Last N entries where N =

Functionality =

Today Only

Specify Dates

From

To

Valve Name =

OK Cancel

Description
Number of differences detected = 8 MIDAS 2011.101 installed on MOVJR1 Test Prepared By: TELEDYNE on 05/28/11 22:01:21
It appears that you have added historical information
It appears that you have added historical information
It appears that you have added historical information



MIDAS Redirector – Modify Essential List

Print

Input Data Output Data Test Data

Parameter	Dir	Original Value	New Value
Valve Type		YES	YES
Gate Valve Disc Type		YES	YES
Globe Valve Sub-Type		YES	YES
Globe Valve Flow Direction		YES	YES
Valve Vendor		YES	YES
Valve Size		YES	YES
Valve Seat Diameter		YES	YES
Valve Disc Bore Area (Rockwell)		YES	YES
Valve Seat Contact Width (Rockwell)		YES	YES
Gate Valve Wedge Half-Angle		YES	YES
Calculation Method (close)	(C)	NO	NO
Calculation Method (open)	(O)	NO	NO
EPRI PPM Thrust (close)	(C)	NO	NO
EPRI PPM Thrust (open)	(O)	NO	NO
Valve Factor (close)	(C)	YES	YES
Valve Factor (open)	(O)	YES	YES
Non-Safety Related Valve Factor		YES	YES
HELB Related Valve Factor		YES	YES
Gate Valve Condition Load		YES	YES
Butterfly Valve DSE Torque (ft-lbs)		YES	YES

G:\MIDAS2010\MIDASQA.MDB

OK Cancel

MIDAS Redirector – Undo Ready for Check

Ready For Check Valves in Limerick [X]

Exit

Double-Click on the desired row to RESET the Ready for Check status

Valve	Rev	Mod Type	MDCR	Mod Reason	Prepared By	Prep Date
HV-013-207	2	2	None	Thermal overload	Jim Mitman	04/23/11 19:17:32
HV-013-211	2	2	None	Thermal overload	Jim Mitman	04/23/11 19:30:30
HV-046-227	2	2	None	Thermal overloads	Jim Mitman	04/23/11 19:10:20
HV-049-1F008	3	2	None	Valve factor, JOG eval	Jim Mitman	04/23/11 18:12:22
HV-049-2F008	2	2	None	Revised JOG, VF to 1.4 closed	Jim Mitman	04/23/11 18:12:55
HV-055-1F001	2	2	None	Thst error, spring pack, JOG	Jim Mitman	04/24/11 17:02:28
HV-055-1F003	2	2	None	JOG evaluation, valve factor to 1.4 CI	Jim Mitman	04/23/11 18:11:56
HV-055-2F001	4	2	None	JOG, thrust error, open VF	Jim Mitman	04/24/11 16:59:01
HV-055-2F002	2	2	None	Thermal overload	Jim Mitman	04/23/11 19:23:15
HV-055-2F003	1	2	None	JOG eval, Close VF to 1.4	Jim Mitman	04/23/11 18:17:38



MIDAS Redirector – Reverse References WIP



All References for WIP Tables

Find Sort Hits Print Exit

Index	P	Document #	Rev #	Date	Title	Hits
1	A	NE-119 /			PECo Specification - superceded by T&RM	
2	ALL	L-200-VC-4	N/A		Limiterque Engineering Reference (SDOC)	
3	ALL	PIMS	N/A		Component Record List (CRL)	
4	ALL	VTS100-UM-00	N/A		Liberty Technologies VOTES Manual	
5	ALL	NE-145 / ER-LG-302-1000	N/A		PECo Specification - superceded by T&RM	
6	ALL	INDMS	N/A		PECo Database	
7	ALL	MOV/Motor	N/A		Nameplate Information for	
8	ALL	MIDAS/MIDACALC	N/A		MOV Thrust & Torque Calculation Software	
9	ALL	EWRA0734264	N/A		Rockwell Valve Thrust/Torque Methodology	
10	ALL	N/A	N/A		Reference Not Applicable	
11	ALL	EWRA0752625	N/A		Limiterque Thrust Extension Report	
12	ALL	MOV Risk Attributes	N/A		Expert Panel for	
13	ALL	ER-AA-302-1001	N/A		Exelon T&RM for Rising Stem Motor Operated Valve Thrust and Torque and Set-Up Window Determination Methodology	2499
14	ALL	ER-AA-302-1002	N/A		Exelon T&RM for Quarter Turn Butterfly Valve Sizing and Set-up Window Determination	

Double-Click on the desired row to search for reverse references

MIDAS Redirector – Reverse References WIP (Single)



Reverse Reference List for WIP Tables

Print Exit

Summary Report

Detail Report

Category	Document #	Rev #	Date	Title
13 ALL N/A	ER-AA-302-1001			Exelon T&RM for Rising Stem Motor Operated Valve Thrust and Torque and Set-Up Window Determination Methodology

Valves = 357	Description	Hits
FV-DO-101A	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	10
FV-DO-101B	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	9
FV-DO-102A	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	7
FV-DO-102B	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	7
FV-DO-201A	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	8
FV-DO-201B	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	10
FV-DO-202A	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	5
FV-DO-202B	3" ROCKWELL GLOBE2, SMB-000-2 (96-05)	7
HV-001-104	2" ROCKWELL GLOBE2, SMB-000-2 (BOP)	4

Parameters for FV-DO-101A	Location	Value
Stuffing Box Load (close)	Valve	75
Stuffing Box Load (open)	Valve	75
Valve Packing Torque (close)	Valve	25
Valve Packing Torque (open)	Valve	25
Stem COF for Handwheel Analysis	Valve	0.1
Torque Switch Repeatability	System	0.1
Rate Of Loading Bias	System	0.3
Engineering Safety Factor (close)	System	0.05
Engineering Safety Factor (open)	System	0.05

MIDAS Redirector – Reverse References WIP (All)



All References for WIP Tables

Find Sort Hits Print Exit

Index	Plant	Category	Document #	Rev #	Date	Title	Hits
293	LGS	N/A	P119-129-2			Valve Motor Operator Capability Form	4
294	LGS	N/A	P119-133-2			Valve Motor Operator Capability Form	4
295	LGS	N/A	P119-143-2			Valve Motor Operator Capability Form	6
296	LGS	N/A	P119-166-1			Valve Motor Operator Capability Form	2
297	LGS	N/A	P119-167-1			Valve Motor Operator Capability Form	2
298	LGS	N/A	P-144-00123			Valve Motor Operator Capability Form	8
299	LGS	N/A	P-144-00147			Valve Motor Operator Capability Form	2
300	LGS	N/A	P-144-00148			Valve Motor Operator Capability Form	2
301	LGS	N/A	P-144-00149			Valve Motor Operator Capability Form	3
302	LGS	N/A	P-144-00150			Valve Motor Operator Capability Form	3
303	LGS	N/A	P-144-00151			Valve Motor Operator Capability Form	
304	LGS	N/A	P-144-00152			Valve Motor Operator Capability Form	
305	LGS	N/A	P-144-00153			Valve Motor Operator Capability Form	
306	LGS	N/A	P-144-00154			Valve Motor Operator Capability Form	
307	LGS	N/A	P-144-00155			Valve Motor Operator Capability Form	
308	LGS	N/A	P-144-00156			Valve Motor Operator Capability Form	
309	LGS	N/A	P-144-00157			Valve Motor Operator Capability Form	
310	LGS	N/A	P144-00063			Valve Motor Operator Capability Form	

MIDAS Redirector – Reverse References WIP (All)

All References Report for WIP Tables

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MIDAS FOR Limerick - ALL REFERENCES FOR WIP TABLES
G:\MIDAS2010\Database\Limerick\MIDASLGS10.MDB

Index	Plant	Category	Document Number	Rev No	Date	Title	Hits
1	ALL	N/A	NE-119 / ER-LG-302-1000			PECo Specification - superceded by T&RM	6448
2	ALL	N/A	L-200-VC-4			Limitorque Engineering Reference (SDOC)	1970
3	ALL	N/A	PIMS			Component Record List (CRL)	8658
4	ALL	N/A	VTS100-UM-00			Liberty Technologies VOTES Manual	0
5	ALL	N/A	NE-145 / ER-LG-302-1000			PECo Specification - superceded by T&RM	3170
6	ALL	N/A	INDMS			PECo Database	1044
7	ALL	N/A	MOV/Motor			Nameplate Information for	2169
8	ALL	N/A	MIDAS/MIDACALC			MOV Thrust & Torque Calculation Software	5826
9	ALL	N/A	EWR A0734264			Rockwell Valve Thrust/Torque Methodology	1102
10	ALL	N/A	N/A			Reference Not Applicable	4174
11	ALL	N/A	EWR A0752625			Limitorque Thrust Extension Report	2
12	ALL	N/A	MOV Risk Attributes			Expert Panel for	621
13	ALL	N/A	ER-AA-302-1001			Exelon T&RM for Rising Stem Motor Operated Valve Thrust and Torque and Set-Up Window Determination Methodology	2499
14	ALL	N/A	ER-AA-302-1002			Exelon T&RM for Quarter Turn Butterfly Valve Sizing and Set-up Window Determination Methodology	226
15	ALL	N/A	ER-AA-302-1007			MOV Limitorque Capability Determination Methodology	2321
16	ALL	N/A	ER-AA-302			Motor Operated Valve Program Engineering Procedure	0
17	ALL	N/A	FIXED 17			Reserved Generic	0
18	ALL	N/A	FIXED 18			Reserved Generic	0
19	ALL	N/A	FIXED 19			Reserved Generic	0
20	ALL	N/A	FIXED 20			Reserved Generic	0
21	ALL	N/A	FIXED 21			Reserved Generic	0
22	ALL	N/A	FIXED 22			Reserved Generic	0
23	ALL	N/A	FIXED 23			Reserved Generic	0
24	ALL	N/A	FIXED 24			Reserved Generic	0
25	ALL	N/A	FIXED 25			Reserved Generic	0
26	ALL	N/A	FIXED 26			Reserved Generic	0
27	ALL	N/A	FIXED 27			Reserved Generic	0

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Limerick_All_References_WIP.XLS [Compatibility Mode] - Microsoft Excel

Index	Document	Rev	Date	Title	Hits
1	NE-119 / ER-LG-302-1000			PECo Specification - superceded by T&RM	6448
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5	NE-145 / ER-LG-302-1000			PECo Specification - superceded by T&RM	3170
6	INDMS			PECo Database	1044
7	MOV/Motor			Nameplate Information for	2159
8	MIDAS/MIDACALC			MOV Thrust & Torque Calculation Software	5826
9	EWR A0734264			Rockwell Valve Thrust/Torque Methodology	1102
10	N/A			Reference Not Applicable	4174
11	EWR A0752625			Limatorque Thrust Extension Report	2
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14	ER-AA-302-1002			Exelon T&RM for Quarter Turn Butterfly Valve Sizing and Set-up Window Determination Methodology	226
15	ER-AA-302-1007			MOV Limatorque Capability Determination Methodology	2321

MIDAS Redirector – Manage Failure Codes

Print

Item	Category	Short Description	Code
1	ACTUATOR	Worn or broken gears	11
2	ACTUATOR	Misalignment of handwheel declutch mechanism including damaged shaft or failure of tripper fingers	19
3	ACTUATOR	Worn or broken bearings	22
4	ACTUATOR	Improper actuator sizing	25
5	ACTUATOR	Incorrect metallic material for gears, keys or bolts	27
6	ACTUATOR	Incorrect reassembly or adjustment during maintenance or testing	31
7	ACTUATOR	Motor pinion key replacement per IE Notice	40M
8	ACTUATOR	Other actuator parts found worn or broken	40T
9	ACTUATOR	Tripper finger T-bracket installed per Part 21 Notification	40V
10	ACTUATOR	Clutch Lug Failure	N48
11	ACTUATOR	Clutch Tripper Failure	N49
12	ACTUATOR	HBC Gear Box Issue	N52
13	DIAGNOSTIC TEST ISSUE	Cyclic Loading	N63
14	DIAGNOSTIC TEST ISSUE	Excessive Running Load	N64
15	DIAGNOSTIC TEST ISSUE	Abnormal Thrust/Torque Profile	N65

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MIDATEST – Failure Code Process

MIDAS Maintenance for Limerick All Units ALL VALVES

File Tables Tools Help

FV-DO-101A GLOBE2 SMB-000-2

GL 96-05

Design Rev: 1 Verified by: Greg Lee on 1/12/09 13:29

Failure History for FV-DO-101A

Item	Date	Type	Short Description
1	10/19/2006	Failure	Failure to open during ST
*	(Add)		

Failure History for FV-DO-101A Item 1

Date: 10/19/2006 Type: Failure Short Description: Failure to open during ST

Sub-Type: IFF Maintenance Rule: YES CCF: N/A Reference: IR546231

Detailed Description: Failed to open - cause unknown at this point -JFM1 10/20/2006

Causal Code

Item	Category	Short Description
54	N/A	Not Applicable
55	OTHER COMPONENT CONCERNS	Valve position indicator damaged, broken or missing
56	OTHER COMPONENT CONCERNS	Part replaced for design enhancement
57	OTHER COMPONENT CONCERNS	Other problems identified during maintenance or troubleshooting.
58	SPRING PACK	Hydraulic lock or grease migration
59	SPRING PACK	Spring pack gap or incorrect spring pack
60	SPRING PACK	Other spring pack problems
61	SPRING PACK	Replaced spring pack with either a grease relief or pretested model

OK Cancel



Any Questions?

THANK YOU



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