

17 Reactors, 10 Stations  
and  
1 MOV Test Process

Exelon MOV Program Standardization

Steve Gallogly, Corporate Maintenance

# Background

The Exelon fleet consists of 10 Stations that previously had different administrative processes, calculation and test methodologies and GL 89-10 closure commitments. The Stations are:

- Com Ed plants; Braidwood, Byron, Dresden, LaSalle, Quad Cities
- Illinois Power; Clinton
- General Public Utilities; TMI and Oyster Creek
- PECO; Peach Bottom and Limerick

# Challenge

The MOV Program was selected by Exelon Senior Management as one of the processes to be standardized.

- The Standardization process started in the first quarter of 2001
- An implementation date of 10/31/02 was established.
- Work would be performed as base level of effort by corporate personnel (2 engineering and 2 maintenance) with review and approval by subject matter experts at the stations.

# Essential Contributors to Success

- Senior Management was absolutely committed to successful Standardization implementation
- New procedures and processes were developed by a small core of individuals and presented to the 10 stations for review and comment. “Management by committee “ was minimized.
- Once the comment period expired and the comments were dispositioned, only a “Fatal Flaw” identified by a station could prevent approval and implementation. This eliminated the the continual cycling of a procedure to incorporate late comments.

# Development Strategy

- Adopt a best practice approach based on technical merit not on “this is how we do things here at .....”
- Design a process that accomplishes the shift from GL 89-10 “justify engineering assumptions” to GL 96-05 performance monitoring
- Design a fully integrated processes of procedures, software and test data that is accessible from any computer with access to the Exelon intranet

## Development Strategy (continued)

- Provide maintenance personnel with simplified criteria that makes MOV diagnostic testing as much like performing a routine surveillance test as possible
- Fully integrate a testing, trending and design into a common process
- Provide procedural guidance to minimize the need for “tribal knowledge” and to achieve consistent test guidance
- Focus on processes and common implementation tools instead of testing hardware and implementation minutiae
- Create a simple software interface that is user friendly to less computer savvy maintenance personnel

# Results

- The Standardized MOV Program was rolled out on schedule on 10/31/02. A total of 16 new engineering and maintenance procedures and new implementing software (programmed for Exelon by Teledyne) was issued
- Site implementation of the new processes has been successful based on follow-up assessment results
- Station acceptance of the new process has been generally positive despite the additional implementation burden at the sites of having to approve a new calculation for each valve prior to testing (all existing calculations must be converted within 2 years regardless of test schedule)

# Common Software Access is Available from the Exelon Intranet

The screenshot shows a Microsoft Internet Explorer browser window displaying the Citrix NFuse Classic application portal. The browser's address bar shows the URL: <http://ccc2kctx15/citrix/nfuse17/frameset.asp>. The page content includes a header with the Citrix logo and the text "NFuse™ Classic". Below this is an "Applications" section with a "Logout" button and a "Refresh" button. The "Applications" section contains three icons: "Convert VOTES", "Midas", and "Quiklook". An arrow points from a text box below to the "Midas" icon. To the right of the "Applications" section is a "Welcome to Citrix® MetaFrame™" message, followed by "NFuse Classic Application Portal" and a paragraph of introductory text. Below that is a "Citrix® NFuse™ Classic Message Center" section with a paragraph of text. The browser's status bar at the bottom shows "Local intranet".

**Citrix® NFuse™ Classic** Logout

**Applications** Refresh

Convert VOTES Midas Quiklook

Welcome to Citrix® MetaFrame™

NFuse Classic Application Portal

Welcome to your personalized application portal. The Applications box (at left) contains icons for the applications that you can use. Click an icon to launch an application. Click the Refresh button to get the latest applications. Click the Settings button to change the NFuse Classic settings. Click a folder icon to display the folder contents. If you have problems using an application, please contact your help desk or system administrator for more information.

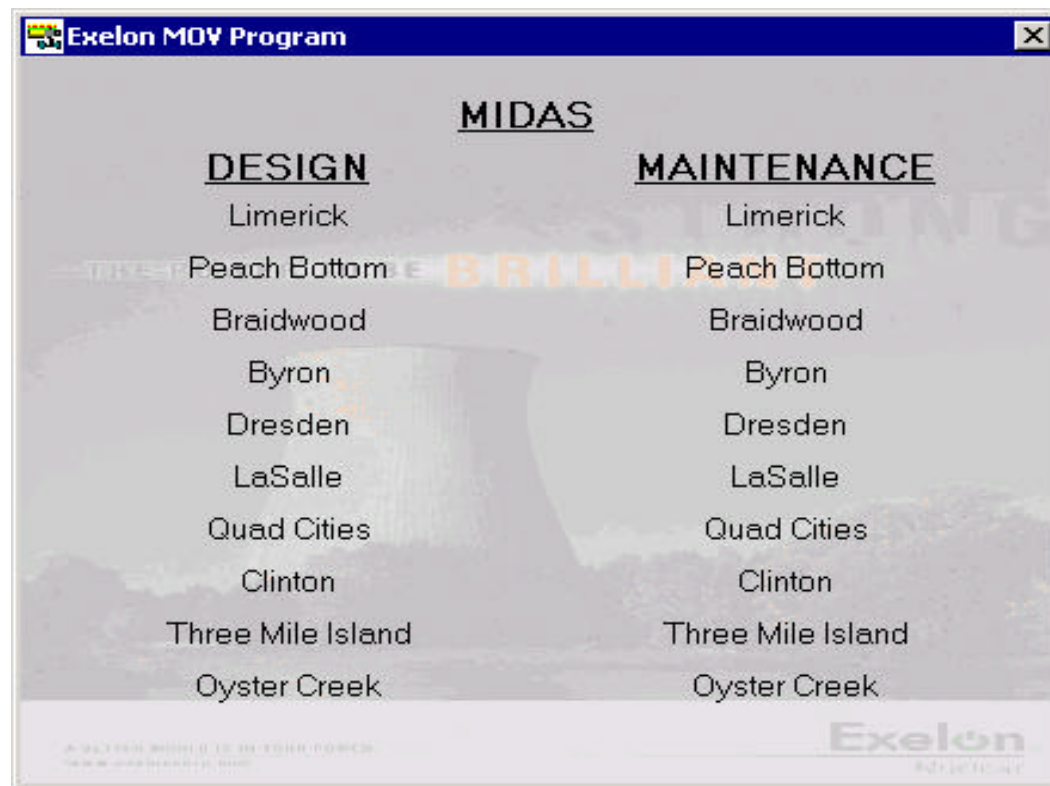
Citrix® NFuse™ Classic Message Center

The NFuse Classic Message Center displays any informational or error messages that may occur.

MIDAS is the maintenance and engineering software



# Design and Test Data is Available for All Stations



# An Approved Calculation is Required to Test

The screenshot shows the 'Midas Calculations for All Plants ALL VALVES GL 96-05' window. The interface includes a menu bar (File, Edits, Tables, References, Tools, Help) and a header area with dropdown menus for 'MO-3-14-026B', 'GLOBE', and 'SMB-2-60'. Below this is a tabbed interface with 'Valve' selected. A table lists various parameters and their values and references. A note at the bottom of the table states: 'N-1 Based upon test of record data C0188047 with 10% margin applied.' Below the table is a large empty box for signatures, with a callout box pointing to it containing the text 'Preparer and Approval Signatures'. At the bottom, there is a footer with revision and user information.

Parameter	Value	Reference
Valve Type	GLOBE	149
Globe Valve Sub-Type	SEAT BASED	149
Globe Valve Flow Direction	UNKNOWN	8
Valve Vendor	WALWORTH	149
Valve Size	10	149
Calculation Method (close)	VF	N/A
Calculation Method (open)	VF	N/A
EPRI PPM Thrust (close)	0	N/A
EPRI PPM Thrust (open)	0	N/A
Valve Factor (close)	1.1	56
Valve Factor (open)	0	N/A
Non-Safety Related Valve Factor	0	N/A
Stuffing Box Load (close)	2500	13
Stuffing Box Load (open)	2500	13
Valve Limiting Thrust (close)	197524	246
Valve Limiting Thrust (open)	197524	246
Valve Limiting Torque (close)	0	246

N-1 Based upon test of record data C0188047 with 10% margin applied.

Preparer and Approval Signatures

Rev 0   Nick Alexakos   3/28/03 13:41   TED NECKOWICZ   3/28/03 13:45

# A New Data Record is Created for Each Test by Work Order Number

- A new record is created for each new test work order
- Status changes as the valve moves through the testing process from Pre-test to Data Review and then to Trending as each stage is signed off.

The screenshot shows the 'MIDAS Maintenance for All Plants ALL VALVES' application window. At the top, there are fields for 'MO-3-14-026B', 'GLOBE', and 'SMB-2-60'. Below these is a green status bar: 'Design Rev: 0 Verified by: TED NECKOWICZ on 3/28/03 13:45'. The main area contains a table with columns: FUNCTION, OPEN, Last Edit, SIGNOFF, Last Signoff, and PRINT. The rows represent different stages of the testing process.

FUNCTION	OPEN	Last Edit	SIGNOFF	Last Signoff	PRINT
Sensitivity Calculations		03/17/03 08:16	<b>SIGNOFF NOT REQUIRED</b>		
Control Circuit Changes		03/17/03 08:16		<b>N/A</b>	
Pre-Test Information		05/19/03 13:47		<b>05/19/03 13:51</b>	
Limit Switch Settings		05/19/03 13:50		<b>05/20/03 21:43</b>	
Data Review		05/20/03 21:43		<b>05/21/03 16:34</b>	
Trending		05/21/03 16:34		<b>05/21/03 16:34</b>	

Below the table is a section titled 'Add New Work Order' containing a smaller table:

Work Order	Status	Test Date	Test of Record
R0736135	Complete	5/19/03	YES
C0188047	Legacy	6/2/99	---


# Menu Driven Software Guides the Engineer Through the Pre-Test Preparation Process

- Each software step in the decision making process is provided with procedure guidance and examples

Pre-Test Setup for MO-3-14-026B WO# R0736135

Close Control Scheme: TORQUE Safety Function: CLOSE

Setup	Setup (cont'd)	As-Found	As-Left
		<b>No</b>	<b>Yes</b>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input checked="" type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input type="radio"/>	<input checked="" type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>
		<input checked="" type="radio"/>	<input type="radio"/>

Exit Nick Alexakos 5/19/03 13:47  Cancel

# Maintenance Instructions are Formatted to Facilitate a Pre Job Brief

- A simple format is used on the first page of the test instructions to communicate general test requirements

Pre-Test Report for MD-3-14-0208

Reason For Diagnostic Test:

MOV Close Control on Limit or Torque?:

Recommended Diagnostic Test System:

Test Criteria Selection Basis:

	No	Yes
As-Found Testing Required?	X	
As-Left Testing Required?		X
New Baseline Test?	X	
Torque Correction Factor Iteration Required?	X	
Max TSS in lieu of Measured Torque?	X	
Spring Pack Displacement for Torque?	X	
Motor Power Testing Required?		X
Packing Adjustment Required?		X
Lubrication Required?		X
Local Leak Rate Test Required?	X	
Temporary Control Circuit Changes Required?	X	
Rotation / Logic Checks Required?		X
Stem Nut Wear Evaluation Required?	X	
Valve Condition Load Evaluation?	X	
AL Close Stem Factor Criteria Applicable?	X	
AL Open Stem Factor Criteria Applicable?	X	

Stem, Anti-Rotation Device, Yoke

# Only Required Test Acceptance Criteria is Provided to Maintenance

Thrust only Test Window		SAT	UNSAT
C14 Thrust <b>Greater</b> Than Minimum Required of	39788		
C16 Thrust <b>Less</b> Than Maximum Allowable of	86123		
09 Thrust <b>Less</b> Than Maximum Allowable of	179086		
C14 Thrust <b>Less</b> Than Maximum Allowable of	40506		
		X	X
C14 Torque <b>Less</b> than Maximum Allowable of	N/A	NA	NA
C16 Torque <b>Less</b> than Maximum Allowable of	N/A	NA	NA
09 Torque <b>Less</b> than Maximum Allowable of	N/A	NA	NA
C14 Torque <b>Greater</b> Than Minimum Required of	N/A	NA	NA
		X	X
C14 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
C16 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
09 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
C14 SP Displacement <b>Greater</b> Than Min Required of	N/A	NA	NA
		X	X
Avg Run Thrust Close <b>Less</b> Than Design of	2500		
Avg Run Thrust Open <b>Less</b> Than Design of	2500		
		X	X
Close Stem Factor <b>Less</b> Than Maximum of	N/A	NA	NA
Open Stem Factor <b>Less</b> Than Maximum of	N/A	NA	NA
		X	X
All Limits Set Per Design & Test Instructions			

Standard Thrust and Torque Window		SAT	UNSAT
C14 Thrust <b>Greater</b> Than Minimum Required of	39788		
C16 Thrust <b>Less</b> Than Maximum Allowable of	86123		
09 Thrust <b>Less</b> Than Maximum Allowable of	179086		
C14 Thrust <b>Less</b> Than Maximum Allowable of	N/A	NA	NA
		X	X
C14 Torque <b>Less</b> than Maximum Allowable of	796		
C16 Torque <b>Less</b> than Maximum Allowable of	1781		
09 Torque <b>Less</b> than Maximum Allowable of	N/A	NA	NA
C14 Torque <b>Greater</b> Than Minimum Required of	N/A	NA	NA
		X	X
C14 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
C16 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
09 SP Displacement <b>Less</b> than Max Allowable of	N/A	NA	NA
C14 SP Displacement <b>Greater</b> Than Min Required of	N/A	NA	NA
		X	X
Avg Run Thrust Close <b>Less</b> Than Design of	2500		
Avg Run Thrust Open <b>Less</b> Than Design of	2500		
		X	X
Close Stem Factor <b>Less</b> Than Maximum of	N/A	NA	NA
Open Stem Factor <b>Less</b> Than Maximum of	N/A	NA	NA
		X	X
All Limits Set Per Design & Test Instructions			



# The Software is Structured to Minimize the Potential Errors and Confusion During Testing

- The software will N/A information that is not required in advance of the procedure going to the field

Pre-Test Report for M0-3-14-0208

Diagnostic Test Criteria/Set-up Window

		SAT	UNSAT
C14 Thrust Greater Than Minimum Required of	33992		
C16 Thrust Less Than Maximum Allowable of	94990		
08 Thrust Less Than Maximum Allowable of	197524		
C14 Thrust Less Than Maximum Allowable of	N/A	N/A	N/A
C14 Torque Less than Maximum Allowable of	885		
C16 Torque Less than Maximum Allowable of	1900		
08 Torque Less than Maximum Allowable of	N/A	N/A	N/A
C14 Torque Greater Than Minimum Required of	N/A	N/A	N/A
C14 SP Displacement Less than Max Allowable of	N/A	N/A	N/A
C16 SP Displacement Less than Max Allowable of	N/A	N/A	N/A
08 SP Displacement Less than Max Allowable of	N/A	N/A	N/A
C14 SP Displacement Greater Than Min Required of	N/A	N/A	N/A
Avg Run Thrust Close Less Than Design of	2500		
Avg Run Thrust Open Less Than Design of	2500		

**N/A**

Expected Performance (NOT ACCEPTANCE CRITERIA)

	YES	NO
Notify Engineering for Unexpected Thrust Performance	X	
Notify Engineering for Unexpected Torque Performance	X	
Expected C14 Thrust Greater Than	N/A	N/A
Expected C14 Thrust Less Than	N/A	N/A
Expected C14 Torque/Displacement Greater Than	N/A	N/A
Expected C14 Torque/Displacement Less Than	N/A	N/A
Close Stem Factor Less Than Maximum of	N/A	N/A
Open Stem Factor Less Than Maximum of	N/A	N/A
Avg Close/Open Run Current Less Than Maximum of	10.7	
Test Signature Appears Normal (No Abnormalities Present)		

## Testing is Performed with a Common Procedure Utilizing the Test Instructions

- The test procedure is designed to minimize or eliminate the redundant recording of data.
- The test instructions are included as part of the permanent test record
- Numerical test results are not required to be transcribed into the procedure
- As Left test results are independently verified.
- If all Test Acceptance Criteria is satisfactory then the test is acceptable and the valve can be returned to operations at this time without additional review by engineering.



# Menu Driven Software Guides Maintenance Through the Data Review Process

- Each software step is provided with procedure guidance and examples
- As-Found and As-Left test data results can be directly imported into the software to eliminate data entry errors

As-Found Data	As-Left Data	Evaluations	Completion
Work Done	Data Review (1)	<b>Data Review (2)</b>	Inspection
		Valve/Actuator Data Matches Design	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Stem Geometry/Material Matches Design	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Sensitivity Calculations are Correct	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Calibration Properly Marked and Acceptable	<input type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> N/A
		Calibration Properly Applied	<input type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> N/A
		Test Signatures Appropriately Zeroed	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Thrust Extrapolation Performed SAT	<input type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> N/A
		As-Found Tests are Properly Marked	<input type="radio"/> No <input type="radio"/> Yes <input checked="" type="radio"/> N/A
		As-Left Tests are Properly Marked	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Open Torque Switch Bypass Set Properly	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		Backseat Distance Set Properly	<input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> N/A
		If No, Explain Here	
		N/A	

OK Mark Younker 5/20/03 21:43 Cancel

# Automatic Import Minimizes Data Entry Errors and Compares Results to Design

**Test Data can be imported**

Work Done | Data Review (1) | Data Review (2) | Inspection

As-Found Data | **As-Left Data** | Evaluations | Completion

Import | Test Identification: 03139002 | Test Date: 05/19/03 | Close TSS: 2.250 | Open TSS: 2.250

Parameter	Marker	Thrust	Torque	Disp	Current	Power	PF
Torque Switch Trip	C14	44768	775.0	0.000	19.54	0.00	0.00
CLOSE Maximums	C16	58547	1041.0	0.000	-----		
Disk Pullout	O9	3372	62.0	0.000	6.77	0.00	0.00
CLOSE Run	ARC	1848	43.0	0.000	6.81	0.00	0.00
OPEN Run	ARO	1823	45.0	0.000	6.78	0.00	0.00
CLOSE InRush	C1	-----			85.97	0.00	0.00
OPEN InRush	O1	-----			88.69	0.00	0.00
<b>Flow Cutoff (DP)</b>	C10	0	0.0	0.000	0.00	0.00	0.00
Hard Seat	C11	0	0.0	0.000	0.00	0.00	0.00

**Stroke Times**  
 Contactor to Contactor (CLOSE Stroke): 12.700  
 Contactor to Contactor (OPEN Stroke): 11.794

**Contactor Dropout Times**  
 Contactor Dropout Time (CLOSE Stroke): 0.013  
 Contactor Dropout Time (OPEN Stroke): 0.010

OK | Mark Younker | 5/20/03 21:43 | | Cancel

**Results are compared to design requirements and flagged for errors**

Work Done | Data Review (1) | Data Review (2) | Inspection

As-Found Data | As-Left Data | **Evaluations** | Completion

Parameter	As-Found Close Open	As-Left Close Open
C14 UNDER THRUST	<input type="checkbox"/>	<input type="checkbox"/>
C16 OVER THRUST	<input type="checkbox"/>	<input type="checkbox"/>
C14 OVER TORQUE	<input type="checkbox"/>	<input type="checkbox"/>
C16 OVER TORQUE	<input type="checkbox"/>	<input type="checkbox"/>
O9 OVER THRUST	<input type="checkbox"/>	<input type="checkbox"/>
C14 UNDER TORQUE	<input type="checkbox"/>	<input type="checkbox"/>
C14 OVER THRUST	<input type="checkbox"/>	<input type="checkbox"/>
O9 OVER TORQUE	<input type="checkbox"/>	<input type="checkbox"/>
RUN LOAD HIGH	<input type="checkbox"/>	<input type="checkbox"/>
RUN LOAD LOW	<input type="checkbox"/>	<input type="checkbox"/>
STEM FACTOR HIGH	<input type="checkbox"/>	<input type="checkbox"/>

OK | Mark Younker | 5/20/03 21:43 | | Cancel

# Maintenance Completes the Test Data Review

- Designation of “Test of Record” updates the design calculation with the new test data
- All margin calculations will now be based on the most recent test data

Data Review for MD-3-14-026B WD# R0736135

Work Done	Data Review (1)	Data Review (2)	Inspection
As-Found Data	As-Left Data	Evaluations	Completion

Test Of Record?  No  Yes

Workorder Followup Required?  No  Yes

Maintenance Tracking/Document No. N/A

Engineering Tracking/Document No. N/A

Continuing Training Candidate?  No  Yes

Diagnostic Data Properly Saved?  No  Yes

OK Mark Younker 5/20/03 21:43 Cancel

# Engineering Performs the Trending Review

- As Found test results for the current test are compared to the previous as left test results
- The change form as found to as left performance is also compared

Trending for MD-0-48-0502C WO# R0590789


Parameter	Previous Test Data		Interval %Change	Current Test Data		PM %Change	
	AF Test Data	AL Test Data		AF Test Data	AL Test Data		
Work Order Number	C0156052		*	R0590789		*	
Test Type	N/A		*	Thrust & Torque		*	
Test Date	N/A	8/12/94	*	11/11/03		*	
Test Number	N/A	N/A	*	03315001	03315002	*	
Close TSS	0	2.75	*	2.75	2.75	*	
C14	Thrust (lb)	0	24239	6	25696	25256	-1.7
	Torque (ft-lb)	0	349	0.3	350	344	-1.7
	Current (amps)	0	0	0	0	0	0
	Power (KW)	0	0	0	0	0	0
	Power Factor	0	0	0	0	0	0
O9	Thrust (lb)	0	7352	*	9931	8894	*
	Torque (ft-lb)	0	0	*	148	147	*
	Current (amps)	0	0	*	0	0	*
	Power (KW)	0	0	*	0	0	*
	Power Factor	0	0	*	0	0	*

<b>Current Test Data --&gt;</b>	R0590789	Complete	11/11/03	YES
---------------------------------	----------	----------	----------	-----

<b>Previous Test Data --&gt;</b> <b>(Highlight Row to Select)</b>	<b>Work Order</b>	<b>Status</b>	<b>Test Date</b>	<b>Test of Record</b>
	R0590789	Complete	11/11/03	YES
	C0156052	Legacy	8/12/94	---

Exit      Nick Alexakos      11/21/03 10:00            Cancel

# Engineering Evaluates Performance Over the the Test Interval

- Quality of the test data for trending is confirmed
- Test performance is evaluated

Trending for MD-0-48-0502C WO# R0590789

**Evaluation**

All Test Acceptance Criteria Met?  No  Yes If NO, Explain in Engr Evaluation

Test Quality Adequate for Trending?  No  Yes If NO, Explain in Engr Evaluation

Thrust Change over Interval

Torque Change over Interval

Corrective Action Required?  No  Yes If YES, AR/AT/CR#: N/A

Trending Review Complete?  No  Yes

Engineering Evaluation

Reviewed diagnostic test traces and Data Review Section. Permanant mounted QSS installed. As found low running loads acceptable; valve was not identified as having packing leak. Good performance over the interval, no degradation to thrust or torque. No issues noted during PM. NPA.

**Current Test Data -->**

R0590789	Complete	11/11/03	YES
----------	----------	----------	-----

**Previous Test Data -->**  
**(Highlight Row to Select)**

Work Order	Status	Test Date	Test of Record
R0590789	Complete	11/11/03	YES
C0156052	Legacy	8/12/94	...

Exit Nick Alexakos 11/21/03 10:00 Cancel

# Engineering Makes Adjustments to the Future Test Interval

- Engineering is required to evaluate if adjustments to the PM interval, Test interval or degradation factors in the design calculation prior to closing the trending module

Trending for MO-0-48-0502C WO# R0590789

Trend Data	Evaluation	Feedback
ESF Change Required?	<input type="radio"/> No <input checked="" type="radio"/> Yes	If YES, change ESF to: 0.050
PVT Interval Change Required?	<input checked="" type="radio"/> No <input type="radio"/> Yes	If YES, change PVT to: 0
MP Interval Change Required?	<input type="radio"/> No <input type="radio"/> Yes	<input checked="" type="radio"/> N/A
PM Interval Change Required?	<input checked="" type="radio"/> No <input type="radio"/> Yes	If YES, change PM to: 0
Stem Lube Interval Change Required?	<input checked="" type="radio"/> No <input type="radio"/> Yes	If YES, change Stem Lube Interval to: 0
MIDAS Database Updated?	<input type="radio"/> No <input checked="" type="radio"/> Yes	
Generic Implications?	<input checked="" type="radio"/> No <input type="radio"/> Yes	If YES, Explain in Generic Implications below

Generic Implications

ESF changed to 0.05 and EIF implemented to 0.05. NPA

Current Test Data -->	Work Order	Status	Test Date	Test of Record
R0590789	R0590789	Complete	11/11/03	YES
Previous Test Data --> (Highlight Row to Select)	C0156052	Legacy	8/12/94	...

Exit Nick Alexakos 11/21/03 10:00 Cancel

# Engineering Completes the Trending Module and the Testing Process is Complete

- Signoff of the Trending Module locks down the file and completes the testing process for the valve under the existing work order.

MIDAS Maintenance for Status = Complete

File Tables Tools Help

MO-0-48-0502C GATE SMB-0-40

Design Rev: 1 Verified by: Jeff Chizever on 11/25/03 09:49

FUNCTION	OPEN	Last Edit	SIGNOFF	Last Signoff	PRINT
Sensitivity Calculations		06/02/03 14:33	SIGNOFF NOT REQUIRED		
Control Circuit Changes		11/05/03 12:01		11/05/03 12:01	
Pre-Test Information		11/05/03 10:40		11/05/03 10:40	
Limit Switch Settings		06/02/03 14:46			
Data Review		11/21/03 06:34		11/21/03 06:35	
Trending		11/21/03 10:00		11/21/03 10:00	

Add New Work Order

Work Order	Status	Test Date	Test of Record
R0590789	Complete	11/11/03	YES
C0156052	Legacy	8/12/94	---