

Financial Systems Administration Preventive Maintenance User Guide – Utilities Shop All Systems

October 22, 2015

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Introduction

This manual serves as a guiding document for completing Preventive Maintenance Work Orders for the Plumbing Shop. Preventive Maintenance Work Orders are generated in AiM for Assets according to predefined schedules. These Work Orders will then be assigned to Shop Techs by the Shop Supervisors.

The diagram below details the type of gas assets which were identified as requiring preventive maintenance:





Gas valves (Valve 1 - 20), gas regulator stations (GASRS-1, GASRS-2), gas meter stations (GASMS-1, GASMS-2), gas piping (GASP-1, GASP-2), and risers are now grouped in Gas System Sections (GAS SYSTEM SEC1, GAS SYSTEM SEC2) as defined by the Plumbing Shop. The sections have been defined as Properties and Assets in AiM to allow for a logical grouping of the Gas System components.

The diagram below details the type of sewer assets which were identified as requiring preventive maintenance:



SWR SYSTEM

Sewer manholes (Manhole 1 - 10), sewer lift stations (SEWERLS-1, SEWERLS-2), and meters for sewer lift stations (SEWERLS-1-MTR, SEWERLS-2-MTR).

The diagram below details the type of water assets which were identified as requiring preventive maintenance:



WATER SYST

Water valves (Valve 1 – 10), fire hydrants (Fire Hydrants 1-4), water tanks (WATERT-1, WATERT-2), domestic water wells (WATERW-1, WATERW-2), irrigation water wells (WATERIW-TRIVIZ), backflow preventers (Backflow Preventer 1-4), and water sampling sites (WATERSAMPSYS-SITES).

Business Rules

- While performing preventive maintenance if a problem is found that requires corrective maintenance a new work order and phase will need to be created.
- When a corrective maintenance work order is created the asset from the PM work order must be attached to the corrective maintenance work order.
- All time spent and materials used on preventive maintenance should be charged against the preventive maintenance work order for which the work was done.

The gas system on campus has been defined as six separate properties in AiM. This is necessary to better define the locations of gas assets and equipment in AiM. The following table describes the six gas properties:

Property	Description			
GAS SYSTEM SEC1	Tom Fort / Cole Village / VDM, page 2 of gas maps, all gas			
	valves that are on line with 4' along Williams Ave			
GAS SYSTEM SEC2	Sutherland Village, all gas valves page 4 of gas maps feeding			
	off Richard Lopez and Clifford Yayan, gas reg station on Wells			
	between Williams / Espina going to PSL			
GAS SYSTEM SEC3	All gas valves on Wells, page 8 / page 1 of gas maps, feeding			
	FS shops, Greek, Wells Hall, Golf Club, page 10 of gas maps			
GAS SYSTEM SEC4	All gas valves within Cervantes Housing, page 9 of gas maps,			
	Genesis Center			
GAS SYSTEM SEC5	All valves on Espina from George Huff reg station, page 6 of			
	gas maps, feeding west of Espina south to DACC			
GAS SYSTEM SEC6	All valves within campus buildings east of Espina up to Pan			
	Am Center north to University, cover page			

The sewer system on campus has been defined as four separate properties in AiM. This is necessary to better define the locations of sewer assets and equipment in AiM. The following table describes the four sewer properties:

Property	Description
SWR SYSTEM SEC1	North of Stewart and East of Williams Ave
SWR SYSTEM SEC2	South of Stewart and East of Williams Ave
SWR SYSTEM SEC3	North of Stewart and West of Williams Ave
SWR SYSTEM SEC4	South of Stewart and West of Williams Ave
SWR SYSTEM	Entire sewer system

 \bigstar Assets will be named utilizing existing FS standards.

The water system on campus has been defined as four separate properties in AiM. This is necessary to better define the locations of water assets and equipment in AiM. The following table describes the four water properties:

Property	Description
WATER SYST SEC1	North of Stewart and East of Williams Ave
WATER SYST SEC2	South of Stewart and East of Williams Ave
WATER SYST SEC3	North of Stewart and West of Williams Ave
WATER SYST SEC4	South of Stewart and West of Williams Ave
WATER SYST	Entire water system

★ If a PM Work Order is unable to be completed then it will be put in a status of Unable to Perform. A note will be added to the notes log of the work order as to why it was unable to be completed. DO NOT use the status of Cancelled. Note: The status of Unable to Perform will be defined as a Preventive Maintenance status only, and will be of type Closed. Conditions that allow Unable to Perform status to be used are:

- A new PM has already been generated and PM work is not completed.
- It is almost time for a new PM to be generated, and I can wait to do the work until the next PM work order is generated.

Note: This status should not be used without consulting with a supervisor in the case of regulatory requirements not being performed.

- ★ If a shop other than the PM owner needs to be assigned the PM work, then the phase needs to be reassigned to the shop doing the work, so that the PM Checkpoints are available to the shop completing the work. DO NOT create a new phase on the work order because the PM Checkpoints will not be added to the new phase. Exception: If work has been started on the PM Phase by the PM owner and it is necessary to hand off the work to another shop, then the PM Owner can open a new phase to the shop who will be completing the work and print the PM Checkpoints to be completed and then returned to the PM Owner per the process.
- ★ If outsourcing PM work, then the PM owner still needs to complete the PM checkpoints in AiM and attach all documents from the contractor as the related documents of the work order.

Naming Conventions

AiM Component	Convention	Example	Description
Property	Depends on need of the shop	GAS SYSTEM SEC1	The property has been created in AiM to encompass a logical grouping of gas assets decided upon by the Plumbing shop.
Asset Group	Combination of system with abbreviation of the type of asset	GASV	The system is gas and the type of asset is valves.
Individual Asset	Combination of Asset Group name to which the asset belongs and a sequential number to differentiate it from other assets.	GASRS-1	The asset group name is GASRS and the number dictates that this is Gas Regulator Station number 1.
Group of Assets	Combination of the Asset Group name to which the group of assets belongs and the abbreviated Property name at where the group of assets is located.	GASV-SEC1	The asset group name is GASV and the property name is GAS SYSTEM SEC1. The abbreviation SEC1 is being used in the property part of the name.
PM Template	Combination of the department, shop and a sequential number to differentiate Template from other Templates.	FS-PLMB-001	FS is the department Facilities and Services, PLMB is the shop Plumbing, and 001 is a sequential number
PM Template Phase	Type of Asset or Preventive Maintenance assigned to phase	GAS VALVES	The phase is named GAS VALVES because it is PM for gas valves.
PM Standards (individual asset)	Same name as Asset Group	GASRS	The PM Standards applies to all regulator stations and as such is named the same as the asset group for regulator stations.
PM Standards (group of assets)	Same name as asset (which is a group of assets)	GASV-SEC1	The PM Standards only applies to gas valves in GAS SYSTEM SEC1 and as such is named the same as the asset group for gas valves in GAS SYSTEM SEC1.





General PM Instructions

AnyConnect on iPad

AnyConnect needs to be turned on in order to access AiM with the iPad when connecting to the Internet using cellular service.



1. Select the *AnyConnect* icon from the home screen.

Itematical connect VPN OFF Status Disconnected Choose a connection 475 Bytes MMSU 0 Add VPN Connection 475 Bytes Object NO DATA Status Overview Bytes Sent Server Not Available Time Connected 00.0000 Objects As Bytes Bytes Sent 00 Bytes Bytes	iPad ♀			12:38 PM			3 73%
AnyConnect VPN OFF Crapk Disposition Description Status Disconnected Bytes Received Bytes Received Choose a connection T5 Bytes NO DATA Disposition Disposition Add VPN Connection T5 Bytes Bytes Sent Disposition Disposition Disposition Status Overview Bytes Sent Disposition Disposition Disposition Disposition Server Not Available T5 Bytes Bytes Sent Disposition Dispos	cisco AnyCon	nect Secure I	Mobilit 2				About
Status Disconnected Choose a connection TS Bytes Add VPN Connection 30 Bytes Add VPN Connection 10 Bytes Bill Bytes 10 Bytes Status Overview Bytes Sent Server Not Available Time Connected 00:00:00 Objees 10 Bytes Bytes Sent 0 10 Bytes 10 Bytes	AnyConnect VPN	OFF			Graphs	Diagnostics Settings	
Choose a connection Pf8 bytes Add VPN Connection Pf8 bytes Deballs Pf8 bytes Add VPN Connection Pf8 bytes Deballs Pf8 bytes Properties Pf8 bytes Deballs Pf8 bytes	Status	Disconnected	_			Bytes Received	
Status Overview Bytes Sent Server Not Available Time Connected 00:00:00 Client Address Not Available Bytes Sent 0 Bytes Received 0 Details >	Choose a connection	() Anction	475 Bytes 200 Dytes 285 Bytes 190 Bytes 95 Bytes			NO DATA	
ServerNot AvailableTime Connected00:00:00300 BytesClient AddressNot AvailableBytes Sent0095 BytesBytes Received05 BytesDetails>	Status Overview		_			Bytes Sent	
Time Connected00:00:00Client AddressNot Available285 Bytes285 BytesBytes Sent095 Bytes95 BytesDetails>	Server	Not Available	475 Byles				
Client Address Not Available 285 Dytes Bytes Sent 0 Bytes Received 0 Details >	Time Connected	00:00:00	380 Bytes				
Bytes Sent 0 Bytes Received 0 Details >	Client Address	Not Available	285 Bytes			NO DATA	
Bytes Received 0 Details	Bytes Sent	0	190 Bytes				
Details	Bytes Received	0	95 Byles				
	Details	>					

2. Slide the AnyConnect VPN from "OFF" to "ON".



- 3. Enter Banner Username.
- 4. Enter Banner **Password**.
- 5. Select the *Connect* icon.

d ? VFN			12:39 PM	* 73
cisco AnyCo	onnect Secure	Mobility	6	About
AnyConnect VPN			Graphs Diagnostics Settings	
Status	Connected		Bytes Received	
Choose a connectior	l			
V NMSU	٥			
Add VPN Con	nection >	7	NO DATA	
		1.27 KB		
		0.64 KB		
Status Overview			Bytes Sent	
Server	vpn.nmsu.edu			
Time Connected	00:00:10	380 Bytes		
Client Address	128.123.253.228	285 Bytes	NO DATA	
Client Address Bytes Sent	128.123.253.228	285 Bytes 190 Bytes	NO DATA	
Client Address Bytes Sent Bytes Received	128.123.253.228 192 4156	285 Bytes 190 Bytes 95 Bytes	NO DATA	*

- 6. AnyConect VPN should now be set to "ON".
- 7. Status should show "Connected".

Viewing PM Standards

AiM *PM Standards* give the specific details for shop technicians to perform the Preventive Maintenance on the assets and/or systems. Every PM work order will have *PM Standards* to follow.

Phas	1						
Phase	~ _	escription	Location or Room	Shop	Work Code	Priority	Status
001		PM PHASE FOR GAS SYSTEM SEC5 - GAS REGULATOR STATION 3 - GEORGE HUFF		PLUMBING	D2091	3-ROUTINE	NEW

1. Bring up the work order and click on the **Phase**

Equipment/Asset		Capital Project	Contractor
Туре	Asset	Capital Project	Contract Type
Asset	GASRS-3		
	GAS REGULATOR STATION FOR GAS		
Asset Group	GASRS	Component Group	
Failure Code			
Template PM Standards	FS-PLMB- 2 GASRS	Component	

2. Click on the **PM Standard** in the Equipment/Asset section

🔇 РМ	Standards	١	/iew: Select	- 🗟 🔧 🥪		. 🔌 🌔
PM Standard	SASRS	Editor Edit Date	SHALEY / May 21, 2014 09:05 AM F	Active Y	es 4	5
Description	REGULATOR STATIONS & RELIEF VALVES SHALL OF EACH REGULATOR, MONITOR & RELIEF VALVE CALENDAR YEAR, AND AT INTERVALS NOT EXCER	BE INSPECTED, E TESTED AT LEA EDING 15 MONTH	AND THE SET POINT IST ONCE EACH IS.	requency		
Estimate						
Labor Hours	0.00					
Labor	\$0.00					
Material	\$0.00					
Equipment	\$0.00					
Contract	\$0.00					
Total	\$0.00					
Checkpoi	nts					
Checkpoint	Description			Estimated Labor Hour	s Measurement	Active
00-NOTE 1	REGULATOR STATION INSP POINT OR LOCKUP TESTIN 3 ROBLEM. SPARE PA	Y OF REGULATOR: RTS SHOULD BE KE	S OR RELIEF VALVES, IF SET- EPT FOR ALL COMMON REPAIRS	0.0	0 No	Yes
00-NOTE 2	BEFORE STATION INSPECT ON BEOMYS, SERVICE MUST BE CON OUT OF SERVICE.	TINUALLY MAINTAI	NED WHILE THE REGULATOR IS	0.0	0 No	Yes
00-NOTE 3	IF THE STATION HAS A SINGLE REGULATOR RUN, PERSONNEL BYPASS AND MAINTAIN SYSTEM PRESURE DURING TESTING A	AND EQUIPMENT MI ND REPAIR.	UST BE READY TO MANUALLY	0.0	0 No	Yes
<u>01</u>	RECORD INSPECTION: REVIEW THE STATION PRESSURE RECOR IRREGULARITIES THAT MIGHT INDICATE A POTENTIAL EQUIPMENT	DS SINCE THE LAS	T INSPECTION, LOOK FOR ANY	0.0	0 No	Yes
02	PRESSURE CHECK: USE PRESSURE GAUGES FOR CHECKING & SHOULD BE SIZED SO THAT THE MAXIMUM SCALE IS NO GREA	SETTING STATION F TER THAN TWICE T	PRESSURES. THE GAUGES HE PRESSURE BEING TESTED.	0.0	0 No	Yes

- 3. View the PM Standards Checkpoints
- 4. Click on the **Done** icon when you are finished viewing checkpoints



5. Click on the **Done** icon to close the Phase screen

Viewing Checkpoint Measurements

Some preventive maintenance work orders will require the shop technician to record values and/or record the steps for performing the preventive maintenance that have been completed. AiM *Checkpoint Measurements* will be used to record these values and/or steps which have been completed.

Work Or	1					چ 😼		🦽 🐯
Work Order	or non	Status	<u>Type</u>	Category	<u>University</u>	Campus	Property	Date Created
<u>14-081703</u>	PM WORK ORDER FOR GAS SYSTEM SEC5 - GAS REGULATOR STATION 3 - GEORGE HUFF	OPEN	MAINTENANCE	PREVENTIVE	NMSU	LAS CRUCES	GAS SYSTEM SEC5	May 21, 2014 10:30 AM

1. Open the work order

Phase	2						
Phase	\sim	escription	Location or Room	Shop	Work Code	Priority	Status
001	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGULATOR STATION 3 - GEORGE HUFF			PLUMBING	D2091	3-ROUTINE	NEW

2. Click on the Phase

📙 Phase	View:	Select	•	Ó	, 🔍 🖉	🛃 📒 🎪	چ 🖄	
Phase	001	Created By SHALEY		\sim	Status	NEW		
		Date Created May 21,	2014	\square	Work Order	<u>14-081703</u>		

3. Click on the **Edit** \blacksquare icon

🖲 Phase	le Phase v			Select Select	1 •	R (0	4
Phase	001	Created By Date Created	SHALEY May 21, 2014 10:30 AM	Extra Desc Account Se Shop Stock Budget Change Order	5	\mathcal{r}	۶	
Description	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGUL/ 3 - GEORGE HUFF	ATOR STATION		Condition Assessment Info Checkpoint Measurements Cost Analysis		00		

- 4. Click on the **View:Select** drop-down arrow
- 5. Click on **Checkpoint Measurements**

Chec	kpoint Measurements		🗟 🔕 🏄
M06		REG STATION - LOCK UP PRESSURE (PSI)	
М07	6	REG STATION - MONITORING REGULATOR OR RELIEF SETTING (PSI)	
M08		REG STATION - WAS THE REGULATOR STROKED (TO FULLY OPEN)? (Y/N)	
M09	~~ ?	REG STATION - ATMOSPHERIC CORROSION (Y/N)	

6. Click the Value Search *P* icon or enter value directly into textbox next to Search *P* icon (if Search *P* icon is not present, then user can only enter values using textbox).

Attribute Vali	dation		₹	0	
Code 7a		Description			
N	7h	NO IT WAS NOT STROKED TO FULLY OPEN.			
Y		YES IT WAS STROKED TO FULLY OPEN.			

- 7. Click on the appropriate code (in this case the user has two options):
 - a. N
 - b. **Y**

lec Chec	Checkpoint Measurements					
M06		REG STATION - LOCK UP PRESSURE (PSI)		8		
M07		REG STATION - MONITORING REGULATOR OR RELIEF SETTING (PSI)				
M08	۶ ک	REG STATION - WAS THE REGULATOR STROKED (TO FULLY OPEN)? (Y/N)				
MOG		REGISTATION - ATMOSPHERIC CORROSION	(

8. Click on the **Done** icon (Extra Description is optional)

Bhase			View: <mark>Se</mark>	elect	۲	🗟 🔕 🔄
Phase	001	Created By Date Created	SHALEY May 21, 2014 10:30 AM	Status Work Order	NEW (9

9. Click on the Save 🔄 icon

🖲 Phase	View: <mark>S</mark>	elect	•) 🔍 🖉	🛃 😫 🎪 💐	N
Phase	001	Created By	SHALEY		Status	NEW (10)	٦
		Date Created	May 21, 2014 10:3	O AM	Work Order	14-081703	- 11
Description	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGU	LATOR STATION 3	- GEORGE HUFF		Budget	\$0.0	.00 📋

10. Click on the **Done** icon

Print PM Work Order

It is possible to print out a Preventive Maintenance Work Order with the *PM Standards Checkpoints* listed. This can be used as a quick reference to view the steps for performing preventive maintenance as detailed in the *PM Standards Checkpoints*.

- 1. Logon to AiM
- 2. Click on Work Management
- 3. Click on the **Search** $\stackrel{<}{\searrow}$ icon next to Work Order

Uork Order			5 🔊 🖏
Work Order		4	5 Hide All/Show All
Work Order	=	▼ (14-065817	

- 4. Enter the Work Order number
- 5. Click on the **Search** $\widehat{\mathfrak{A}}$ icon

🖲 Work O	rder								\$
Work Order	6 on	Status	<u>Type</u>	<u>Category</u>	<u>University</u>	<u>Campus</u>	Property	Date Cr	reated
<u>14-065817</u>		OPEN	MAINTENANCE	PREVENTIVE	NMSU	LAS CRUCES	10	Feb 14,	2014

6. Click on the **Work Order**

Work Order View: Select	- 🗟	چ 🍣	Č			(ھے 😫
Work Order 14-065817	Created By	IGNACIOS	Status	OPF	7	

7. Click on the **Print 5** icon

Work Order		2	!
	Print 10-WORK ORDER PR 180-WORK ORDER PA 260-PM PRINT WO		

8. Click on 260-PM PRINT WO

Preventive Maintenance Repo	rt	
🖻 🖬 🖨 🏝 🛃 👪		
Showip of 1		∢i ∢ 👂 i≱ Go to page: 🏼 🍯
9 M	*14-065817*	Work Order ^
		Status: OPEN

9. Click on the **Print** 🛄 icon

Print Report
Print Format 10
• HTML
PDF Auto
All pages Current page Pages:
(Enter page number(s) and/or page range(s). For example: 1-6 or 1,3,6)
OK Cancel

- 10. Select the HTML radio button
- 11. Click OK
- 12. The Print window will appear \rightarrow Click **OK**

Preventive Maintenance Re <u>File</u> Edit <u>View</u> History Bo	eport - Mozilla Firefox pokmarks Tools Help		x
Work Order	× 🔀 Preventive Maintenance Report × +		
🔶 🔒 https://fms-dev.nm	isu.edu/reportviewer/frameset?_fmaxDocId=9829CEBB-0488-4 🏫 ⊽ C 🛛 🔀 マ Google	۹ 🕂	⋒
😹 Latest Headlines 🚷 Goog	gle 🔅 SW INV DB 🧱 NMSU 🔅 A&F Depts 🧱 NETREG 🌄 AIM 🌌 AIM UBAN 🛃 AIM D)BAN	>>
Preventive Maintenan	ice Report		
🖻 🖄 🚔 🔛 🛃	3		

13. Close the Preventive Maintenance Report tab by clicking on the X

Work Order		14
	Print	
	10-WORK ORDER PRINT 180-WORK ORDER PHASE 260-PM PRINT WO	

14. Click on the **Done** icon

Attaching Related Documents

It is necessary to attach all contractor provided documents, invoices, or printouts of completed checkpoints as related documents. You may need to scan these documents in order to attach them.

1. Navigate to the work order or phase for which the related document needs to be attached.

AiM		I	Hello, SHALEY		Logout About Help
🖲 Work	Order		View: Select	- 🔊	
Work Order	14-082786	Created By	SHALEY	Status	OPEN
		Date Created	May 14, 2014 02:32 PM	Project	
Description	PM WORK ORDER FOR GAS SYSTEM SEC6 - GAS VA	LVES			
				Desired Date	
				Budget	\$0.00
Organization		Property	l	Classificatio	on
Organization	F00469	University	NMSU	Common Problem List	
	FS PLUMBING		NEW MEXICO STATE UNIVERSITY		
Requestor	FS PLUMBING	Campus	LAS CRUCES	Туре	MAINTENANCE
					MAINTENANCE

2. Select the **Edit** icon.

AM		H	iello, SHALEY		Logout About Help
🖲 Work	Order		View:	Select Select	- 🗟 🔕 🔄
Work Order	14-082786	Created By Date Created	SHALEY May 14, 2014 02:32 PM	Extra Description Reference Data Account Setup Cost Analysis	P
Description	PM WORK ORDER FOR GAS SYSTEM SEC6 - G	AS VALVES	3	Condition Assessment Informat Received Email Notes Log User Defined Fields Status History Related Documents	ion
Organization		Property		Classification	
Organization	F00469	University	NMSU	Common Problem List	
Requestor	FS PLUMBING		NEW MEXICO STATE UNIVERSI	TY Type MAINTEN	IANCE

3. Select **Related Documents** form the **View** menu.

-/AiM			Н	ello, SHALEY		Logout About	<u>Help</u>
🖲 Relate	d Documents					50) [
Work Order	14-082786		Created By	SHALEY			
			Date Created	May 14, 2014 02:32 PM			
Description	PM WORK ORDER FOR GAS SY	STEM SEC6 - GAS \	/ALVES				
						\sum	
Document List	ting				4	S 🛃 🖇	& 🔿
📒 Thumbnail Ti	tle	Current Version	Document Type	Extra Description		Related On	
	CAMPUS GAS 7-12-13.PDF	1.0	GENERAL			May 29, 2014	

4. Select the Add New Document 🛃 icon.

MAM	Helio, SHALEY	Logout Abc	<u>ut Help</u>
New Document		🗟 🄇	٥
Steps	Please select document to load:		
Upload File	Choose File No file chosen		
Add Meta Data			
<u>Add Attributes</u>			
Add Permissions			
	J		

5. Select Choose File.



- 6. Navigate to the file which is to be uploaded and select it.
- 7. Select Open.

AiM	Hello, SHALEY	Logout About Help
New Document		5 🔕 🗟
Steps	Please select document to load:	
Upload File		8
Add Meta Data		
Add Attributes		
Add Permissions		

8. Select the **Next** icon.

AiM	Hello, SHALEY	Logout Abou	<u>t Help</u>
New Document	9	5) 📀
Steps	Meta Data		
<u>Upload File</u>	Title GAS SYSTEM PM PROCESS FLOW PDF		
Add Meta Data	Type		
Add Attributes	Tags		
Add Permissions	Tags		
	File Name Gas System DM Process Flow off		

- 9. Enter **Title** if it needs to be different than the file name.
- 10. Select the Search \sum icon.

Document Type		٩	0	
Type Name #	Description			
BIRT REPORT	BIRT REPORTS			
CAD DRAWING	AUTOCAD DWG FILES			
CONVERTED CAD DRAWING	CONVERTED CAD DRAWING			
CUSTOMER INVOICE	CUSTOMER INVOICE			
EMAIL	EMAIL			
EMAIL TEMPLATE	EMAIL TEMPLATES			
GENERAL	UNCATEGORIZED			
<u>IMAGE</u> (11)	IMAGES			
OUTBOUND EMAIL	OUTBOUND EMAIL			
SCRIPT	SCRIPTS			

11. Select the **GENERAL** link.

-AM	Hello, SHALEY	Logout About Help
New Document		📃 🗟 🗟
Steps	Meta Data	
<u>Upload File</u>	Title GAS SYSTEM PM PROCESS FLOW.PDF	12
Add Meta Data	Type GENERAL	
Add Attributes	Tags	
Add Permissions	Tags	
	File Name Gas System PM Process Flow.pdf	

12. Select the **Next** icon.

AM	Hello, SHALEY	Logout About Help
🚯 New Document		🛯 🗟 🔕 🔎
Steps	Attributes	
	Label Value	
Upload File		
Add Meta Data		
Add Attributes		

13. Select the **Next** icon.

-/AiM	Hello, SHALEY	Logout About Help
🚺 New Document		500
Steps	Permissions	Add / P / Jove Role
<u>Upload File</u>	Role Description	Edit
Add Meta Data		
Add Attributes		

14. Select the **Next** icon.

Hello, SHALEY									
	Relat		🗟 🗟						
Work Order 14-082786			Created By	SHALEY)		Ĺ	
			Date Creat	ed May 14, 2014	4 02:32 PM		(16)	
Description PM WORK ORDER FOR GAS SYSTEM SEC6 - GAS VALVES									
						J			
Do	cument Li	sting 15					🚿 🐻 🖇	≿ ⊜	
	Thumbnail	Title	Current Version Docum	ient Type	Extra Description		Related On		
		GAS SYSTEM PM PROCESS FLOW.PDF	1.0 GENER	AL			Aug 12, 2014		

15. The file will now appear in the **Document Listing** pane.

16. Select the **Done** icon.

-/AiM				Hello, SHALEY			Logout About Help
۷ 🌉	Selection Work Order View: Selection View: Selection Selection View: Selection Selecti				ct		
Work Ord	ier	14-082786	Created By	SHALEY		Status	OPEN
			Date Created	May 14, 2014 02:32 PM		Project	
Descripti	on	PM WORK ORDER FOR GAS SYSTEM SEC6 - GAS	VALVES				
						Desired Date	3
		L				Budget	\$0.00
Organi	zation		Propert	У		Classificatio	n

17. Select the **Save** icon.

Reassigning PM Phases

If a shop other than the PM owner will be completing a PM *Phase*, then the *Phase* needs to be reassigned to that shop which will be completing the *Phase*. This is to ensure the assigned shop has access to the defined *PM Checkpoints*. The following scenarios outline process of reassigning PM work.

Scenario 1: The PM Phase has been started already by the PM owner then do the following (completing these steps ensures initial work history is not lost):

- 1. The shop supervisor will create a new phase and assign it to the shop/shop tech who will be completing the PM work.
- 2. The shop supervisor will also print the *PM Checkpoints* from the original PM Phase and deliver them to the shop/shop tech who will be completing the phase.
- 3. The shop tech will then perform the preventive maintenance and mark the checkpoints as completed on the paper copy they received.
- 4. The shop tech will return the paper copy with their signature and date to the PM owner who will then enter the *PM Checkpoints* in AiM and attach the paper copy as a related document.
- 5. The PM Owner will then close the Phase.

Scenario 2: The PM will be performed by another shop, and they will not be using an iPad:

- 1. The shop supervisor will reassign the original PM Phase to the shop/shop tech who will be completing the PM work.
- 2. The shop supervisor will also print the *PM Checkpoints* from the original PM Phase and deliver them to the shop/shop tech who will be completing the phase.
- 3. The shop tech will then perform the preventive maintenance and mark the checkpoints as completed on the paper copy they received.

- 4. The shop tech will return the paper copy with their signature and date to the PM owner who will then enter the *PM Checkpoints* in AiM and attach the paper copy as a related document.
- 5. The PM Owner will then close the Phase.

Scenario 3: The PM will be performed by a contractor:

- 1. The shop supervisor will reassign the original PM Phase to the shop/shop tech who will be working with the contractor completing the PM work.
- 2. The shop supervisor will also print the *PM Checkpoints* from the original PM Phase and deliver them to the shop/shop tech who will be working with the contractor. The shop tech will distribute the paper copy to the contractor.
- 3. The contractor will then perform the preventive maintenance and mark the checkpoints as completed on the paper copy they received.
- 4. The shop tech will return the paper copy with their signature and date to the PM owner who will then enter the *PM Checkpoints* in AiM and attach the paper copy along with any contractor documentation as related documents.
- 5. The PM Owner will then close the Phase.

Scenario 4: The PM will be performed by another shop, and they will be using an iPad:

- 1. The shop supervisor will reassign the original PM Phase to the shop/shop tech who will be completing the PM work.
- 2. The shop tech will then perform the preventive maintenance and mark the checkpoints as completed in AiM using an iPad.
- 3. The shop tech completing the work will let the PM owner know that the work has been completed.
- 4. The PM Owner will verify that the PM Checkpoints have been completed in AiM.
- 5. The PM Owner will then close the Phase.

The following process flow outlines the steps for the process:



1. Navigate to the *Phase* on the PM Work Order.

-AM		Hello, SHALEY				Logout A	bout	<u>Help</u>	
🖲 Phase		View: Select	•	ا 🗟	۵ 🏹 🐧	🛃 [۵	\$	
Phase	001	Created By Date Created	JGONZO54 Aug 27, 2015 02:46 PM		2 rder	<u>NEW</u> <u>16-008608</u>			
Description	PM PHASE FOR WATER WELL 16 DAILY PREVENTIVE MAINTENANCE				Budget Location or Room				\$0.00
Shop		Estimated Date	25		Classification				
Shop	UTILITIES	Estimated Start	Aug 31, 2015 12:00 AM		Funding Method	Work Order			
	F00455:UTILITIES	Estimated End			Work Code Group	UTILITIES			
Primary Person		Actual Start			Work Code	<u>D2020</u>			

2. Select the **Edit** \square icon

-/AiM		ŀ	iello, SHALEY		Logout About Help
🖲 Phase			View:	Select	- 🗟 🗟 🔽
Phase	001	Created By	JGONZO54	Status	NEW 2
		Date Created	Aug 27, 2015 02:46 PM	Work Order	<u>16-008608</u>
Description	PM PHASE FOR WATER WELL 16 DAILY PREVENT MAINTENANCE	TIVE		Budget	\$0.00
		10		Location or Room	 ?
Shop		stimated Date	s	Classification	
Shop		timated Start	Aug 31, 2015 12:00 AM 💐	Funding Method	Work Order 🔻
	F00455:UTILITIES	stimated End		Work Code Group	
Primary Person	A	ctual Start		Work Code	D2020
	A	ctual End			DOMESTIC WATER DISTRIBUTION:
Priority	3-ROUTINE	ercent Complete		Request Method	

3. Select the **Search** icon or enter the shop name directly into the **Shop** field if known.

hon I		· •
nob .	Description	
CCESS CONTROL	F00465: FS ACCESS CONTROL (FORMERLY LOCKS SHOP)	
USINESS OFFICE	4 VESS OFFICE/ACCOUNTING	
	- 100457:CENTRAL UTILITY PLANT	
USTODIAL	F00460:CUSTODIAL SHOP	
H&S	ENVIRONMENTAL HEALTH & SAFETY	
	F00461:ELECTRIC SHOP	
NERGY MGMT	500650:ENERGY MANAGEMENT SYSTEMS	
NGINEERING	F00462:ENGINEERING SHOP	
ACILITIES MAINTENANCE	F00456: FACILITIES MAINTENANCE	
RE PROTECTION SERVICES	F00425: FIRE PROTECTION SERVICES	

- 4. Select the desired **Shop**
 - a. Select the **next (()** to view next page for more shops).

AM			Logout About Help		
🖲 Phase			View:	Select	
Phase	001	Created By	JGONZO54	Status	NEW 2
		Date Created	Aug 27, 2015 02:46 PM	Work Order	<u>16-008608</u>
Description	PM PHASE FOR WATER WELL 16 DAILY PREVEN MAINTENANCE	NTIVE		Budget	\$0.00
		1		Location or Room	 ?
Shop		Estimated Date	es	Classification	
Shop	ELECTRIC	Estimated Start	Aug 31, 2015 12:00 AM 💐	Funding Method	Work Order 🔻
	F00461:ELECTRIC SHOP	Estimated End		Work Code Group	
Primary Person		Actual Start		Work Code	D2020
		Actual End		Request Method	
Priority	3-ROUTINE	Percent Complete			

5. Select save 🔄 icon.

If work has already begun on the phase by the PM Owner and another shop has to step in to do part of the work, then the PM Checkpoints will need to be printed so that the shop doing part of the work can mark the checkpoints complete on a paper copy (see **Print PM Work Order** section). Once the shop has completed any PM work assigned to them, they will need to return a signed paper copy of the completed checkpoints to the PM owner, so that the PM owner can enter the checkpoints in AiM and attach the paper copy to the PM *Work Order* as a *Related Document* (see **Attaching Related Documents** section).

Unable to Perform PM Status

If a PM *Phase* is deemed unable to be performed based on the **Business Rules** located at the beginning of this guide (also detailed below), then the *Status* for the PM *Phase* may be set to *Unable to Perform*.

Business Rules for the Unable to Perform Status:

If a PM Work Order is unable to be completed then it will be put in a status of **Unable to Perform**. A note will be added to the notes log of the work order as to why it was unable to be completed. DO NOT use the status of **Cancelled**. Note: The status of **Unable to Perform** will be defined as a **Preventive Maintenance** status only, and will be of type **Closed**. Conditions that allow **Unable to Perform** status to be used are:

- a. A new PM has already been generated and PM work is not completed.
- b. It is almost time for a new PM to be generated, and I can wait to do the work until the next PM work order is generated.

Note: This status should not be used without consulting with a supervisor in the case of regulatory requirements not being performed.

It is recommended that any preventive maintenance work orders which have regulatory requirements be performed before the next scheduled work order is generated for that preventive maintenance. If however, the preventive maintenance work order is intended to be completed as a best practice, then the status of *Unable to Perform* is recommended to be used if the work order will not be completed before the next work order is generated for the preventive maintenance.



Please refer to the following process flow when setting this status:

Gas Valves

Preventive Maintenance for gas valves is performed annually. The Preventive Maintenance work orders for gas valves will be generated on May 1st of every year. Gas valves are grouped together by sections into a single asset. For example, all of the gas valves located in section GAS SYSTEM SEC1 are stored as asset GASV-SEC1 in AiM and each valve is represented by a checkpoint measurement in the phase of the work order.

Completing Individual Valve Checkpoint Measurements

AM			Hello, SHANE			Logout About Help
🖲 Phase		View: Select	T	3	ò 🔍 🏹 🧯	🗟 📙 🎪 🖄 🤧
Phase	001	Created By Date Created	SHALEY Apr 28, 2014 04:13 PM		Status Work Order	<u>NEW</u> 14-067775
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VAL	LVES			Budget Location or Room	\$0.00
Shop		Estimated Date	s		Classification	
Shop	PLUMBING	Estimated Start	May 01, 2014 12:00 AM		Funding Method	Shop
	F00469:PLUMBING SHOP	Estimated End			Work Code Group	UTILITIES
Primary Person		Actual Start Actual End			- Work Code	D2091 GAS DISTRIBUTION: ALL NATURAL
Priority	3-ROUTINE	Percent Complete				
Equipment/As	set 1	Capital Project			Contractor	
Туре	Asset	Capital Project			Contract Type	
Asset	GASV-SEC1 GAS VALVES FOR PROPERTY GAS SYSTEM					
Asset Group	GASV	Component Group				
Failure Code						
Template	FS-PLMB-001	Component				
PM Standards	GASV-SEC1					
Shop Person						🛔 🗗 💐 🕫
Shop Person	Name		Prim	агу	Certified As	signed By Assigned Date

1. The phase on the work order for Gas Valves located in section GAS SYSTEM SEC1 has asset GASV-SEC1 assigned to it which represents all of the valves for section GAS SYSTEM SEC1.

The individual gas valves are tracked in the *PM Standard Checkpoint Measurements* for the phase:

-/AiM		Hello, SHANE			<u>Logout</u> About <u>Help</u>
🖲 Phase		View: Select	ڻ 🗟		🛃 🔀 🎪 🖄 🤧 🕨
Phase	001	C Extra Description Account Setup Shop Stock Shop Stock		Status Work Order	NEW 14-067775
Description	PM PHASE FOR GAS SYSTEM SEC	Condition Assessment Information Checkpoint Measurements Cost Analysis Dependencies Material Requests		Budget Location or Room	\$0.00
Shop		Estimates Estim Sent Email		Classification	
Shop	PLUMBING	Estima Survey History		Funding Method	Shop
	F00469:PLUMBING SHOP	Estima Status History Belated Documents		Work Code Group	UTILITIES
Primary Person		Actual Start		WORK CODE	GAS DISTRIBUTION: ALL NATURAL
		Actual End		Request Method	

2. Select "Checkpoint Measurements" from the "View" menu.

AM			H	iello, SHANE			<u>Logout</u>	About	He
🖲 Checl	kpoint Measure	ments						3	
Phase	001		Created By	SHALEY	Work Order	14-067775			
			Date Created	Apr 28, 2014 04:13 PM					
Description	PM PHASE FOR GAS	SYSTEM SEC1 - GAS VALVI	58		PM Standards	GASV-SEC1			
Checkpoint	Value	Description		Extra Description					_
GAS VALVE 01		POLY/NON-CRITICAL 1.REFER TO SYSTEM N LOCATION, SIZE & NUN 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	1AP FOR VALVE IBER -	4					
GAS VALVE 02		POLY/NON-CRITICAL 1.REFER TO SYSTEM N LOCATION, SIZE & NUN 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	1AP FOR VALVE 18ER /E						
GAS VALVE 03		POLY/NON-CRITICAL 1.REFER TO SYSTEM M LOCATION, SIZE & NUM 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALV	11AP FOR VALVE 11BER 1/E						
GAS VALVE 04		POLY/NON-CRITICAL 1.REFER TO SYSTEM M LOCATION, SIZE & NUM	1AP FOR VALVE 1BER						

- 3. The individual valves are shown here as *Checkpoints*.
- 4. The "Description" field specifies the type of valve (Poly or Steel), if it is critical, and a shortened version of the steps to perform PM on the valve.

The phase has to be put into edit mode in order to edit the PM Checkpoint Measurements:

AM			Hello, SHANE		\frown	Logout About	<u>Help</u>
Check	point Measureme	nts			5	3	•
Phase	001	Created By	SHALEY	Work Order	14-067775		^
		Date Created	Apr 28, 2014 04:13 PM				
Description	PM PHASE FOR GAS SYST	TEM SEC1 - GAS VALVES		PM Standards	GASV-SEC1		
Checkpoint	Value	Description	Extra Description				ā.
GAS VALVE 01		POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE					
GAS VALVE 02		POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX					

5. Select the **done** icon to navigate back to the phase.

-/AiM	Hello, SHANE					Lo	gout <u>About</u>	<u>Help</u>
🖲 Phase	View: Select) 🔍 🖉 🛽	🕹 🚺 🎪	چ 😫		
Phase	001	Created By	SHALEY		Status	NEW		
	Date Created Apr 28, 2014 04:13 PM 6				Work Order	<u>14-067775</u>		
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VALV	ΈS		\smile	Budget			\$0.00
					Location or Room			
Shop	Estimated Dates				Classification			
Shop	PLUMBING	Estimated Start	May 01, 2014 12:00 AM		Funding Method	Shop		

6. Select the **edit** $\overrightarrow{}$ icon.

-/AiM			Hello, SHANE		Logout About Help
🖲 Phase			View:	Select Select	- 🗟 🔕 🔄
Phase	001	Created By	SHALEY	Extra Description	2
		Date Created	Apr 28, 201 7	Shop Stock Budget Change Order	
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VA	ALVES		Condition Assessment Information Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates	\$0.00
Shop		Estimated Date	s	Unit Costs Survey History	
Shop		Estimated Start	(May 01, 2014 12:00 AM 💐	Notes Log User Defined Fields	•
	F00469:PLUMBING SHOP	Estimated End	()	Status History Related Documents	۶
Primary Person		Actual Start	(Work Code D2091	۶
		Actual End		GAS DISTRI	BUTION: ALL NATURAL

7. Select "Checkpoint Measurements" from the "View" menu.

	1	H	ello, SHANE			Logout	About	Hel
Phase Check	001	Created By	SHALEY	Work Order	14-067775		0	
		Date Created	Apr 28, 2014 04:13 PM					
Description	PM PHASE FOR GAS SYS	TEM SEC1 - GAS VALVES	1 - GAS VALVES PM Standards GASV-S					
Checkpoint	Value	Description	Extra Desc	cription				
GAS VALVE 01	9	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FO LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE						
GAS VALVE 02	_ P	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FO LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE						

- 8. Enter "Value" for Checkpoint Measurement.
- 9. If search *P* icon is present then select the search *P* icon to view valid options for the *"Value"* field.

Attribute Vali	dation	(1)	۱ 🔕
Code +	Description		
N	PM NOT COMPLETED FOR VALVE.		
Y	PM COMPLETED FOR VALVE.		

10. After selecting the search \mathfrak{P} icon, select a Code from the pop up window for the Value.

AiM		Hello, SHANE					
le Cheo	neckpoint Measurements					🗟 🔕 🎦	1 2
Phase	001	Created By	SHALEY	Work Order	14-067775		
		Date Created	Apr 28, 2014 04:13 PM				
Description	PM PHASE FOR GAS SYSTEM SEC1 - G	AS VALVES		PM Standards	GASV-SEC1		
Checkpoint	Value	Description	Extra Descript	tion			-
GAS VALVE 01	Y 2	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FO LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	OR VALVE				11
GAS VALVE 02	₽	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FO LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	OR VALVE				

- 11. Enter a Description if something needs to be noted about the valve.
- 12. Select the **done** icon to navigate back to the phase.

-/AiM			Hello, SHANE		Logout About Help	
🖲 Phase	1			View: Select	🗟 🗟 🔽	🦯 13)
Phase	001	Created By	SHALEY	Status	NEW 2	
		Date Created	Apr 28, 2014 04:13 PM	Work Order	<u>14-067775</u>	
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VA	LVES		Budget	\$0.00	
				Location or Room	₽₽	
		//)			J
Shop		Estimated Date	s	Classification		
Shop		Estimated Start	May 01, 2014 12:00 AM	Funding Method	Shop 🔻	
	F00469:PLUMBING SHOP	Estimated End		Work Code Group		
Primary Person		Actual Start		Work Code	D2091	

13. Select the **save** sicon to save the Checkpoint changes and exit edit mode.

List of Checkpoints from PM Standards

Since Valves are tracked as checkpoints, and there are over a hundred valves only a portion of the *Checkpoints* for gas valves in GAS SYSTEM SEC1 are shown below:

Checkpoint	Description	Measurement
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	Yes
GAS VALVE 07	STEEL/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE, PERFORM STEPS 4-6 IF NEEDED 4.GREASE VALVE 5.EXERCISE VALVE 6.REPEAT STEPS 4 & 5	Yes
GAS VALVE 08	STEEL/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE, PERFORM STEPS 4-6 IF NEEDED 4.GREASE VALVE 5.EXERCISE VALVE 6.REPEAT STEPS 4 & 6	Yes
GAS VALVE	STEEL/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE, PERFORM STEPS 4-6 IF NEEDED 4.GREASE VALVE 5.EXERCISE VALVE 6.REPEAT STEPS 4 & 7	Yes
GAS VALVE 10	STEEL/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE, PERFORM STEPS 4-6 IF NEEDED 4.GREASE VALVE 5.EXERCISE VALVE 6.REPEAT STEPS 4 & 8	Yes

The *Checkpoint Measurements* for gas valves are replacing the following form:

	e Maintenance	Record
		Record
Date:	Qualified Technician(s):	
/alve Number;	Valve Location:	
/alve Purpose:		
Maintenance Performed:		
Maintenance Date	Next Maintenance Date	Remarks

Gas Regulator Stations

Preventive Maintenance for gas regulator stations is performed annually. The Preventive Maintenance work orders for gas regulator stations will be generated on May 1st of every year. Gas Regulator Stations have *Checkpoints* which detail how to complete the preventive maintenance as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance.

Viewing/Completing PM Standards Checkpoints

- 1. Navigate to the Work Order for the Gas Regulator Station.
- 2. Select the *Phase* from the *Work Order*.

Γ	AM		Hello, SHAN	Æ	3	Logout	<u>About Help</u>
	🖲 Phase	View: Select		エ 🕹 👌	V 🖉 🗟	🔋 🎪 😫) 🥌 🎦
	Phase	001	Created By	SHALEY	Status	NEW	
			Date Created	May 21, 2014 10:30 AM	Work Order	<u>14-081703</u>	
				10.00 Pill	Budget		\$0.00
	Description	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGULA	TOR STATION 3	- GEORGE HUFF	Location or Room		

3. Select the **edit** $\frac{1}{2}$ icon.

AM	Hello, SHANE			<u>Logout</u>	<u>About</u>	<u>Help</u>
🖲 Phase		View:	Select Select	-	0	
Phase	001 Created By Date Created Tr	1 2014 1:30 - 4	Edita Description Account Setup Shop Stock Budget Change Order Condition Assessment Information	<u>3</u>	;	
Description	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGULATOR STATION 3 - GEORGE HUFF		Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates	<i>w</i>]₽	

4. Select "Checkpoint Measurements" from the View menu.
| MA | | Hello, SHANE | | Logout | <u>About</u> | <u>Help</u> |
|-------------|----------------------|---|-------------------|--------|--------------|-------------|
| 📙 Che | eckpoint Measurement | S | | | 0 | |
| | | | | | | |
| Checkpoint | Value | Description | Extra Description | | | |
| 00-NOTE 1 🥌 | 5 | REGULATOR STATION INSPECTION
MAY REQUIRE DISASSEMBLY OF
REGULATORS OR RELIEF VALVES, IF
SET-POINT OR LOCKUP TESTING
INDICATES A PROBLEM. SPARE
PARTS SHOULD BE KEPT FOR ALL
COMMON REPAIRS. | | | | |
| 00-NOTE 2 | | BEFORE STATION INSPECTION
BEOINS, SERVICE MUST BE
CONTINUALLY MAINTAINED WHILE
THE REGULATOR IS OUT OF SERVICE. | | | | |
| 00-NOTE 3 | | IF THE STATION HAS A SINGLE
REGULATOR RUN, PERSONNEL AND
EQUIPMENT MUST BE READY TO
MANUALLY BYPASS AND MAINTAIN
SYSTEM PRESURE DURING TESTING
AND REPAIR. | | | | |
| 01 | 6 | RECORD INSPECTION: REVIEW THE
STATION PRESSURE RECORDS SINCE
THE LAST INSPECTION. LOOK FOR
ANY IRREGULARITIES THAT MIGHT
INDICATE A POTENTIAL EQUIPMENT
PROBLEM. | | | | |
| 02 | | PRESSURE CHECK: USE PRESSURE | | | | |

- 5. Notes need to be read and followed before starting other Checkpoints.
- 6. Numbered **Checkpoints** provide the steps in the **Description** for completing the preventive maintenance for the regulator station.

AM		Hello, SHANE	<u>Logout</u>	<u>About</u>	<u>Help</u>
📙 Che	ckpoint Measurements			0	1
M07		7 TION - MONITORING ATOR OR RELIEF SETTING (PSI)			
M08	8	REG STATION - WAS THE REGULATOR STROKED (TO FULLY OPEN)? (Y/N)			

- 7. Enter value for **Checkpoint Measurement**.
- 8. If search \mathfrak{P} icon is present, the icon may be selected to view available values, or the value can be entered directly into text box if options are already known.

Attribute Validation		٩	0	
Code +	Description			
N 9	NO IT WAS NOT STROKED TO FULLY OPEN.			
Y	YES IT WAS STROKED TO FULLY OPEN.			

9. Select desired Code for the Checkpoint Measurement Value.

AM		Hello, SHANE	Logout	<u>About</u>	<u>Help</u>	
📙 Ch	eckpoint Measurements			0	R	
M07	(45	REG STATION - MONITORING REGULATOR OR RELIEF SETTING (PSI)				10
M08	Y	REG STATION - WAS THE REGULATOR STROKED (TO FULLY OPEN)? (Y/N)				

10. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

	AM		Hello, SHAN	E		<u>Logout</u>	About Help	
	📕 Phase			View: Select		•	0 🔕 🔄	
F	Phase	001	Created By	SHALEY	Status	NEW) &)	~ 11
			Date Created	May 21, 2014 10:30 AM	Work Order	<u>14-081703</u>	_	
					Budget	\$0.00		
נ	Description	PM PHASE FOR GAS SYSTEM SEC5 - GAS REGULA 3 - GEORGE HUFF	TOR STATION	Î	Location or Room) P	
L				-				

11. Select the **save** sicon.

List of Checkpoints from PM Standards

The full list of *Checkpoints* for gas regulator stations is below (anything with a **Measurement** set to "No" is for reference only, anything with a **Measurement** set to "Yes" requires a value to be recorded for that *Checkpoint*):

Checkpoint	Description	Measurement
<u>00-NOTE 1</u>	REGULATOR STATION INSPECTION MAY REQUIRE DISASSEMBLY OF REGULATORS OR RELIEF VALVES, IF SET-POINT OR LOCKUP TESTING INDICATES A PROBLEM. SPARE PARTS SHOULD BE KEPT FOR ALL COMMON REPAIRS.	No
<u>00-NOTE 2</u>	BEFORE STATION INSPECTION BEGINS, SERVICE MUST BE CONTINUALLY MAINTAINED WHILE THE REGULATOR IS OUT OF SERVICE.	No
<u>00-NOTE 3</u>	IF THE STATION HAS A SINGLE REGULATOR RUN, PERSONNEL AND EQUIPMENT MUST BE READY TO MANUALLY BYPASS AND MAINTAIN SYSTEM PRESURE DURING TESTING AND REPAIR.	No
1	RECORD INSPECTION: REVIEW THE STATION PRESSURE RECORDS SINCE THE LAST INSPECTION. LOOK FOR ANY IRREGULARITIES THAT MIGHT INDICATE A POTENTIAL EQUIPMENT PROBLEM.	No
2	PRESSURE CHECK: USE PRESSURE GAUGES FOR CHECKING & SETTING STATION PRESSURES. THE GAUGES SHOULD BE SIZED SO THAT THE MAXIMUM SCALE IS NO GREATER THAN TWICE THE PRESSURE BEING TESTED.	No
<u>03A</u>	LOCK-UP TEST: THIS TEST IS USED TO DETERMINE A REGULATORS ABILITY TO PROVIDE A 100% SHUT-OFF TO PREVENT STATION OUTLET PRESSURE FROM INCREASING ABOVE REGULATOR SET POINT. WITH THE REGULATOR IN THE CLOSED POSITION, CLOSE THE DOWNSTREAM ISOLATION VALVE.	No
<u>03B</u>	OBSERVE IF A PRESSURE BUILD UP OCCURS. IF THE PRESSURE REMAINS CONSTANT, THE TEST INDICATES THE REGULATOR IS OPERATING PROPERLY.	No
<u>03C</u>	IF THE PRESSURE BEGINS TO BUILD UP, IT MEANS THERE ARE PROBLEMS AND THE REGULATOR MUST BE DISASSEMBLED, REPAIRED, REASSEMBLED, AND THE LOCK- UP TEST PERFORMED AGAIN TO ASSURE THE MALFUNCTION HAS BEEN ELIMINATED.	No
<u>04A</u>	REGULATOR OPERATION TEST: OPERATE THE REGULATOR SO THAT THE INNER VALVE IS STROKED FROM CLOSED TO THE FULL OPEN POSITION. PAY ATTENTION TO REGULATORS WHERE THE VALVE TRAVEL CAN BE CHANGED BY ADJUSTMENT.	No
<u>04B</u>	DETERMINE BY ACCURATE MEASUREMENT IF THE VALVE TRAVEL IS CORRECT FOR THE EXISTING STATION DESIGN AND FOR THE ASSOCIATED OVERPRESSURE PROTECTION EQUIPMENT.	No
<u>05A</u>	RELIEF VALVE INSPECTION: CHECK PRESSURE RECORDS SINCE THE LAST INSPECTION FOR ANY INDICATION OF EQUIPMENT PROBLEMS. OPERATE THE RELIEF IN A MANNER THAT WILL STROKE THE MAIN VALVE & ALSO THE PILOT.	No
<u>05B</u>	MAKE SURE THE RELIEF SET POINT IS CORRECT & THAT IT WILL PREVENT SYSTEM PRESSURE FROM EXCEEDING MAOP PLUS ALLOWED BUILD-UP.	No
<u>06A</u>	RETURNING SYSTEM TO NORMAL OPERATION: BEGINNING WITH THE REGULATOR INLET & OUTLET VALVES ARE IN THE CLOSED POSITION & NO PRESSURE IN THE PIPING. OPEN REGULATOR CONTROL LINE VALVES.	No
<u>06B</u>	SLOWLY OPEN THE REGULATOR INLET VALVE & MONITOR THE PRESSURE GAUGE TO CHECK FOR LOCK-UP. WHEN THE PRESSURE IS STABILIZED AT NORMAL LOCK-UP PRESSURE, SLOWLY OPEN THE DOWN-STREAM REGULATOR OUTLET VALVE.	No
<u>06C</u>	ADJUST REGULATOR SET PRESSURE TO DESIRED LEVEL. RECORD REGULATOR SET PRESSURE & MAINTENANCE DATE	No
<u>07A</u>	OTHER INSPECTION REQUIREMENTS: DURING THE INSPECTION, CHECK TO MAKE SURE: THE STATION IS PROTECTED ADEQUATELY FROM UNAUTHORIZED ENTRY, TAMPERING OR DAMAGED FROM HAZARDS.	No

07B	ALL CRITICAL VALVES ARE OPERATED AND (IF NEEDED) LUBRICATED. ALL REQUIRED WARNING SIGNS ARE IN PLACE. ALL ABOVE- GROUND PIPING IS ADEQUATELY PROTECTED FROM ATMOSPHERIC CORROSION.	No
<u>07C</u>	ALL VENTS ARE PROTECTED AND OR CLEAR FROM MOISTURE/ DEBRIS AND WILL PROVIDE UNRESTRICTED VENTING TO A SAFE AREA.	No
<u>M01</u>	REG STATION - PRESSURE RATING: INLET OPERATING PRESSURE (PSI)	Yes
<u>M02</u>	REG STATION - PREASSURE RATING: OUTLET OPERATING PRESSURE (PSI)	Yes
<u>M03</u>	REG STATION - M.A.O.P. OF SYSTEM TO WHICH IT IS CONNECTED (PSI)	Yes
<u>M04</u>	REG STATION - OPERATING PRESSURE: INLET OPERATING PRESSURE (PSI)	Yes
<u>M05</u>	REG STATION - OPERATING PRESSURE: OUTLET OPERATING PRESSURE	Yes
<u>M06</u>	REG STATION - LOCK UP PRESSURE (PSI)	Yes
M07	REG STATION - MONITORING REGULATOR OR RELIEF SETTING (PSI)	Yes
M08	REG STATION - WAS THE REGULATOR STROKED (TO FULLY OPEN)? (Y/N)	Yes
<u>M09</u>	REG STATION - ATMOSPHERIC CORROSION (Y/N)	Yes
M10	REG STATION - SUPPORTED PIPING RIGID (Y/N)	Yes
<u>M11</u>	REG STATION - STATION GUARDS (Y/N)	Yes
M12	REG STATION - AREA CLEAN OF WEEDS & GRASS (Y/N)	Yes
M13	REG STATION - CAPACITY AT INLET PRESSURE (PSI)	Yes
M14	REG STATION - CAPACITY AT OUTLET PRESSURE (PSI)	Yes
<u>M15</u>	REG STATION - CORRECTIONS MADE	Yes
<u>M16</u>	REG STATION - REMARKS	Yes
<u>M17</u>	REL VALVE - TYPE OF LOADINGS - SPRING (PSI)	Yes
<u>M18</u>	REL VALVE - TYPE OF LOADINGS - PILOT (PSI)	Yes
M19	REL VALVE - TYPE OF LOADINGS - OTHER (PSI)	Yes
<u>M20</u>	REL VALVE - TYPE OF LOADINGS - RANGE (PSI)	Yes
<u>M21</u>	REL VALVE - PRESSURE SETTING (PSI)	Yes
<u>M22</u>	REL VALVE - CONNECTION PIPE SIZE (INCHES)	Yes
<u>M23</u>	REL VALVE - VENT STACK SIZE (INCHES)	Yes
<u>M24</u>	REL VALVE - CAPACITY (PSI)	Yes
<u>M25</u>	REL VALVE - CONNECTION OF RELIEF VALVE	Yes
<u>M26</u>	REL VALVE - CONNECTION OF RECORDING GAUGE	Yes
<u>M27</u>	REL VALVE - CONNECTION OF SUPPORTING PIPING	Yes
<u>M28</u>	REL VALVE - CONNECTION OF STATION GUARD	Yes
<u>M29</u>	REL VALVE - CONNECTION OF GENERAL AREA	Yes
<u>M30</u>	REL VALVE - REPAIRS REQUIRED	Yes
<u>M31</u>	REL VALVE - REPAIRS MADE	Yes
<u>M32</u>	REL VALVE - REMARKS	Yes

Measurements M01 – M32 were created to take the place of the following two page form:

	Regulator Inspection	on Report		
Location Stored in Asset Management	Profile	Date	Stored in AiM when PM Work C	Order Complete
Name of Station <u>Stored in Asset Man</u>	agement Profile	Orifice Size Attr: R	EG STATION ORIFICE SIZE	
Make Attr: REG STATION MAKE	Type Attr: REG STATIO	N TYPE Size Attr:	REG STATION SIZE	
Pressure Rating: Inlet M01		Outlet M02		
				1.0010
M.A.O.P. of System to Which it is C	onnected M03			
Operating Pressure: Inlet M04		Outlet M05		
Lock up Pressure M06				
Monitoring Regulator or Relief Set	ting M07			
Was the Regulator Stroked (to fully	open)?	Yes MO8	No MD8	
General Condition of Station				
Atmospheric Corrosion:	Yes MOR	No MO9		
Supported Pining Rigid	Ves M10	No MID		
Station Guards:	Vec M11	No M11		
Area Clean of Woods and Cross-	Vec min			
Area clean of weeds and Grass:	res M12	NO _M12		
Capacity at Inlet and Outlet Pressu	re M13/M14			
Corrections Made <u>M15</u>				
D				

DELIEE MANYE IN	
Owner Always NMSU (no need to notate in AiM)	SPECTION REPORT
Location, Steered in Accest Management ResEls	Date <u>Stored in AiM when PM Work</u> Order Con
Stored in Asset Management Prome	Name of Station Stored in Asset Management Profile
Make Attr: REL VALVE MAKE	
Type _Attr: REL VALVE TYPE	
Size _Attr: REL VALVE SIZE	Orifice Size Attr: REL VALVE ORIFICE SIZE
Type of Loadings	
Spring M17 Pilot M18	B Other M19
Range M20	
Pressure Setting M21	
Connection Pipe Size M22	
Vent Stack Size M23	
Capacity M24	
Connection of:	
Relief Valve5	
Recording Gauge M28	
Supporting Piping M27	
Station Guard M28	
General Area <u>M2</u> 9	
Repairs Required M30	
Repairs Made	
Remarks M32	

Gas Meter Stations

Preventive Maintenance for gas meter stations is performed monthly. The Preventive Maintenance work orders for gas meter stations will be generated on the 1st of every month. Gas Meter Stations have *Checkpoints* which detail how to complete the preventive maintenance.

Viewing PM Standards Checkpoints

- 1. Navigate to the Work Order for the Gas Regulator Station.
- 2. Select the *Phase* from the *Work Order*.

-AM		I	Hello, SH	ANE							Loc	<u>iout</u>	<u>About</u>	Help
🖲 Phase	View:	Select		۲	2	٢	1		3	6		Ì	\$	P
Phase	001	Create Date C	d By reated	SHALEY May 27, 20	14 03:2	5 PM	Status Work O	rder		<u>NEW</u> <u>14-081</u>	<u>716</u>			
Description	PM PHASE FOR GAS SYSTEM SEC1 - G	BAS METER STATION	1				Budget Locatio	n or Ro	om				\$	0.00
Shop		Estimated Date	es				Class	ificati	on					
Shop	PLUMBING	Estimated Start	May 01,	, 2014 12:00	AM		Fundin	g Metho	bd	Shop				
	F00469:PLUMBING SHOP	Estimated End					Work C	ode Gr	oup	UTILITII	S			
Primary Person		Actual Start					Work C	ode		<u>D2091</u>				
		Actual End					Reque	st Meth	od	GAS DI	STRIBU	TION:	ALL	
Priority	3-ROUTINE	Percent Complete												J
Equipment/As	set	Capital Project					Contr	ractor						Ē
Туре	Asset	Capital Project					Contra	ct Type						
Asset	GASMS-1													
	GAS METER STATION FOR GAS	Component Group												
Asset Group	GASMS	Component croup												
Failure Code														
Template PM Standards	FS-PLMB-007 GASMS	Component												

3. Select the link for the **PM Standards**.

AM		Hello, S	HANE		Logout	About Help
🤏 РМ :	Standards	View	Select	• 🗟 🔍 🥪		م الا
PM Standards	GASMS	Editor Edit Date	SHALEY May 21, 2014 09:05 AM	Active Reference	Yes	
Description	GAS METER STATIONS. SEE CHECKPOINTS.			Frequency		
Estimate						
Labor Hours	0.00					
Labor	\$0.00					
Material	\$0.00					
Equipment	\$0.00					
Contract	\$0.00					
Total	\$0.00					
Checkpoin	ts					
Checkpoint D	escription			Estimated Labor Hou	s Measurement	Active
<u>01</u> IS	METER PROTECTED AND LOCATED SAFELY?			0.	00 No	Yes
<u>02</u> c	HECK METER FOR DAMAGE			0.	00 No	Yes
					00 N-	24

4. The **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the gas meter station.

List of Checkpoints from PM Standards

The full list of *Checkpoints* for gas meter stations is below (there are no *Checkpoints* which require values be entered into AiM, and as such all of the **Measurements** are set to "No" for the *Checkpoints* indicating the *Checkpoints* are for reference only):

Checkpoint	Description	Measurement
1	IS METER PROTECTED AND LOCATED SAFELY?	No
2	CHECK METER FOR DAMAGE	No
3	CHECK VALVES FOR ACCESSIBILITY	No
<u>4</u>	MAKE SURE METER IS LEVEL AND SQUARE WITH ATTACHED PIPING	No
<u>5</u>	MAKE SURE PIPING IS NOT BENT OR STRESSED	No
<u>6</u>	CHECK FOR SIGNS OF STRESS WHERE THERE IS UNDERGROUND PLASTIC PIPING	No
<u>Z</u>	CHECK VENTS, ARE SCREENS IN PLACE?	No
<u>8</u>	CHECK FOR RUSTING OR PITTING	No
<u>9</u>	CHECK PAINT OR OTHER COATING	No
<u>10</u>	DOCUMENT AND REPORT UNSAFE CONDITIONS.	No

Gas Piping: Atmospheric Corrosion

Preventive Maintenance for gas piping involving atmospheric corrosion is performed every 3 years. The Preventive Maintenance work orders for atmospheric corrosion will be generated on the 1st of August. The preventive maintenance for atmospheric corrosion will be completed on two sections of gas piping per year. Gas piping has *Checkpoints* for the atmospheric corrosion preventive maintenance which details how to complete the preventive maintenance.





Viewing PM Standards Checkpoints

- 1. Navigate to the Work Order for the Gas Regulator Station.
- 2. Select the *Phase* from the *Work Order*.

AM		H	ello, SHANE					Logout <u>Ab</u>	out <u>Help</u>
🖲 Phase	View:	Select	- 🗟 (ò	1	1 🛃	8	ډ 🖄 ا	🔹 🎦
Phase Description	001 PM PHASE FOR GAS SYSTEM SEC1 - ATI	Created Date Cre MOSPHERIC CORRO	By SHALEY ated May 27, 2014 03:25 Ph SION	м	Status Work O Budget	rder	<u>NEW</u> <u>14-08171</u>	4	\$0.00
					Locatio	n or Room			
Shop		Estimated Date	S		Class	ification			
Shop	PLUMBING	Estimated Start	Aug 01, 2014 12:00 AM		Funding	g Method	Shop		
	F00469:PLUMBING SHOP	Estimated End			Work C	ode Group	UTILITIES		
Primary Person		Actual Start			Work C	ode	<u>D2091</u>		
Priority		Actual End			Reques	st Method	GAS DIST	RIBUTION: /	ALL
Filonty	J-NOUTINE	Percent Complete							
Equipment/As	set	Capital Project			Contr	actor			
Туре	Asset	Capital Project			Contrac	t Type			
Asset	GASP-1								
	GAS PIPING FOR PROPERTY GAS	Component Crown							
Asset Group	GASP	Component Group							
Failure Code									
Template	FS-PLMB-024 3	Component							
PM Standards	GASP			J					J

3. Select the link for the **PM Standards**.

AM		Hello, SHANE		Logout	About
🔏 РМ S	andards	View: Select 🔹	🗟 🔍 🥪		1 🖄
Labor Material Equipment Contract Total	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00				
Checkpoints					
Checkpoint	Description		Estimated Labor Hours	Measurement	Active
00-TUNNEL-00	PRIOR TO ENTERING TUNNEL ALL PERSONN	EL SHALL COMPLETE TUNNEL CHECKPOINTS 1-10	0.00	No	Yes
00-TUNNEL-01	NOTIFY IMMEDIATE SUPERVISOR OR LEAD B	EFORE ENTERING TUNNEL	0.00	No	Yes
00-TUNNEL-02	CHECK OUT TUNNEL KEY @ CENTRAL UTILI	Y PLANT (CUP)	0.00	No	Yes
00-TUNNEL-03	NOTIFY CUP PERSONNEL OF TUNNEL AREA	TO BE ACCESSED	0.00	No	Yes
00-TUNNEL-04	TWO PERSONS AT ALL TIMES. NO EXCEPTIO	NS	0.00	No	Yes
00-TUNNEL-05	REQUIRED PPE - HARD HAT, SAFETY VEST, EAR PROTECTION & TYVEK SUIT	STEEL-TOED SHOES , LEATHER GLOVES, EYE PROTECTION,	0.00	No	Yes
00-TUNNEL-06	SUPPLIES REQUIRED - FLASHLIGHT, TWO-W	AY RADIO AND/OR CELL PHONE	0.00	No	Yes
00-TUNNEL-07	PERFORM TASK		0.00	No	Yes
00-TUNNEL-08	EXIT TUNNEL		0.00	No	Yes
00-TUNNEL-09	RETURN KEY TO CUP AND SIGN OUT		0.00	No	Yes
00-TUNNEL-10	NOTIFY IMMEDIATE SUPERVISOR OR LEAD		0.00	No	Yes
<u>01</u>	DURING INSPECTIONS ATTENTION MUST BE INTERFACES, UNDER THERMAL INSULATION	SIVEN PARTICULARLY TO PIPE AT SOIL-TO-AIR UNDER DISBONDED COATINGS AND AT PIPE SUPPORTS.	0.00	No	Yes
<u>02</u>	IF ATMOSPHERIC CORROSION IS FOUND, TH	CONDITION WILL BE CORRECTED BY COMPLETING	0.00	No	Yes

- 4. Any **Checkpoints** containing "**TUNNEL**" in the name must be followed when performing preventive maintenance in the tunnels.
- 5. The numbered **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the gas meter station.

Corrective Maintenance

In addition to the steps in the **Completing Corrective Maintenance** section, corrective maintenance for **atmospheric corrosion** requires the completion of the following form which must be attached to the **related documents** of the work order (please see the **Attaching Related Documents** section for attaching related documents):

Atmospheric Corrosion & Continuing Surveillance.docx

	ATMOSPHE	RIC CORROSION	-
- .			
Date:	,20		
Location:			
Name of Technicia	ın(s):		
Designation of Lin	e: Transmission:	Distribution:	Service:
Line Size:			
Area of Corrosion:	Pipe: <u>Meter</u> Set:	Fitting: Re	gulator: Riser:
	Vent:Other:		
Corrective Measur	es Taken: Painted:	Coated:	Other:
Type of Paint or Co	pating Used:		
	CONTINUING	S SURVEILLANCE	
Reported By:	CONTINUING	5 SURVEILLANCE	
Reported By:	CONTINUING	5 SURVEILLANCE	
Reported By: Location: Nature of Conditic		5 SURVEILLANCE	
Reported By: Location: Nature of Conditic Repairs Made:	CONTINUING	5 SURVEILLANCE	
Reported By: Location: Nature of Conditio Repairs Made:	CONTINUING	5 SURVEILLANCE	
Reported By: Location: Nature of Conditio Repairs Made: Repairs Completed	CONTINUING	5 SURVEILLANCE	
Reported By: Location: Nature of Conditio Repairs Made: Repairs Completed	CONTINUING	5 SURVEILLANCE	
Reported By: Location: Nature of Conditio Repairs Made: Repairs Completed Signature of Plum	CONTINUINO	5 SURVEILLANCE	
Reported By: Location: Nature of Conditio Repairs Made: Repairs Completed Signature of Plum	CONTINUING	SURVEILLANCE	

List of Checkpoints from PM Standards

The full list of *Checkpoints* for atmospheric corrosion for gas piping is below (there are no *Checkpoints* which require values be entered into AiM, and as such all of the **Measurements** are set to "No" for the *Checkpoints* indicating the *Checkpoints* are for reference only):

Checkpoint	Description	Measurement
00-TUNNEL-	PRIOR TO ENTERING TUNNEL ALL PERSONNEL SHALL COMPLETE TUNNEL CHECKPOINTS 1-10	No
00-TUNNEL-	NOTIFY IMMEDIATE SUPERVISOR OR LEAD BEFORE ENTERING TUNNEL	No
<u>01</u>		
00-TUNNEL-	CHECK OUT TUNNEL KEY @ CENTRAL UTILITY PLANT (CUP)	No
<u>02</u>		
00-TUNNEL-	NOTIFY CUP PERSONNEL OF TUNNEL AREA TO BE ACCESSED	No
<u>03</u>		No
00-TUNNEL-	TWO PERSONS AT ALL TIMES. NO EXCEPTIONS	NO
	REQUIRED PRE - HARD HAT SAFETY VEST STEEL TOED SHOES LEATHER GLOVES EVE	No
00-TUNNEL- 05	PROTECTION, EAR PROTECTION & TYVEK SUIT	140
00-TUNNEL-	SUPPLIES REQUIRED – FLASHLIGHT, TWO-WAY RADIO AND/OR CELL PHONE	No
<u>06</u>		
00-TUNNEL-	PERFORM TASK	No
<u>07</u>		
00-TUNNEL-		No
<u>08</u>		NL-
00-TUNNEL-	RETURN KEY TO CUP AND SIGN OUT	NO
	NOTIEY IMMEDIATE SUPERVISOR OR LEAD	No
10		
1	DURING INSPECTIONS ATTENTION MUST BE GIVEN PARTICULARLY TO PIPE AT SOIL-TO- AIR INTERFACES, UNDER THERMAL INSULATION, UNDER DISBONDED COATINGS AND AT PIPE SUPPORTS.	No
2	IF ATMOSPHERIC CORROSION IS FOUND, THE CONDITION WILL BE CORRECTED BY COMPLETING CHECKPOINTS 3, 4, AND 5:	No
<u>3</u>	USING WIRE BRUSH TO CLEAN PIPE	No
<u>4</u>	PAINT AREA WITH EXTERIOR PAINT (KRYLON)	No
<u>5</u>	RECORD ALL FINDINGS AND CORRECTIVE MEASURES TAKEN	No

Gas Piping: Cathodic Protection

Preventive Maintenance for gas piping involving cathodic protection is performed annually. The Preventive Maintenance work orders for atmospheric corrosion will be generated on the 1st of November, December, January, February, and March (each section will be done on a different month). Gas piping has *Checkpoints* for the atmospheric corrosion preventive maintenance which details how to complete the preventive maintenance.

Gas piping has *Checkpoints* for cathodic protection which detail how to complete the preventive maintenance as well as *Checkpoint Measurements* to record pipe to soil readings for steel risers when completing preventive maintenance.

Viewing/Completing PM Standards Checkpoints

- 1. Navigate to the Work Order for the Gas Regulator Station.
- 2. Select the *Phase* from the *Work Order*.

AM		Hello, S	HANE	3) <u>Logout About</u>	<u>Help</u>
🖲 Phase	View: Select		• 🗟 💩	1	📙 🎪 諭 🤧	
Phase	001	Created By	SHALEY	Status	NEW	
		Date Created	Jun 02, 2014 03:59 PM	Work Order	<u>14-081821</u>	
Description	PM PHASE FOR GAS SYSTEM SEC1 - CATHODIC PF	ROTECTION		Budget		\$0.00
				Location or Room		

AM	Hello, SHANE	<u>Logout About Help</u>
🖲 Phase	View: Select	- 🗟 🚳 🔄
Phase	001 Created By Date Created By Date Created By Date Created By Date Created State Description Account Setup Shop Stock Budget Change Order	P
Description	PM PHASE FOR GAS SYSTEM SEC1 - CATHODIC PROTECTION Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates	\$0.00

4. Select "Checkpoint Measurements" from the View menu.

AM		Hello, Sl	HANE			L	ogout <u>About</u>	<u>Help</u>
Check	point Measurements						🗟 🗟	N
Phase	001	Created By SHALEY			Work Order	14-081821		
		Date Created	Jun 02, 20	14 03:59 PM				- 11
Description	PM PHASE FOR GAS SYSTEM SEC1 -	CATHODIC PROTECTION			PM Standards	GASCP-SEC1		
Checkpoint V	alue	Description		Extra Descript	ion			
00-TUNNEL-00	5	PRIOR TO ENTERING TUNNEL AL PERSONNEL SHALL COMPLETE CHECKPOINTS 1-10	L TUNNEL					
00-TUNNEL-01		NOTIFY IMMEDIATE SUPERVISOR BEFORE ENTERING TUNNEL	R OR LEAD					
00-TUNNEL-02		CHECK OUT TUNNEL KEY @ CEN UTILITY PLANT (CUP)	NTRAL					
00-TUNNEL-03		NOTIFY CUP PERSONNEL OF TU TO BE ACCESSED	NNEL AREA					
00-TUNNEL-04		TWO PERSONS AT ALL TIMES. N EXCEPTIONS	10					
00-TUNNEL-05		REQUIRED PPE HARD HAT, SA VEST, STEEL-TOED SHOES , LE, GLOVES, EYE PROTECTION, EAI PROTECTION & TYVEK SUIT	FETY ATHER R					
00-TUNNEL-06		SUPPLIES REQUIRED FLASHLIG WAY RADIO AND/OR CELL PHO	∋HT, TVVO- NE					
00-TUNNEL-07		PERFORM TASK						
00-TUNNEL-08		EXIT TUNNEL						
00-TUNNEL-09		RETURN KEY TO CUP AND SIGN	OUT					
00-TUNNEL-10		NOTIFY IMMEDIATE SUPERVISOR	R OR LEAD					
01	6	CONNECT TEST LEAD TO PIPE						
02		MAKE SURE HALF-CELL IS IN DIF	RECT					

- 5. Any **Checkpoints** containing "**TUNNEL**" in the name must be followed when performing preventive maintenance in the tunnels.
- 6. The numbered **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the cathodic protection.

AiM		Hello, SHANE	Logout	<u>About</u>	<u>Help</u>	
Chee	ckpoint Measurements		2	0		
02		MAKE SURE HALF-CELL IS IN DIRECT CONTACT WITH SOIL				8
03		MAKE SURE IS SUFFICIENTLY MOIST				
04		PUSH BOTH BUTTONS LOCATED BELOW DIGITAL METER				
05		READ METER				
06		RECORD READING ON FORM				
07		IF READING IS BELOW85 CRITERIA, REPORT TO SUPERVISOR				
R-214-1200-1		TOM FORT VILLAGE - HOUSE 1200 - PIPE TO SOIL READING (VOLTS)]	
R-214-1202-1		TOM FORT VILLAGE - HOUSE 1202 - PIPE TO SOIL READING (VOLTS)			<u>]</u>	

- 7. Enter the pipe to soil reading for each riser.
- 8. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

AiM	Hello, SHANE				<u>Logout</u>	About Hel	<u>a</u>
🖲 Phase			View: Sele	ect	•	0 🔕 🗄	
Phase	001	Created By	SHALEY	Status	NEW	78	
		Date Created	Jun 02, 2014 03:59 PM	Work Order	<u>14-081821</u>	_	9
Description	PM PHASE FOR GAS SYSTEM SEC1 - CATHODIC PI	ROTECTION		Budget	\$0.00		
				Location or Room		۶	
	L	1.					Л

9. Select the save 🔄 icon.

List of Checkpoints from PM Standards

The list of *Checkpoints* for cathodic protection for gas piping in GAS SYSTEM SEC1 is below (anything with a **Measurement** set to "No" is for reference only, anything with a **Measurement** set to "Yes" requires a value to be recorded for that *Checkpoint*):

Note: Only 10 Riser Checkpoints (Checkpoints beginning with "R-") such as "R-214-1200-1	" are
shown as there are too many to show here.	

Checkpoint	Description	Measurement	Active
1	CONNECT TEST LEAD TO PIPE	No	Yes
2	MAKE SURE HALF-CELL IS IN DIRECT CONTACT WITH SOIL	No	Yes
<u>3</u>	MAKE SURE IS SUFFICIENTLY MOIST	No	Yes
<u>4</u>	PUSH BOTH BUTTONS LOCATED BELOW DIGITAL METER	No	Yes
<u>5</u>	READ METER	No	Yes
<u>6</u>	RECORD READING ON FORM	No	Yes
<u>7</u>	IF READING IS BELOW85 CRITERIA, REPORT TO SUPERVISOR	No	Yes
<u>R-214-1200-1</u>	TOM FORT VILLAGE - HOUSE 1200 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1202-1</u>	TOM FORT VILLAGE - HOUSE 1202 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1204-1</u>	TOM FORT VILLAGE - HOUSE 1204 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1206-1</u>	TOM FORT VILLAGE - HOUSE 1206 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1208-1</u>	TOM FORT VILLAGE - HOUSE 1208 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1300-1</u>	TOM FORT VILLAGE - HOUSE 1300 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1301-1</u>	TOM FORT VILLAGE - HOUSE 1301 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1302-1</u>	TOM FORT VILLAGE - HOUSE 1302 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1303-1</u>	TOM FORT VILLAGE - HOUSE 1303 - PIPE TO SOIL READING (VOLTS)	Yes	Yes
<u>R-214-1304-1</u>	TOM FORT VILLAGE - HOUSE 1304 - PIPE TO SOIL READING (VOLTS)	Yes	Yes

Pipe to soil readings are being tracked in the *Checkpoint Measurements* instead of the following form:

Location	Pipe to Soil Reading	Remarks	Date	Technician(s

Gas Leak Survey

Gas Leak Surveys are preventive maintenance which are completed every 5 years. The Preventive Maintenance work orders for Gas Leak Surveys will be generated on the 1st of August. Two Gas System Sections will have the Gas Leak Survey completed in a single year (if there any Leak Surveys due). Gas Leak Surveys have *Checkpoints* which detail how to complete the preventive maintenance.





Viewing PM Standards Checkpoints

- 1. Navigate to the Work Order for the Gas Regulator Station.
- 2. Select the *Phase* from the *Work Order*.

-AM		H	ello, SHANE						<u>Logou</u>	t <u>About</u>	<u>Help</u>
🖲 Phase	View:	Select		٢			i i i	📙 🔞) 🎿	
Phase	001	Created Date Cre	By SHALEY eated May 27, 2014 03:25	PM	Statu Work	IS Order		<u>NEW</u> <u>14-0817</u>	<u>13</u>		
Description	PM PHASE FOR GAS SYSTEM SEC1 - GA	S LEAK SURVEY			Bud <u>c</u> Loca	jet tion or R	oom!				\$0.00
Shop		Estimated Date	:S		Cla	ssificat	tion				
Shop	PLUMBING	Estimated Start	Aug 01, 2014 12:00 AM		Fund	ling Meth	nod	Shop			
	F00469:PLUMBING SHOP	Estimated End			Work	Code G	roup	UTILITIES	;		
Primary Person		Actual Start			Work	Code		<u>D2091</u>			
		Actual End			Requ	Jest Meti	nod	GAS DIS	FRIBUT	ION: ALL	
Priority	3-ROUTINE	Percent Complete									
Equipment/As	set	Capital Project			Cor	ntracto	r				
Туре	Asset	Capital Project			Cont	ract Type	9				
Asset	GAS SYSTEM SEC1										
	GAS SYSTEM FOR PROPERTY GAS	Component Group									
Asset Group	GAS SYSTEM SEC	component croup									
Failure Code											
Template	FS-PLMB-030	Component									
PM Standards	GASLS										

3. Select the link for the **PM Standards**.

AiM	AIM Hello, SHANE					<u>Logout</u>	<u>About</u>	Hel
🔇 РМ S	tandards	View:	Select	- 💫 🔧 4	>			
PM Standards	GASLS	Editor Edit Date	SHALEY May 21, 2014 09:05 AM	Active Reference	Ye	S		
Description	GAS LEAK SURVEY. SEE CHECKPOINT	TS		Frequency				
Estimate								
Labor Hours	0.00							
Labor	\$0.00							
Material	\$0.00							
Equipment	\$0.00							
Contract	\$0.00							
Total	\$0.00							
Checkpoint	5							
Checkpoint D	escription			Estimated Labor I	Hours I	Measurement	Active	
00-NOTE 1 R E	EQUIRED LEAK DETECTION EQUIPMENT: FLAME IC LECTRONIC GAS DETECTOR (RGD), BAR TEST EG	QUIRED LEAK DETECTION EQUIPMENT: FLAME IONIZATION UNIT (FI), COMBUSTIBLE GAS INDICATOR (CGI), ECTRONIC GAS DETECTOR (RGD), BAR TEST EQUIPMENT, AND SOAP SOLUTION			0.00	No	Yes	
00-NOTE 2 T	HE FI UNIT TELLS YOU IF THERE IS A LEAK, THE C QUIPMENT HELPS YOU LOCATE THE LEAK UNDER	E FIUNIT TELLS YOU IF THERE IS A LEAK, THE CGI TELLS YOU IT'S CONCENTRATION, AND BAR TEST UIPMENT HELPS YOU LOCATE THE LEAK UNDERGROUND			0.00	No	Yes	
<u>01</u> P	REPARE FOR SURVEY BY HAVING A CAMPUS GA	AS MAP AND KNOWING THE SYS	TEM		0.00	No	Yes	
<u>02</u> V	ERIFY THAT ALL EQUIPMENT IS CALIBRATED				0.00	No	Yes	

- 4. Notes need to be read and followed before starting other Checkpoints.
- 5. The Checkpoints are a reference for what needs to be done to complete preventive maintenance for the gas meter station.

Corrective Maintenance

In addition to the steps in the Completing Corrective Maintenance section, corrective maintenance for leak survey requires the completion of the following form which must be attached to the related documents of the work order (please see the Attaching Related **Documents** section for attaching related documents):

Gas Leak and Repair Report.docx

Date: Time: AM PM Location of Leak;	Gas Leak and Repair Re	eport
Date; Time: AMPM Location of Leak;		Report No
Location of Leak;	Date: Time: AM PM	
Description of Leak; Leak Detected By: OdorNoiseCGIOther Leak Report Received By: Dispatched Date;Time:AMPM Investigation Assigned To; Assigned As Immediate Action Required: YesNo Investigation Date;Time:AMPM CGI Used: YesNo Grade Leak: 1 2 3 Location of Leak;Condition Made Safe: DateTimeAMPM Repair Report Leak At: ThreadsTimeFeet Leak At: ThreadsCouplingWeldNtareNtare Condition: ExcellentGoodFairPoorSoil Condition: SandClayCondent Moisture: DryDampWet Repair MadeRepair Made By; Anode WeightDate: Repairs Made By; Date: Date:	Location of Leak:	
Leak Detected By: Odor Noise CGI Other Leak Report Received By:	Description of Leak;	
Leak Report Received By:	Leak Detected By: Odor Noise CGI Other	
Neport Received By:	Leak Reported By: PublicCustomerSurvey Crew	_Other
Dispatched Date: Time: AM PM Investigation Assigned To: Assigned As Immediate Action Required: Yes No Assigned As Immediate Action Required: Yes No Investigation Date: Time: AM PM CGI Used: Yes No Grade Leak: 1 2 3 CGI Used: Yes No Grade Leak: 1 2 3 Location of Leak:	Report Received By:	
Date: Time: AM PM Investigation Assigned To; Assigned As Immediate Action Required: Yes No Assigned As Immediate Action Required: Yes No Investigation Date: Time: AM PM CGI Used: Yes No Grade Leak: 1 2 3 Location of Leak; Cause of Leak; Cause of Leak; Could the state Condition Made Safe: Date Time AM PM Repair Report Investing AM PM PM Length of Pipe Exposed: Feet Feet Feet Leak At: Threads Coupling Weld Valve Other PIP: Pipe: Size Steel Plastic Other Plastic Poor Condition: Excellent Good Fair Poor Soil Condition: Sand Clay Loan Other Moisture: Dry Damp Wet Repair Made Repair Made Repair Coating Type: Mastic Hot Applied Tape Other Depth Installed Anodes Installed: How Many Anode Weight Lbs. Depth Installed	Dispatched	
Investigation Assigned To:Assigned As Immediate Action Required: YesNo Investigation Date:Time:AMPM CGI Used: YesNoGrade Leak: 1 2 3 Location of Leak:Cause of Leak:Cause of Leak:Cause of Leak:Condition Made Safe: DateTimeAMPM Repair Report Length of Pipe Exposed:Feet Leak At: ThreadsCouplingWeldValveOtherPipe: SizeSteelPlasticOtherFtInches Coating: Wrapped Coal TarExtruBarePlastic Condition: ExcellentGoodFairPoorSoil Condition: SandClayLoanOther Repair Made Repair Coating Type: MasticHot Applied TapeOtherAsside By:	Date: AM PM	
Assigned As Immediate Action Required: YesNo Investigation Date: Time: AM PM CGI Used: Yes No Grade Leak: 1 2 3 Location of Leak: Cause of Leak: Cause of Leak: Condition Made Safe: Date Time AM PM Condition Made Safe: Date	Investigation Assigned To;	
Investigation Date: Time: AM PM CGI Used: Yes No Grade Leak: 1 2 3 Location of Leak:	Assigned As Immediate Action Required: Yes No	
Condition Made Safe: Date Time AM PM Repair Report Length of Pipe Exposed: Feet Leak At: Threads Coupling Weld Valve Other Pipe: Size Steel Plastic Other Et. Pipe: Size Steel Plastic Other Et. Condition: Excellent Good Fair Poor Soil Condition: Sand Clay Loan Other Soil Condition: Sand Clay Loan Other Moisture: Dry Damp Wet Repair Made	Investigation Date:	
Repair Report Length of Pipe Exposed:	Condition Made Safe: DateTime	AM PM
Pipe: Size Steel Plastic Other Depth: Ft. Inches Coating: Wrapped Coal Tar Extru Bare Plastic Other Condition: Excellent Good Fair Poor Other Soil Condition: Sand Clay Loan Other Other Moisture: Dry Damp Wet Wet Noisture: Dry Damp Wet Noisture: Dry Damp Wet Noisture: Dry Damp Wet Noisture: Dry Damp Met Noisture: Date: <	Repair Report Length of Pipe Exposed:Feet Leak At: ThreadsCouplingWeldValveOther	
Soil Condition: SandClayLoanOther Moisture: DryDampWet Repair Made Repair Made Repair Coating Type: MasticHot Applied TapeOther Anodes Installed: How Many Anode Weight Repairs Made By; Date:	Pipe: SizeSteelPlasticOtherDepth: Coating: Wrapped Coal Tar <u>Extru</u> BarePlastic Condition: Excellent <u>Good</u> FairPoor	FtInches
Moisture: DryDamp Wet Repair Made	Soil Condition: SandClay Loan Other	
Repair Made	Moisture: Dry <u>Damp</u> Wet	
Repair Coating Type: MasticHot Applied TapeOther Anodes Installed: How ManyAnode WeightLbs. Depth Installed Repairs Made By;Date:Date:	Repair Made	
Anodes Installed: How Many Anode WeightLbs. Depth Installed Repairs Made By; Date: Date:	Repair Coating Type: MasticHot Applied Tape Other	
Repairs Made By; Date: Date:	Anodes Installed: How Many Anode WeightLbs.	DepthInstalled
	Repairs Made By;	Date:
Supervisor: Date:	Supervisor:	Date:

List of Checkpoints from PM Standards

The full list of *Checkpoints* for a leak survey for a gas system section is below (there are no *Checkpoints* which require values be entered into AiM, and as such all of the **Measurements** are set to "No" for the *Checkpoints* indicating the *Checkpoints* are for reference only):

Checkpoint	Description	Measurement
<u>00-NOTE 1</u>	REQUIRED LEAK DETECTION EQUIPMENT: FLAME IONIZATION UNIT (FI), COMBUSTIBLE GAS INDICATOR (CGI), ELECTRONIC GAS DETECTOR (RGD), BAR TEST EQUIPMENT, AND SOAP SOLUTION	No
<u>00-NOTE 2</u>	THE FI UNIT TELLS YOU IF THERE IS A LEAK, THE CGI TELLS YOU IT'S CONCENTRATION, AND BAR TEST EQUIPMENT HELPS YOU LOCATE THE LEAK UNDERGROUND	No
1	PREPARE FOR SURVEY BY HAVING A CAMPUS GAS MAP AND KNOWING THE SYSTEM	No
2	VERIFY THAT ALL EQUIPMENT IS CALIBRATED	No
3	ADJUST EQUIPMENT IN A GAS-FREE AREA	No
4	ALLOW UNIT TO WARM UP FOR 5 MINUTES	No
5	WEAR PPE	No
<u>6</u>	START THE SURVEY WITH THE FI UNIT SET TO SEARCH	No
<u>07A</u>	WALK PIPELINE	No
<u>07B</u>	WATCH INSTRUMENT; LISTEN FOR ALARM	No
<u>07C</u>	HOLD INTAKE CONE AS CLOSE AS POSSIBLE TO PIPE OR GROUND, BUT NO MORE THAN 2" FROM GROUND;	No
<u>07D</u>	SAMPLE BOTH SIDES OF THE STREET	No
<u>07E</u>	CHECK: MANHOLES, VALVES, JOINTS, CRACKS IN PAVEMENT CURB LINES AND OTHER AVAILABLE OPENINGS	No
<u>07F</u>	OTHER LOCATIONS THAT MAY PROVIDE OPPORTUNITY FOR LEAKING GAS TO VENT	No
<u>8</u>	LOOK, LISTEN, SMELL FOR OTHER INDICATIONS OF POSSIBLE LEAKS	No
<u>9</u>	IF YOU FIND INDICATIONS OF GAS LEAK, FOLLOW APPROPRIATE PROCEDURE	No
<u>10</u>	DOCUMENT SURVEY	No

The following form has been used in the past when the leak survey has been completed by contractors, which would need to be attached as a **related document** to the work order for the **preventive maintenance**:

Front Page

CONSULTANTS				-turk	6 No.	
Conscientiation			Status (Circle St	atus)	Pos. Neg.	all and
eath Consultants Incorporated	and party in the second		Leak Indication Cla	2	auon (Circle Leak Indic	ation)
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FIELD SURVET	11.					
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Ity LAS CRUCES	5		StateM.	_	and the second s	-
	Near	est Stre	et Address			
IGOU STA	UDIEV					
	PERIII					
TYPE OF GAS	LEAK INDICATION FI	RST	METHOD OF SURVEY	Y	LEAK INDICATIO	N
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P.	Bar Hole Test		Mobile F I		Carvine Tan	5
Other	Dit /Reg. or Mater)	+	Bar Hole		Main AtTie In	-
	Value Box		Other		Drip	-
PIPE DESIGNATION	Main Value				Meter	-
Intribution	Curb Valve		PRESSURE		Curb Valve	-
ransmission	Meter Box		High		Main Valve	
athering	Underground Fuel Tank		Intermediate	-	Other	-
Other ~	Selected Test		Low	K	Latingeneration	
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Back Page

	. on	Caller of the	-	
	LEA To Assist in De	K REPAIR DATA	rds Out - No	
ate			Order No	
abor:— Foreman Hrs.	Man Hrs. (sk	illed)	Man Hrs. (uns	killed)
laterial Used	CONCIANT,		- Andrew - A	COLVER CONTRACTOR
aulomant				Hee
daibuieur	State State State			
umber of Leaks Repaired (this	location)	Total Cost		
PART OF SYSYEM WHICH LEAKED OR	FAILED	PIPE DESCRIPTION	(Where applicable)	504. 571
Part Dine Dine	Cither (Specify)	Nominal Diameter (In	ches)	Nominal wall thickness (inches)
Velvo D Regulator		-	Marine and	
Filling Tap Connection		Specification and grad		Grade
Date Installed	11.0		Contraction of the	
MATERIAL WHICH LEAKED OR FAILED		ENVIRONMENTAL DE	SCRIPTION	
Material		Predominant type of a	D Rural	
Steel Copper Desting	U Other (Specify)		Unknown	
Sant fran	State State	Residential	Other (Speck	<i>))</i>
Was the material that leaked or faile	d the same material as adjoining pl	Predominant abovegre	ound structure adjacent to	leak Williatory Single Steel
component? Ves	No No	Commercial		
(II "No." describe material in the adjoining	component or parts)	Industrial		0 0
		Rosidential		
Is a metallurgical analysis planned?		Other (Specify)		U U
Yes No		(Within 1 mile of leak)	to nearest above ground st	feet
Girth weld	Conn (specify)	-		
TYPE OF REPAIR		Location of leak or fail	Balow other o	aved
Pipe		Within building	Area (Specily)	
Weld over sleeve	Replace pipe (Length)	Above ground	Below walkwa	
Patch-weided	Other repair or disposition	feet Below ground	Below road	D Hatter comment
Component	(Specify)	Depth of cover	inches	C wetaan or ontraveo
Replaced Reconditioned	Cither (Specify):	Soil information at pipe	e depth (1) Soil	(2) C Rock
		opposion		
		ONHOSION		
Location	Description	Cause		
Internal corrosion	Pring	Galvanie	Stray current	
External corresion	General	Bactorial	Other (Specify): _	
Kennel Martines (1996) Andre Krief and Frank		100 m	-	A STATE AND
PIPE COATING INFORMATION	Math and all A applications	Material	Thin film coatings	
PIPE COATING INFORMATION	Method of Application		1 III SALES CONTRACTOR	
PIPE COATING INFORMATION Coating Bare Context	Mill coated	Cosi tar	Other (Specny)	
PIPE COATING INFORMATION Coating Bare Coated Wrapped	Method of Application Mill coated Yard coated Field coated	Coel ter Asphalt Winz	Other (appeny)	10 A. 10
PIPE COATING INFORMATION Casting Bare Costed Wripped Year Installed	Method of Application Mill coated Vard coated Field coated Unknown	Coel ter Asphalt Witx Prelabricated film	Other (Spacery)	and the second
PIPE COATING INFORMATION Coating Bare Coveled Wrapped Year Installed CAUGE OF COATING FAILURE	Milli coated Vard coated Field coated Unknown	Coel ter Coel ter Asphalt Winx Prefabricated film HODEC PROTECTION	Other (appenty)	ph OF St
PIPE COATING INFORMATION Coating Bare Costed Wrapped Year Installed CAUSE OF COATING FAILURE Damage Damage	Milli coated Vard coated Field coated Unknown CAT Other (Specify):	Coel ter Coel ter Asphalt Winx Prefabricated film HODIC PROTECTION Yes No.	Vpe	ph OF S NEAR LE
PIPE COATING INFORMATION Coating Coates Coates Coates Vear installed CAUGE OF COATING FAILURE Damage Defective material Defective spelication	Milli costed Milli costed Vard costed Field costed Unknown CAT Other (Specify):	Coel ter Coel ter Asphalt Winx Pretabricated film HODIC PROTECTION Yes No No No	Vype Inproved	ph OF SI NEAR LE
PIPE COATING INFORMATION Coating Bare Coated Wrapped Year Installed CAUSE OF COATING FAILURE Demage Detective material Detective seplication Decomposition	Mill coated Will coated Field coated Unknown CAT Other (Specify):	Coel ter Coel ter Asphalt Witx Prefabricated film HODIC PROTECTION Yes No Yes Started	Vype Improved Galvanic Other (Specify) —	ph OF S4 NEAR LE
PIPE COATING INFORMATION Casting Bare Context Gontext Wrapped Year Installed CAUSE OF COATING FAILURE Damage Defective material Defective material Defective material Defective material SOIL RESISTIVITY	Mill coated	Ceel ter Ceel ter Asphalt Wite Peelabricated film Vies Vies Vies No Vies started PIPE-TO-SOIL POTENTIAL	Vype Improved Galvanic Other (Specify) —	ph OF S NEAR LE
PIPE COATING INFORMATION Cading Bare Context Wrapped Year Installed CAUSE OF COATING FAILURE Damage Detective material Detective material Detective material Detective material Detective material SOIL RESISTIVITY Last soil resistivity measurement in the	Mill ocaled Mill ocaled Vard coaled Unknown CAT Other (Specify):	Ceel ter Asphalt Wite Peelabricated film Vite Vite Vite Vite No Vies started PIPE-TO-SOIL POTENTIAL Last pipe-to-soil potential of	Vype binproved Galvanic Other (Specify) binproved Galvanic Other (Specify) binproved	ph OF SU NEAR LE

Sewer Manholes

Preventive Maintenance for manholes is performed annually. The Preventive Maintenance work orders for manholes will be generated each quarter (SEWERMH-SEC1 on October 1st, SEWERMH-SEC2 on January 1st, SEWERMH-SEC3 on April 1st, and SEWERMH-SEC4 on July 1st). Manholes are grouped together by sections into a single asset. For example, all of the manholes located in section SWR SYSTEM SEC1 are stored as asset SEWERMH-SEC1 in AiM and each manhole is represented by a checkpoint measurement in the phase of the work order.

AM		He	llo, SHALEY			Logout About Help
🖲 Phase	,	View: Select	*) 🔍 🏹 🔋	🌡 📙 🎪 🖄 🤧 🕨
Phase	001	Created By Date Created	SHALEY Nov 11, 2014 09:17 AM		Status Work Order	NEW 15-002065
Description	PM PHASE FOR SWR SYSTEM SEC1 - MANH	OLES			Budget Location or Room	\$0.00
Shop		Estimated Dates	S		Classification	
Shop	<u>UTILITIES</u>	Estimated Start	Oct 01, 2014 12:00 AM		Funding Method	Work Order
	F00455:UTILITIES	Estimated End			Work Code Group	UTILITIES
Primary Person		Actual Start			Work Code	<u>D2030</u>
		Actual End			Request Method	SANITARY WASTE (SEWER
Priority	3-ROUTINE	Percent Complete				
Equipment/As	set 1	Capital Project			Contractor	
Туре	Asset	Capital Project			Contract Type	
Asset	SEWERMH-SEC1					
	SEWER MANHOLES FOR PROPERTY SWR					
Asset Group	<u>SEWERMH</u>	Component Group				
Failure Code						
		Component				
Template	FS-UTL-001	semponent				
PM Standards	SEWERMH-SEC1					
Shop Person						1 d B 0
Shop Person	Name		Prima	агу	Certified Ass	igned By Assigned Date

Completing Individual Manhole Checkpoint Measurements

1. The phase on the work order for Manholes located in section SWR SYSTEM SEC1 has asset SEWERMH-SEC1 assigned to it which represents all of the manholes for section SWR SYSTEM SEC1.

3

The individual manholes are tracked in the *PM Standard Checkpoint Measurements* for the phase:

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🖲 Phase	Viev	V: Select 🔹 💽 😪	ò 🚶 🏹 🛓	🌡 📙 🎪 🎕 🥦
Phase	001	Extra Description Shop Stock Budget Change Order Condition Assessment Information	Status Work Order	NEW 15-002065
Description	PM PHASE FOR SWR SYSTEM SECT - MANHOLE	Assessment Activity Checkpoint Measurements Cost Analysis Dependencies	Budget Location or Room	\$0.00
		Material Requests Estimates Unit Costs		
Shop	Es	sti Survey History	Classification	
Shop	UTILITIES Es	tim Notes Log	Funding Method	Work Order
	F00455:UTILITIES	Status History Related Documents	Work Code Group	UTILITIES
Primary Person	Act	ual Start	Work Code	<u>D2030</u>
	Act	ual End	Request Method	SANITARY WASTE (SEWER

2. Select "Checkpoint Measurements" from the "View" menu.

AM		Hello, SHALEY Logout Abu						<u>About</u>	<u>Helr</u>	
[Chec	kpoint Measure	ements							1	
Phase	001		Created By	SHALEY		Work Order	15-002065			
			Date Created	Nov 11, 2014 09:17	AM					
Description	PM PHASE FOR SW	R SYSTEM SEC1 - MANHOLES				PM Standards	SEMERMH-SEC1	1		
		PM Standards Severant-Sect								
Checkpoint	Value	Description		Extra Dr						
MANHOLE 71A		CHAMISA ACROSS THE S PIT	TREET FROM ALUM	4						
MANHOLE 71B		CHAMISA DRIVEVVAY EN	TRANCE							
MANHOLE 71C		WEST OF CHAMISA BUILD	DING C							
MANHOLE 71D		NORTH OF CHAMISA BUIL	.DING C							
MANHOLE 72		SOUTH OF STEWART & F	AST OF LOCUST							

- 3. The individual manholes are shown here as *Checkpoints*.
- 4. The "Description" field specifies the location of the manhole.

-/AiM			Hello, SHALEY		<u>Logout</u>	<u>About</u>	Help
Check	point Measureme	ents					
Phase	001	Created B	SHALEY	Work Order	5		
		Date Crea	ted Nov 11, 2014 09:17 AM				
Description	PM PHASE FOR SWR SYS	STEM SEC1 - MANHOLES		PM Standards	SEWERMH-SEC1		
Checkpoint	Value	Description	Extra Description				
MANHOLE 71 A		CHAMISA ACROSS THE STREET FROM A	ALUMNI				
MANHOLE 71B		CHAMISA DRIVEWAY ENTRANCE					
MANHOLE 71C		MEST OF CHAMISA BUILDING C					

The phase has to be put into edit mode in order to edit the PM Checkpoint Measurements:

5. Select the **done** icon to navigate back to the phase.

AM		He	IO, SHALEY		Logout About	<u>Help</u>
🖲 Phase	, i	/iew: Select	- 🗟 👶) 🖳 🖉 📱	i 🖡 🎪 🎄 🛤	
Phase	001	Created By	SHALEY	Status	NEW	
		Date Created	Nov 11, 2014 09:17 AM	Work Order	<u>15-002065</u>	
Description	PM PHASE FOR SWR SYSTEM SEC1 - MANHO	DLES	6	Budget		\$0.00
				Location or Room		
Shop		Estimated Dates	;	Classification		
Shop	UTILITIES	Estimated Start	Oct 01, 2014 12:00 AM	Funding Method	Work Order	

6. Select the **edit** \bigvee icon.

-/AiM		He	llo, SHALEY			<u>Logout About Help</u>
🖲 Phase				View:	Select Select	- 🗟 🔕 🔄
Phase	001	Created By	SHALEY	、	Extra Description Shop Stock	2
		Date Created	Nov 11, 20 7)	Budget Change Order Condition Assessment Informati	ion
Description	PM PHASE FOR SWR SYSTEM SEC1 - MANI	HOLES			Assessment Activity Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates Unit Costs	\$0.00
Shop		Estimated Date	5		Survey History Notes Log	
Shop		Estimated Start	Oct 01, 2014 12:00 AM 🚦	3	User Defined Fields Status History	•
	F00455:UTILITIES	Estimated End		3	Related Documents	ES P
Primary Person		Actual Start		3	Work Code D2030	۶
		Actual End	(Request Method	RY WASTE (SEWER

7. Select "Checkpoint Measurements" from the "View" menu.

-/AiM			Hell	o, SHALEY			ļ	<u>ogout</u>	<u>About</u>	Hel
Checl	kpoint Measurements	S							0	
Phase	001		Created By	SHALEY		Work Order	15-002065			
			Date Created	Nov 11, 2014 09:	17 AM					
Description	PM PHASE FOR SWR SYSTEM	1 SEC1 - MANHOLES				PM Standards	SEWERMH-SEC1			
Checkpoint \	Value	Descriptio	on		Extra Descript	ion				
01	-	NOTATE T EACH MAN NONE/STE	YPE OF FLOW IN V NHOLE - ADY/PULSING/SLU	/ALUE FIELD FOR JGGISH						
		NOTATE IN FOLLOWIN REPAIR/RE STEPS, RIS	N EXTRA DESCRIPT NG ARE IN NEED OI EPLACEMENT: COV SER, SHELF	ION IF THE - 'ER, RING/FRAME,						
03		COMPLETE	E JETTING FOR SEV	VER LINE						
04		REA	ASE CONTROL IF N	EEDED						
MANHOLE 71A	۶ ۲		ACROSS THE STR	EET FROM ALUMNI						
NHOLE 71B	۶	CHAMISA	DRIVEWAY ENTRA	ANCE						

- 8. Any **Checkpoints** that do not have a value field where information can be entered are for instruction purposes only, and the **Description** of each of these **Checkpoints** should be read before starting **PM**.
- 9. Enter "Value" for Checkpoint Measurement.
- 10. If **search** *P* icon is present then select the **search** *P* icon to view valid options for the "Value" field.

Attribute Valio	lation	See 1998 1998 1998 1998 1998 1998 1998 19
Code +	Description	
NONE	NO FLOW	
PULSING	PULSING FLOW	
<u>SLUGGISH</u>	SLUGGISH FLOW	
STEADY	STEADY FLOW	

11. After selecting the search \mathfrak{P} icon, select a Code from the pop up window for the Value.

MA		Hell	o, SHALEY			L	<u>ogout About Help</u>
Chec	kpoint Measurements						🗟 🔕 톳
Phase	001	Created By	SHALEY		Work Order	15-002065	
		Date Created	Nov 11, 2014 09:	17 AM			
Description	PM PHASE FOR SWR SYSTEM SEC1 - M.	ANHOLES			PM Standards	SEWERMH-SEC1	
Checkpoint	Value	Description		Extra Descripti	on		
01		NOTATE TYPE OF FLOW IN Y EACH MANHOLE - NONE/STEADY/PULSING/SLU	/ALUE FIELD FOR JGGISH				
02		NOTATE IN EXTRA DESCRIPT FOLLOWING ARE IN NEED OI REPAIR/REPLACEMENT: COV STEPS, RISER, SHELF	TION IF THE F /ER, RING/FRAME,				
03		COMPLETE JETTING FOR SEV	AVER LINE				
04		ADD GREASE CONTROL IF N	IEEDED				
MANHOLE 71 A	NONE	CHAMISA ACROSS THE STR PIT	EET FROM ALUMNI				
MANHOLE 71B	<u> </u>	CHAMISA DRIVEWAY ENTRA	ANCE				

12. Enter a Description if something needs to be noted about the manhole.

13. Select the **done** icon to navigate back to the phase.

AM		He	llo, SHALEY		Logout About Help	
🖲 Phase			Vie	w: Select		14
Phase	001	Created By	SHALEY	Status	NEW 2	\smile
		Date Created	Nov 11, 2014 09:17 AM	Work Order 1	15-002065	
Description	PM PHASE FOR SWR SYSTEM SEC1 - MANH	IOLES		Budget	\$0.00	
		/		Location or Room	P	
			•			
Shop		Estimated Dates	5	Classification		
Shop		Estimated Start	Oct 01, 2014 12:00 AM 💐	Funding Method	Work Order 🔻	
	F00455:UTILITIES	Estimated End		Work Code Group		
Primary Person		Actual Start		Work Code	D2030	

14. Select the **save** sicon to save the Checkpoint changes and exit edit mode.

List of Checkpoints from PM Standards

Since Manholes are tracked as checkpoints, and there are over a hundred manholes only a portion of the *Checkpoints* for manholes in SWR SYSTEM SEC1 are shown below:

Checkpoint	Description	Measurement
MANHOLE 101	N.W. OF REGENTS ROW ON WILLIAMS AVE.	0.00

MANHOLE 118	S.E. CORNER OF WILLIAMS & INTERNATIONAL MALL	0.00
MANHOLE 119	SOUTH SIDE OF HERSHEL ZOHN BY SIDEWALK	0.00
MANHOLE 120	N.E. CORNER OF FOOD COURT ON INTERNATIONAL MALL	0.00
MANHOLE 121	WEST OF NEW LIBRARY ENTRANCE ON INTERNATIONAL MALL	0.00
MANHOLE 122	S.W. OF MILTON ENTRANCE ON INTERNATIONAL MALL	0.00
MANHOLE 123	SOUTH OF MILTON FRONT ENTRANCE ON INTERNATIONAL MALL	0.00
MANHOLE 123A	LOADING DOCK OF CORBETT CENTER	0.00
MANHOLE 124	N.W. CORNER OF CORBETT CENTER BY INTERNATIONAL MALL	0.00
MANHOLE 125	WEST SIDE OF GARCIA ANNEX BY ENTRANCE	0.00

The Checkpoint Measurements for manholes are replacing the following form:



Sewer Lift Stations – Quarterly/Meter

Preventive Maintenance for sewer lift stations is performed quarterly or after every 1000 hours of operation (runtime of pumps for lift station according to the meter for the pumps). The Preventive Maintenance work orders for sewer lift stations will be generated on October 1st, January 1st, April 1st, and July 1st of every year. Sewer lift stations have *Checkpoints* which detail how to complete the preventive maintenance as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance.

Viewing/Completing PM Standards Checkpoints

- 12. Navigate to the Work Order for the Lift Station Station.
- 13. Select the *Phase* from the *Work Order*.



14. Select the **edit** icon.

- AM		He	llo, SHALEY				<u>Logout</u>	<u>About</u>	<u>Help</u>
🖲 Phase				Vi	ew:	Select Select	•	0	
Phase	001	Created By	SHALEY	Λ)	Extra Description		78	
		Date Created	Oct 27, 2014 09:5		/	Budget Change Order		_	
Description					\checkmark	Condition Assessment Information Assessment Activity			
Description	CORNER OF PAN AMERICAN CENTER	TATION 1 - 5.W.			`	Checkpoint Measurements	\$0.00		
						Cost Analysis	∾∟∘		
		10				Material Requests			
						Estimates			
						Unit Costs			
						Survey History			

15. Select "Checkpoint Measurements" from the View menu.

AiM		He	llo, SHALEY				<u>Logout</u>	<u>About</u>	Help
le Cheo	kpoint Measurements							0	
Phase	001	Created By	SHALEY		Work Order	15-002001			
		Date Created	Oct 27, 2014 09:5	9 AM					
Description	PM PHASE FOR SWR SYSTEM SECTION CENTER	I 1 - LIFT STATION 1 - S.W. C	ORNER OF PAN A	MERICAN	PM Standards	SEWERLS			
Checkpoint	Value	Description		Extra Descriptio	n				
1	5	CHECK - PUMPS AND LIQUID SYSTEM FOR PROPER OPER	LEVEL CONTROL ATION						
2	~ ²	CHECK - PUMPS FOR EXCES: OVERHEATING, VIBRATION, OF NUTS & BOLTS, OR OTHE TROUBLE	SIVE NOISE, PROPER TIGHTNESS R INDICATIONS OF						

16. Select the search \mathcal{P} icon or enter value directly into textbox if already known.

Attribute Valida	tion	< 🔕 🕽	
Code I	Description		
№ 6)	NOT CHECKED		
Y	CHECKED		

17. Select desired Code for the Checkpoint Measurement Value.

MIA		He	llo, SHALEY		Logout About Hel	<u>a</u>
le Cheo	kpoint Measurements				5 🔕 💈	
Phase	001	Created By	SHALEY	Work Order	15-002001	7
		Date Created	Oct 27, 2014 09:59 AM			
Description	PM PHASE FOR SWR SYSTEM SECTION CENTER	1 - LIFT STATION 1 - S.W. C	ATION 1 - S.W. CORNER OF PAN AMERICAN		SEWERLS	
Checkpoint	Value	Description	Extra Descriptio	n		1
1	Y 2	CHECK - PUMPS AND LIQUID SYSTEM FOR PROPER OPER	LEVEL CONTROL			

18. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

-/AiM		He	llo, SHALEY			<u>Logout</u>	<u>About Help</u>	
🖲 Phase				View: Se	elect	•	0 🔕	
Phase	001	Created By	SHALEY		Status	NEW	ך אר) 8
		Date Created	Oct 27, 2014 09:59 AM		Work Order	<u>15-002001</u>	_	
Description	PM PHASE FOR SWR SYSTEM SECTION 1 - LIFT ST CORNER OF PAN AMERICAN CENTER	ATION 1 - S.W.			Budget	\$0.00		
		1.			Location or Room	 ?		
				J			J	
				_				

19. Select the save 🔄 icon.

List of Checkpoints from PM Standards

The full list of *Checkpoints* for sewer lift stations is below (anything with a **Measurement** set to "No" is for reference only, anything with a **Measurement** set to "Yes" requires a value to be recorded for that *Checkpoint*):

Checkpoint	Description	Measurement
1	CLEAN - WET WELL WALLS, PUMPS 1 AND 2, LIQUID LEVEL SENSOR & FLOATS TO PREVENT EXCESSIVE ACCUMULATIONS OF SCUM & GREASE	Yes
<u>10</u>	INSPECT PUMP 1 ELECTRICAL CONTROL CABLE OUTER JACKET FOR CRACKS, DAMAGE OR LEAKS. REPLACE OR TIGHTEN CABLE CLAMPS IF NECESSARY.	Yes
<u>11</u>	INSPECT PUMP 2 ELECTRICAL CONTROL CABLE OUTER JACKET FOR CRACKS, DAMAGE OR LEAKS. REPLACE OR TIGHTEN CABLE CLAMPS IF NECESSARY.	Yes
<u>12</u>	CHECK - CONNECTION BOX FOR LIQUID INSIDE. IF FOUND REPLACE CABLE SEALS (REFER TO O&M) CONTACT ELECTRICIAN TO PERFORM THIS STEP	Yes
<u>13</u>	CHECK - PUMP 1 INSULATION OF THE STATOR WINDINGS (REFER TO O&M) CONTACT ELECTRICIAN TO PERFORM THIS STEP	Yes
<u>14</u>	CHECK - PUMP 2 INSULATION OF THE STATOR WINDINGS (REFER TO O&M) CONTACT ELECTRICIAN TO PERFORM THIS STEP	Yes
<u>15</u>	LUBRICATE - PUMP 1 CHANGE OIL IN HOUSING	Yes
<u>16</u>	LUBRICATE - PUMP 2CHANGE OIL IN HOUSING	Yes
2	CHECK - PUMP 1 AND LIQUID LEVEL CONTROL SYSTEM FOR PROPER OPERATION	Yes
<u>3</u>	CHECK - PUMP 2 AND LIQUID LEVEL CONTROL SYSTEM FOR PROPER OPERATION	Yes
4	CHECK - PUMP 1 FOR EXCESSIVE NOISE, OVERHEATING, VIBRATION, PROPER TIGHTNESS OF NUTS & BOLTS, OR OTHER INDICATIONS OF TROUBLE	Yes
<u>5</u>	CHECK - PUMP 2 FOR EXCESSIVE NOISE, OVERHEATING, VIBRATION, PROPER TIGHTNESS OF NUTS & BOLTS, OR OTHER INDICATIONS OF TROUBLE	Yes

Checkpoint	Description	Measurement
<u>6</u>	CHECK - PUMP 1 ELECTRICAL CONTROL & EQUIPMENT FOR PROPER OPERATION	Yes
<u>7</u>	CHECK - PUMP 2 ELECTRICAL CONTROL & EQUIPMENT FOR PROPER OPERATION	Yes
<u>8</u>	CHECK - PUMP 1 OIL LEVEL AND WATER CONTAMINATION (INDICATED BY WHITISH COLOR) IF CONTAMINATED, CHECK SEALS FOR LEAKS & REPLACE IF NECESSARY, DRAIN OIL & REFILL. CHECK AGAIN IN 1 WEEK	Yes
<u>9</u>	CHECK - PUMP 2 OIL LEVEL AND WATER CONTAMINATION (INDICATED BY WHITISH COLOR) IF CONTAMINATED, CHECK SEALS FOR LEAKS & REPLACE IF NECESSARY, DRAIN OIL & REFILL. CHECK AGAIN IN 1 WEEK	Yes

Sewer Lift Stations – 3 Year Overhaul

Every lift station should have a major overhaul completed every three years. A corrective maintenance work order should be created to charge any time and materials against. The overhaul is usually completed by a contractor, so the contractor documentation should be attached to the related documents of the PM Work Order and the Corrective Maintenance Work Order.

-/AiM		He	llo, SHALEY			<u>Logout About Hel</u>	p
🖲 Phase		View: Select) 🖳 🖉 🛛	🗟 📙 🎪 諭 🤧	
Phase	001	Created By	SHALEY		Status	NEW	
		Date Created	Oct 27, 2014 04:48 PM		Work Order	<u>15-002009</u>	
Description	PM PHASE FOR SWR SYSTEM SECTION 2 - L HOUSING WAREHOUSE, LOOKS LIKE MANHO	IFT STATION 2 - 3 YEA OLE	R OVERHAUL - NORTH SIDE OF		Budget	\$0.0	00
					Location or Room		
				J			
Shop	Estimated Dates		5	Classification			ñ
Shop	UTILITIES	Estimated Start	May 01, 2015 12:00 AM		Funding Method	Work Order	
	F00455:UTILITIES	Estimated End			Work Code Group	UTILITIES	
Primary Person		Actual Start		-	Work Code	<u>D2030</u>	
		Actual End				SANITARY WASTE (SEWER	
		Actuar Enu			Request Method		
Priority	3-ROUTINE	Percent Complete		J			
Equipment/Asset		Capital Project			Contractor		ñ
Туре	Asset	Capital Project			Contract Type		
Asset	SEWERLS-2						
	SEWER LIFT STATION LOCATED IN SWR						
Asset Group	SEWERLS	Component Group					
Failure Code							
	(1)	Component					
Template	FS-UTL-011	Component					
PM Standards	SEWERLSO						
Shop Person						1 🖉 🕅 🤇	ັ
Shop Person	Name		Primary		Certified As	signed By Assigned Date	

Viewing/Completing PM Standards Checkpoints

1. Select the **PM Standards** from the phase of the work order.
| AM | | He | llo, SHALEY | | | | | .ogout | <u>About</u> | <u>Help</u> |
|---------------|---|-----------------------|------------------------------|-----------|----------|---------|---------|--------|--------------|-------------|
| 🤏 РМ 9 | Standards | | View: Select | ۲ | 2 | 2 | | 2 🗊 | Ś | |
| PM Standards | SEWERLSO | Editor | SHALEY | Active | | Yes | | | | |
| | | Edit Date | Oct 27, 2014 04:38 PM | Reference | | | | | | |
| Description | EVERY THREE YEARS A MAJOR OVERHAUL | OF PUMP AND ITS DRI | VE UNIT IS REQUIRED | Frequency | | | | | | |
| | | | | | | | | | | |
| Estimate | | | | | | | | | | |
| Labor Hours | 0.00 | | | | | | | | | |
| Labor | \$0.00 | | | | | | | | | |
| Material | \$0.00 | | | | | | | | | |
| Equipment | \$0.00 | | | | | | | | | |
| Contract | \$0.00 | | | | | | | | | |
| Total | \$0.00 | | | | | | | | | |
| Checkpoint | 5 | | | | | | | | | |
| Checkpoint De | scription | | | Estim | ated Lab | or Hour | s Measi | rement | Acti | ve |
| 1CF | REATE CORRECTIVE MAINTENANCE WORK ORDER TO C | HARGE ANY TIME AND MA | ATERIALS FOR MAINTENANCE | | | 0.0 | 00 No | | Yes | |
| 2 A' | ITACH CONTRACTOR DOCUMENTATION TO BOTH THE F
DMPLETE | M AND CORRECTIVE MAIL | NTENANCE WORK ORDERS WHEN WO | ORK IS | | 0.0 | 00 No | | Yes | |

2. The checkpoints give the details of what needs to be completed for the preventive maintenance work order.

Corrective Maintenance

In addition to the steps in the **Completing Corrective Maintenance** section, corrective maintenance for the **3 year overhaul** of **lift stations** requires that any contractor documentation be attached to the **Corrective Maintenance** work order as well as the **PM** work order (please see the **Attaching Related Documents** section for attaching related documents).

List of Checkpoints from PM Standards

Checkpoint	Description	Measurement
1	CREATE CORRECTIVE MAINTENANCE WORK ORDER TO CHARGE ANY TIME AND MATERIALS FOR MAINTENANCE	No
2	ATTACH CONTRACTOR DOCUMENTATION TO BOTH THE PM AND CORRECTIVE MAINTENANCE WORK ORDERS WHEN WORK IS COMPLETE	No

Sewer Lift Stations – Monthly Open Work Order

A monthly open work order will be generated for daily inspections of lift stations and to capture lift station meter readings weekly or as time allows.

Viewing/Completing PM Standards Checkpoints

- 1. Navigate to the monthly open Work Order for the Lift Stations.
- 2. Select the *Phase* from the *Work Order*.

AM		Н	ello, SHALEY			Logout About Help
🖲 Phase		View: Select		6) 🖳 🏹 .	🗟 📙 🎪 🖄 🤧
Phase	001	Created By Date Created	SHALEY Nov 11, 2014 09:28 AM READINGS OF ALL LIFT STATIONS		Status Work Order	NEW 15-002076
					Budget	\$0.00
Shop		Estimated Date	S		Classification	
Shop	UTILITIES	Estimated Start	Nov 01, 2014 12:00 AM		Funding Method	Work Order
	F00455:UTILITIES	Estimated End			Work Code Group	UTILITIES
Primary Person		Actual Start			Work Code	<u>D2030</u>
		Actual End			Request Method	SANITARY WASTE (SEWER
Priority	3-ROUTINE	Percent Complete				
Equipment/As	set	Capital Project			Contractor	
Туре	Asset	Capital Project			Contract Type	
Asset	SEWERLS-ALL					
	ALL SEWER LIFT STATIONS IN ALL SWR					
Asset Group	SEWERLSSYS	Component Group				
Failure Code						
Template PM Standards	FS-UTL-015 SEWERI S-ALL 3	Component				
otanoaroo]		

3. Select the link for the **PM Standards**.

AM				Hello, SHALEY						Lo	<u>qout</u>	<u>About</u>	Hel
🤹 РМ	l Sta	Indards		View: Select	•				Y				-
PM Standard	is	SEWERLS-ALL	Editor	SHALEY	Active			۱	íes				
			Edit Date	Nov 11, 2014 09:11 AM	Refere	nce							
Description		VISUALLY INSPECT LIFT STATIONS DAILY AND RE	CORD METER I	READINGS WEEKLY									
					Freque	ncy							
Estimate													
Labor Hours	3	0.00											
Labor		\$0.00											
Material		\$0.00											
Contract		\$0.00											
Total		\$0.00											
Checkpoi	ints												
Checkpoint	Desci	ription (4)				Estin	nated La	abor H	lours	Measureme	ent	Active	
<u>01</u>	DAILY	- COMATE VISCON OF LIFT STATION SERVE	RLS-1 AT S.W. CO	ORNER OF PAN AMERICAN CENTER					0.00	No		Yes	
<u>02</u>	DAILY MANH	/ - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWE HOLE	RLS-2 AT NORTH	SIDE OF HOUSING WAREHOUSE, LO	OKS LIKE				0.00	No		Yes	
<u>03</u>	DAILY BY SA	7 - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWE AM STEEL WAY	RLS-3 WEST OF E	BUILDINGS AT ARROWHEAD RESEAF	RCH PARK				0.00	No		Yes	
<u>04</u>	DAILY TO SH	(- COMPLETE VISUAL INSPECTION OF LIFT STATION SEWE	RLS-4 WEST OF S	SUGARMAN SPACE GRANT BUILDING	CLOSE				0.00	No		Yes	
<u>05</u>	DAILY STREE	(- COMPLET 5 TION OF LIFT STATION SEVVE	RLS-5 WEST OF S	SKEEN HALL GREENHOUSES NEXT TO	O KNOX				0.00	No		Yes	
<u>06</u>	WEEK MODL SEWE	LY - ENTER METER READING FOR SEWERLS-1-MTR BY SE ILE (TO CALCULATE READING ADD METER READING FOR F (RLS-1)	LECTING RAPID M PUMP 1 TO METER	ETER READING IN PREVENTIVE MAIN READING FOR PUMP 2 ON LIFT STAT	TENANCE FION				0.00	No		Yes	

- 4. Checkpoints which are to be completed daily will start with the word "DAILY".
- 5. Checkpoints which are to be completed weekly will start with the word "WEEKLY".

Recording Meter Readings

Meter readings can be recorded in AiM for the sewer lift stations to prompt a preventive maintenance work order to be generated every 1000 hours of operation according to the meter reading for the lift station (each lift station has two pumps and a meter that sums the runtime for both pumps). The work order that gets generated is identical to the quarterly preventive maintenance work order for the lift stations.

	Hello, SHALEY
workDesk	
Menu ^	Administrator Messages
Kork Management Accounts Payable AiMport	Personal Query Count
Asset Management Condition Assessment Contract Administration Custamer Service	
 Estimating Finance Human Resources 	
 Inventory Key & Access Control Motor Pool 	
Planning and Needs Analysis Preventive Maintenance Project Management Property Purchasing Space Management	

1. Select the **Preventive Maintenance** module

AiM		Hello, SHALEY
🔇 Preventive M	laintenance	
Menu	A	
 PM Template PM Generator PM Meter Reading Rapid Meter Reading 	2	
Report Listing	^ edit x	
 130-PROJECT 140-PROJECT TRANS 275-PLANNED WO PRI 420-PLAN PHS EST SU 	VIEWER NT MMARY	
(c) 2014 AssetWorks	M 5 (O)	

2. Select Rapid Meter Reading.

MAM	\frown	Hello, SHALEY				<u>Logout</u>	<u>About</u>	<u>Help</u>
🔇 Rapid Meter Reading	3						0	
Meter	uipment		Reading Date	I	Reader			
		2		1	P		0	0

3. Select the search \mathfrak{P} icon for the Meter or enter the meter name if already known.

Meter		۹ 🔕 🕨
Meter +	Description	
9756NM-MTR	7 PASSENGER MINI VAN	,
ACOM-269-0001	AIR COMPRESSOR NO.1 ASSET METER DO NOT USE!!!	
ACOM-269-0002	AIR COMPRESSOR NO.2 ASSET METER DO NOT USE!!	
ACOM-269-0003	AIR COMPRESSOR NO 3 HOUR METER	

4. After selecting the search \mathbb{P} icon, select the search \mathbb{R} icon on the pop-up screen.

Meter	
Equipment Meter	6
Meter	
Description	ontains 🔻 ARROWHEAD
UOM	
Rollover Point	
Rollover Count	
Equipment	

- 5. Enter search desired search criteria (such as location of meter in the description).
- 6. Select the search \sum icon.

Meter		N
Meter +	Description	
SEWERLS-3-MTR 7	CUMULATIVE METER FOR BOTH PUMP 1 AND PUMP 2 FOR SEWER LIFT STATION 3 LOCATED IN SWR SYSTEM SECTION 2 WEST BUILDINGS AT ARROWHEAD RESEARCH PARK BY SAM STEEL WAY	OF

7. Select the meter.

AM	Hello, SHAL	.EY								<u>Logout</u>	<u>About</u>	<u>Help</u>
🔇 Rapid Meter Readir	ng						8				0	
Meter	Equipment		Readin	g Date	e		\mathbf{r}	Re	eader			
SEWERLS-3-MTR		8	Nov 1	2, 201	4 01:	07 PM		(>		۵ (
					Nover	nber 2	2014					
			<<	<		Now)	• >>				
			Su	Mo	Tu	We	Th F	r Sa				
			26	27	28	29	30 3	7 0				
			4	3 10	4	0 12.	13 1	0 4 15				
			\sim	10	18	15	20 2	1 22				
		(9	Э,	24	25	26	27 2	8 29				
		\sim	30	1	2	3	4	5 6	il i			
			1	2	3	4	5 6	S AM				
			7	2	9	4	11 1	2 PM				
								-				
			:00	:05	:10	:15 :	20 :2	:5 ·~				
			:30	:35	:40 Even	:45 : tminu	:50 :5 itos: 🔽					
					ZXAL	. mna	neo.		-			
				6	elect D	ate ani	d Time					

- 8. Select the **calendar** icon in the **Reading Date** field.
- 9. Select the reading date.

AiM		Hello, SHALEY		Logout About Help
🔇 Rapid Meter Re	ading			5 🔊 🗟
Meter	Equipment		Reading Date	Reader
SEWERLS-3-MTR	۶ (2	Nov 12, 2014 01:07 PM 🗃	SHALEY P O O

- 10. Enter username of the person who took the reading.
- 11. Select the **add** 😳 icon.

AiM 💫 Rapid Met	er Reading	Hello, SHALEY		Logout About Help
Meter SEWERLS-3-MT	Equipment	Reading Date Nov 12, 2014 01:07	Reader PM 🛐 SHALEY	2 © ⊜ (
Meter	Equipment	Reading Date	Reader	Reading
SEWERLS-3-MT	r) 8) 👂 (Nov 12, 2014 01:07 PM 🗃	SHALEY 2	600
		-		(12)

12. Enter the meter reading in the **Reading** field.

AM		Hello, SHALEY	Logout About Help	
🚳 Rapid Mete	r Reading		چ 🔕 🗟	
Meter	Equipment	Reading Date	Reader	
SEWERLS-4-MTR		Nov 12, 2014 01:07 PM	SHALEY 👂 🗞 🧶 🚳	_
	\rightarrow			
📃 Meter	(13a)	Reading Date Re	eader Reading (13	3b
SEWERLS-3-MTR		P (Nov 12, 2014 01:07 PM 🗃 (S	SHALEY P 600	_

- 13. To add a reading for another meter do the following:
 - a. Change the **Meter**.
 - b. Select the **add** 😳 icon.

	М		Hello, SHALE	Y			Logout About	Help	
S	Rapid Meter Re	ading					50		\frown
	Meter	Equipment		Reading Date		Reader		2	15
	SEWERLS-4-MTR	۶ (}	Nov 12, 2014 01:07 I	PM 💐	SHALEY	2 3		
	Meter	Equipment		Reading Date	Reader	F	Reading		
	SEWERLS-4-MTR	۶ [?	Nov 12, 2014 01:07 PM 💐	SHALEY	₽	700	\square	
	SEWERLS-3-MTR	8	2	(Nov 12, 2014 01:07 PM 💐	SHALEY	2	600.00000000 (> ` 1/	

- 14. Enter the meter reading for the new meter in the **Reading** field.
- 15. When all meter readings have been entered select the save \square icon.

List of Checkpoints from PM Standards

Checkpoint	Description	Measurement
1	DAILY - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWERLS-1 AT S.W. CORNER OF PAN AMERICAN CENTER	No
2	DAILY - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWERLS-2 AT NORTH SIDE OF HOUSING WAREHOUSE, LOOKS LIKE MANHOLE	No
<u>3</u>	DAILY - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWERLS-3 WEST OF BUILDINGS AT ARROWHEAD RESEARCH PARK BY SAM STEEL WAY	No
<u>4</u>	DAILY - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWERLS-4 WEST OF SUGARMAN SPACE GRANT BUILDING CLOSE TO SHEEP PENS	No
<u>5</u>	DAILY - COMPLETE VISUAL INSPECTION OF LIFT STATION SEWERLS-5 WEST OF SKEEN HALL GREENHOUSES NEXT TO KNOX STREET	No
<u>6</u>	WEEKLY - ENTER METER READING FOR SEWERLS-1-MTR BY SELECTING RAPID METER READING IN PREVENTIVE MAINTENANCE MODULE (TO CALCULATE READING ADD METER READING FOR PUMP 1 TO METER READING FOR PUMP 2 ON LIFT STATION SEWERLS-1)	No
2	WEEKLY - ENTER METER READING FOR SEWERLS-2-MTR BY SELECTING RAPID METER READING IN PREVENTIVE MAINTENANCE MODULE (TO CALCULATE READING ADD METER READING FOR PUMP 1 TO METER READING FOR PUMP 2 ON LIFT STATION SEWERLS-2)	No

<u>8</u>	WEEKLY - ENTER METER READING FOR SEWERLS-3-MTR BY SELECTING RAPID METER READING IN PREVENTIVE MAINTENANCE MODULE (TO CALCULATE READING ADD METER READING FOR PUMP 1 TO METER READING FOR PUMP 2 ON LIFT STATION SEWERLS-3)	No
<u>9</u>	WEEKLY - ENTER METER READING FOR SEWERLS-4-MTR BY SELECTING RAPID METER READING IN PREVENTIVE MAINTENANCE MODULE (TO CALCULATE READING ADD METER READING FOR PUMP 1 TO METER READING FOR PUMP 2 ON LIFT STATION SEWERLS-4)	No
<u>10</u>	WEEKLY - ENTER METER READING FOR SEWERLS-5-MTR BY SELECTING RAPID METER READING IN PREVENTIVE MAINTENANCE MODULE (TO CALCULATE READING ADD METER READING FOR PUMP 1 TO METER READING FOR PUMP 2 ON LIFT STATION SEWERLS-5)	No

Water Valves

Preventive Maintenance for valves is performed annually. The Preventive Maintenance work orders for valves will be generated each year on February 1st for all water system sections. Valves are grouped together by sections into a single asset. For example, all of the Valves located in section WATER SYST SEC1 are stored as asset WATERV-SEC1 in AiM and each valve is represented by a checkpoint measurement in the phase of the work order.

Completing Individual Valve Checkpoint Measurements

AM		He	IIO, SHALEY		Logout About Help
🖲 Phase	View	Select	🗟 👌	🔍 🏹 義	📙 🎄 🔌 🤧 🕨
Phase	001	Created E Date Crea	By SHALEY ated Mar 09, 2015 03:18 PM	Status Work Order	NEW 15-022252
Description	PM PHASE FOR INDIVIDUAL WATER VALV	ES IN WATER SYSTE	EM SEC 1	Budget Location or Room	\$0.00
Shop		Estimated Date	:5	Classification	
Shop	<u>UTILITIES</u>	Estimated Start	Feb 01, 2015 12:00 AM	Funding Method	Work Order
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES
Drimon: Doroon		Return Ctart		Work Code	<u>D2020</u>
Primary Person		Actual Start		Request Method	DOMESTIC WATER
Priority	3-ROUTINE	Percent Complete			
E main man and / h a					
Equipment/As	Asset 1	Capital Project		Contract Type	
Accet					
A0001					
	WATER VALVES FOR PROPERTY	Component Group			
Asset Group	WATERV				
Failure Code					
		Component			
Template	FS-UTL-016				
PM Standards	WATERV-SEC1				
Shop Person					🤱 🗗 🔍 🧟
Shop Person	Name		Primary C	Certified Assign	ed By Assigned Date

1. The phase on the work order for valves located in section WATER SYST SEC1 has asset WATERV-SEC1 assigned to it which represents all of the valves for section WATER SYST SEC1.

AM		Hello, SHALEY			Logout About	<u>Help</u>
🖲 Phase	View:	Select •	۵ 🗟	🔍 🖉 🗟	📙 🎪 🖄 🤧	
Phase	001	Extra Description Shop Stock Budget Change Order Condition Assessment Information	03:18 PM	Status Work Order	NEW 15-022252	
Description	PM PHASE FOR INDIVID	Assessment Activity Checknoint Measurements		Budget		\$0.00
		Cost Analysis Dependencies Material Requests Estimates Unit Costs		Location or Room		
Shop		Sent Email Survey History		Classification		
Shop	UTILITIES	Notes Log Liser Defined Fields	AM	Funding Method	Work Order	
	F00455:UTILITIES	Status History Related Documents		Work Code Group	UTILITIES	
Primary Person		Actual Start		Work Code	<u>D2020</u>	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Actual End			DOMESTIC WATER	
		notali Ena		Request Method		

The individual valves are tracked in the PM Standard Checkpoint Measurements for the phase:

2. Select "Checkpoint Measurements" from the "View" menu.

- AM		Hello, SHALEY Logout Ak						
Chec	ckpoint Measure	ements					1	P
Phase	001		Created By	SHALEY	Work Order	15-022252		
			Date Created	Mar 09, 2015 03:18 PM				
Description	PM PHASE FOR IND	ASE FOR INDIVIDUAL WATER VALVES IN WATER SYSTEM SEC 1 PM Standards WATERV-SEC1						
					1 M Otandards	WATERW-SECT		
Checkpoint	Value	Description		Evel 4				
VALVE 57		LOCATION: S.E. OF BARN PARKING LOT; SIZE: 6 INC	ES & NOBLE IN HES					
VALVE 122		SIZE: 6 INCHES						
VALVE 123		SIZE: 6 INCHES						
VALVE 124		SIZE: 6 INCHES						
VALVE 125		SIZE: 4 INCHES						

- 3. The individual valves are shown here as *Checkpoints*.
- 4. The "Description" field specifies the location of the valve and the size (if both are known).

The phase has to be put into edit mode in order to edit the PM Checkpoint Measurements:

AM	Hello, SHALEY						ut <u>About Help</u>
Check	Checkpoint Measurements					5	
Phase	001		Created By	SHALEY	Work Order	15-022252	
			Date Created	Mar 09, 2015 03:18 PM			
Description	PM PHASE FOR IND	DIVIDUAL WATER VALVES IN WA	TER SYSTEM SE	C 1	PM Standards	WATERV-SEC1	
Checkpoint	Value	Description		Extra Description			
VALVE 57		LOCATION: S.E. OF BARNI PARKING LOT; SIZE: 6 INC	ES & NOBLE IN HES				
VALVE 122		SIZE: 6 INCHES					

5. Select the **done** icon to navigate back to the phase.

AM		Hello, Sł	HALEY		Logout About Help
🖲 Phase	View	C Select	т 🗟 👌	🏓 🖉 🗟	📙 🎄 🖄 🏂 🕨
Phase	001	Created By	SHALEY	Status	NEW
		Date Created	Mar 09, 2015 03: 0	Work Order	<u>15-022252</u>
Description	PM PHASE FOR INDIVIDUAL WATER VALV	Budget	\$0.00		
		Location or Room			
Shop		Estimated Dates		Classification	
Shop	UTILITIES	Estimated Start Feb	01, 2015 12:00 AM	Funding Method	Work Order

6. Select the **edit** \swarrow icon.

-/AiM		Hell	Io, SHALEY			Logout About Help
🖲 Phase				View:	Select	🗟 🔕 🔄
Phase	001	Created By Date Crea	y SHALEY Ited M 7	:18 PM	Extra Description Shop Stock Budget Change Order Condition Assessment Information	P
Description	PM PHASE FOR INDIVIDUAL WATER VAL SEC 1	VES IN WATER SYSTE			Assessment Activity Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates Unit Costs	\$0.00
Shop		Estimated Dates	s		Survey History Notes Log	
Shop		Estimated Start	Feb 01, 2015 12:00	AM 💐	User Defined Fields Status History	r 🔻
	F00455:UTILITIES	Estimated End		8	Related Documents	 ?
Primary Person		Actual Start Actual End		2	Work Code D2020 DOMESTIN	2 WATER

7. Select "Checkpoint Measurements" from the "View" menu.

	AiM		Hello, Sł	Hello, SHALEY					About	<u>Help</u>
	le Cheo	ckpoint Measurements							0	
	Phase	001	Created By	SHALEY		Work Order	15-022252			
			Date Created	Mar 09, 2015	03:18 PM					
	Description PM PHASE FOR INDIVIDUAL WATER VALVES IN WATER SYSTEM SEC 1					PM Standards	WATERV-SEC1			
	Checkpoint	Value	Description		Extra Descrip	ntion				
\bigcap		-	EXERCISE VALVE							
(8	5		CLEAN VALVE BOX							
	03		ADD MUD PLUG							
	04		PAINT LID							
	05		INSPECT CONCRETE BASE							
	VALVE 57		LOCATION: S.E. OF BARNES & I PARKING LOT; SIZE: 6 INCHES	VOBLE IN						<u>]</u>
g	VALVE 122	~	SIZE: 6 INCHES							

- 8. Any **Checkpoints** that do not have a value field where information can be entered are for instruction purposes only, and the **Description** of each of these **Checkpoints** should be read before starting **PM**.
- 9. Enter "Value" for Checkpoint Measurement.
- 10. If **search** *P* icon is present then select the **search** *P* icon to view valid options for the "Value" field.

	Attribute Validation		<	0	
	Code +	Description			
\frown	N	NO, VALVE PM NOT COMPLETED			
$\left(\begin{array}{c}11\end{array}\right)$	<u>∼</u> ⊻	YES, VALVE PM COMPLETED			

11. After selecting the search \mathfrak{P} icon, select a Code from the pop up window for the Value.

AM			Hello, S	HALEY			Lo	<u>igout About Hel</u>	p	_
Che	ckpoint I	Measurements						5 🔕 🚶		3
Phase	001		Created By	SHALEY		Work Order	15-022252			
			Date Created	Mar 09, 2015	5 03:18 PM					
Description	on PM PHASE FOR INDIVIDUAL WATER VALVES IN WATER SYSTEM SEC 1				PM Standards	MATERY SEC1				
						r M Stanuarus	WATERV-SECT			
						ļ				
Checkpoint	Value	Descriptio	'n		Extra Descri	ption				
01		EXERCISE	VALVE							
02		CLEAN VA	LVE BOX							
03		ADD MUD F	LUG							
04		PAINT LID								
05		INSPECT C	ONCRETE BASE							
VALVE 57	۲ ۶	LOCATION	S.E. OF BARNES &	NOBLE IN				\sim	 12)
		PARKING L	OT; SIZE: 6 INCHES							/
VALVE 122	~	SIZE: 6 INC	HES							

- 12. Enter a Description if something needs to be noted about the valve.
- 13. Select the **done** icon to navigate back to the phase.

AM		Hell	o, SHALEY			
🖲 Phase			View: Sele	ect	🗟 🗟 🕒	(14)
Phase	001	Created By	/ SHALEY	Status	NEW 2	
		Date Crea	ted Mar 09, 2015 03:18 PM	Work Order	<u>15-022252</u>	
Description	PM PHASE FOR INDIVIDUAL WATER VAL	VES IN WATER SYSTE	M	Budget	\$0.00	
			1	Location or Room	 ?	
Shop		Estimated Dates	5	Classification		
Shop		Estimated Start	Feb 01, 2015 12:00 AM 💐	Funding Method	Work Order 🔹	
	F00455:UTILITIES	Estimated End		Work Code Group		
Primary Person		Actual Start		Work Code	D2020	

14. Select the **save** sicon to save the Checkpoint changes and exit edit mode.

List of Checkpoints from PM Standards

Since valves are tracked as checkpoints, and there are over a hundred valves only a portion of the *Checkpoints* for valves in WATER SYST SEC1 are shown below:

Checkpoint	Description	Measurement
<u>VALVE 122</u>	SIZE: 6 INCHES	Yes
VALVE 123	SIZE: 6 INCHES	Yes
VALVE 124	SIZE: 6 INCHES	Yes
<u>VALVE 125</u>	SIZE: 4 INCHES	Yes
<u>VALVE 127</u>	LOCATION: FEEDS ED SERVICES; SIZE: ?	Yes
<u>VALVE 128</u>	LOCATION: HYDRANT ON N.W. CORNER OF PAN AM; SIZE: 6 INCHES	Yes
<u>VALVE 130</u>	LOCATION: CENTER OF GARCIA HALL IN GRASS, FEEDS TOWARDS CORBETT; SIZE: 10 INCHES	Yes
<u>VALVE 131</u>	LOCATION: IN TUNNEL, ISOLATES CORBETT & TOWARDS GARCIA ANNEX; SIZE: 6 INCHES	Yes
<u>VALVE 134</u>	SIZE: 8 INCHES	Yes
<u>VALVE 364</u>	SIZE: 4 INCHES	Yes

Fire Hydrants

Preventive Maintenance for fire hydrants is performed annually. The Preventive Maintenance work orders for fire hydrants will be generated each year on May 1st for all water system sections. Fire hydrants are grouped together by sections into a single asset. For example, all of the fire hydrants located in section WATER SYST SEC1 are stored as asset WATERFH-SEC1 in AiM, and each fire hydrant is represented by a checkpoint measurement in the phase of the work order.





AiM		Hel	llo, SHALEY					Lo	gout <u>About</u>	Help
🖲 Phase	View	Select		-	٢	V 🖉		🔋 🎪	چ 🔌	
Phase	001	Created E	by SHALEY			Status		NEW		
		Date Crea	ated Mar 09, 201	15 03:56 PM		Work Order		<u>15-022253</u>		
Description	PM PHASE FOR INDIVIDUAL FIRE HYDRAI	NTS IN WATER SYST	EM SEC 1			Budget				\$0.00
						Location or	Room			
Shop		Estimated Date	S			Classific	ation			
Shop	UTILITIES	Estimated Start	May 01, 2015 12:	00 AM		Funding Me	thod	Work Order		
	F00455:UTILITIES	Estimated End				Work Code	Group	UTILITIES		
Primary Person		Actual Start			-	Work Code		<u>D2020</u>		
		Actual End						DOMESTIC V	VATER	
						Request Me	ethod			
Priority	3-ROUTINE	Percent Complete								
Equipment/As	set 1	Capital Project				Contract	or			
Туре	Asset	Capital Project				Contract Ty	pe			
Asset	WATERFH-SEC1									
	FIRE HYDRANTS FOR PROPERTY									
Asset Group	WATERFH	Component Group								
Failure Code										
		Component								
Template	FS-UTL-020	oomponon								
PM Standards	WATERFH-SEC1									
Shop Person									1 af 1	• •
Shop Person	Name		P	rimary	Cer	tified	Assign	ed By	Assigned Dat	te

Completing Individual Fire Hydrant Checkpoint Measurements

1. The phase on the work order for fire hydrants located in section WATER SYST SEC1 has asset WATERFH-SEC1 assigned to it which represents all of the fire hydrants for section WATER SYST SEC1.

3

The individual fire hydrants are tracked in the *PM Standard Checkpoint Measurements* for the phase:

AM		Hello, SHALEY			<u>Logout About Help</u>
🖲 Phase	View:	Select 🔹	١ 🗟	🖳 🖉 🗟	📙 🎄 🖄 🔊
Phase	001	Extra Description Shop Stock Budget Change Order Condition Assessment Information	03:56 PM	Status Work Order	<u>NEW</u> <u>15-022253</u>
Description	PM PHASE FOR INDIVID	Assessment Activity Checkpoint Measurements		Budget	\$0.00
		Cost Analysis Dependencies Material Requests Estimates Unit Costs		Location or Room	
Shop		Sent Email Survey History		Classification	
Shop	UTILITIES	Notes Log User Defined Fields	AM	Funding Method	Work Order
	F00455:UTILITIES	Status History Related Documents		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2020</u>
		Actual End		Request Method	DOMESTIC WATER

2. Select "Checkpoint Measurements" from the "View" menu.

AiM			Hello, Sl	HALEY		Logout	<u>About</u>	<u>Help</u>
Checl	kpoint Measurem	ents					2	
Phase	001		Created By	SHALEY	Work Order	15-022253		
			Date Created	Mar 09, 2015 03:56 PM				
Description	PM PHASE FOR INDIVID	UAL FIRE HYDRANTS IN W	ATER SYSTEM S	EC 1	PM Standards	WATERFH-SEC1		
Checkpoint	Value	Description		Extra Description				
HYDRANT 73		FIRE HYDRANT 73 COMPL	ETED?					
73 PITOT READ	40	FIRE HYDRANT 73 PITOT R	EADING (GALLON	S)				
73 STATIC READ		FIRE HYDRANT 73 STATIC	READING (PSI)					
HYDRANT 74	(4b)	FIRE HYDRANT 74 COMPL	ETED?					
74 PITOT READ		FIRE HYDRANT 74 PITOT R	EADING (GALLON	S)				
74 STATIC READ		FIRE HYDRANT 74 STATIC	READING (PSI)					

- 3. The individual fire hydrants are shown here as *Checkpoints*.
- 4. Along with the individual fire hydrants, there are also checkpoints to record readings for each fire hydrant:
 - a. <Hydrant #> PITOT READ is used to record the pitot reading for the hydrant.
 - b. <Hydrant #> STATIC READ is used to record the static reading for the hydrant.

The phase has to be put into edit mode in order to edit the PM Checkpoint Measurem	ents:
--	-------

-/AiM			Hello, Sł	IALEY		Logou	<u>t About Help</u>
Check	(point Measur	rements				5	1
Phase	001		Created By	SHALEY	Work Order	15-022253	
			Date Created	Mar 09, 2015 03:56 PM			
Description	PM PHASE FOR INI	DIVIDUAL FIRE HYDRANTS IN V	VATER SYSTEM S	EC 1	PM Standards	WATERFH-SEC1	
Checkpoint	Value	Description		Extra Description			
HYDRANT 73		FIRE HYDRANT 73 COMP	_ETED?				
73 PITOT READ		FIRE HYDRANT 73 PITOT	READING (GALLON	S)			

5. Select the **done** icon to navigate back to the phase.

/AiM		Hello, S	HALEY		Logout About Help
🖲 Phase	View	/: Select	• 🗟 👌	🏓 🖉 🗟	📙 🎄 🖄 🦽 🕨
Phase	001	Created By	SHALEY	Status	NEW
		Date Created	Mar 09, 2015 03:	Work Order	<u>15-022253</u>
Description	PM PHASE FOR INDIVIDUAL FIRE HYDRA	NTS IN WATER SYSTEM S	BEC 1	Budget	\$0.00
				Location or Room	
Shop		Estimated Dates		Classification	
Shop	UTILITIES	Estimated Start May	/ 01, 2015 12:00 AM	Funding Method	Work Order

6. Select the **edit** \bigvee icon.

-/AiM		Hel	llo, SHALEY			Logout About Help
🖲 Phase				View:	Select Select	- 🗟 🔕 🔄
Phase	001	Created E Date Crea	ated May 7	56 PM	Extra Description Shop Stock Budget Change Order Condition Assessment Information	 ?
Description	PM PHASE FOR INDIVIDUAL FIRE HYDR SEC 1	ANTS IN WATER SYS	TEM		Assessment Activity Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates Unit Costs	\$0.00 <i>P</i>
Shop		Estimated Date	s		Survey History Notes Log	
Shop		Estimated Start	May 01, 2015 12:00	AM 💐	User Defined Fields Status History	r 🔻
	F00455:UTILITIES	Estimated End		1	Related Documents	s %
Primary Person		Actual Start		8	Work Code D2020	۶
		Actual End		8	Request Method	IC WATER

7. Select "Checkpoint Measurements" from the "View" menu.

AM		Hello, Si	IALEY			Log	<u>out About H</u>
🖲 Check	point Measurements						Part 🖓
Phase	001	Created By	SHALEY		Work Order	15-022253	
		Date Created	Mar 09, 201	5 03:56 PM			
Description	PM PHASE FOR INDIVIDUAL FIRE HYDF	RANTS IN WATER SYSTEM S	EC 1		PM Standards	WATERFH-SEC1	
Checkpoint Va	lue	Description		Extra Descrip	tion		
		CHECK WHICH WELLS ARE OP	ERATIONAL				
5		CHECK THE LEVELS OF THE TA	ANKS				
03		OPEN HYDRANT					
04		FLOW HYDRANT					
05		PITOT READING					
06		STATIC READING					
07		CLOSE HYDRANT					
08		CHECK EXCESSIVE VALVE RE	SISTANCE				
09		GREASE AS NEEDED - FOOD G GREASE	RADE				
10		ADD OIL AS NEEDED - FOOD G	RADE OIL				
11		CHECK IF HYDRANT NEEDS TO	BE PAINTED				
12		CHECK THE CONDITION OF THE	GASKETS				
13		CHECK IF ALL CHAINS ARE IN	PLACE				
HYDRANT 73		FIRE HYDRANT 73 COMPLETED	1?				
73 PITOT READ		FIRE HYDRANT 73 PITOT READ (GALLONS)	ING				

- 8. Any **Checkpoints** that do not have a value field where information can be entered are for instruction purposes only, and the **Description** of each of these **Checkpoints** should be read before starting **PM**.
- 9. Enter "Value" for Checkpoint Measurement.
- 10. If search $\stackrel{>}{\sim}$ icon is present then select the search $\stackrel{>}{\sim}$ icon to view valid options for the "*Value*" field. If search $\stackrel{>}{\sim}$ icon is not present then the value must be hand entered.

	Attribute Validation		٩	0	
	Code +	Description			
\frown	N	NO, FIRE HYDRANT PM NOT COMPLETED			
11 >	Υ	YES, FIRE HYDRANT PM COMPLETED			

11. After selecting the search \mathcal{P} icon, select a Code from the pop up window for the Value.

MIA	Hello, SHALEY Logout About Help						
Che	ckpoint Measurements					🗟 🔕 ෦	13
Phase	001	Created By SHALEY		Work Order	15-022253		
		Date Created Mar 09, 2	015 03:56 PM				
Description	PM PHASE FOR INDIVIDUAL FI	RE HYDRANTS IN WATER SYSTEM SEC 1		PM Standards	WATERFH-SEC1		
Checkpoint	Value	Description	Extra Descri	ption			
01		CHECK WHICH WELLS ARE OPERATIONAL					
02		CHECK THE LEVELS OF THE TANKS					
03		OPEN HYDRANT					
04		FLOW HYDRANT					
05		PITOT READING					
06		STATIC READING					
07		CLOSE HYDRANT					
08		CHECK EXCESSIVE VALVE RESISTANCE					
09		GREASE AS NEEDED - FOOD GRADE GREASE					
10		ADD OIL AS NEEDED - FOOD GRADE OIL					
11		CHECK IF HYDRANT NEEDS TO BE PAINTED	>				
12		CHECK THE CONDITION OF THE GASKETS					
13		CHECK IF ALL CHAINS ARE IN PLACE					
HYDRANT 73	۶ ۲	FIRE HYDRANT 73 COMPLETED?					12
73 PITOT READ	100	FIRE HYDRANT 73 PITOT READING (GALLONS)					
73 STATIC READ	18	FIRE HYDRANT 73 STATIC READING (PSI)					

- 12. Enter a Description if something needs to be noted about the valve.
- 13. Select the **done** icon to navigate back to the phase.

-AM		Hell		Logout About Help		
🖲 Phase			View: Sele	ct	- 🛛 🗟 🗟	14
Phase	001	Created By	SHALEY	Status	NEW 2	
		Date Creat	ed Mar 09, 2015 03:56 PM	Work Order	<u>15-022253</u>	
Description	PM PHASE FOR INDIVIDUAL FIRE HYDR. SEC 1	ANTS IN WATER SYST	EM	Budget	\$0.00	
				Location or Room	₽	
						ļ
Shop		Estimated Dates	;	Classification		
Shop		Estimated Start	May 01, 2015 12:00 AM 💐	Funding Method	Work Order 🔹	
	F00455:UTILITIES	Estimated End		Work Code Group		
Primary Person		Actual Start		Work Code	D2020	

14. Select the **save** sicon to save the Checkpoint changes and exit edit mode.

List of Checkpoints from PM Standards

Since fire hydrants are tracked as checkpoints, and there are over a hundred fire hydrants only a portion of the *Checkpoints* for fire hydrants in WATER SYST SEC1 are shown below:

Checkpoint	Description	Measurement
<u>01</u>	CHECK WHICH WELLS ARE OPERATIONAL	No
<u>02</u>	CHECK THE LEVELS OF THE TANKS	No
<u>03</u>	OPEN HYDRANT	No
<u>04</u>	FLOW HYDRANT	No
<u>05</u>	PITOT READING	No
<u>06</u>	STATIC READING	No
<u>07</u>	CLOSE HYDRANT	No
<u>08</u>	CHECK EXCESSIVE VALVE RESISTANCE	No
<u>09</u>	GREASE AS NEEDED - FOOD GRADE GREASE	No
<u>10</u>	ADD OIL AS NEEDED - FOOD GRADE OIL	No
11	CHECK IF HYDRANT NEEDS TO BE PAINTED	No
<u>12</u>	CHECK THE CONDITION OF THE GASKETS	No
<u>13</u>	CHECK IF ALL CHAINS ARE IN PLACE	No
HYDRANT 73	FIRE HYDRANT 146 PITOT READING (GALLONS)	Yes
73 PITOT READ	FIRE HYDRANT 146 STATIC READING (PSI)	Yes
73 STATIC READ	FIRE HYDRANT 147 PITOT READING (GALLONS)	Yes
HYDRANT 74	FIRE HYDRANT 147 STATIC READING (PSI)	Yes
74 PITOT READ	FIRE HYDRANT 148 PITOT READING (GALLONS)	Yes
74 STATIC READ	FIRE HYDRANT 148 STATIC READING (PSI)	Yes

Water Sampling

There are 4 types of water sampling: BAC-T (completed monthly), TTHM & HAA5 (completed quarterly starting in January), Asbestos (completed every 9 years in the month of December), and Lead & Copper (completed every 3 years in the month of May). Sampling sites for the entire water system are grouped into a single asset called WATERSAMPSYS-SITES in AiM, and each sampling site is represented by a checkpoint measurement in the phase of the work order.





Completing Individual Sampling Site Checkpoint Measurements

The following steps were completed for Work Order created for BAC-T Sampling, but the same steps may be followed for any of the 4 water sampling types (BAC-T, TTHM & HAA5, Asbestos, Lead & Copper). The only difference between each type is that they will have different sampling sites listed in the checkpoints.

AM		He	llo, SHALEY		Logout About Help
🖲 Phase	View	Select	- 🗟 💩	V 🏹 🛃	📙 🎄 🖄 🦽 📜
Phase Description	001 PM PHASE FOR BUILDINGS REQUIRING V	Created E Date Crea WATER BACT SAMPL	By SHALEY ated Mar 16, 2015 01:50 PM JING (JAN, MAY, SEPT)	Status Work Order Budget	<u>NEW</u> <u>15-023051</u> \$0.00
Shop		Estimated Date	15	Location or Room	
Shop	<u>UTILITIES</u>	Estimated Start	Jan 01, 2015 12:00 AM	Funding Method	Work Order
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2020</u>
		Actual End		Request Method	DOMESTIC WATER
Priority	3-ROUTINE	Percent Complete			
Equipment/As	set	Capital Project		Contractor	
Туре	Asset	Capital Project		Contract Type	
Asset	WATERSAMPSYS-SITES				
	ALL WATER SAMPLING SITES ON				
Asset Group	WATERSAMPSYS	Component Group			
Failure Code					
		Component			
Template	FS-UTL-024				
PM Standards	WATER-BACTSAMP1				
Shop Person					🛔 💰 🔍 🛷
Shop Person	Name		Primary Co	ertified Assign	ed By Assigned Date

 The phase on the work order for BAC-T water sampling located in section WATER SYST has asset WATERSAMPSYS-SITES assigned to it which represents all of the sampling sites for section WATER SYST (WATER SYST represents the entire water system).

3

The individual sampling sites are tracked in the *PM Standard Checkpoint Measurements* for the phase:

- AM		Hello, SHALEY			Logout About Help
🖲 Phase	View:	Select 🔹	۵ 🗟	🔍 🖉 義	📙 💩 🖄 🤧
Phase	001	Extra Description Shop Stock Budget Change Order Condition Assessment Information	01:50 PM	Status Work Order	NEW 15-023051
Description	PM PHASE FOR BUILDING	Assessment Activity Checkpoint Measurements	D	Budget	\$0.00
		Cost Analysis 43 Dependencies Material Requests Estimates Unit Costs		Location or Room	
Shop		Sent Email Survey History		Classification	
Shop	UTILITIES	Notes Log User Defined Fields	AM	Funding Method	Work Order
	F00455:UTILITIES	Status History Related Documents		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2020</u>
		Actual End		Request Method	DOMESTIC WATER

2. Select "Checkpoint Measurements" from the "View" menu.

AM			Hello, S	HALEY		Logout	<u>About</u>	<u>Help</u>
Cheo	ckpoint Measu	irements						
Phase	001		Created By	SHALEY	Work Order	15-023051		
			Date Created	Mar 16, 2015 01:50 PM				
Description	PM PHASE FOR E	UILDINGS REQUIRING WATER	BACT SAMPLING ((JAN, MAY, SEPT)	PM Standards	WATER-BACTSAMP1		
Checkpoint	Value	Description		Extra Description				
S-412A		ACADEMIC RESEARCH A						
S-471		AGGIE EXPRESS STORE	& LAUNDROMAT	(4)				
S-30		AG. INSTITUTE						
S-184		BRELAND HALL						
S-187		CHEMISTRY BUILDING						
S-468		COCA-COLA WEIGHT TR	AINING ROOM					

- 3. The individual sampling sites are shown here as *Checkpoints* (the "S" in the checkpoint stands for "Site" and the value after the dash such as "412A" pictured above is the building number of the sampling site).
- 4. The "Description" field specifies the location of the sampling site.

The phase has to be put into edit mode in order to edit the PM Checkpoint Measurements:

AM			Hello, S	HALEY		Logout About	<u>Help</u>
leck	point Measure	ements				5	-
Phase	001		Created By	SHALEY	Work Order	15-023051	
			Date Created	Mar 16, 2015 01:50 PM			
Description	PM PHASE FOR BUI	LDINGS REQUIRING WATER I	BACT SAMPLING ((JAN, MAY, SEPT)	PM Standards	WATER-BACTSAMP1	
Checkpoint	Value	Description		Extra Description			
S-412A		ACADEMIC RESEARCH A					

5. Select the **done** icon to navigate back to the phase.

AiM		Hello, Sl	IALEY		Logout About	<u>Help</u>
🖲 Phase	View	Select	- 🗟 👌	🏓 🖉 💰	📙 🎪 🖄 🤧	
Phase	001	Created By	SHALEY	Status	NEW	
		Date Created	Mar 16, 2015 01: 0	Work Order	<u>15-023051</u>	
Description	PM PHASE FOR BUILDINGS REQUIRING V	WATER BACT SAMPLING (JAN, MAY, SEPT)	Budget		\$0.00
				Location or Room		
		Contractor				\equiv
Snop		Estimated Dates		Classification		
Shop	UTILITIES	Estimated Start Jan	D1, 2015 12:00 AM	Funding Method	Work Order	

6. Select the **edit** \bigvee icon.

		Hel	Io, SHALEY			Logout Abou	<u>t Help</u>
🖲 Phase			Vi	ew:	Select Select	- 🗟 📀) 🖣
Phase	001	Created B Date Crea	y SHALEY ited Ma 7 50) PM	Extra Description Shop Stock Budget Change Order Condition Assessment Information		8
Description	PM PHASE FOR BUILDINGS REQUIRING SAMPLING (JAN, MAY, SEPT)	WATER BACT			Assessment Activity Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates Unit Costs	\$0.00	
Shop		Estimated Date	s		Survey History Notes Log		
Shop		Estimated Start	Jan 01, 2015 12:00 AM	8	User Defined Fields Status History		
	F00455:UTILITIES	Estimated End		8	Related Documents	:8	2
Primary Person		Actual Start		8	Work Code D2020		_^
D 1 1		Actual End		8	Request Method	TIC WATER	

7. Select "Checkpoint Measurements" from the "View" menu.

AM		Hello, SHALEY				
🖲 Che	ckpoint Measurem	ents			5	
Phase	001	Created By	SHALEY	Work Order	15-023051	
		Date Created	Mar 16, 2015 01:50 PM			
Description	PM PHASE FOR BUILDI	NGS REQUIRING WATER BACT SAMPLING	(JAN, MAY, SEPT)	PM Standards	WATER-BACTSAMP1	
Checkpoint	Value	Description	Extra Des	cription		
00-NOTE		PLEASE SEE RELATED DOCUM MORE DETAILED SAMPLING INS	ENTS FOR STRUCTIONS			
01		ADD SODIUM THIOSULPHATE T BOTTLE AND THEN STERILIZE	O SAMPLING			
02		SELECT A SAMPLING POINT				
03		FLUSH THE LINE				
04		TAKE A CHLORINE RESIDUAL F	READING			
05		COLLECT THE SAMPLE				
06		MARK THE BOTTLES FOR IDEN	TIFICATION			
07		REFRIGERATE THE SAMPLE				
08		COMPLETE THE SAMPLE FORM TO LAB	AND DELIVER			
S-412A	10	ACADEMIC RESEARCH A				
S-471	~ ²	AGGIE EXPRESS STORE & LAL				

8. Any Checkpoints that do not have a value field where information can be entered are for instruction purposes only, and the Description of each of these Checkpoints should be read before starting PM. In the case of the first checkpoint shown above it states to view Related Documents for further instructions which can be found in the View menu of the Work Order (pictured below):

AM		Hello, SHALEY		
🖲 Work	c Order View:	Select •	- 😼 (چ چ
Work Order	15-023051	Extra Description Reference Data Account Setup Budget Change Order	vi	Status Project
Description	PM WORK ORDER FOR BUILDINGS REQUIRING V	Cost Analysis Assessment Deficiency Condition Assessment Information Sent Email Notes Log User Defined Fields	D	Desired Budget
Organizatio	n	Status History Related Documents		Classi
Organization	F00455	University <u>NMSU</u>		Commo

- 9. Enter "Value" for Checkpoint Measurement.
- 10. If search *P* icon is present then select the search *P* icon to view valid options for the "*Value*" field. If search *P* icon is not present then the value must be hand entered.

	Attribute Validation		₹	0	
ĺ	Code +	Description			
	N	NO, SAMPLING NOT COMPLETED			
11 >	Y	YES, SAMPLING COMPLETED			

11. After selecting the search \mathfrak{P} icon, select a Code from the pop up window for the Value.

AM			Hello, Sl	HALEY			Logou	<u>t About Help</u>		\sim
📕 Che	ckpoint Meas	urements						5 🔕 🎙	\leq	13
Phase	001		Created By	SHALEY		Work Order	15-023051			
			Date Created	Mar 16, 2019	01:50 PM					
Description	PM PHASE FOR	BUILDINGS REQUIRING	WATER BACT SAMPLING ((JAN, MAY, SEF	ידי	PM Standards	WATER-BACTSAMP ⁷			
Checkpoint	Value	D	escription		Extra Descrip	rtion				
00-NOTE		P N	PLEASE SEE RELATED DOCUME MORE DETAILED SAMPLING INS	ENTS FOR STRUCTIONS						
01		A E	ADD SODIUM THIOSULPHATE TO BOTTLE AND THEN STERILIZE	O SAMPLING						
02		s	ELECT A SAMPLING POINT							
03		F	LUSH THE LINE							
04		т	AKE A CHLORINE RESIDUAL R	EADING						
05		c	COLLECT THE SAMPLE							
06		N	MARK THE BOTTLES FOR IDENT	TIFICATION						
07		F	REFRIGERATE THE SAMPLE							
08		C T	COMPLETE THE SAMPLE FORM	AND DELIVER					_	
S-412A	Y 8	A	ACADEMIC RESEARCH A						2)	
S-471	۶ 🗖	A	AGGIE EXPRESS STORE & LAUI	NDROMAT						

- 12. Enter a Description if something needs to be noted about the valve.
- 13. Select the **done** icon to navigate back to the phase.

_ _ _ _ _

AM	Hello, SHALEY			Logout About Help		
🖲 Phase			View: <mark>Se</mark>	lect	🗟 🗟 🔫	(14)
Phase	001	Created B	y SHALEY	Status	NEW 2	
		Date Crea	ated Mar 16, 2015 01:50 PM	Work Order	<u>15-023051</u>	
Description	PM PHASE FOR BUILDINGS REQUIRING SAMPLING (JAN, MAY, SEPT)	WATER BACT		Budget	\$0.00	
				Location or Room	 ?	
						J
Shop		Estimated Date	s	Classification		
Shop		Estimated Start	Jan 01, 2015 12:00 AM	Funding Method	Work Order 🔹]
	F00455:UTILITIES	Estimated End		Work Code Group		
Primary Person		Actual Start		Work Code	D2020	

14. Select the **save** icon to save the Checkpoint changes and exit edit mode.

List of Checkpoints from PM Standards

Below are the checkpoints for each type of water sampling starting with the first 9 checkpoints found in the PM Standards for all water sampling PM.

First 9 Checkpoints for each water sampling PM Standards:

Checkpoint	Description	Measurement
<u>00-NOTE</u>	PLEASE SEE RELATED DOCUMENTS FOR MORE DETAILED SAMPLING INSTRUCTIONS	No
<u>01</u>	ADD SODIUM THIOSULPHATE TO SAMPLING BOTTLE AND THEN STERILIZE	No
<u>02</u>	SELECT A SAMPLING POINT	No
<u>03</u>	FLUSH THE LINE	No
<u>04</u>	TAKE A CHLORINE RESIDUAL READING	No
<u>05</u>	COLLECT THE SAMPLE	No
<u>06</u>	MARK THE BOTTLES FOR IDENTIFICATION	No

Checkpoint	Description	Measurement
<u>07</u>	REFRIGERATE THE SAMPLE	No
<u>08</u>	COMPLETE THE SAMPLE FORM AND DELIVER TO LAB	No

Checkpoints for BAC-T water sampling completed in January, May, and September:

Checkpoint	Description	Measurement
<u>S-184</u>	BRELAND HALL	Yes
<u>S-187</u>	CHEMISTRY BUILDING	Yes
<u>S-206-107</u>	SUTHERLAND VILLAGE # 107	Yes
<u>S-206-430</u>	SUTHERLAND VILLAGE # 430	Yes
<u>S-206-810</u>	SUTHERLAND VILLAGE # 810	Yes
<u>S-214-1415</u>	TOM FORT VILLAGE # 1415	Yes
<u>S-245</u>	TEJADA BUILDING	Yes
<u>S-246</u>	SMALL ANIMAL LAB	Yes
<u>S-267</u>	FIRE STATION	Yes
<u>S-270-1601</u>	COLE VILLAGE # 1601	Yes
<u>S-270-1800</u>	COLE VILLAGE # 1800	Yes
<u>S-30</u>	AG. INSTITUTE	Yes
<u>S-338</u>	EDUCATIONAL SERVICES BUILDING	Yes

Checkpoint	Description	Measurement
<u>S-357</u>	DACC TRADES BUILDING	Yes
<u>S-385</u>	THEATRE SCENE SHOP	Yes
<u>S-397</u>	ENGINEERING COMPLEX II	Yes
<u>S-412A</u>	ACADEMIC RESEARCH A	Yes
<u>S-465</u>	EQUESTRIAN BUILDING	Yes
<u>S-468</u>	COCA-COLA WEIGHT TRAINING ROOM	Yes
<u>S-471</u>	AGGIE EXPRESS STORE & LAUNDROMAT	Yes
<u>S-514</u>	PHOTOVOLTAIC LAB	Yes
<u>S-526H-37</u>	VISTA DEL MONTE H-37	Yes
<u>S-526U-2</u>	VISTA DEL MONTE U-2	Yes
<u>S-633</u>	INDIAN CULTURAL CENTER	Yes
<u>S-645</u>	CHAMISA DORMS	Yes

Checkpoints for BAC-T water sampling completed in February, June, and October:

Checkpoint	Description	Measurement
<u>S-10</u>	GODDARD HALL	Yes
<u>S-154</u>	GARCIA ANNEX	Yes
<u>S-172</u>	HADLEY HALL	Yes

Checkpoint	Description	Measurement
<u>S-185</u>	HAMIEL HALL	Yes
<u>S-188</u>	GARDINER HALL	Yes
<u>S-206-3401</u>	SUTHERLAND VILLAGE # 3401	Yes
<u>S-206-511</u>	SUTHERLAND VILLAGE # 511	Yes
<u>S-214-1208</u>	TOM FORT VILLAGE # 1208	Yes
<u>S-214-1429</u>	TOM FORT VILLAGE # 1429	Yes
<u>S-214-1500</u>	TOM FORT VILLAGE # 1500	Yes
<u>S-244</u>	GERALD THOMAS HALL	Yes
<u>S-251</u>	AQUATIC CENTER	Yes
<u>S-270-1679</u>	COLE VILLAGE # 1679	Yes
<u>S-270-1901</u>	COLE VILLAGE # 1901	Yes
<u>S-271</u>	GREEK COMPLEX # 100	Yes
<u>S-275</u>	GARCIA HALL LOBBY	Yes
<u>S-33</u>	KENT HALL	Yes
<u>S-388</u>	VISTA DEL MONTE COMM. CENTER	Yes
<u>S-394A</u>	GENESIS CENTER A	Yes
<u>S-462-E16</u>	VISTA DEL MONTE E-16	Yes
<u>S-462-F2</u>	VISTA DEL MONTE F-2	Yes

Checkpoint	Description	Measurement
<u>S-467</u>	HOUSING & BOOKSTORE WAREHOUSE	Yes
<u>S-479</u>	DACC LEARNING RESOURCES	Yes
<u>S-643</u>	NMDA	Yes
<u>S-N001</u>	USDA COTTON GIN	Yes

Checkpoints for BAC-T water sampling completed in March, July, and November:

Checkpoint	Description	Measurement
<u>S-206-1013</u>	SUTHERLAND VILLAGE # 1013	Yes
<u>S-206-3427</u>	SUTHERLAND VILLAGE # 3427	Yes
<u>S-206-726</u>	SUTHERLAND VILLAGE # 726	Yes
<u>S-211</u>	RENTFROW GYM	Yes
<u>S-214-1208</u>	TOM FORT VILLAGE # 1208	Yes
<u>S-214-1400</u>	TOM FORT VILLAGE # 1400	Yes
<u>S-214-1418</u>	TOM FORT VILLAGE # 1418	Yes
<u>S-248</u>	REGENTS ROW LOBBY	Yes
<u>S-254</u>	FS PLUMBING SHOP/CONSTRUCTION SHOP	Yes
<u>S-270-1632</u>	COLE VILLAGE # 1632	Yes
<u>S-270-1699</u>	COLE VILLAGE # 1699	Yes

Checkpoint	Description	Measurement
<u>S-270-3501</u>	COLE VILLAGE # 3501	Yes
<u>S-284</u>	PAN AM CENTER	Yes
<u>S-314</u>	ATHLETIC FIELD RESTROOMS	Yes
<u>S-365</u>	SPEECH BUILDING	Yes
<u>S-368</u>	KNOX HALL	Yes
<u>S-390</u>	P.G.E.L.	Yes
<u>S-461</u>	ZUHL LIBRARY	Yes
<u>S-462</u>	VISTA DEL MONTE – CHILDREN'S VILLAGE	Yes
<u>S-462-D</u>	VISTA DEL MONTE D	Yes
<u>S-462-J33</u>	VISTA DEL MONTE J-33	Yes
<u>S-540</u>	DACC HEALTH & PUBLIC SERVICE	Yes
<u>S-601</u>	TENNIS CENTER	Yes
<u>S-632</u>	BARNES & NOBLE STORE	Yes
<u>S-N001</u>	USDA	Yes

Checkpoints for BAC-T water sampling completed in April, August, and December:

Checkpoint	Description	Measurement
<u>S-152</u>	FS CUSTODIAL QUONSET (HVAC)	Yes

Checkpoint	Description	Measurement
<u>S-164</u>	NEALE HALL	Yes
<u>S-199</u>	FARM MANAGERS RESIDENCE	Yes
<u>S-206-319</u>	SUTHERLAND VILLAGE #319	Yes
<u>S-206-329</u>	SUTHERLAND VILLAGE # 329	Yes
<u>S-206-411</u>	SUTHERLAND VILLAGE # 411	Yes
<u>S-206-610</u>	SUTHERLAND VILLAGE # 610	Yes
<u>S-214-1523</u>	TOM FORT VILLAGE # 1523	Yes
<u>S-262</u>	FRENGER FOOD COURT	Yes
<u>S-270-1619</u>	COLE VILLAGE # 1619	Yes
<u>S-270-2501</u>	COLE VILLAGE # 2501	Yes
<u>S-273</u>	GREEK 300	Yes
<u>S-282</u>	STUCKY HALL	Yes
<u>S-285</u>	CORBETT CENTER	Yes
<u>S-290</u>	FEEDING RESEARCH BUILDING	Yes
<u>S-30</u>	POLICE STATION	Yes
<u>S-32</u>	YOUNG HALL	Yes
<u>S-321</u>	ACTIVITY CENTER	Yes
<u>S-394D</u>	GENESIS D	Yes

Checkpoint	Description	Measurement
<u>S-462-A</u>	VISTA DEL MONTE A	Yes
<u>S-462-J13</u>	VISTA DEL MONTE J-13	Yes
<u>S-526-X2</u>	VISTA DEL MONTE X-2	Yes
<u>S-605</u>	CHAMISA	Yes
<u>S-633</u>	INDIAN CULTURAL CENTER	Yes
<u>S-N213</u>	DELTA ZETA HOUSE	Yes

Checkpoints for TTHM & HAA5 water sampling:

Checkpoint	Description	Measurement
<u>S-244</u>	GERALD THOMAS HALL	Yes
<u>S-321</u>	ACTIVITY CENTER	Yes
S-HYDRANT 127	HYDRANT 127	Yes
<u>S-WELL 17</u>	WELL 17	Yes

Checkpoints for Asbestos water sampling:

Checkpoint	Description	Measurement
<u>S-172</u>	NORTH SIDE OF HORSE SHOE HADLEY	Yes
<u>S-206</u>	SUTHERLAND VILLAGE 700 BLOCK	Yes
Checkpoint	Description	Measurement
--------------	---	-------------
<u>S-214</u>	TOM FORT 1500 BLOCK	Yes
<u>S-221</u>	FACILITIES AND SERVICES OFFICES	Yes
<u>S-338</u>	EDUCATIONAL SERVICES N SIDE OF BUILDING	Yes
<u>S-363</u>	ENGINEERING COMPLEX 1	Yes
<u>S-605</u>	CHAMESA BUILDING SOUTH SIDE	Yes

Checkpoints for Lead & Copper water sampling:

Checkpoint	Description	Measurement
<u>S-10</u>	GODDARD HALL	Yes
<u>S-172</u>	HADLEY HALL	Yes
<u>S-187</u>	CHEMISTRY	Yes
<u>S-267</u>	FIRE STATION	Yes
<u>S-284</u>	PAN AM	Yes
<u>S-30</u>	POLICE STATION	Yes
<u>S-321</u>	ACTIVITY CENTER	Yes
<u>S-341</u>	DACC	Yes
<u>S-596</u>	FULTON CENTER	Yes
<u>S-83</u>	MILTON HALL	Yes

Attaching Sampling Forms to Related Documents

Any forms completed and/or any results received from water sample testing need to be uploaded to the **Related Documents** for the **Work Order** (steps for attaching related documents can be found in the *General PM Instruction* section of this guide under *Attaching Related Documents*). Shown below are some, but not necessarily all forms which should be attached in the **Related Documents**.

BAC-T Water Report:

10		DONIA	NITAL TEC			1		_			_					
AQ	UA ENVI	RONME	NIALIES	TING LAB	LLC		BAC-	T WA	FER REPOR	RT		Reaso	n For Sampling	t Test	Requested	
	1	2695 Lea	sburg St. Pk	.Rd.			P.	IMED L	ab #1201			C Routin	e	Pot	ability-P/A	
		Las Cruc	es, NM 8800	07		Drinking	g water anal	ysis for	Total Coliform	s & E. coli e	using	C Repeat	(√ ∻box below) Col	ilert	
	36	etlab1201	@certurylin	k.net		EPA app	EPA approved MMO-MUG Method SM. 9233.BColilert.						Special Potability			
	F	hone/Fax	: 575.526.0	871			(Shaded areas are for lab use only)						NMED Monitoring Quanti Tray			
Water Syste	em Name: N	lew Mexic	o State Unive	rsity		Company	Company - Contact Person: Ralph Lucero					Phone Number: 575-649-1854				
County: Di	ona Ana		DWB Field	d Office: Distr	ict III	Mailing A	Address: P.O.	Box 30	001 MSC 3545	5	-	Fax Num	ber: 575-646	-1271		
Sampler:	David Avalo)S	Cert. No.:	NM 02137		City: Las	Cruces 5	State: 1	NM Zip: 8	8003		E-mail: ra	lpluce@nmsu.ec	du,davalos@r	imsu.edu,	
Type of Sy	Type of System: Community I Non-Community I Private					Vell Wa	ter Source:	Ran	and D Sur	face		Codos fe	ninsuledu, jidei	eon@nmsu.e	00	
A story and a community a non-community a private					vva	ter source.		inded 🗆 Oti	her		Codes to	r Results:	P = Prese A = Abser	nt		
Sample	Sample	Sample	PWS	Facility ID	Sample	San	ple Location	n		Chlori	nated	Residual	Sample	TC	E. coli	
Lab No.	Date	Time	Number		Point ID	(Address	, Sample Site,	, etc.)	Samples Or	ly 3	2	Free Cl	Condition	Results	Results	
AETL-LC- 400-15	2-9-15	09:07	NM3528707	28707000	N/A	Gardi	non H	A]]	Original N	10. BY	ΠN	1.01	Accept			
AETL-LC- 401-15	2-9-15	09:35	NM3528707	28707000	N/A	Kent	HAY		Downstrea	am 🗗	ΠN	,53	Accept		DP ZA	
AETL-LC- 402-15	2-9-15	09:48	NM3528707	28707000	N/A	Hamie	Aail		🖸 Upstream	D×	ΩN	.68	B Accept			
AETL-LC- 403-75	2-9-15	10:02	NM3528707	28707000	N/A	Ganci	a Anni	EX	Other	12 Y	ΠN	1,33	Accept	DP ZA		
AETL-LC- 444-15	2.9-15	10:31	NM3528707	28707000	N/A	Natal	Drive		GWR)	SR ZY	ΠN	.97	Accept			
AETL-LC- 405-15	2-9-15	11:10	NM3528707	28707000	N/A	GARCIA	Idell	Labby	Original N	ιο. ΕΥΥ	ΠN	,93	Reject *			
AETL-LC- 406-15	2-9-15	41:33	NM3528707	28707000	N/A	Cotial	d Thom	15	Downstrea	Im PA	ΩN	.68	Accept	DP ZA	DP DA	
AETL-LC- 407-15	2-9-15	11:50	NM3528707	28707000	N/A	USDA C	otton 6	1	Upstream	12Y	□ N	,36	Accept			
AETL-LC- 408-15	2-9-15	1:10	NM3528707	28707000	N/A	Godda	ED Ha	11	C Other	ШY	ΠN	,81	Accept			
AETL-LC- 409-15	2-9-15	1:31	NM3528707	28707000	N/A	Harole	+ Hall		GWR)	SR QVY	ΠN	.90	Accept			
Received By:	(stenative)	Date	Received:	Time Rece	ived:	Date Incuba	ted Ti	ime Incu	bated: A	nalyst: (sige	ature	10	Analysis Date:	Analy	sis Time:	
400	1146	2	-2-15	1430		2-9-15		1645		-/de	A	5	2-10-15	10	19	
-/	Ch	ain of Custo	dy for All PWV	VS Samples Mu	st be Compl	eted	1		Positiva	ample Re	sults		*Reason(s) San	nple Rejected	: Enter code	
¢	Name	1	Organ	lization		Date / Time	Seal Intact	Positi	ve Confirmed B	y:	Date /	/ Time	number abov	re next to reje	ect box	
Released by:	hol L	K	N,	MSU	2-	2.15 2:30	ZY ON	1					1. Samp	le holding tir	ne is expired	
Received by:								Syster	m Notified By:		Date	/ Time	2. Date	discrepancy	tion > 10°C	
Released by:								Conta	et:				4. Leaki	ing sample ve	ssel	
Received by:							0.0	Distri	rt Notified Pre		Date	/Time	5. Volu	me to great u	nable to mix	
Comments:							UY DN	Cast	in Notified by:		uale,	rine	7. Form	is incomplet	e ior analysis 2	
								Conta	LL:				8. Othe	r:		

Form WML-02-01 Rev April 2012

TTHM & HAA5 Report:

HALL ANALYSIS ANALYSI	iboratory white NE W 87109	ll Environmental Analysis Laboratory. In	۸ ۱۵.	ab Order: 1307936
ANALYSIS LABORATORY	245-4107 Han	ENT: NMED Drinking Water SF	Client Sample ID: HA	AL116493
August 06, 2013 3ND QUARTER	Facili Lab I	Ility: NM3528707 New Mexico State Universit ID: 1307936-001A	Collection Date: 7/1 Received Date: 7/1	(8/2013 2:41:00 PM 19/2013 10:00:00 AM
Danielle Shuryn	Local	ation: 000 rix: Aqueous	Compliance Safe: YI	2S
525 Camino de Los Marquez Suite 4	Analy	lyses Result RL	Qual Units MCL	DF
Santa Fe, NM 87505 TEL: (505) 476-8637	EPA I SDW	METHOD 524.2: TTHM		Analyst: RAA Date Analyzed
FAX:	2941 2942	Chloroform ND 5.00 Bromoform ND 5.00	μց/L μց/L	10 7/25/2013 12:37:10 PM 10 7/25/2013 12:37:10 PM
RE: NM3528707 OrderNo.: 130 New Mexico State University	7936 2943 2944 2950	Bromodichloromethane ND 5.00 Dibromochloromethane ND 5.00	μg/L μg/L μg/L 80.0	10 7/25/2013 12:37:10 PM 10 7/25/2013 12:37:10 PM 10 7/25/2013 12:37:10 PM
Dear Danielle Shuryn:	2800	Total Titratomotivanos	ppr ove	
Hall Environmental Analysis Laboratory received 1 sample(s) on 7/19/2013 for the analyses presented in the following report.				
These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample nankysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.				
Please do not hesitate to contact HEAL for any additional information or clarifications.				
Sincerely,				
Sarah Eduards				
Sarah Edwards				
Project Manager 4901 Hawkins NE				
Albuquerque, NM 87109				
	Quali	alifiers: * Value exceeds Maximum Contaminant Level. E Value above quantitation range	B Analyte detected in t H Holding times for pr	he associated Method Blank eparation or analysis exceeded
		J Analyte detected below quantitation limits O RSD is greater than RSDlimit	ND Not Detected at the I P Sample pH greater 0	Reporting Limit han 2 for VOA and TOC only.
		R RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits	RL Reporting Detection	Dogo 1 of 2
Hall Environmental Analysis Laboratory, Inc. Analytic Lab Orde Date Rep CLIENT: NMED Drinking Water SF Facility: Client Sample ID: HAL1104 S23707 New Mexico State Universit Collection Date: 7/18/2013 Lab ID: 13/07936-0010 Received Date: 7/19/2013 Received Date: 7/19/2013	al Report r: 1307936 1307936 33 241:00 PM 10:00:00 AM	ANALYSIS LABORATORY TEL- Tec Client Name: NMED Drinking Water SF Work Or Received by/liste:	Albuquergue, NM 8710 505-345-3975 FAX: 505-345-110 505-445-100 574X: 505-345-110 505-345-110 505-345-110 505-305-345 10:00-00 444	Sample Log-In Chec
Location: 000 Compliance Safe: YES		Completed By: Michelle Garcia 7/21/2013	6:06:36 PM	Mithille Canin
Analyses Result RL Qual Units MCL DF		Reviewed By: 07 22	13	
SM6251B: HALOACETIC ACIDS	Analyst: Anatek			
SDWIS	Data Applyzed	Chain of Custody	Yes 🗆	No 🗋 Not Present 🗹
2450 Chloroacetic Acid ND 2.0 µg/L 1	Date Analyzed 7/30/2013	Chain of Custody 1. Custody seals intact on sample bottles? 2. Is Chain of Custody complete?	Yes 🗆 Yes 🗹	No D Not Present D
2450 Chlorasetic Acid ND 2.0 µg/L 1 2451 Dichlorasetic Acid ND 1.0 µg/L 1 2452 Tichlorasetic Acid ND 1.0 µg/L 1	Date Analyzed 7/30/2013 7/30/2013 7/30/2013 7/30/2013	Chain of Custody 1. Custody seals intract on sample bottles? 2. Is Chain of Custody complete? 3. How was the sample delivered?	Yes ⊡ Yes Ø UPS	No 🗌 Not Present 🗹 No 🗌 Not Present 🗌
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Request ID	Here	HA	LL ENVIRONME	NTAL	ANALYSI	IS	AN Acc	cessio	CAL REQUEST n # Here
L116493	Dne Form Per Sample	ALBL 505-3	QUERQUE,NM 87109 45-3975				One Form Per Samp	Ste 1	307936-0
LAB	DATE		SAMPLE TEMPER	ATURE	(deg C):	1.5	R FI	eld pros	ervation confirmed
ONLY	STAMP		Sample Priority (If 1	or 2 cal	I lab): 3	P	eserved to pH <	2 at Lab	Date/Initial:
SUBMITTER	CODE (3-digit): 070	LAB REM	ARKS:						
O 55000 (DV	/B-SDWA - fee-for-service)	O 55420	(DWB-non-reg. conta	minants	o 64000	(Individ fee-fo	fual client r-service) O C	THER	
NMED AREA	OFFICE: LAS CRUCES A	REA SA	MPLER NAME: Ja	Sell	Deleon	S	AMPLE CONTAG	ст: 🔮	Sampler -
WATER SYST	EM ID: NM3528707	WA	TER SYSTEM NAM	E: NEW	MEXICO ST	TATE U	NIVERSITY		
FACILITY/LO	ATION: DISTRIBUTION	SYSTEM	FACILITY ID	287	07000		SAMPLING PC	NIT ID:	SP287070001
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Additional Ana	ytical Requests:								
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Lead and Copper Report:

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Water Tanks

Preventive Maintenance for water tanks is completed daily, weekly, monthly, semi-annually (250K tank only – WATERT-1), and annually. Water tanks have *Checkpoints* which detail how to complete the preventive maintenance for daily and weekly PM as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance for monthly and annually PM.

Viewing Daily/Weekly PM Standards Checkpoints

Daily/Weekly PM Standards Checkpoints are not measurements as they are completed daily/weekly for the same monthly open work order.

- 1. Navigate to the *Work Order* for the daily/weekly water tank PM.
- 2. Select the *Phase* from the *Work Order*.

AM		Hel	Io, SHALEY		Logout About Help
🖲 Phase	View	Select	- 🗟 💩	🔍 🖉 義	📙 🎄 🖄 🤧 🕨
Phase	001	Created B Date Crea	y SHALEY Mar 16, 2015 01:47 PM	Status Work Order	NEW 15-023033
Description	PM PHASE FOR WATER TANK 1 (250K WA MAINTENANCE	Budget Location or Room	\$0.00		
Shop		Estimated Date	S	Classification	
Shop	<u>UTILITIES</u>	Estimated Start	Feb 01, 2016 12:00 AM	Funding Method	Work Order
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2020</u>
		Actual End		Request Method	DOMESTIC WATER
Priority	3-ROUTINE	Percent Complete			
Equipment/As	set	Capital Project		Contractor	
Туре	Asset	Capital Project		Contract Type	
Asset	WATERT-1				
	250K WATER TANK				
Asset Group	WATERT	Component Group			
Failure Code		Component			
Template	FS-UTL-064				
PM Standards	WATERT-DLY/WKLY				

3. Select the link for the **PM Standards**.

- AM		Hello, S	HALEY		Logout	About Help
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PM Standards	WATERT-DLY/WKLY	Editor Edit Date	SHALEY Mar 16, 2015 01:40 PM	Active Reference	Yes	
Description	SEE CHECKPOINTS FOR WATER TANKS	DAILYWEEKLY PM STEP	3	Frequency		
Estimate						
Labor Hours	0.00					
Labor	\$0.00					
Material	\$0.00					
Equipment	\$0.00					
Contract	\$0.00					
Total	\$0.00					
Checkpoint	5		\frown			
Checkpoint De	scription		5)	Estimated Labor H	lours Measurement	Active
<u>о1</u> та	NK - WALK PERIMETER OF TANK, LEAKS OR TANK	DAMAGE (WEEKLY)			0.00 No	Yes
<u>02</u> LE	VEL INDICATOR(TARGET) - MANUALLY PULL ON TA	ARGET TO ENSURE ITS NOT S	TUCK (DAILY)		0.00 No	Yes

- 4. The **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the water tank daily/weekly PM.
- 5. At the end of each description it will be stated if the PM is to be completed daily or weekly in parenthesis.

Viewing/Completing PM Standards Checkpoints

Monthly and Annual PM Standard Checkpoints for water tanks are both completed in the same manner, so the following steps for completing checkpoint measurements for a monthly water tank PM work order may be followed for completing checkpoint measurements for an annual water tank PM work order as well.

- 1. Navigate to the Work Order for the monthly water tank PM.
- 2. Select the *Phase* from the *Work Order*.

- AM		Hello, Sl	HALEY	3	Logout About Help
🖲 Phase	View: Select		- 🗟 💩		🦺 🎄 🖄 🤧
Phase	001	Created By	SHALEY	Status	NEW
		Date Created	Mar 16, 2015 01:47 PM	Work Order	<u>15-023021</u>
Description	PM PHASE FOR WATER TANK 1 (250K WATER TANK	K) MONTHLY PR	EVENTIVE MAINTENANCE	Budget	\$0.00
				Location or Room	

3. Select the **edit** \bigvee icon.

- AM	Hello, SHALEY		Logout About Help
🖲 Phase		View: Select	
Phase	001 Created By Date Created By Mar 16,	4 PM Budget Change Order Condition Assessment Informa	ation
Description	PM PHASE FOR WATER TANK 1 (250K WATER TANK) MONTHLY PREVENTIVE MAINTENANCE	Assessment Activity Checkpoint Measurements Cost Analysis Dependencies Material Requests Estimates Listi Create	\$0.00
		Survey History	

4. Select "Checkpoint Measurements" from the View menu.

AM		Hello, Sł	HALEY		Logout About Help
Che	ckpoint Measurements				🗟 🔕 본
Phase	001	Created By	SHALEY	Work Order	15-023021
		Date Created	Mar 16, 2015 01:47 PM		
Description	PM PHASE FOR WATER TANK 1 (250K	WATER TANK) MONTHLY PR	EVENTIVE MAINTENANCE	PM Standards	WATERT-MONTHLY
Checkpoint	Value	Description	Extra De	scription	
01	5	LADDER - CHECK LADDER RA ARREST RAILS, ENSURE LAD IS SECURE	MILINGS AND FALL		
02	₽	SAFETY RAILING - CHECK RA NO VISIBLE WELD CRACK	ILING IS SECURE,		

5. Select the search \mathcal{P} icon or enter value directly into textbox if already known.

Attribute Validation		٩	0	
Code +	Description			
N	NO, CHECKPOINT NOT COMPLETED			
<u>Y</u> 6	YES, CHECKPOINT COMPLETED			

6. Select desired Code for the Checkpoint Measurement Value.

AiM	ckpoint Measuremen	Hello, S Its	HALEY		Logout Abo	out <u>Help</u>
Phase	001	Created By Date Created	SHALEY Mar 16, 2015 01:47 PM	Work Order	15-023021	
Description	PM PHASE FOR WATER TAI	NK 1 (250K WATER TANK) MONTHLY PR	EVENTIVE MAINTENANCE	PM Standards	WATERT-MONTHLY	
Checkpoint	Value	Description	Extra Desci	iption		
01	Y P	LADDER - CHECK LADDER R/ ARREST RAILS, ENSURE LAD IS SECURE	AILINGS AND FALL			

7. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

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8. Select the save 🔄 icon.

List of Checkpoints from PM Standards

Below are the checkpoints for each frequency (daily/weekly, monthly, annual) of PM completed for water tanks.

Checkpoints for daily/weekly water tank PM:

Checkpoint	Description	Measurement
<u>01</u>	TANK - WALK PERIMETER OF TANK, LEAKS OR TANK DAMAGE (WEEKLY)	No
<u>02</u>	LEVEL INDICATOR(TARGET) - MANUALLY PULL ON TARGET TO ENSURE ITS NOT STUCK (DAILY)	No
<u>03</u>	ELECTRIC LEVEL INDICATOR - VERIFY ACCURACY AND CALIBRATE AS NEEDED (SHOULD BE CLOSE TO LEVEL INDICATOR (TARGET) (DAILY)	No
<u>04</u>	CAMERAS - VERIFY CAMERAS ARE OPERATING PROPERLY (DAILY)	No

Checkpoints for monthly water tank PM:

Checkpoint	Description	Measurement
<u>01</u>	LADDER - CHECK LADDER RAILINGS AND FALL ARREST RAILS, ENSURE LADDER ACCES DOOR IS SECURE	Yes
<u>02</u>	SAFETY RAILING - CHECK RAILING IS SECURE, NO VISIBLE WELD CRACK	Yes

Checkpoint	Description	Measurement
<u>03</u>	ACCESS DOOR - CHECK OPERATION OF DOOR, ENSURE ITS PROPERLY LOCKED	Yes
<u>04</u>	AIRCRAFT WARNING LIGHT - MANUALLY TEST LIGHT OPERATION	Yes
<u>05</u>	CATHODIC PROTECTION - MEASURE THE POTENTIAL	Yes

Checkpoints for semi-annual water tank PM (250K Tank only – WATERT-1):

Checkpoint	Description	Measurement
<u>01</u>	CHECK THE CIRCUMFERENCE OF THE TANK	Yes
<u>02</u>	CHECK FOR ANY RUST SPOTS	Yes
<u>03</u>	TAKE A SPECIAL WATER SAMPLE FOR BACTERIA	Yes
<u>04</u>	INSPECT FOR PEELING PAINT ON THE TANK	Yes
<u>05</u>	MAKE SURE "CONFINED SPACE ENTRY" PLACARD IS ON TANK	Yes

Checkpoints for annual water tank PM:

Checkpoint	Description	Measurement
<u>01</u>	ISOLATION VALVES - EXERCISE THE ISOLATION VALVES FOR THE TANK	Yes

Water Transfer Pumps

Preventive Maintenance for water transfer pumps is completed daily, monthly, quarterly, semiannually, and annually. Water transfer pumps have *Checkpoints* which detail how to complete the preventive maintenance for daily PM as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance for monthly, quarterly, semi-annual and annual PM.

Viewing Daily/Weekly PM Standards Checkpoints

Daily PM Standards Checkpoints are not measurements as they are completed daily for the same monthly open work order.

- 1. Navigate to the Work Order for the daily water transfer pump PM.
- 2. Select the *Phase* from the *Work Order*.

-/AiM		Hel	IO, SHALEY		Logout About Help
🖲 Phase	View	Select	- 🗟 () 🔍 🏹 😹	📙 🎄 🔌 🔊
Phase	001	Created B Date Crea	y SHALEY Ited Mar 16, 2015 01:46 PM	Status Work Order	NEW 15-022956
Description	PM PHASE FOR WATER TRANSFER PUMF PREVENTIVE MAINTENANCE	91 (EAST WATER TR	ANSFER PUMP) DAILY	Budget Location or Room	\$0.00
Shop		Estimated Date	s	Classification	
Shop	UTILITIES	Estimated Start	Dec 01, 2015 12:00 AM	Funding Method	Work Order
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2020</u>
Priority	3-ROUTINE	Actual End Percent Complete		Request Method	DOMESTIC WATER
Equipment/As	set	Capital Project		Contractor	
Туре	Asset	Capital Project		Contract Type	
Asset	WATERTP-1				
	EAST WATER TRANSFER PUMP				
Asset Group	WATERTP	Component Group			
Failure Code					
Template PM Standards	FS-UTL-073 WATERTP.Dall Y	Component			

3. Select the link for the **PM Standards**.

-AM		Hello, S	HALEY			<u>Logout</u>	<u>About</u>	<u>Help</u>
🔇 РМ	l Standards	Vi	ew: Select	• 👼 (९ 🥪 [
PM Standard	Is WATERTP-DAILY	Editor	SHALEY	Active	Ye	s		
		Edit Date	Mar 16, 2015 01:40 PM	Reference				
Description	SEE CHECKPOINTS FOR WATER TRANS	SFER PUMPS DAILY PM ST	EPS	Frequency				
Estimate								
Labor Hours	0.00							
Labor	\$0.00							
Material	\$0.00							
Equipment	\$0.00							
Contract	\$0.00							
Total	\$0.00							
Checkpoi	ints							
Checkpoint	Description			Estimate	ed Labor Hours	Measurement	Activ	/e
<u>01</u>	PUMP HOUSING - INSPECT FOR WATER LEAKS, VIBR	ATIONS OR ABNORMAL SOUN	IDS		0.00) No	Yes	
<u>02</u>	PUMP MOTOR - VIBRATIONS OR ABNORMAL SOUND	s			0.00) No	Yes	

4. The **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the water transfer pump daily PM.

Viewing/Completing PM Standards Checkpoints

Monthly, quarterly, semi-annual, and annual PM Standard Checkpoints for water transfer pumps are all completed in the same manner, so the following steps for completing checkpoint measurements for a monthly water transfer pump PM work order may be followed for completing checkpoint measurements for a quarterly, semi-annual, or annual water transfer pump PM work order as well.

- 1. Navigate to the Work Order for the monthly water transfer pump PM.
- 2. Select the *Phase* from the *Work Order*.

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Í	Phase	001	Created By	SHALEY	Status	NEW	
I			Date Created	Mar 16, 2015 01:46 PM	Work Order	<u>15-022946</u>	
	Description	PM PHASE FOR WATER TRANSFER PUMP 1 (EAST PREVENTIVE MAINTENANCE	WATER TRANSF	ER PUMP)MONTHLY	Budget		\$0.00
l					Location or Room		

3. Select the **edit** \square icon.

4

- AM	Hello, SHALEY		Logout About Help
🖲 Phase		View: Select	
Phase	001 Created By SHALE Date Created Mar 16	4 A M Budget Change Order Condition Assessment In	formation
Description	PM PHASE FOR WATER TRANSFER PUMP 1 (EAST WATER TRANSFER PUMP)MONTHLY PREVENTIVE MAINTENANCE	Assessment Activity Checkpoint Measuremen Cost Analysis Dependencies Material Requests Estimates Unit Costs	\$0.00

4. Select "Checkpoint Measurements" from the View menu.

AM		Hello, Sł	IALEY		Logout About Help
Che	ckpoint Measurements				🗟 🔕 본
Phase	001	Created By	SHALEY	Work Order	15-022946
		Date Created	Mar 16, 2015 01:46 PM		
Description	PM PHASE FOR WATER TRANSFER PREVENTIVE MAINTENANCE	PUMP 1 (EAST WATER TRANSF	ER PUMP)MONTHLY	PM Standards	WATERTP-MONTHLY
Checkpoint	Value	Description	Extra De	escription	
01	5	ISOLATION VALVE - EXERCIS	E VALVES		
02	<mark>۶</mark>	EAST/WEST SWITCH - VERIFT POSITION	Y SWITCH		

5. Select the search \mathcal{P} icon or enter value directly into textbox if already known.

Attribute Validation				
Code +	Description			
N	NO, CHECKPOINT NOT COMPLETED			
¥ 6	YES, CHECKPOINT COMPLETED			

6. Select desired Code for the Checkpoint Measurement Value.

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🖲 Che	eckpoint Measurements				🗟 🔕 🚶	<
Phase	001	Created By	SHALEY	Work Order	15-022946	
		Date Created	Mar 16, 2015 01:46 PM			
Description	PM PHASE FOR WATER TRANSFE PREVENTIVE MAINTENANCE	ER PUMP 1 (EAST WATER TRANSF	ER PUMP)MONTHLY	PM Standards	WATERTP-MONTHLY	
Checkpoint	Value	Description	Extra Descr	iption		
01	Y	ISOLATION VALVE - EXERCIS	E VALVES			

7. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

- AiM		Hello, Sl	HALEY		<u>Logout About Help</u>	
🖲 Phase			View: <mark>Sele</mark>	et	- 🗟 🗟 🔽	
Phase	001	Created By	SHALEY	Status	NEW 2	8
		Date Created	Mar 16, 2015 01:46 PM	Work Order	<u>15-022946</u>	
Description	PM PHASE FOR WATER TRANSFER PUMP 1 (EAST 1 TRANSFER PUMP)MONTHLY PREVENTIVE MAINTEI	WATER NANCE		Budget	\$0.00	J
				Location or Room		
						2

8. Select the save 🔄 icon.

List of Checkpoints from PM Standards

Below are the checkpoints for each frequency (daily, monthly, quarterly, semi-annual, annual) of PM completed for water transfer pumps.

Checkpoint	Description	Measurement
<u>01</u>	PUMP HOUSING - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS	No
<u>02</u>	PUMP MOTOR - VIBRATIONS OR ABNORMAL SOUNDS	No
<u>03</u>	CHECK VALVES - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS; CHECK FOR PROPER OPERATION.	No
<u>04</u>	GAUGES - VERIFY PRESSURE FLUCTUATION DURING OPERATION, RECORD READINGS	No
<u>05</u>	COUPLING - INSPECT	No
<u>06</u>	HEAT LAMP - VERIFY OPERATING PROPERLY	No
<u>07</u>	HEATING/COOLING SYSTEM - VERIFY OPERATING PROPERLY	No
<u>08</u>	CAMERAS - VERIFY CAMERAS ARE OPERATING PROPERLY	No

Checkpoints for daily water transfer pump PM:

Checkpoints for monthly water transfer pump PM:

Checkpoint	Description	Measurement
<u>01</u>	ISOLATION VALVE - EXERCISE VALVES	Yes
<u>02</u>	EAST/ WEST SWITCH - VERIFY SWITCH POSITION	Yes
03	HOA SWITCH - VERIFY SWITCH POSITION	Yes
<u>04</u>	CLAY VALVES - VERIFY VALVES ARE OPERATING PROPERLY; CHECK FOR LEAKS	Yes

Checkpoints for quarterly water transfer pump PM:

Checkpoint	Description	Measurement
<u>01</u>	MOTOR BEARINGS - GREASE USING FOOD GRADE GREASE	Yes
<u>02</u>	PUMP BEARINGS - GREASE USING FOOD GRADE GREASE	Yes

Checkpoints for semi-annual water transfer pump PM:

Checkpoint	Description	Measurement
<u>01</u>	COUPLING - REPLACE	Yes

Checkpoints for annual water transfer pump PM:

Checkpoint	Description	Measurement
<u>01</u>	PUMP HOUSING - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS	Yes
<u>02</u>	EAST/ WEST SWITCH - VERIFY SWITCH POSITION	Yes

Checkpoint	Description	Measurement
<u>03</u>	HOA SWITCH - VERIFY SWITCH POSITION	Yes
<u>04</u>	CLAY VALVES - VERIFY VALVES ARE OPERATING PROPERLY; CHECK FOR LEAKS	Yes
<u>05</u>	THERMAL IMAGING - CHECK FOR HOT SPOTS IN THE ELECTRICAL GEAR	Yes

Domestic Water Wells

Preventive Maintenance for domestic water wells is completed daily, monthly, quarterly, seasonally (Spring, Fall), annually, and every 5 years. Domestic Water Wells have *Checkpoints* which detail how to complete the preventive maintenance for daily PM as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance for monthly, quarterly, seasonal (Spring, Fall), annual, and 5 year PM.

Viewing Daily/Weekly PM Standards Checkpoints

Daily PM Standards Checkpoints are not measurements as they are completed daily for the same monthly open work order.

- 1. Navigate to the Work Order for the daily water well PM.
- 2. Select the *Phase* from the *Work Order*.

AM		He	llo, SHALEY		Logout About	<u>Help</u>
🖲 Phase	View	/: Select	- 🗟 💩	V 🖉 🗟	📙 🎪 🖄 🤧	
Phase	001	Created E Date Crea	By SHALEY Rated Mar 17, 2015 11:11 AM	Status Work Order	<u>NEW</u> <u>15-023147</u>	
Description	PM PHASE FOR WATER WELL 14 DAILY F	PREVENTIVE MAINTE	NANCE	Budget Location or Room		\$0.00
Shop		Estimated Date	s)	Classification		
Shop	UTILITIES	Estimated Start	Dec 01, 2015 12:00 AM	Funding Method	Work Order	
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES	
Primary Person		Actual Start		Work Code	<u>D2020</u>	
		Actual End		Request Method	DOMESTIC WATER	
Priority	3-ROUTINE	Percent Complete				
Equipment/As	set	Capital Project		Contractor		
Туре	Asset	Capital Project		Contract Type		
Asset	WATERW-14					
	DOMESTIC WATER WELL #14					
Asset Group	WATERW	Component Group				
Failure Code						
Template	FS-UTL-038	Component				
PM Standards	WATERW-DAILY					

3. Select the link for the **PM Standards**.

- AM		Hello,	SHALEY		Logou	<u>it About</u>	Hel
🔇 РМ	Standards	٧	fiew: Select	- 🗟 🔧 📚) 🛛 🔍 🛙] 🖄	
PM Standard	is WATERW-DAILY	Editor	SHALEY	Active	Yes		
		Edit Date	маг 16, 2015 01:40 РМ	Reference			
Description	SEE CHECKPOINTS FOR DOMESTIC WATER WI	ELL DAILY PM STE	EPS	Frequency			
Estimate							
Labor Hours	0.00						
Labor	\$0.00						
Material	\$0.00						
Equipment	\$0.00						
Contract	\$0.00						
Total	\$0.00						
Checkpoi	nts						
Checkpoint	Description			Estimated Labor Hou	rs Measurement	Active	
<u>01</u>	WELL PUMP - INSPECT FOR WATER LEAKS, VIBRATIONS OR A	ABNORMAL SOUND:	S.	0	00 No	Yes	
02	WELL PUMP MOTOR - INSPECT FOR OIL LEAKS, VIBRATIONS	OR ABNORMAL SOL	INDS.	0	00 No	Yes	

4. The **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the water well daily PM.

Viewing/Completing PM Standards Checkpoints

Monthly, quarterly, seasonal (Spring, Fall), annual, and 5 year PM Standard Checkpoints for domestic water wells are all completed in the same manner, so the following steps for completing checkpoint measurements for a monthly water well PM work order may be followed for completing checkpoint measurements for a quarterly, seasonal (Spring, Fall), annual, or 5 year water well PM work order as well.

- 1. Navigate to the Work Order for the monthly water well PM.
- 2. Select the *Phase* from the *Work Order*.

AM		Hello, Sl	HALEY	3	Logout About	<u>Help</u>
🖲 Phase	View: Select		- 🗟 💩		📙 🎪 🎕 🤧	N
Phase	001	Created By	SHALEY	Status	NEW	
		Date Created	Mar 17, 2015 11:11 AM	Work Order	<u>15-023132</u>	
Description	PM PHASE FOR WATER WELL 14 MONTHLY PREVE	ENTIVE MAINTEN	IANCE	Budget		\$0.00
				Location or Room		

3. Select the **edit** $\frac{1}{2}$ icon.

- AiM	Hello, SHALEY		Logout About Help
🖲 Phase		View: Select	🗟 🗟 🔄
Phase	001 Created By SHALE Date Created Mar 17,	4 AM Shop Stock Budget Change Order Condition Assessment Inf	formation
Description	PM PHASE FOR WATER WELL 14 MONTHLY PREVENTIVE MAINTENANCE	Assessment Activity Checkpoint Measurement Cost Analysis Dependencies Material Requests Estimates	\$0.00
		Unit Costs	

4. Select "Checkpoint Measurements" from the View menu.

- AM	Hello, SHALEY Logout About Help				
Chee	kpoint Measurements				5 🔕 🛃
Phase	001	Created By	SHALEY	Work Order	15-023132
		Date Created	Mar 17, 2015 11:11 AM		
Description	PM PHASE FOR WATER WELL 14 MON	NTHLY PREVENTIVE MAINTEN	ANCE	PM Standards	WATERW-MONTHLY
Checkpoint	Value	Description	Extra D	escription	
01	5	CHLORINE INJECTION PUMP - INJECTION TUBING, FITTINGS, REMOVE INJECTORS AND VE ARE NO BLOCKAGES.	INSPECT CHECK VALVES. RIFY THAT THERE		
02	2	PHOSPHATE INJECTION PUMP INJECTION TUBING, FITTINGS, REMOVE INJECTORS, AND VE			

5. Select the search $\stackrel{>}{\sim}$ icon or enter value directly into textbox if already known.

Attribute Validation		٩	0	
Code +	Description			
N	NO, CHECKPOINT NOT COMPLETED			
<u>×</u> 6	YES, CHECKPOINT COMPLETED			

6. Select desired Code for the Checkpoint Measurement Value.

- AM		Hello, S	HALEY		<u>Logout About Help</u>	
Eheckpoint Measurements 🛛 🔒 🚳 📐						
Phase	001	Created By	SHALEY	Work Order	15-023132	7
		Date Created	Mar 17, 2015 11:11 AM			
Description	PM PHASE FOR WAT	ER WELL 14 MONTHLY PREVENTIVE MAINTEN	NANCE	PM Standards	WATERW-MONTHLY	
Checkpoint	Value	Description	Extra Descr	iption		
01	۶ ک	CHLORINE INJECTION PUMP - INJECTION TUBINO, FITTINOS REMOVE INJECTORS AND VE ARE NO BLOCKAGES.	INSPECT , CHECK VALVES. ERIFY THAT THERE			

7. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

<u>Logout</u> <u>About</u> <u>Help</u>
View: Select 🔹 🗟 🔕 👯
Status NEW
1:11 AM Work Order 15-023132
Budget (\$0.00
Location or Room

8. Select the save 🔄 icon.

List of Checkpoints from PM Standards

Below are the checkpoints for each frequency (daily, monthly, quarterly, seasonal (Spring, Fall), annual, 5 year) of PM completed for domestic water wells.

Checkpoints for daily water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>02</u>	WELL PUMP MOTOR - INSPECT FOR OIL LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>03</u>	CHLORINE INJECTION PUMP - INSPECT FOR FLUID LEAKS, VIBRATIONS OR ABNORMAL SOUNDS. VERIFY CHEMICAL INJECTION RATE. TEST FOR RESIDUALS.	No
<u>04</u>	PHOSPHATE INJECTION PUMP - INSPECT FOR FLUID LEAKS, VIBRATIONS OR ABNORMAL SOUNDS. VERIFY CHEMICAL INJECTION RATE. TEST FOR RESIDUALS.	No
<u>05</u>	SOLENOID VALVES - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>06</u>	CLA BLOWDOWN VALVE - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>07</u>	CLA CHECK VALVE - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>08</u>	ALTITUDE VALVE - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No

Checkpoint	Description	Measurement
<u>09</u>	EXHAUST FAN - INSPECT FOR VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>10</u>	A/C UNIT - INSPECT FOR VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>11</u>	HEATING UNIT - INSPECT FOR VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>12</u>	HEAT LAMPS - INSPECT FOR OPERATION.	No
<u>13</u>	CHLORINE STORAGE UNIT - INSPECT FOR PROPER LEVEL AND LEAKS.	No
<u>14</u>	PHOSPHATE STORAGE UNIT - INSPECT FOR PROPER LEVEL AND LEAKS.	No
<u>15</u>	MOTOR CONTROL CENTER - VERIFY SWITCH POSITIONS FOR REMOTE CONTROL AND INSPECT FOR CONDENSATION BUILD UP. CHECK FOR THE PRESENCE OF FAULT CODES.	No
<u>16</u>	ELECTRICAL SERVICE DISCONNECT - VERIFY SWITCH POSITION.	No
<u>17</u>	AUTOMATION CONTROL PANEL - VERIFY COMMUNICATION CONNECTIVITY TO NIAGARA.	No
<u>18</u>	ELECTRIC CIRCUIT BREAKER PANEL - VERIFY NORMAL BREAKER POSITIONS.	No
<u>19</u>	WATER METER - VERIFY METER TOTALIZATION DURING OPERATION.	No
<u>20</u>	ELECTRIC METER - VERIFY METER TOTALIZATION DURING OPERATION.	No
<u>21</u>	PRESSURE TRANSMITTERS - VERIFY PRESSURE FLUCTUATION DURING OPERATION.	No
<u>22</u>	PRESSURE GAUGES - VERIFY PRESSURE FLUCTUATION DURING OPERATION.	No

Checkpoints for monthly water well PM:

Checkpoint	Description	Measurement
<u>01</u>	CHLORINE INJECTION PUMP - INSPECT INJECTION TUBING, FITTINGS, CHECK VALVES. REMOVE INJECTORS AND VERIFY THAT THERE ARE NO BLOCKAGES.	Yes
<u>02</u>	PHOSPHATE INJECTION PUMP - INSPECT INJECTION TUBING, FITTINGS, CHECK VALVES. REMOVE INJECTORS AND VERIFY THAT THERE ARE NO BLOCKAGES.	Yes
<u>03</u>	WATER METER - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>04</u>	ELECTRIC METER - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes

Checkpoints for quarterly water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - INSPECT SHAFT LUBRICATION, MOUNTING BOLTS.	Yes
<u>02</u>	WELL PUMP MOTOR - BEARING LUBRICATION, INSPECT MOUNTING BOLTS, CLEAN VENTILATION CAVITIES, WIPE DOWN. PRINT YEAR TO DATE ELECTRICAL AMPERAGE REPORT VIA NIAGARA.	Yes
<u>03</u>	CHLORINE INJECTION PUMP - VERIFY MANUAL AND REMOTE INJECTION RATE INCREASE AND DECREASE BY MODULATING PUMP FROM 0-100% IN 25% INCREMENTS.	Yes
<u>04</u>	PHOSPHATE INJECTION PUMP - VERIFY INJECTION RATE INCREASE AND DECREASE BY MODULATING PUMP FROM 0-100% IN 25% INCREMENTS.	Yes
<u>05</u>	SOLENOID VALVES - VERIFY OPEN AND CLOSE TIMING SEQUENCES AND POSITIVE CLOSE OFF WHEN DE-ENERGIZED.	Yes
<u>06</u>	CLA BLOWDOWN VALVE - VERIFY OPEN AND CLOSE TIMING SEQUENCES AND POSITIVE CLOSE OFF WHEN DE-ENERGIZED.	Yes
<u>07</u>	CLA CHECK VALVE - VERIFY POSITIVE CLOSE OFF.	Yes

Checkpoint	Description	Measurement
<u>08</u>	ALTITUDE VALVE - VERIFY POSITIVE CLOSE OFF DURING NORMAL PRESSURE CONDITIONS.	Yes
<u>09</u>	EXHAUST FAN - VERIFY DAMPER OPERATION, INSPECT FOR CORROSION, LUBRICATE BEARINGS AND WIPE DOWN.	Yes
<u>10</u>	CHLORINE STORAGE UNIT - CALIBRATE LEVEL MONITORS.	Yes
<u>11</u>	PHOSPHATE STORAGE UNIT - CALIBRATE LEVEL MONITORS.	Yes
<u>12</u>	MOTOR CONTROL CENTER - VERIFY ABILITY TO TRANSFER FROM LOCAL TO REMOTE CONTROL.	Yes
<u>13</u>	ELECTRICAL SERVICE DISCONNECT - VERIFY ABILITY TO OPEN AND CLOSE MAIN BREAKER.	Yes
<u>14</u>	AUTOMATION CONTROL PANEL - INPECT AUTOMATION ENCLOSURE FOR DUST, CONDENSATION AND LOOSE WIRING. TEST INTRUSION SWITCH AND WEB CAMERAS.	Yes
<u>15</u>	ELECTRIC CIRCUIT BREAKER PANEL - VERIFY ABILITY TO OPEN AND CLOSE BREAKERS. INSPECT FOR CORROSION AND CONDENSATION.	Yes
<u>16</u>	PRESSURE TRANSMITTERS - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>17</u>	PRESSURE GAUGES - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>18</u>	PACKING GLAND - REMOVE OLD PACKING AROUND WELL SHAFT. INSTALL NEW PACKING AROUND WELL SHAFT.	Yes

Checkpoints for seasonal (Spring) water well PM:

Checkpoint	Description	Measurement
<u>01</u>	A/C UNIT - INSPECT FOR CORROSION, LUBRICATE BEARINGS AND WIPE DOWN.	Yes

Checkpoints for seasonal (Fall) water well PM:

Checkpoint	Description	Measurement
<u>01</u>	HEATING UNIT - INSPECT FOR CORROSION, LUBRICATE BEARINGS AND WIPE DOWN.	Yes
<u>02</u>	HEAT LAMPS - VERIFY DAMPER OPERATION, INSPECT FOR CORROSION, LUBRICATE BEARINGS AND WIPE DOWN.	Yes

Checkpoints for annual water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - VIBRATION ANALYSIS, PROTECTIVE PAINT COATING.	Yes
<u>02</u>	WELL PUMP - REPLACE SHAFT SEAL PACKING.	Yes
<u>03</u>	WELL PUMP MOTOR - VIBRATION ANALYSIS, THERMAL IMAGING, INSPECT ELECTRICAL CONNECTIONS, PROTECTIVE PAINT COATING.	Yes
<u>04</u>	CHLORINE INJECTION PUMP - REPLACE PUMP DIAPHRAGM, INJECTOR, POLY TUBING AND CHECK VALVES.	Yes
<u>05</u>	PHOSPHATE INJECTION PUMP - REPLACE PUMP DIAPHRAGM, INJECTOR, POLY TUBING AND CHECK VALVES.	Yes
<u>06</u>	SOLENOID VALVES - INSPECT DIAPHRAGM AND SOLENOID COIL FOR WEAR.	Yes
<u>07</u>	CLA BLOWDOWN VALVE - INSPECT DIAPHRAGM, SOLENOID COILS AND END SWITCHES FOR WEAR.	Yes
<u>08</u>	CLA CHECK VALVE - INSPECT VALVE INTERNALLY FOR WEAR OR DAMAGE.	Yes
<u>09</u>	ALTITUDE VALVE - INSPECT DIAPHRAGM AND PILOT REGULATORS FOR WEAR. CALIBRATE OVERPRESSURE RELIEF SETTING.	Yes
<u>10</u>	CHLORINE STORAGE UNIT - INPECT POLY TANKS FOR DETERIORATION, CRACKS	Yes

Checkpoint	Description	Measurement
	AND WORN FITTINGS.	
<u>11</u>	PHOSPHATE STORAGE UNIT - INPECT POLY TANKS FOR DETERIORATION, CRACKS AND WORN FITTINGS.	Yes
<u>12</u>	MOTOR CONTROL CENTER - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>13</u>	ELECTRICAL SERVICE DISCONNECT - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>14</u>	AUTOMATION CONTROL PANEL - REPLACE BACKUP BATTERY ON JACE, CALIBRATE ROOM TEMPERATURE SENSOR, TEST DC POWER SUPPLY.	Yes
<u>15</u>	ELECTRIC CIRCUIT BREAKER PANEL - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>16</u>	WATER METER - CALIBRATE METER.	Yes
<u>17</u>	ELECTRIC METER - CALIBRATE METER.	Yes
<u>18</u>	PRESSURE TRANSMITTERS - CALIBRATE TRANSMITTER.	Yes
<u>19</u>	PRESSURE GAUGES - REMOVE AND VERIFY THAT ISOLATION VALVES AND GUAGES ARE NOT RESTRICTED.	Yes

Checkpoints for 5 year water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - PULL WELL FOR SHAFT AND IMPELLER INSPECTION.	Yes

Irrigation Water Wells

Preventive Maintenance for irrigation water wells is completed daily, monthly, quarterly, annually, and every 5 years. Irrigation water wells have *Checkpoints* which detail how to complete the preventive maintenance for daily PM as well as *Checkpoint Measurements* to record necessary values when completing preventive maintenance for monthly, quarterly, annual, and 5 year PM.

Viewing Daily/Weekly PM Standards Checkpoints

Daily PM Standards Checkpoints are not measurements as they are completed daily for the same monthly open work order.

- 1. Navigate to the Work Order for the daily water well PM.
- 2. Select the *Phase* from the *Work Order*.

- AiM		<u>Logout</u> <u>About</u>	<u>Help</u>			
🖲 Phase	View	Select	- 🗟 💩	🔍 🖉 菚	📙 🎪 🚵 🤧	
Phase Description	001 PM PHASE FOR WATER WELL TRIVIZ DAIL	Created E Date Crea	NY SHALEY Atted Mar 17, 2015 01:17 PM ITENANCE	Status Work Order Budget	<u>NEW</u> 1 <u>5-023181</u>	\$0.00
				Location or Room		
Shop		Estimated Date	S	Classification		
Shop	UTILITIES	Estimated Start	Feb 01, 2016 12:00 AM	Funding Method	Work Order	
	F00455:UTILITIES	Estimated End		Work Code Group	UTILITIES	
Primary Person		Actual Start		Work Code	<u>D2020</u>	
Priority	3-ROUTINE	Actual End Percent Complete		Request Method	DOMESTIC WATER	
Equipment/As	set	Capital Project		Contractor		
Туре	Asset	Capital Project		Contract Type		
Asset	WATERW-TRIVIZ					
Asset Group	WATERIW	Component Group				
Failure Code						
Template	FS-UTL-059 3	Component				
PM Standards	WATERW-DAILY					

3. Select the link for the **PM Standards**.

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PM Standard	S WATERIW-DAILY	Editor Edit Date	SHALEY Mar 16, 2015 01:40 PM	Active	íes		
				Reference			
Description	SEE CHECKPOINTS FOR IRRIGATION W	ATER WELL DAILY PM STI	EPS	Frequency			
Estimate							
Labor Hours	0.00						
Labor	\$0.00						
Material	\$0.00						
Equipment	\$0.00						
Contract	\$0.00						
Total	\$0.00						
Checkpoir	nts						
Checkpoint I	Description			Estimated Labor Hou	rs Measurement	Active	
<u>01</u>	WELL PUMP - INSPECT FOR WATER LEAKS, VIBRATIC	INS OR ABNORMAL SOUNDS		0.	00 No	Yes	
02	WELL PUMP MOTOR - INSPECT FOR OIL LEAKS, VIBRA	ATIONS OR ABNORMAL SOUL	NDS.	0.	00 No	Yes	

4. The **Checkpoints** are a reference for what needs to be done to complete preventive maintenance for the water well daily PM.

Viewing/Completing PM Standards Checkpoints

Monthly, quarterly, annual, and 5 year PM Standard Checkpoints for irrigation water wells are all completed in the same manner, so the following steps for completing checkpoint measurements for a monthly water well PM work order may be followed for completing checkpoint measurements for a quarterly, annual, or 5 year water well PM work order as well.

- 1. Navigate to the Work Order for the monthly water well PM.
- 2. Select the *Phase* from the *Work Order*.

AM		Hello, Sl	HALEY	3	Logout About	<u>Help</u>
🖲 Phase	View: Select		- 🗟 💩		🔋 🎪 諭 🤧	!
Phase	001	Created By	SHALEY	Status	NEW	
		Date Created	Mar 17, 2015 01:17 PM	Work Order	<u>15-023166</u>	
Description	PM PHASE FOR WATER WELL TRIVIZ MONTHLY PR	EVENTIVE MAIN	TENANCE	Budget		\$0.00
				Location or Room		

3. Select the **edit** icon.

AM	Hello, SHALEY	Logout About Help
🖲 Phase	View: Select	🗟 🔕 🔄
Phase	001 Created By Date Created By Date Created By Transform Shop Stock Budget Change C Condition Assess)rder sment Information
Description	PM PHASE FOR WATER WELL TRIVIZ MONTHLY PREVENTIVE MAINTENANCE Cost Analysis Dependencies Material Request Estimates Unit Costs	s

4. Select "Checkpoint Measurements" from the View menu.

AiM			Logout About Help		
Che	ckpoint Measurements				🎙 🔕 🗟
Phase	001	Created By	SHALEY	Work Order	15-023166
		Date Created	Mar 17, 2015 01:17 PM		
Description	PM PHASE FOR WATER WELL TR	WZ MONTHLY PREVENTIVE MAIN	TENANCE	PM Standards	WATERW-MONTHLY
Checkpoint	Value	Description	Extra De	scription	
01	5	WATER METER - INSPECT FOR CORROSION AND FUNCTIONA	R LEAKS, AL DISPLAYS.		
02	₽	ELECTRIC METER - INSPECT F	OR LEAKS, AL DISPLAYS.		

5. Select the search \mathcal{P} icon or enter value directly into textbox if already known.

Attribute Validation		٩	0	
Code +	Description			
N	NO, CHECKPOINT NOT COMPLETED			
<u>Y</u> 6	YES, CHECKPOINT COMPLETED			

6. Select desired **Code** for the **Checkpoint Measurement Value**.

AM	Helio, SHALEY Logout About Help							
Che	🖲 Checkpoint Measurements 🛛 🗟 🎯 📐							
Phase	001	Created By	SHALEY	Work Order	15-023166	7		
		Date Created	Mar 17, 2015 01:17 PM					
Description	PM PHASE FOR WATER WELL TRIVL	Z MONTHLY PREVENTIVE MAINT	ENANCE	PM Standards	WATERW-MONTHLY			
Checkpoint	Value	Description	Extra Descri	iption				
01	Y	WATER METER - INSPECT FOR CORROSION AND FUNCTIONAL	LEAKS, DISPLAYS.					

7. Select the **done** icon once values have been entered for **Checkpoint Measurements**.

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8. Select the save 🔄 icon.

List of Checkpoints from PM Standards

Below are the checkpoints for each frequency (daily, monthly, quarterly, annual, 5 year) of PM completed for irrigation water wells.

Checkpoints for daily water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - INSPECT FOR WATER LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>02</u>	WELL PUMP MOTOR - INSPECT FOR OIL LEAKS, VIBRATIONS OR ABNORMAL SOUNDS.	No
<u>03</u>	MOTOR CONTROL CENTER - VERIFY SWITCH POSITIONS FOR REMOTE CONTROL AND INSPECT FOR CONDENSATION BUILD UP. CHECK FOR THE PRESENCE OF FAULT CODES.	No
<u>04</u>	ELECTRICAL SERVICE DISCONNECT - VERIFY SWITCH POSITION.	No
<u>05</u>	AUTOMATION CONTROL PANEL - VERIFY COMMUNICATION CONNECTIVITY TO NIAGARA.	No
<u>06</u>	ELECTRIC CIRCUIT BREAKER PANEL - VERIFY NORMAL BREAKER POSITIONS.	No
<u>07</u>	WATER METER - VERIFY METER TOTALIZATION DURING OPERATION.	No
<u>08</u>	ELECTRIC METER - VERIFY METER TOTALIZATION DURING OPERATION.	No
<u>09</u>	PRESSURE TRANSMITTERS - VERIFY PRESSURE FLUCTUATION DURING OPERATION.	No
<u>10</u>	PRESSURE GAUGES - VERIFY PRESSURE FLUCTUATION DURING OPERATION.	No

Checkpoints for monthly water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WATER METER - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>02</u>	ELECTRIC METER - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes

Checkpoints for quarterly water well PM:

Checkpoint	Description	Measurement
01	WELL PUMP - INSPECT SHAFT LUBRICATION, MOUNTING BOLTS.	Yes
<u>02</u>	WELL PUMP MOTOR - BEARING LUBRICATION, INSPECT MOUNTING BOLTS, CLEAN VENTILATION CAVITIES, WIPE DOWN. PRINT YEAR TO DATE ELECTRICAL AMPERAGE REPORT VIA NIAGARA.	Yes
<u>03</u>	MOTOR CONTROL CENTER - VERIFY ABILITY TO TRANSFER FROM LOCAL TO REMOTE CONTROL.	Yes
<u>04</u>	ELECTRICAL SERVICE DISCONNECT - VERIFY ABILITY TO OPEN AND CLOSE MAIN BREAKER.	Yes
<u>05</u>	AUTOMATION CONTROL PANEL - INPECT AUTOMATION ENCLOSURE FOR DUST, CONDENSATION AND LOOSE WIRING. TEST INTRUSION SWITCH AND WEB CAMERAS.	Yes
<u>06</u>	ELECTRIC CIRCUIT BREAKER PANEL - VERIFY ABILITY TO OPEN AND CLOSE BREAKERS. INSPECT FOR CORROSION AND CONDENSATION.	Yes
<u>07</u>	PRESSURE TRANSMITTERS - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>08</u>	PRESSURE GAUGES - INSPECT FOR LEAKS, CORROSION AND FUNCTIONAL DISPLAYS.	Yes
<u>09</u>	PACKING GLAND - REMOVE OLD PACKING AROUND WELL SHAFT. INSTALL NEW PACKING AROUND WELL SHAFT.	Yes

Checkpoints for annual water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - VIBRATION ANALYSIS, PROTECTIVE PAINT COATING.	Yes
<u>02</u>	WELL PUMP - REPLACE SHAFT SEAL PACKING.	Yes
<u>03</u>	WELL PUMP MOTOR - VIBRATION ANALYSIS, THERMAL IMAGING, INSPECT ELECTRICAL CONNECTIONS, PROTECTIVE PAINT COATING.	Yes
<u>04</u>	MOTOR CONTROL CENTER - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>05</u>	ELECTRICAL SERVICE DISCONNECT - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>06</u>	AUTOMATION CONTROL PANEL - REPLACE BACKUP BATTERY ON JACE, CALIBRATE ROOM TEMPERATURE SENSOR, TEST DC POWER SUPPLY.	Yes
<u>07</u>	ELECTRIC CIRCUIT BREAKER PANEL - THERMAL IMAGE, BLOW DUST FROM CABINET AND TIGHTEN HIGH VOLTAGE CONNECTIONS.	Yes
<u>08</u>	WATER METER - CALIBRATE METER.	Yes
<u>09</u>	ELECTRIC METER - CALIBRATE METER.	Yes
<u>10</u>	PRESSURE TRANSMITTERS - CALIBRATE TRANSMITTER.	Yes
<u>11</u>	PRESSURE GAUGES - REMOVE AND VERIFY THAT ISOLATION VALVES AND GUAGES ARE NOT RESTRICTED.	Yes

Checkpoints for 5 year water well PM:

Checkpoint	Description	Measurement
<u>01</u>	WELL PUMP - PULL WELL FOR SHAFT AND IMPELLER INSPECTION.	Yes

Completing Corrective Maintenance

A *corrective maintenance work order* will be created by the shop supervisor for the shop technician that discovered the need while performing preventive maintenance on the asset/system. All time and materials for the corrective maintenance must be charged against the *corrective maintenance work order* and **NOT** the *preventive maintenance work order*. Please see steps below for creating a *corrective maintenance work order*:

-AiM	Hello, SHANE	<u>Logout About Help</u>
Customer Service		5 5
Menu 1 ^		
🗨 🧻 Customer Request		
Customer Request Approval		
Setup		

- AiM Hello, SHANE Logout About Help 6 **Customer Request** View: Select ٠ 4 Transaction Editor SHALEY Status 144745 SUBMITTED Edit Date May 27, 2014 09:20 AM Description CORRECTIVE MAINTENANCE FOR VALVE 01 - REPLACED VALVE 2 Ŧ Location Requestor **Request Details** Common Organization University 2 NMSU ٦,8 2 F00469 Problem List 5 NEW MEXICO STATE **FS PLUMBING** Campus LAS CRUCES Requestor FS PLUMBING sired Date LAS CRUCES 3 eference Property GAS SYSTEM SEC Contact SHANE HALEY TOM FORT / COLE VILLAGE / Created By SHALEY Contact Phone 9157803219 Location or SHANE HALEY Room Contact Email shaley@nmsu.edu May 27, 2014 09:19 AM Date Created
- 1. Create a new customer request by selecting the **new** selecting the **new**.

- 2. Enter **Description**.
- 3. Enter the section in the **Property** field of where the valve is located. This will be the Gas System Section.
- 4. Enter Status (should be auto-populated as "SUBMITTED").
- 5. Enter **Requestor** information.

6. Click the save 🔄 icon.

AiM	Hello, SHANE	<u>Logout</u>	<u>About</u>	<u>Help</u>
Work Management				
Menu				
🔍 📋 Work Order				
🔍 Phase				
🗨 🧻 Daily Assignments				
🗨 🧻 Material Request				
Shop Stock Approval				

7. Once the **Work Order** has been created from the **Customer Request**, the shop supervisor will need to navigate to the **Work Order**.

AM			He	llo, SHANE			<u>Logout About Help</u>		
🖲 Work	Order View:	Gelect		•	s 🔍 🥪	ò 🛯 🔍	. 🧻 🖄 🛃 🎙		
Work Order	14-081711			Created By	SHALEY	Status	OPEN		
				Date Created	May 27, 2014 09:25 AM	Project			
Description		ANCE FOR VALVE	E 01 - REPLA	ACED VALVE		Desired Date			
					Budget	\$0.0			
Organization	1		Property	/		Classification			
Organization	<u>F00469</u>		University	<u>NMSU</u>		Common Broblem List			
	FS PLUMBING			NEW ME	XICO STATE	T TODIETT LIST			
Requestor	FS PLUMBING		Campus	LAS CRI	JCES	Туре	MAINTENANCE		
							MAINTENANCE		
Contact	SHANE HALEY			LAS CRU	JCES	Category	CORRECTIVE		
Contact Phone	9157803219		Property	GAS SYS	STEM SEC1		REPAIR FAILURE		
Contact Email	shaley@nmsu.edu			TOM FO	RT/COLE	Job Priority			
Phase	Phase								
Phase	Description	Location or Roo	om Shop		Work Code	Priority	Status		
001	CORRECTIVE MAINTENANCE FOR VALVE 01 - REPLACED VALVE		PLUME	BING	D2091	3-ROUTINE	ASSIGNED		

8

8. Select the **Phase** from the **Work Order**.

			9		
AiM		Hello, SHAI	NE		Logout About Help
🖲 Phase	View: Sele	ct	• 🗟 👌	🔍 🖉 🛃 🖡	📙 💩 🖄 📂
Phase	001	Created By	SHALEY	Status	ASSIGNED
		Date Created	May 27, 2014 09:25	Work Order	<u>14-081711</u>
			AW	Budget	
Description	CORRECTIVE MAINTENANCE FOR VA	LVE 01 - REPLACED VALVE		Location or Room	
Shop		Estimated Dates		Classification	
Shop	PLUMBING	Estimated Start		Funding Method	Shop
	F00469:PLUMBING SHOP	Estimated End		Work Code Group	UTILITIES
Primary Person		Actual Start		Work Code	<u>D2091</u>
					GAS DISTRIBUTION: ALL
		Actual End		Request Method	
Priority	3-ROUTINE	Percent Complete			
Equipment/As	set	Capital Project		Contractor	
Туре		Capital Project		Contract Type	
Asset					
Asset Group		Component Group			
Failure Code					
		Component			
Template					
PM Standards					
Shop Person					🛔 💰 💐 🕫
Shop Person	Name		Primary Cer	tified Assigned	By Assigned Date

9. Select the **edit** \bigvee icon.

AM		He	ello, SHAN	E		Logout About Help
🖲 Phase				View: Select		- 🗟 🗟 💌
Phase	001	Creat Date	ted By Created	SHALEY May 27, 2014 09:25 AM	Status Work Order	ASSIGNED 8
Description	CORRECTIVE MAINTENANCE FOR V	ALVE 01 - REPLACED	O VALVE	* *	Budget Location or Room	<u></u> ۶
Shop		Estimated Date	es		Classification	
Shop		Estimated Start	\square	2	Funding Method	Shop 🔻
	F00469:PLUMBING SHOP	Estimated End		1	Work Code Group	
Primary Person		Actual Start		8	Work Code	D2091
		Actual End		8		GAS DISTRIBUTION: ALL
Priority	3-ROUTINE	Percent Complete			Request Method	۶
Equipment/As	set	Capital Project	:		Contractor	
Туре	Asset 🔻	Capital Project	\square	%	Contract Type	T
Asset	GASV-SEC1	10				
Asset Group	GAS VALVES FOR PROPERTY GAS GASV	Component Group				
Failure Code	~~~~~ ?	Component				
Template PM Standards						
Chan Daver	· · · · · · · · · · · · · · · · · · ·					
Shop Person	Name			Deimana Castie	ad Assisted	Load Shop Person 👄
Snop Person	Name			Primary Certifi	eu Assigned	by Assigned Date

- 10. Enter the asset for which the preventive maintenance was being performed when it was identified that corrective maintenance was needed.
- 11. If no Shop Person is assigned to the Phase, then select Load Shop Person.

AM		Hello, SHANE	Logout About Help
📕 Shop Pe	erson Selection		🗟 🕲 🏌
JASANCHE	JAVIER SANCHEZ		
JCRESPIN	JAMES CRESPIN		
JESUSVAR	JESUS VARGAS		
JLDELEON	JOSE DE LEON		
JLSANCHE	JOSE SANCHEZ		
LEITH	LEITH BISHOP		
MUNOZDAN	DANIEL MUNOZ		
RALPLUCE	RALPH LUCERO		
RJH0680	RAUL HERNANDEZ		
RODUBOIS	ROBERT DUBOIS		
SHALEY	SHANE HALEY		

12. Select the shop tech who will be or who has performed the corrective maintenance.

13. Select the **done** icon.

12

AM		He	ello, SHAN	1E			Logo	<u>ut About Help</u>	1
🖲 Phase				View: Sel	ect		T	5 🔕 🔄	
Phase Description	001 CORRECTIVE MAINTENANCE FOR V	Crea Date	ted By Created D VALVE	SHALEY May 27, 2014 09: AM	25	Status Work Order Budget Location or Room	ASSIGNED 14-081711		
Shop	1	Estimated Date	25		Ⅎ	Classification			
Shop	PLUMBING	Estimated Start		1		Funding Method	Shop	T	
	F00469:PLUMBING SHOP	Estimated End		1		Work Code Group	UTILITIES		
Primary Person	SHALEY	Actual Start		5		Work Code	D2091		
	SHANE HALEY	Actual End		1				BUTION: ALL	
Priority	3-ROUTINE	Percent Complete				Request Method			
Equipment/As	set	Capital Project	:		T	Contractor			
Туре	Asset •	Capital Project	\square	₽	3	Contract Type		•	
Asset Asset Group	GASV-SEC1	Component Group							
Failure Code	P	Component							
Template									
PM Standards	□		14)					
Shop Person							Load	Shop Person 😑	
Shop Person				Primary C	C ertifi e No	SHALEY	By As	av 27, 2014	
				res •		<u>ormeen</u>		.,,	

- 14. Set **Primary** option to "Yes" for the shop person assigned.
- 15. Select the save 🔄 icon.
- 16. Navigate back to the work order.

ſ	Hello, SHALEY							<u>Logout</u>	<u>About</u>	<u>Help</u>
	Uork Order	17	lect	•	1 🗟 🥄	۱ 🥪				\$
	Work Order 14-081711			Created By	SHALEY	Status	Q	<u>PEN</u>		

- 17. Copy the *Work Order* number.
- 18. Select the **Search** $\stackrel{\text{planch}}{\sim}$ icon.
| - AM | | | Hello, SHALEY | | Lo | gout <u>Abou</u> | <u>t Help</u> |
|--------------|-----|------------|---------------|----|-----|------------------|---------------|
| Work Order | | | | | چ 🗟 |], 🤤 | , 📆 |
| Work Order | | | | 19 | | 20 | w All |
| Work Order | · • | = • | 14-074653 | | | | |
| Description | - • | contains 🔻 | | | | | |
| Created By | - • | = v | | ۶ | | | |
| Date Created | · • | = • | | | | | |

- 19. Enter the *Work Order* number for the Preventive Maintenance *Work Order* which was being completed when the need for Corrective Maintenance was discovered.
- 20. Select the **Search** *icon*

	A	M			Hello, S	SHALEY			<u>Logout</u>	<u>About</u>	<u>Help</u>
		Work Ord	ler					P 🖓		\$	
ſ		Work Order	21	Status	<u>Type</u>	Category	<u>University</u>	<u>Campus</u>	Property	Date Cr	reated
	0	14-074653	PM WORK ORDER FOR GAS SYSTEM SEC1 - GAS VALVES	OPEN	MAINTENANCE	PREVENTIVE	NMSU	LAS CRUCES	GAS SYSTEM SEC1	May 05, 07:40 At	2014 M

21. Select the Work Order.

- AM			Hello,	SHALEY				Log	out A	<u>bout</u>	Help
🖲 Work	Order	View: Select		۲	1 🗟 🥄	I	ð [8
Work Order	14-074653		Cr	eated By	SHALEY	Status	3	<u>OPEN</u>			
			Da	ite Created	May 05, 2014 07:40 AM	Projec	t				
Description	PM WORK ORDER F	OR GAS SYSTEM SE	EC1 - GAS VALV	ES		Desir	ed Date				
						Budae	et			\$1	0.00
								_			\exists
Organization			Property			Clas	sificati	on			
Organization	<u>F00469</u>		University	<u>NMSU</u>		Comr Proble	non em List				
	FS PLUMBING			NEW MEX	ICO STATE						
Requestor	FS PLUMBING		Campus	LAS CRU	CES	Туре		MAINTENA	NCE		
								MAINTENA	NCE		
Contact				LAS CRU	CES	Categ	ory	PREVENT	VE		
Contact Dhone			Property	GAS SYS	TEM SEC1			SCHEDUL	.ED		
Contact Fhone				TOMEOD		Job P	riority				
Contact Email				TOWTOR							
Phase											
Phase 2	22 ription	Location or Room	Shop		Work Code	Pric	ority	Sta	atus		
001	PM PHASE FOR GAS SYSTEM SEC1 - GAS VALVES		PLUMBING		D2091	3-R	OUTINE	NE	w		

22. Select the *Phase*.

AM	Hel	Io, SHALEY		23	<u>Logout</u>	<u>About</u>	<u>Help</u>
🖲 Phase	View: Select	- 🗟	ò 🄰	. 🖉 💰 🔋	چ 🎪	\$	P
Phase	001	Created By Date Created	SHALEY May 05, 2014 07:40	Status Work Order	<u>NEW</u> <u>14-074653</u>		
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VALVES		AW	Budget Location or Room		\$0	1.00

23. Select the **edit** $\sqrt[m]{}$ icon.

AM	Hello, SH	ALEY		<u>Logout About Help</u>
🖲 Phase		View:	: Select	- 🗟 🔕 🔄
Phase	001 Crea	ted By	Select S Extra Description	
	Date	Created	Account Setup Shop Stock 2 Budget Change Order 4 Condition Assessment Informatio Assessment Activity	m 24
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VALVES	6	Checkpoint Measurements Cost Analysis Dependencies Material Requests	

24. Click on Checkpoint Measurements

AM			Hel	Io, SHALEY			t <u>About</u> <u>Help</u>
🖲 Che	eck	point Measurem	ents				26
Phase		001		Created By	SHALEY	Work Order	14-074653
				Date Created	May 05, 2014 07:40 AM	PM Standards	GASV-SEC1
Description		PM PHASE FOR GAS SY	STEM SEC1 - GAS VALVES				
Checkpoint	Val	ue	Description	Extra D	escription		2
GAS VALVE 01	Y	?	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP I VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE		BROKE WHI ENANCE WO	LE EXERCISING - RK ORDER 14-08	CORRECTIVE 1711 CREATED TO FIX.

- 25. Paste the corrective maintenance *Work Order* number which was copied earlier into the **Extra Description** field of the checkpoint which was being completed when the need for corrective maintenance was identified. Add any other relevant notes to this field as well.
- 26. Select the **done** icon when finished

AM	Hell	Io, SHALEY			27 About Help
🖲 Phase		View	w: Select		
Phase	001	Created By	SHALEY	Status	NEW
		Date Created	May 05, 2014 07:40		۶
			AM	Work Order	<u>14-074653</u>
Description				Budget	\$0.00
Description	PM PHASE FOR GAS SYSTEM SEC1 - GAS VALVES				

27. Select the save 🔄 icon.

Sign Off Memo

To: FS

From: FSA Date: 03/20/2015

Sign Off For: AiM Preventive Maintenance for Water Components for the Utility Shop

Item/Items to be signed off:

- Water Components (Valves, Fire Hydrants, Wells, Tanks, Transfer Pumps, Sampling Sites)
- Water Well/Tank property and asset transition
- PM Template Design
- PM Generation
- Setup Data
- Water Component Data
- Work Orders and Phases

If you approve of the items presented for sign off, please sign below.

FS Functional Group:

ireco Signature - Ralph Lucero

Signature - David Avalos

FS Management:

Signature - Glen Haubold

mol Signature Tim Dobson Signature - Pat Chavez

Signature - Florarine Jones

Signature - Lorraine Silva

Date

3-20-15

Date

Date

Date

Date

Date

Sign Off Memo

То:	FS
From:	FSA
	0 4 10 4 0 4

Date: 06/019/2014

Sign Off For: AiM Preventive Maintenance for Gas Components for the Plumbing Shop

Item/Items to be signed off:

- Gas Components (Valves, Regulator Stations, Meter Stations, Piping)
- PM Template Design
- PM Generation
- Setup Data
- Gas Component Data
- Work Orders and Phases •
- PM Process with Mobile Device Implementation •

If you approve of the items presented for sign off, please sign below.

FS Functional Group:

Signature - Ralph Lucero

Signature - David Avalos

Signature - Alex Montoy

FS Management:

Signature - Kelly Brooks

- Tim Dobson Signaturé

6/19/14 Date

Date

R:\Projects\FS\AiM - Preventive Maintenance\AiM PM Plumbing Gas Sign Off Memo.docx

1

Sign Off Memo

To: FS

From: **FSA**

Date: 11/13/2014

Sign Off For: AiM Preventive Maintenance for Sewer Components for the Utility Shop

Item/Items to be signed off:

- Sewer Components (Manholes, Lift Stations)
- PM Template Design
- **PM** Generation •
- Setup Data •
- Sewer Component Data
- Work Orders and Phases

If you approve of the items presented for sign off, please sign below.

FS Functional Group:

alph & Bucero Signature - Ralph Lucero

Signature - David Avalos

FS Management:

Signature / Tim Dobson Signature Pat Chavez Signature – Florarine

Signature - Lorraine Silva

<u>//-/3-/4</u> Date

11-13-14

Date

Date

Date

11-13-14

Date

<u>11-13-14</u> Date



Preventive Maintenance for Gas Systems



Project Team

- Diane Madrid, Director Financial Systems Administration
- BJ Maestas, Assistant Director Financial Systems Administration
- Shane Haley, Programmer Analyst Financial Systems Administration
- Ralph Lucero, Supervisor Facilities Operations & Utilities
- David Avalos, Supervisor Facilities Operations & Utilities
- Alex Montoya, Supervisor Facilities Operations & Utilities



Background

- Ensure regulatory compliance is achieved
- AiM Facility Management System (FMS) not being fully utilized
- Preventive Maintenance (PM) in Facilities was being handled in a variety of methods depending on shop, asset, and components



Development of Approach

- Gain an understanding of Utility shop Preventive Maintenance (PM) requirements and process
- Formalize into a repeatable approach to be used for all PM implementations
- Create a method of communication that bridged the shop team's business and the IT department's understanding of the PM Module in AiM (concept diagram)





Approach

- Discovery Process
 - Assets
 - Regulatory Requirements
- PM Process
- Devise Concept Diagram
- Evaluate Process
 - Changes?
 - Improvements?
- Obtain data for system use/implementation
- Signoff
- Training





Discovery Process

- Discuss assets and requirements for PM
 - Provide Asset Criteria Form
 - **Shop Name** (*Name of the shop to which the asset is assigned*)
 - Asset (Generic name for asset such as valve, elevator, and meter)
 - Asset Name (Distinct name of the asset such as valve01, elevator01, and meter01)
 - **Group** (*if there is already a group defined in* <u>AiM</u> to which the asset would belong to)
 - **Type** (system, serialized, vehicle, property, property component).
 - **Parent Asset** (If asset is a component of another asset)
 - **Property** (Where the asset is located?), (Does the "property" exist?)
 - Estimated Monetary Value (dollar amount such as \$50.00)
 - Is this asset considered critical?
 - Are there regulatory requirements related to PM? If so, what are they?
 - Do you have PM Standards/Procedures defined? If so, what are they?
 - Are there special Break/Fix considerations or requirements for the asset?
 - Are there reporting requirements for the asset?



- Define the level of asset to utilize for PM
- Identify Properties, PM Standards / Checkpoints, and schedule of PM for assets



• The extensive knowledge of the Utility Shop Supervisors and maps of the gas system were instrumental in identifying assets and properties.







- Gas System Components
 - Valves (204)
 - Reg Stations (5)
 - Meter Stations (6)
 - Risers (223)
 - Piping





- Poly Gas Valve PM Steps
 - Refer to system map for valve location, size & number
 - Clean valve box
 - Close and open valve
- Additional steps for Steel valves
 - Grease valve
 - Exercise valve as needed
 - Repeat greasing and exercising of valve as needed.





• Request copies of all paper forms currently utilized

Ne	w Mexic	o State U	niversity		
Gas	Valvo M	laintonan	co Recor	ч	
Date	G	as Leak and R	lepair Report		
NMS	U FACILITIES	& SERVICES		lo	
ATN	OSPHERIC C	ORROSION			
Date:,20		Cathodi	c Protection Re	eadings	
Location:	Location	Pipe to Soil Reading	Remarks	Date	Technician(s)
Name of Technician(s):					
Designation of Line: Transmis					
Line Size:					
Area of Corrosion: Pipe:					
Vent:					
Corrective Measures Taken: P					
Type of Paint or Coating Used:					
CO					
Reported By:					
Location:					
Nature of Conditions:					
Repairs Made:					
Repairs Completed:					
-					
Signature of Plumber:					





Current PM Process







Concept Diagram

Preventive Maintenance Concept Diagram (Gas Systems)













Naming Conventions

AiM Component	Format	Example	Description
Property Profile		GAS SYSTEM SEC1	The property has been created in AiM to encompass a logical grouping of gas assets decided upon by the Plumbing shop.
Asset Group	<system><asset abbreviation=""></asset></system>	GASV	The system is gas and the type of asset is valves.
Master Asset Profile (individual asset)	<asset group="">-<sequential number=""></sequential></asset>	GASRS-1	The asset group name is GASRS and the number dictates that this is Gas Regulator Station number 1.
Master Asset Profile (group of assets)	<asset group="">-<property abbreviation=""></property></asset>	GASV-SEC1	The asset group name is GASV and the property name is GAS SYSTEM SEC1. The abbreviation SEC1 is being used in the property part of the name.
PM Template	<department>-<shop>-<sequential Number></sequential </shop></department>	FS-PLMB-001	FS-PLMB-001 Where FS is the department Facilities and Services, PLMB is the shop Plumbing, and 001 is a sequential number
PM Template Phase	<type asset="" of=""></type>	GAS VALVES	The phase is named GAS VALVES because it is PM for gas valves.
PM Standards (individual asset)	<asset group=""></asset>	GASRS	The PM Standards applies to all regulator stations and as such is named the same as the asset group for regulator stations.
PM Standards (group of assets)	<asset name=""></asset>	GASV-SEC1	The PM Standards only applies to gas valves in GAS SYSTEM SEC1 and as such is named the same as the asset group for gas valves in GAS SYSTEM SEC1.





Map Concept to AiM

Preventive Maintenance – AiM Structure

(Gas Valves, Gas Regulator Stations, Gas Meter Stations)

Note: Assume PM Generation is by Template

Impete Prase Phase: Gas Valves Description: Gas Valve Maintenance Imp: Plumbing Template Asset: GASV-SEC1 M Standards M Standards M Standards Checkpoints Checkpoint: GAS VALVE 1 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 2 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 4 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 5 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 5 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 6 Description: All steps for PM Validation: Yes/No Checkpoint: GAS VALVE 6 Description: All steps for PM Validation: Yes/No
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Checkpoint: GAS VALVE 7 Description: All steps for PM Validation: Yes/No
Checkpoint: GAS VALVE8 Description: All steps for PM Validation: Yes/No
Checkpoint: GAS VALVE 9 Description: All steps for PM Validation: Yes/No
Checkpoint: GAS VALVE 10 Description: All steps for PM Validation: Yes/No

W lemplate (W	vork Order)
Template: PS-PLN	AB-002
Template Phase	
Phase: Gas Reg S	Description: Gas Regulator Station Maintenance
Shap: Plumbing	Template Asset: GASRS-1
PM Standards	
PMStandards: GAS	RS
Checkpoints	
Checkpoint: Step 1	for PM Description: Process for Step 1
Checkpoint: Step 2	for PM Description: Process for Step 2
Checkpoint N	leasurement 1 Validation: Yes/No
Checkpoint N	leasurement 2 Validation: Yes /No
[
PM Generator	
ID: 002	Template: FS-PLMB-002 Property: GAS SYSTEMSEC1
Work Order	
Phase: 001	Ass et: GASRS-1
M Template (M	/ork Order)
M Template (M Template: PS-PLN Template Phase Phase: Gas Meters Shae: Blumbian	/ork Order) IB-003 Description: Gas Meter Station Maintenance Tamping Arr et GASNE 1
M Template (M Template: FS-PLN Template: Pase Phase: Gas MeterS Shop: Plumbing	/ork Order) 18-003 Description: Gas Meter Station Maintenance Template Assiet: GASMS-1
M Template (M Template: FS-PLM Template Phase Phase: Gas Meter S Shap: Plumbing PM Standards	/ork Order) AB-003 Description: Gas Meter Station Maintenance Template Ass et: GASINS-1
M Template (M Template: FS-PLM Template Phase Phase: Gas MeterS Shop: Plumbing PM Standards PMStandards: GASH	/ork Order) //ork Order) ////////////////////////////////////
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M Template (M Template: FS-PLM Template Phase Phase: Gas Meter S Shop: Plumbing PM Standards: GASI Checkpoints Checkpoint: Step 1	/ork Order) AB-003 Description: Gas Meter Station Maintenance Template Ass et: GASINS-1 VS for PM Description: Process for Step 1
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M Template (M Template: FS-PLM Template Phase Phase: Gas Meter S Shop: Plumbing PM Standards PMStandards: GASP Checkpoint: Step 1 Checkpoint: Step 1 Checkpoint: Step 2	/ork Order) /B-003 Description: Gas Meter Station Maintenance Template Asset: GASMS-1 V8 for PM Description: Process for Step 1 for PM Description: Process for Step 2
M Template (M Template Frase Phase: Gas Meter S Shop: Plumbing PM Standards PMStandards: GASR Checkpoint: Step 1 Checkpoint: Step 2 PM Generator	/ork Order) /BE-003 Description: Gas Meter Station Maintenance Template Ass et: GAS/MS-1 VB for PM Description: Process for Step 1 for PM Description: Process for Step 2
M Template (M Template: FS-PLM Template Phase Phase: Gas Meter S Shap: Plumbing PM Standards PMStandards: GASI Checkpoint: Step 1 Checkpoint: Step 2 PM Generator ID: 003	/ork Order) AB-D03 Description: Gas Meter Station Maintenance Template Ass et: GASMS-1 VB for PM Description: Process for Step 1 for PM Description: Process for Step 2 Template: PS-PLMB-003 Property: GAS SYSTEMSEC1
M Template (M Template: FS-PLM Template Phase Phase: Gas Meter S Shop: Plumbing PM Standards PMStandards: GASF Checkpoints Checkpoint: Step 1 Checkpoint: Step 2 PM Generator ID: 003 Work Order	/ork Order) //ork Order) //o
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Evaluate Current Process and Requirements





Evaluate Current Process and Requirements (Cont)

• Transitioned use of paper forms to use of AiM system on an iPad.

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📙 Checl	kpoint Measure	ements				10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
Phase	001	Created By	SHALEY	Work Order	14-074653	
		Date Created	May 05, 2014 07:40 AM			
Description	PM PHASE FOR GA	S SYSTEM SEC1 - GAS VALVES		PM Standards	GASV-SEC1	
Checkpoint	Value	Description	Extra Description			
∋AS VALVE 01	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLEAN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
∋AS VALVE 02	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
∋AS VALVE 03	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
GAS VALVE 04	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
GAS VALVE 05	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
∋AS VALVE 06	Y	POLY/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE	COMPLETE			
GAS VALVE 07	Y	STEEL/NON-CRITICAL 1.REFER TO SYSTEM MAP FOR VALVE LOCATION, SIZE & NUMBER 2.CLE AN VALVE BOX 3.CLOSE & OPEN VALVE, PERFORM STEPS 4.6 IF NEEDED 4.GREASE VALVE 5.EXERCISE VALVE 6.REPEAT STEPS 4 & 5	COMPLETE			

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Evaluate Current Process and Requirements (Cont)

• Evaluate existing PM and open work orders

<u>NBMS</u>	U Senior VP for Admi	nistration and Fi	nance						Preventive Mai	ntenance
			Onen W	ork Orders	and Mate	hing New PM	Templates			
Open										
Work					Keep/	New PM				
Order/PM	Phase	Asset	Schedule	Frequency	Remove	Template	New Phase	Asset	Schedule	Frequency
									November	
									1st of	
									every year	
									starting	
						FS-PLMB-019	CATHODIC	GASP-1	2014	Annual
									December	
									1st of	
									every year	
									starting	
						FS-PLMB-020	CATHODIC	GASP-3	2014	Annual
									March 1st	
									of every	
									year	
									starting	
						FS-PLMB-021	CATHODIC	GASP-4	2015	Annual
									January	
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									every year	
						ES DIME 022	CATHODIC	GASE 5	2015	Appual
						F3-FLIVID-022	CATHODIC	GASE-J	February	Annual
									1st of	
		ES-LC-GAS	1st of						every year	
14-071045/		REG	every						starting	
FS-1093	CATHODE INSP	STATIONS	month	Monthly	Remove	FS-PLMB-023	CATHODIC	GASP-6	2015	Annual





Cleanup

- No longer need open work orders
- Disable obsolete PM and open work orders
 - Monthly Open Work Order for Regulator Stations
 - CATHODE INSP
 - VALVE MAINT
 - Monthly Open Work Order for Gas System
 - ATMOSPHERIC
 - CATHODE INSP
 - DIST INSP
 - ODOR TEST



Obtain Asset Data and Prep for Loading into AiM

- Load files
 - Properties
 - Assets
 - PM Templates
 - PM Standards

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	ES-DIMA	5	PM Standards		Description	Editor	Edit Date	Active	Labor	Material	Equipment	Contract				LAS U		SYS
6	1 off Civit	6	GASV-SEC1		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL		L	LAS C		SYS
7	FS-PLM8	7	GASV-SEC2		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL			LAS C		SYS
		8	GASV-SEC3		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL			LAS C		SYS
8	FS-PLMI	9	GASV-SEC4		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL			LAS C		
	ES-PLM	10	GASV-SEC5		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL			LAS C	j	
9		11	GASV-SE05		SEE CHECKPOINTS	SHALEY	SYSDATE	Y	0	0	0	0	NULL		1			
	ES-PLM8	12	GASRS		REGULATOR STATIONS & RELIEF Y	SHALEY	SYSDATE	Y	0	0	0	0	NULL		1			
		13	GASMS		GAS METER STATIONS. SEE CHECH	SHALEY	SYSDATE	Y	0	0	0	0	NULL		1			



Management Review/Signoff for AiM Production Implementation

- Prepare Signoff Memo and packet
- Prepare FS PM Implementation Matrix

·	Plumbing
Date Implemented Sign off Received	M Components D
5/5/2014 6/19/2014	alves
s 6/17/2014 6/19/2014	egulator Stations
6/17/2014 6/19/2014	leter Stations
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Take PM Live in AiM for Relevant Components

- Coordinate Building of PM Generators
- Facilitate Generation of Work Orders

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Train Users

- Prepare Documentation
- Coordinate training time and location
- Assist with first PM execution as necessary

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Questions?

