

ENGINEERING DEPARTMENT

Title: 1 Teventive ivianitenance	of Distilled Water Plant (WFI- Plant)		
SOP No.:		Revision No.:	00
Tiec 4: D 4		C 1 N	3.711

Effective Date:	Supersedes No.	N1I
Review Date:	Page No.	1 of 8

1.0 Objective

1.1 The Objective of this SOP is to describe the procedure for preventive maintenance of preventive maintenance of Distilled Water Plant (WFI- Plant).

2.0 Scope

2.1	This SOP is applicable for the preventive maintenance of Distilled Water Plant (WFI- Plant).
	Installed in Utility block of

3.0 RESPONSIBILITY:

- **3.1** The Maintenance Operator shall be responsible:
 - **3.1.1** To carry out preventive maintenance of equipment.
 - **3.1.2** To report any deviation and/or deficiency observed during preventive maintenance.
 - **3.1.3** To maintain the record of all checks.
- **3.2** The Maintenance Engineer shall be responsible:
 - **3.2.1** To get the preventive maintenance done as per annual maintenance planner.
 - **3.2.2** To check the preventive maintenance activity is carried out and devotions and/or Deficiencies are complied as per requirement.

4.0 ACCOUNTABILITY:

Head –Engineering Services

5.0 PROCEDURE:

5.1 CAUTION:

I) Before carrying out preventive maintenance, switch `off' the mains, remove Fuses and display the `Under Maintenance' board.

ENGINEERING DEPARTMENT

Title: Preventive Maintenance of Distilled Water Plant (WFI- Plant)

SOP No.:	Revision No.:	00
Effective Date:	Supersedes No.	Nil
Review Date:	Page No.	2 of 8

5.2 MONTHLY PREVENTIVE MAINTENANCE ACTIVITIES:

- **I)** Check the operation of feed water pump for leakage, abnormal noise and vibrations. Rectify it, if required.
- **II)** Check the operation of cooling water pump for leakage, abnormal noise and vibrations. Rectify it, if required.
- **III)** Check the operation of steam inlet valve for any leakage. Rectify it, if required.
- **IV)** Check all the pneumatic actuator for operation and air leakage. Rectify it, if required
- **V)** Check all the sight glass for any leakage. Rectify it, if required.
- **VI)** Check the operation of data logger, if applicable. Rectify it, if required.
- **VII)** Check all the electrical connections for tightness and damage. Rectify it, if required.
- **VIII)** Take a running trial and check for any abnormal noise and vibrations. Rectify it, if required.
- **IX)** Maintain the record of all checks in checklist. (Annexure-1)

5.3 QUARTERLY PREVENTIVE MAINTENANCE ACTIVITIES:

- **I)** Check the connections of conductivity meter. Rectify it, if required.
- **II)** Check the connections of pressure switch. Rectify it, if required.
- **III)** Check the connections of flow meter. Rectify it, if required.
- **IV)** Check the connections of temperature indicator. Rectify it, if required.
- **V)**Check the connections of level controller. Rectify it, if required.
- **VI)** Check all the electrical connections of water pumps for tightness and damage. Rectify it, if required.
- **VII)** Take a running trial and check for any abnormal noise and vibrations. Rectify it, if required.

ENGINEERING DEPARTMENT

Title: Preventive Maintenance of Distilled Water Plant (WFI- Plant)

SOP No.:	Revision No.:	00
Effective Date:	Supersedes No.	Nil
Review Date:	Page No.	3 of 8

VIII) Maintain the record of all checks in checklist. (Annexure-2)

5.4 SIX MONTHLY PREVENTIVE MAINTENANCE ACTIVITIES:

- **I)** Check all the utility line connection for any leakage. Rectify it, if required.
- **II)** Check the water distribution loop for any gasket damage and leakage. Rectify it, if required.
- **III)** Check the heat exchanger and column for formation of scale. De-scale it, using Sulfuric acid if required.
- **IV)** Check the operation of online printer. Rectify it, if required.
- **V)** Take a running trial and check for any abnormal noise and vibrations. Rectify it, if required.
- **VI)** Maintain the record of all checks in checklist. (Annexure-3)

5.5 YEARLY PREVENTIVE MAINTENANCE ACTIVITIES:

- **I)** Check the storage tanks for proper mechanical condition. Rectify it, if required.
- **II)** Check all air vent filter of water storage tank for integrity. Replace it, if required.
- **III)** Maintain the record of all checks in checklist. (Annexure-4)

6.0 ANNEXURES:

Annexure-1: Monthly Preventive Maintenance Checklist for WFI- Plant.

Annexure-2 : Quarterly Preventive Maintenance Checklist for WFI- Plant.

Annexure-3: Six Monthly Preventive Maintenance Checklist for WFI- Plant.

Annexure-4: Yearly Preventive Maintenance Checklist for WFI- Plant.

7.0 References (S)

Nil



ENGINEERING DEPARTMENT

Title: Preventive Maintenance of Distilled Water Plant (WFI- Plant)

SOP No.:	Revision No.:	00
Effective Date:	Supersedes No.	Nil
Review Date:	Page No.	4 of 8

8.0 Glossary

SOP : Standard Operating procedure

No : Number



ENGINEERING DEPARTMENT

No.:			Revision No.:	00	
ective Date:				Supersedes No.	Nil
ew Date:				Page No.	5 of 8
		ANNEXURE	01		
EQU	UIPMENT CODE:	LOCATION:		MONT	H :
S.No.	DESCRIPTION		OBS	SERVATIONS/ RE	EMARKS
1.	Check the operation	of feed water pump for leakage ribrations. Rectify it, if require	e,		
2.	abnormal noise and	of cooling water pump for lead ribrations. Rectify it, if require			
3.	leakage. Rectify it, i				
4.	leakage. Rectify it, i				
5.	Check all the sight grequired.	ass for any leakage. Rectify it	, if		
6.	Rectify it, if required				
7.	damage. Rectify it, i				
8.	Take a running trial and vibrations. Rect	and check for any abnormal no fy it, if required.	oise		
Done	by:	Dono	one		
(Ope	rator)	Done	OII:		
	ked by: ineer)	Next	due on:		
Verif	ied by:				
(Con	cerned Department)				

FREQUENCY: Monthly Preventive Maintenance

CAUTION: Before Carrying Out Preventive Maintenance, Switch Off The Mains, Remove Fuse And Display The Under Maintenance Board.



ENGINEERING DEPARTMENT

No.:				Revision No.:	00
ective Date:				Supersedes No.	Nil
riew Date:				Page No.	6 of 8
		ANI	NEXURE-02		
EQU	JIPMENT CODE:	LOCA	ATION:	MONT	гн:
S.No.		DESCRIPTION		OBSERVATIONS/ R	EMARKS
01.	1 -	and connections of Rectify it, if require	d.		
02.	Check the operation switch. Rectify it, if	and connections of required.	pressure		
03.	Check the operation Rectify it, if require	and connections of d.	flow meter.		
04.	Check the operation indicator. Rectify it.	and connections of if required.	temperature		
05.		and connections of	level		
06.	Check all the electric	cal connections of w	1 1		
07.	Take a running trial	and check for any a . Rectify it, if requir	bnormal		
Done by: (Operator) Done on			Done on:		
Check (Engi	ked by: neer)	Next due on:		:	
	ed by: cerned Department)				

FREQUENCY: Quarterly Preventive Maintenance

CAUTION: Before Carrying Out Preventive Maintenance, Switch Off The Mains, Remove Fuse And Display The Under Maintenance Board.



ENGINEERING DEPARTMENT

No.:						Revision No.:	00
ctive Date: iew Date:						Supersedes No.	Nil
					Page No.	7 of 8	
			ANNE	XURE-03			
EQU	UPMENT CO	DE:	LOCATI	ION:		MONT	TH:
S.No.		DESC	CRIPTION		0	BSERVATIONS/ R	EMARKS
1.	Check all the		connection for any	7			
	leakage. Rect	ify it, if requ	iired.				
2.			ion loop for any g				
3.	Check the heat exchanger and column for formation of scale. De-scale it, using Sulfuric acid, if required.						
4.	Check the operation of online printer. Rectify it, if required.			ify it, if			
5.			check for any abnotify it, if required.				
				·			
Done 1	by:			Done on:			
(Oper	ator)						
Checked by:			Nov. 4	-			
(Engineer)				Next due	m:		
Verifi	ed by:						
	erned Departr	mont)					

FREQUENCY: Six Monthly Preventive Maintenance

CAUTION: Before Carrying Out Preventive Maintenance, Switch Off The Mains, Remove Fuse And

Display The Under Maintenance Board.



ENGINEERING DEPARTMENT

Title: Preventive Maintenance of Distilled Water Plant (WFI- Plant)				
SOP No.:	Revision No.:	00		
Effective Date:	Supersedes No.	Nil		
Review Date:	Page No.	8 of 8		

ANNEXURE-04

EQUIPMENT CODE:	LOCATION:	MONTH:

S.No.	DESCRIPTION	OBSERVATIONS/ REMARKS
01.	Check the storage tanks for proper mechanical condition. Rectify it, if required.	
02.	Check all air vent filter of water storage tank for integrity. Replace it, if required.	

Done by:				
(Operator)			Done on:	
Checked by:				
(Engineer)			Next due on:	
Verified by:				
(Concerned Department)				

FREQUENCY: Yearly Preventive Maintenance

CAUTION: Before Carrying Out Preventive Maintenance, Switch Off The Mains, Remove Fuse And Display The Under Maintenance Board.