



STANDARD OPERATING PROCEDURE

Department: Engineering

TITLE: Operation of Multi Grade Sand Filter (MGF)

SOP No.		Revision No.	
Effective Date		Supersedes No.	
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1.0 OBJECTIVE

The purpose of this SOP is:

- 1.1 To describe the procedure for operation of Multi grade sand filter (MGF).

2.0 SCOPE

This SOP is applicable for operation of Multi grade sand filter (MGF) at.....

3.0 RESPONSIBILITY:

3.1 The Maintenance Operator shall be responsible:

- 3.1.1 Responsible for operation of the Multi grade sand filter
- 3.1.2 Responsible for recording of operational data's in the performance log sheet.

3.2 The Maintenance Engineer shall be responsible:

- 3.2.1 Responsible for proper operation of the plant.
- 3.2.2 Responsible to take corrective action if any deviation observed.

4.0 ACCOUNTABILITY

Head –Engineering Services

5.0 PROCEDURE:

5.1 START UP:

- 5.1.1 Before starting the plant, ensure that the water inlet valve V1, V2,V3,V4 & V5
- 5.1.2 Switch 'On' the raw water feed pump.
- 5.1.3 Check the inlet pressure and outlet pressure; Inlet pressure should not be less than 3 Kg/cm² and outlet pressure 2.0 kg/cm². If pressure drop is more than 1.0 kg/cm², backwash the unit as per the back wash procedure.



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5.2 BACKWASH:

- 5.2.1** Open wash outlet valve MPV, slowly open wash inlet valve V3 and close valve V1 Take care to see that no filter media is washed out.
- 5.2.2** Continue the wash for the specified time (10 to 15 minutes.) or till the effluent is clear.
- 5.2.3** Open inlet Valve (V) V1 and drain valve MPV, Check the clarity of the drain water, if clear close drain valve V3 and open outlet valve V1.

5.3 REPLACEMENT OF FILTERING SAND:

- 5.3.1** Replacement of multi grade sand filter unit to be carried out once in eighteen months for better performance of the system as per Ref. SOP.

6.0 ANNEXURES:

Annexure-I: Performance log sheet of MGF and Dosing Systems.

7.0 References (S)

Nil

8.0 Glossary

SOP : Standard Operating procedure

MGF : Multi Grade Filter.

V : Valve



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ANNEXURE I

PERFORMANCE LOG SHEET OF MGF AND DOSING SYSTEMS

ACCEPTANCE CRITERIA:

Pressure	Pressure difference	Back wash frequency	Back wash time	Checked by: (Engineer)
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Date:
Shift:
Operator:

Time (Hrs)	Multi Grade Sand Filter (MGF)			Dosing System			Remarks	Operators sign.
	Pressure in Kg/cm ²		Backwashing Time	I	II	III		
	Inlet	Outlet		NaOCl	NaHSO ₃	Anti-Scalant		

Inlet	Outlet	MGF	MGF	MGF	
NLT	NLT	NMT	At the Beginning of	NLT	
3.0Kg/cm²	2.0 Kg/cm²	1 Kg/cm²	Every shift	10min.	