

(ROS)

Reservoir Operation schedule for Dams



Maharashtra Krishna Valley Development Corporation

Chief Engineer, Water Resources Department,

Sinchan Bhavan, Mangalwar Peth Pune

Ph.020- 26120505, Office 26125074, Fax 26126015

cewrd_pune@wrd.maharashtra.gov.in, cewrpd@pune@gmail.com

No.CE/EE-2/DE-4/PB-7/ 1776

Date: 10.4.2015

The Superintending Engineer,
Pune Irrigation Circle, Pune

Sub: Approval of Reservoir Operation schedule ROS of Pawana Dam

Ref: Your letter NO PIC/DB/1871 Dt 5/3/2015

The updated Reservoir Operation Schedule (ROS) of Pawana Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be builtup or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.

4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department,
Pune-11

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantralya Mumbai for favour of information. [Kind attention : Shri.S.A.Tatu, Deputy Secretary, (Irrign.)]

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Khadawasla Irrigation Division, Pune for information and necessary action.

D.A. Above

CHIEF ENGINEER, WATER RESOURCES
DEPARTMENT, PUNE-411 011.

PUNE IRRIGATION CIRCLE, PUNE.

KHADAKWASLA IRRIGATION DIVISION, PUNE.

PAWANA DAM

RESERVOIR OPERATION SCHEDULE
AND
GATE OPERATION SCHEDULE.

Sr. No.	Date	Upper Guide Curve . 90% Dependable						Lower Guide Curve : 75% Dependable					
		R.L.	Live storage		%		R.L.	Live storage		%		TMC	TMC
		MM 3	TMC					MM 3	TMC				%
1	2	3	4	5	6	7	8	9	10				68.49
1	15-Jun	612.37	221.78	7.83	92.06	609.68	165.00	5.83					68.49
2	30-Jun	612.37	221.78	7.83	92.06	609.68	165.00	5.83					68.59
3	15-Jul	612.37	221.78	7.83	92.06	609.69	165.24	5.84					68.59
4	31-Jul	612.8	230.91	8.15	95.85	610.87	189.72	6.70					78.75
5	15-Aug	613.32	240.9	8.51	100.00	612.57	225.95	7.98					93.79
6	31-Aug	613.32	240.9	8.51	100.00	613.02	235.66	8.32					97.82
7	15 Sept.	613.32	240.9	8.51	100.00	613.32	240.90	8.51					100.00
8	30 Sept.	613.32	240.9	8.51	100.00	613.32	240.90	8.51					100.00
9	15 Oct.	613.32	240.9	8.51	100.00	613.32	240.90	8.51					100.00

Note :-
1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates.

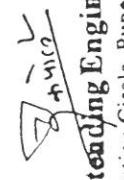
- During the period of severe floods the reservoir may be allowed to rise temporarily above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
- 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon

Second Engineer
Engineering Section
Pawna Dam.
Pawna Dam, Nasik.

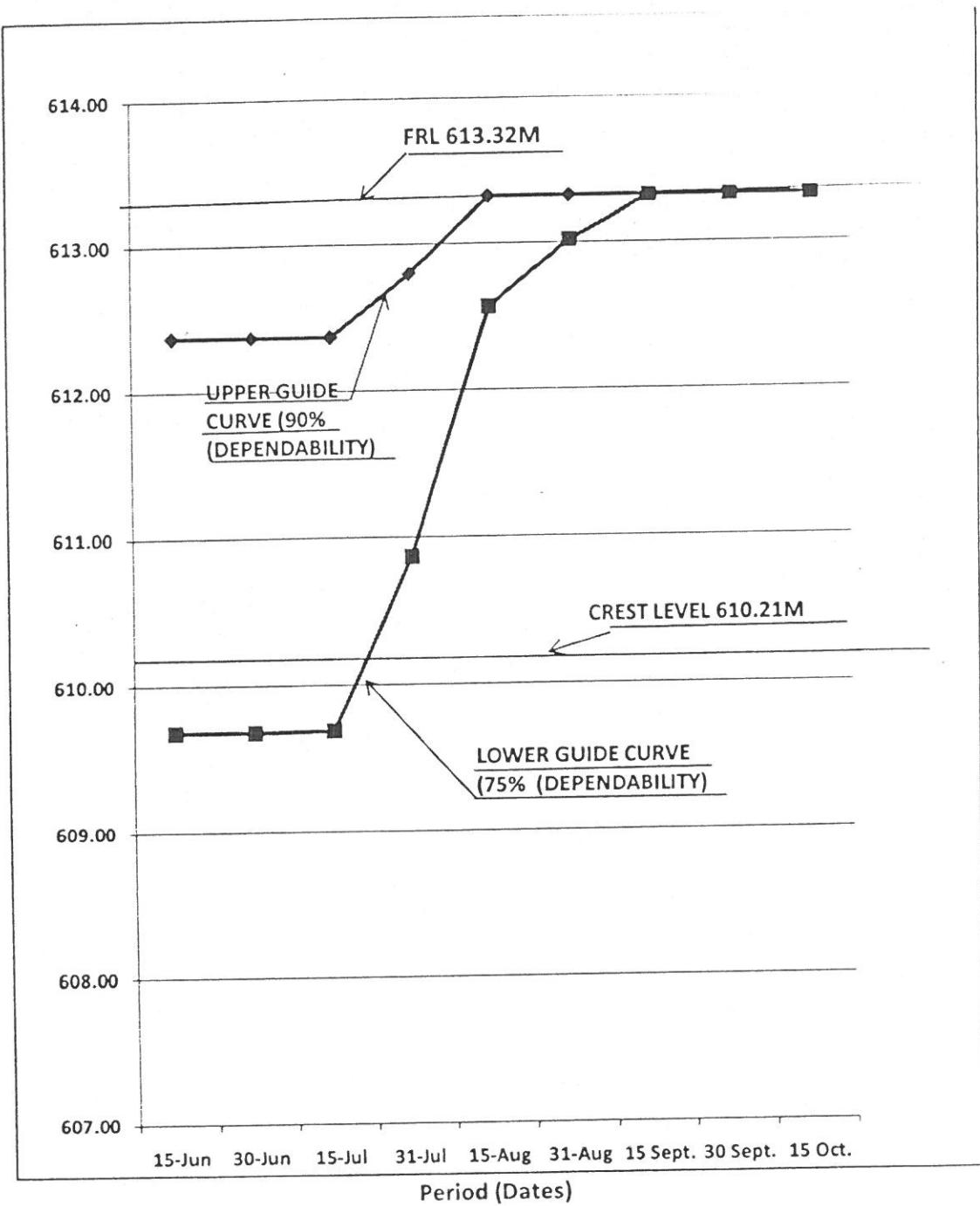
Sub-Divisional Engineer
Latur Division
Pawna Dam, Nasik.

Executive Engineer
Khadakwasla Irrigation Division, Pune-11.
Pawna Dam, Nasik.

Superintendent Engineer
Pune Irrigation Circle, Pune-11.


Chief Engineer
Water Resources Department, Pune-11

PAWANA DAM - GUIDE CURVES FOR ROS



Sectional Engineer
Pawana Dam Section
Pawananagar.

Sub-Divisional Engineer
Lift Irrigation Sub-Division
Pawananagar- Talegaon Dabhade

Executive Engineer
Khadakwasla Irrigation Division, Pune-11.

Superintending Engineer
Pune Irrigation Circle, Pune-11

Chief Engineer
Pune Irrigation Circle, Pune-11



Maharashtra Krishna Valley Development Corporation
Chief Engineer, Water Resources Department,
Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, Office 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrpd@pune@gmail.com

No.CE/EE-2/DE-4/PB-7/

10-0383

/2015

Date:

28 JAN 2016

To,

The Superintending Engineer,
Pune Irrigation Circle,
Pune

Sub : Approval of Reservoir Operation schedule ROS of Veer Dam

Ref : Your letter No.PIC/PB-3/6455 dated 01/08/2015 & PIC/PB G/E-Jalseva/m-8/10527

Dtd. 22/12/2015

The updated Reservoir Operation Schedule (ROS) of Veer Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer..
2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.
4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department,
Pune-1

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantrala Mumbai for favour of information.

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Nira Right Bank Canal Division, Phaltan for information and necessary action.

D.A. Above

E/S Mathew-1/PB-7/ROS of Dams

ROS OF VEER DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	Live storage	TMC	%	R.L.	MM 3	TMC
1	2	3	4	5	6	7	8	9	10
1	11-Jun	579.25	247.68	8.75	92.97	575.20	142.30	5.03	53.42
2	21-Jun	579.25	247.68	8.75	92.97	575.20	142.30	5.03	53.42
3	01-Jul	579.25	247.68	8.75	92.97	575.20	142.30	5.03	53.42
4	11-Jul	579.25	247.68	8.75	92.97	575.20	142.30	5.03	53.42
5	21-Jul	579.25	247.68	8.75	92.97	575.20	142.30	5.03	53.42
6	01-Aug	579.57	252.99	8.93	94.97	576.66	175.42	6.19	65.85
7	11-Aug	579.85	266.40	9.41	100.00	579.72	262.25	9.26	98.44
8	21-Aug	579.85	266.40	9.41	100.00	579.72	262.25	9.26	98.44
9	01-Sep	579.85	266.40	9.41	100.00	579.72	262.25	9.26	98.44
10	11-Sep	579.85	266.40	9.41	100.00	579.72	262.25	9.26	98.44
11	21-Sep	579.85	266.40	9.41	100.00	579.72	262.25	9.26	98.44
12	01-Oct	579.85	266.40	9.41	100.00	579.85	266.40	9.41	100.00
13	11-Oct	579.85	266.40	9.41	100.00	579.85	266.40	9.41	100.00
14	15-Oct	579.85	266.40	9.41	100.00	579.85	266.40	9.41	100.00

Note :-

- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
- 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon


Section Engineer
Veer Dam Section
Wathar colony


Sub-Divisional Officer
Veer Dam Subdivision
Wathar Colony


Executive Engineer
Neera Right Bank Canal Division
Phaltan


Chief Engineer
Water Resources Department, Pune-11

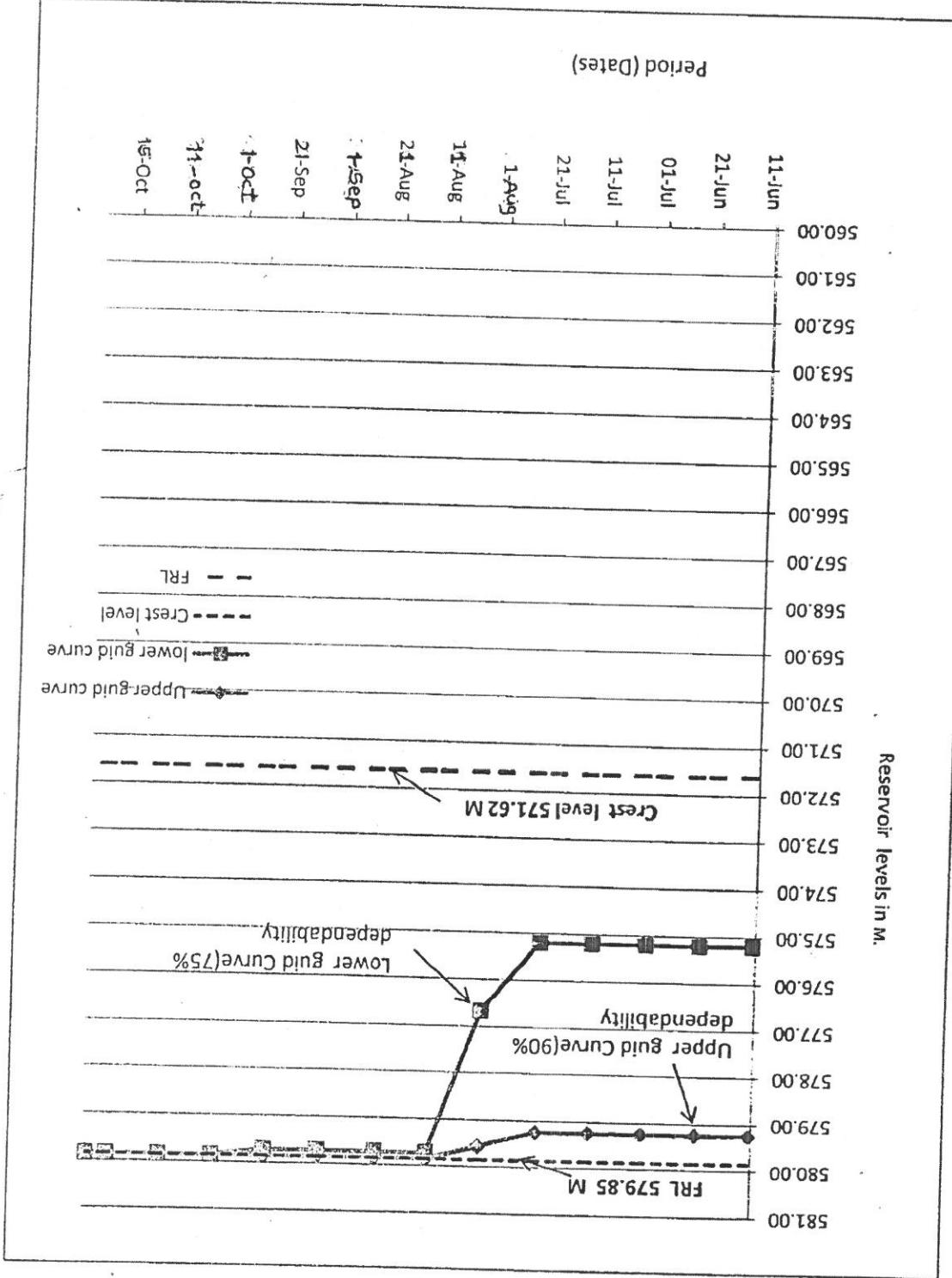
APPROVED

Water Resources Department, Pune-11

Chief Engineer

Shri Divisional Officer
Water Dam Sub DivisionShri Divisional Officer
Wathar ColonyNerra Right Bank Canal Division
Executive Engineer
Phaltan

APPROVED



Maharashtra Krishna Valley Development Corporation
Chief Engineer, Water Resources Department,

Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, ceOffi 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrpd@pune@gmail.com

No.CE/EE-2/DE-4/PB-7/ 1775

Date: 10.4.2015

The Superintending Engineer,
Pune Irrigation Circle, Pune

Sub : Approval of Reservoir Operation schedule ROS of Chaskaman Dam

Ref : Your letter NO PIC / PB / 1871 DT 5/3/2015

The updated Reservoir Operation Schedule (ROS) of Chaskaman Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be buildup or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.

4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above


Chief Engineer
Water Resources Department,
Pune-11

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantralya Mumbai for favour of information. [Kind attention : Shri.S.A.Tatu, Deputy Secretary, (Irrign.)]

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Khadawasla Irrigation Division, Pune for information and necessary action.

D.A. Above

RESERVOIR OPERATION SCHEDULE

CHASKAMAN DAM

KHADAKWASALA IRRIGATION DIVISION, PUNE.

PUNE IRRIGATION CIRCLE, PUNE

CHIEF ENGINEER, WATER RESOURCES
DEPARTMENT, PUNE-411011.

ROS OF CHASKAMAN DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	Live storage	%	R.L.	MM 3	Live storage	%
			TMC				TMC		
1	2	3	4	5	6	7	8	9	10
1	15-Jun	647.78	183.70	6.486	85.64	641.59	97.71	3.451	45.55
2	30-Jun	647.78	183.70	6.486	85.64	641.69	98.84	3.491	46.08
3	15-Jul	647.85	184.81	6.525	86.16	642.41	107.30	3.790	50.02
4	31-Jul	649.30	210.24	7.423	98.01	647.43	178.02	6.288	82.99
5	15-Aug	649.53	214.50	7.577	100.00	649.33	210.85	7.448	98.30
6	31-Aug	649.53	214.50	7.577	100.00	649.53	214.50	7.577	100.00
7	15 Sept.	649.53	214.50	7.577	100.00	649.53	214.50	7.577	100.00
8	30 Sept.	649.53	214.50	7.577	100.00	649.53	214.50	7.577	100.00
9	15 Oct.	649.53	214.50	7.577	100.00	649.53	214.50	7.577	100.00

Note :- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2) The lower guide curve indicates the minimum level upto which the reservoir filling must bⁿ achieved on various dates during the monsoon.

3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.

W.M.B.
Sectional Engineer
Chaskaman Dam Section
Kadadhe

S. S. S.
Assistant Engineer (Or.-I)
Chaskaman Project Sub.Div.No.5,
Pune-11.

S. S. S.
EXECUTIVE ENGINEER
Khatakkavla Irrigation Division
PUNE-11.

S. S. S.
Supervising Engineering
Water Irrigation Circle, Pune-11.

S. S. S.
Chief Engineer

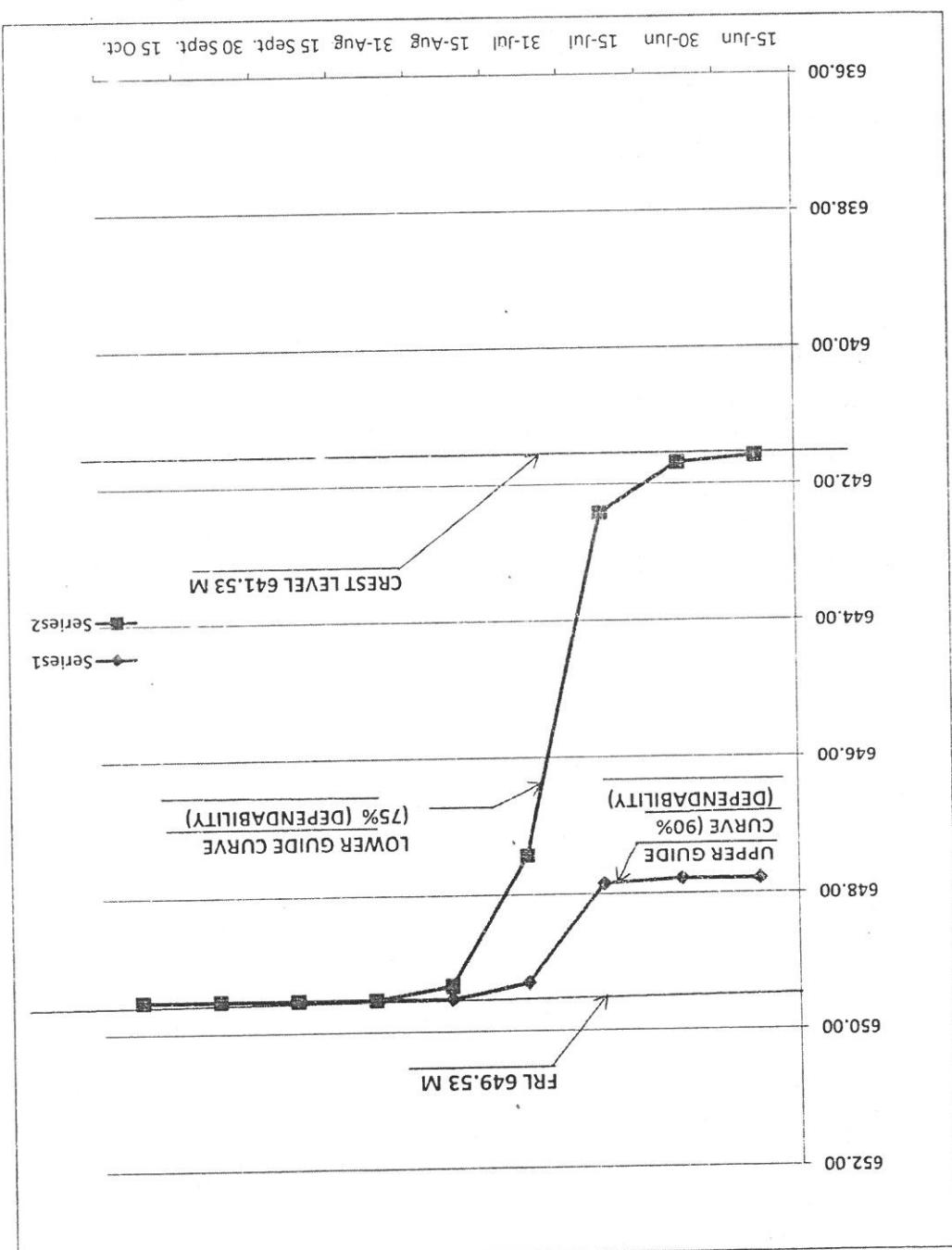
Superintendent Engineer
Executive Engineer

Executive Engineer
Khadakwasla Irrigation Division
PUNE-41.

Assistant Engineer (E.I.)
Chaskaman Project Sub.Div. No.5.
Rajgurunagar
Kadadehe

Chaskaman Dam Section
Sectional Engineer
Santosh

Period (Dates)



CHASKAMAN DAM - GUIDE CURVES FOR ROS

CHIEF ENGINEER, WATER RESOURCES
DEPARTMENT, PUNE-411 011.

PUNE IRRIGATION CIRCLE, PUNE.

KHADAKWASLA IRRIGATION DIVISION, PUNE.

WARSAGAON DAM

RESERVOIR OPERATION SCHEDULE .

ROS OF PAWANA DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	Live storage	%	R.L.	Live storage	%		
		MM 3	TMC		MM 3	TMC			
1	2	3	4	5	6	7	8	9	10
1	15-Jun	612.37	221.78	7.83	92.06	609.68	165.00	5.83	68.49
2	30-Jun	612.37	221.78	7.83	92.06	609.68	165.00	5.83	68.49
3	15-Jul	612.37	221.78	7.83	92.06	609.69	165.24	5.84	68.59
4	31-Jul	612.8	230.91	8.15	95.85	610.87	189.72	6.70	78.75
5	15-Aug	613.32	240.9	8.51	100.00	612.57	225.95	7.98	93.79
6	31-Aug	613.32	240.9	8.51	100.00	613.02	235.66	8.32	97.82
7	15 Sept.	613.32	240.9	8.51	100.00	613.32	240.90	8.51	100.00
8	30 Sept.	613.32	240.9	8.51	100.00	613.32	240.90	8.51	100.00
9	15 Oct.	613.32	240.9	8.51	100.00	613.32	240.90	8.51	100.00

Note :-

- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
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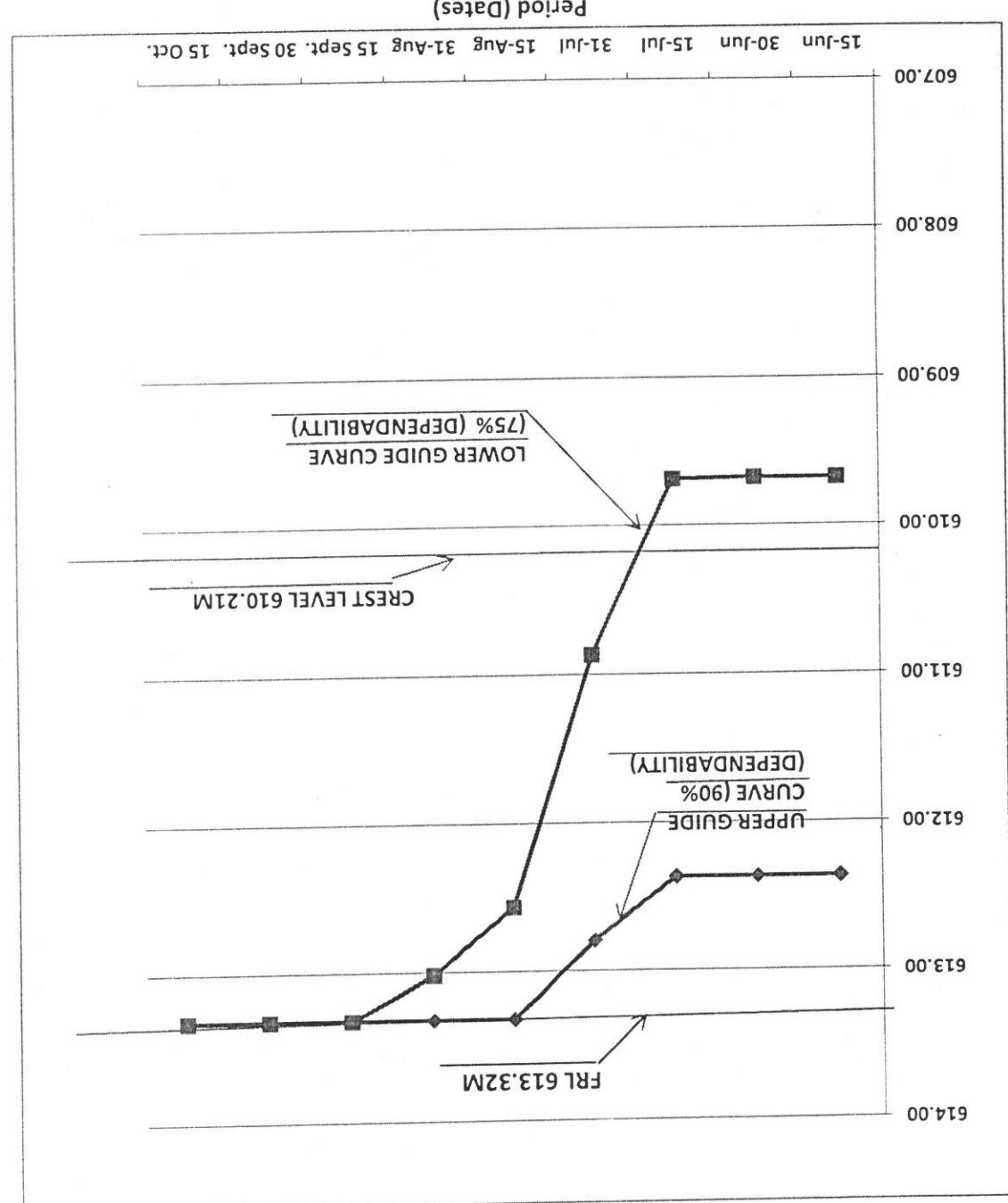
Ravinder Singh

Sectional Engineer *J. K. S.*
Pawana Dam Section **Sub-Executive Engineer**
Pawananagar **Littoral Irrigation Division** **Executive Engineer**
 Pawanaanagar, Punganur, Andhra Pradesh, India
 Ph: 0866-2222222, Fax: 0866-2222222

21/10/02

Superintending Engineer
 Punganur Circle, Punganur
 Andhra Pradesh, India

Pune Irrigation Circle, Pune-11.
 Superintendent Engineer
 Executive Engineer
 Sub-Divisional Engineer
 Lift Irrigation Section
 Khadakwasla Irrigation Division, Pune-11
 Pawana Dam Section
 Pawana Dam
 Pawana Dam
 Sectional Engineer



PAWANA DAM - GUIDE CURVES FOR ROS



Maharashtra Krishna Valley Development Corporation
Chief Engineer, Water Resources Department,

Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, Office 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrdpune@gmail.com

No CE/EE-2/DE-4/PB-7/ 1777

Date: 10.4.2015

म. अधिकारी
राज्यालय संस्था

४३२०१३. The Superintending Engineer,
Pune Irrigation Circle, Pune

Sub : Approval of Reservoir Operation schedule ROS of Panshet Dam

Ref: Your letter no PIC/DBI/1871 Dt 5/3/2015

The updated Reservoir Operation Schedule (ROS) of Panshet Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

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3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.

4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department.
Pune-11

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantralya Mumbai for favour of information. [Kind attention : Shri.S.A.Tatu, Deputy Secretary, (Irrign.)]

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Khadakwasla Irrigation Division, Pune for information and necessary action.

D.A. Above

CHIEF ENGINEER,WATER RESOURCES
DEPARTMENT, PUNE-411011.

PUNE IRRIGATION CIRCLE, PUNE

KHADAKWASALA IRRIGATION DIVISION, PUNE.

PANSHET DAM

RESERVOIR OPERATION SCHEDULE

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	TMC	%	R.L.	MM 3	TMC	%
1	2	3	4	5	6	7	8	9	10
1	15-Jun	634.32	273.27	9.653	90.60	629.74	212.68	7.513	70.51
2	30-Jun	634.32	273.27	9.653	90.60	629.74	212.68	7.513	70.51
3	15-Jul	634.32	273.27	9.653	90.60	630.50	222.02	7.842	73.61
4	31-Jul	636.27	288.59	10.194	95.68	633.97	268.17	9.473	88.91
5	15-Aug	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
6	31-Aug	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
7	15 Sept.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
8	30 Sept.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
9	15 Oct.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00

- Note:-
- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
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 - 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.

Pune - 411 037
Sub-Divisional Engineer
Mr. A. S. Patil, C.E.,
M.S.C.I.,
Pune - 411 037

Executive Engineer
Khadawala Irrigation Division
Mr. A. S. Patil, C.E.,
M.S.C.I.,
PUNE - 411 037.

✓

✓

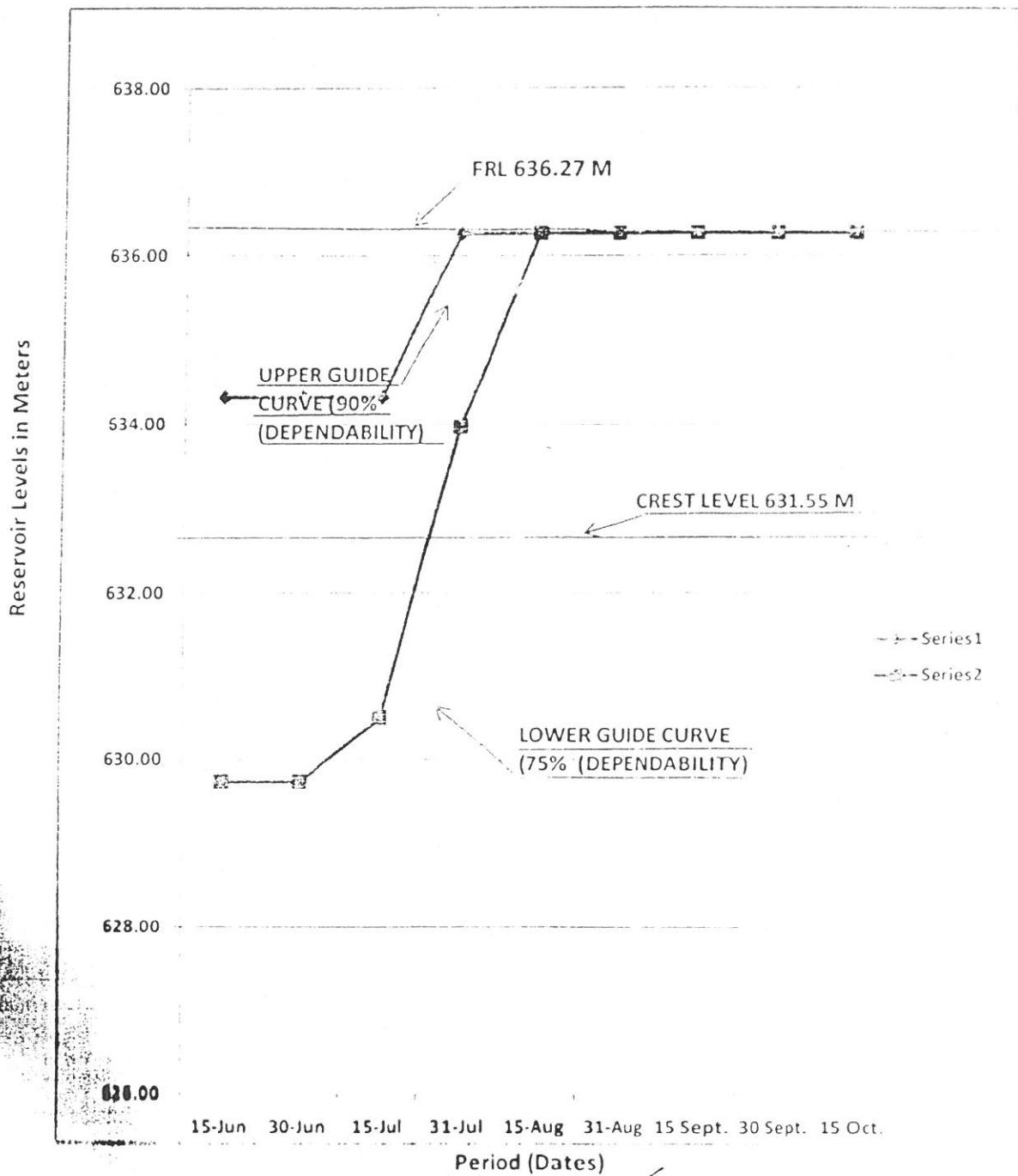
✓

✓
Executive Engineer
Khadawala Irrigation Division
PUNE - 411 037.

✓
Superintending Engineer
Pune Irrigation Circle, Pune - 11.

✓
Chief Engineer
Water Resources Department, Pune - 11

PANSHET - GUIDE CURVES FOR ROS



Pradeep
Sectional Officer
Permittee of Panshet Canal
Date: 10/07/2011

B.M.U.R.A.T
Sub-Divisional Engineer
Mutha Canal Irrigation Sub Dn.
Pune-411 037.

R.P.
EXECUTIVE ENGINEER
Khadakwala Irrigation Division
PUNE-II.

S.K.
Superintending Engineer
Pune Irrigation Circle, Pune-II.

A.P.
Chief Engineer
Water Resources Department, Pune-II



Maharashtra Krishna Valley Development Corporation
Chief Engineer, Water Resources Department,
Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, Office 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrpd@wrd.pune@gmail.com

No.CE/EE-2/DE-4/PB-7/

H-2107

Date:

13 MAY 2015

प्रधान
नार मंडळ

११०३९ The Superintending Engineer,
Pune Irrigation Circle, Pune

Sub : Approval of Reservoir Operation schedule ROS of Warasgaon Dam

Ref : Your letter No.PIC/DB/3429 dtd.27.4.2015

The updated Reservoir Operation Schedule (ROS) of Warasgaon Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.

4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department,
Pune-11

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantralya Mumbai for favour of information. [Kind attention : Shri.S.A.Tatu, Deputy Secretary, (Irrign.)]

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Khadakwasla Irrigation, Division,Pune for information and necessary action.

D.A. Above

**CHIEF ENGINEER, WATER RESOURCES
DEPARTMENT, PUNE-411 011.**

PUNE IRRIGATION CIRCLE, PUNE.

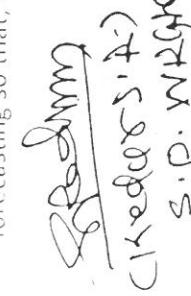
KHADAKWASLA IRRIGATION DIVISION, PUNE.

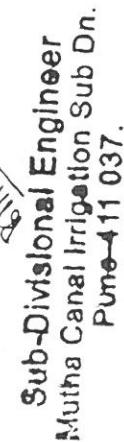
WARSAGAON DAM

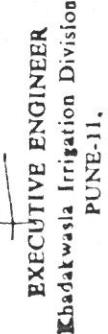
RESERVOIR OPERATION SCHEDULE .

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	Live storage MM 3	TMC	%	R.L.	Live storage MM 3	TMC	%
1	2	3	4	5	6	7	8	9	10
2	15-Jun	637.90	336.99	11.904	92.80	632.10	242.50	8.566	66.78
3	30-Jun	637.90	336.99	11.904	92.80	632.34	246.43	8.705	67.86
4	15-Jul	638.36	344.50	12.169	94.87	634.03	274.01	9.679	75.46
5	31-Jul	639.50	363.13	12.827	100.00	638.37	328.58	11.606	90.49
6	15-Aug	639.50	363.13	12.827	100.00	639.07	356.14	12.580	98.08
7	31-Aug	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
8	15 Sept.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
9	30 Sept.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
10	15 Oct.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00

- Note :- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
- 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.


S. D. Warkar
Chief Engineer

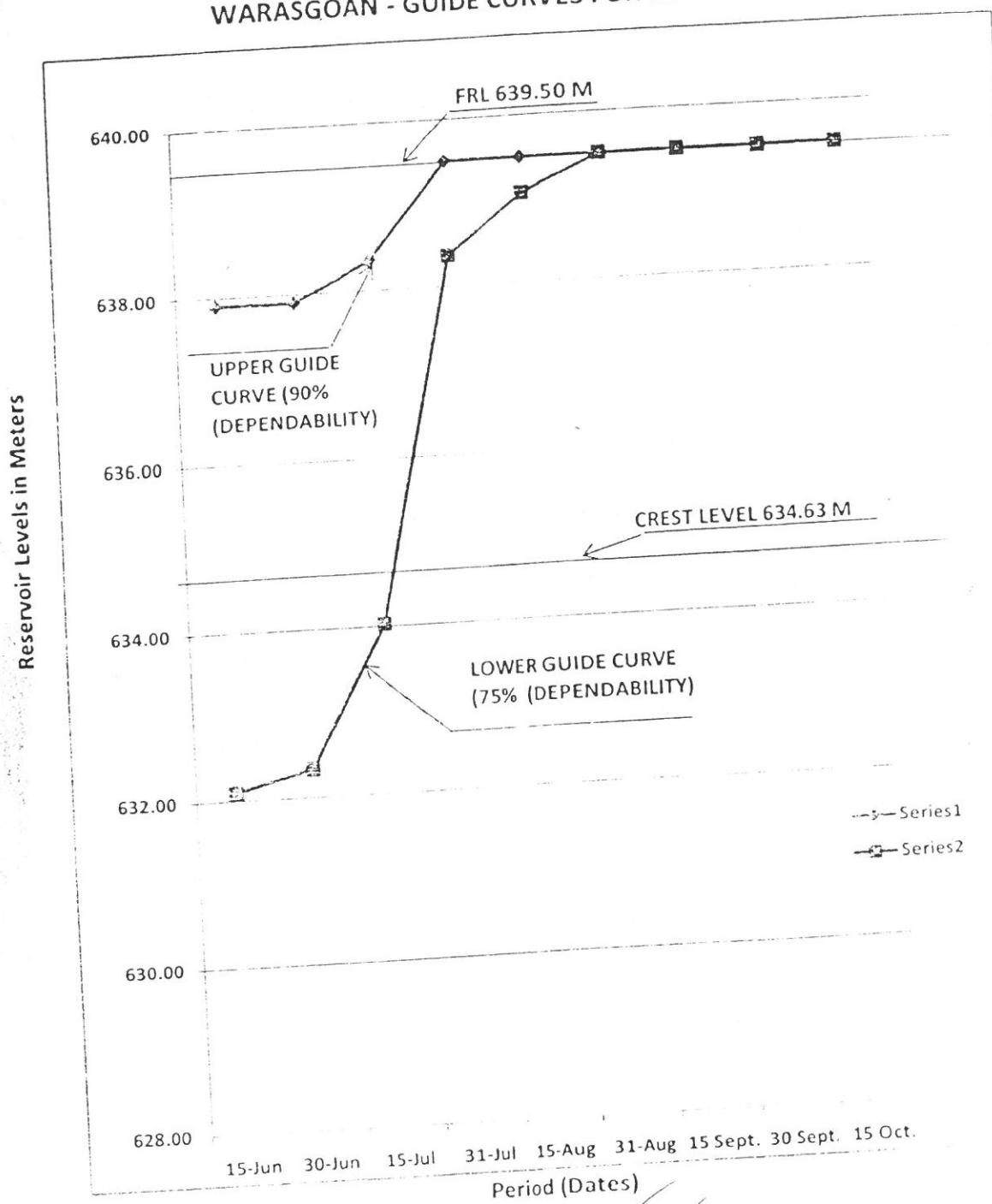

Sub-Divisional Engineer
Muttha Canal Irrigation Sub Dn.
Pune-411 037.


Executive Engineer
Khadakwasla Irrigation Division
PUNE-11.


Superintending Engineer
Pune Irrigation Circle, Pune-11.


Chief Engineer
Water Resources Department, Pune-11

WARASGOAN - GUIDE CURVES FOR ROS



Sub-Divisional Engineer
Muttha Canal Irrigation Sub Dn.
Pune-411 037.

EXECUTIVE ENGINEER
Khadakwasla Irrigation Division
PUNE-11,

Superintending Engineer
Pune Irrigation Circle, Pune-11

**PUNE IRRIGATION CIRCLE, PUNE
RESERVOIR OPERATION SCHEDULE (ROS) OF MULSHI DAM**

Controlling levels in m.			Content in Mcum	
M.W.L.	607.250	Gross	Live	
F.R.L.	606.100	563.19	522.76	
Crest Level	600.760	355.875	315.45	
M.D.D.L.	590.090	40.428	0.00	

Sr. No.	Date	Upper Guide Curve : 90% Dependable			Lower Guide Curve : 75% Dependable		
		R.L. m	Live storage Mcum	TMC %	R.L. m	Live storage Mcum	TMC %
1	2	3	4	5	6	7	8
1	15-Jun	603.10	407.62	14.395	77.97	598.20	222.40
2	30-Jun	603.25	412.65	14.573	78.94	598.95	247.48
3	15-Jul	603.25	412.65	14.573	78.94	599.70	275.13
4	31-Jul	604.55	461.72	16.306	88.32	603.35	410.24
5	15-Aug	605.65	504.17	17.805	96.44	605.30	489.25
6	31-Aug	606.10	522.76	18.461	100	606.08	522.62
7	15 Sept.	606.10	522.76	18.461	100	606.10	522.76
8	30 Sept.	606.10	522.76	18.461	100	606.10	522.76
9	15 Oct.	606.10	522.76	18.461	100	606.10	522.76

Note :-

- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporarily above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
- 2) Lower Guide Curve is lowest limit of level up to which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of superintending Engineer.
- 3) Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation schedule, Guide curves and effective flood controlling.

APPROVED


(T.N. Mundhe)
 Chief Engineer
 W. R. Department
 Pune - 11

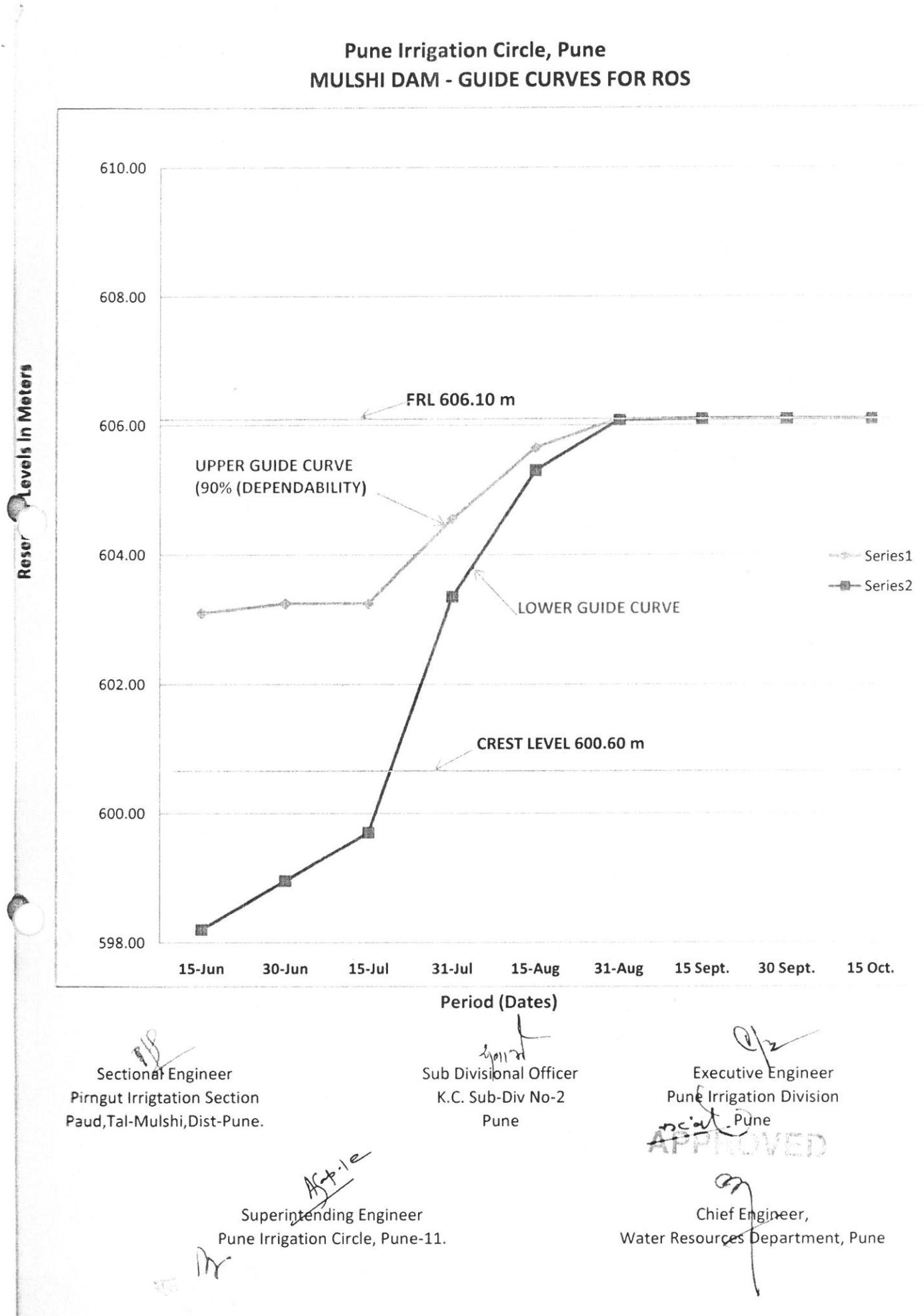

(A.A. Kapole)
 Superintending Engineer
 Pune Irrigation Circle

(V.B. Jadhav)


(S.B. Memane)
 Sub-Divisional Officer,
 K.C. Sub-Div No-2
 PUNE

(V.B. Funde)
 Sectional Engineer
 Pingut Irrigation Section
 Paud, Tal-Mulshi, Dist-Pune.

Pune Irrigation Circle, Pune
MULSHI DAM - GUIDE CURVES FOR ROS



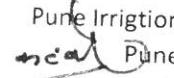
PUNE IRRIGATION DIVISION, PUNE-1
ROS OF MULSHI DAM-2015

A Comparison between sanctioned ROS & Modified ROS (As per 90%)

Sr No	Date	As per approved in 2007			As per propose 90%		
		Dam Level	Live Storage	%	Dam Level	Live Storage	%
		m	Mcum		m	Mcum	
1	15-Jun	599.440	274.95	48.17	603.100	407.62	77.97
2	30-Jun	599.640	281.75	49.36	603.250	412.65	78.94
3	15-Jul	600.600	315.78	55.33	603.250	412.65	78.94
4	31-Jul	603.180	409.41	71.73	604.550	461.72	88.32
5	15-Aug	605.110	483.09	84.64	606.650	504.17	96.44
6	31-Aug	606.400	544.02	95.32	606.100	522.76	100
7	15-Sep	606.670	563.15	98.67	606.100	522.76	100
8	30-Sep	607.000	570.25	99.91	606.100	522.76	100
9	15-Oct	607.100	570.76	100	606.100	522.76	100

B Comparison between sanctioned ROS & Modified ROS (As per 75%)

Sr No	Date	As per approved in 2007			As per propose 75%		
		Dam Level	Live Storage	%	Dam Level	Live Storage	%
		m	Mcum		m	Mcum	
1	15-Jun	595.860	157.69	27.63	598.200	222.40	42.54
2	30-Jun	596.300	171.52	30.05	598.950	247.48	47.34
3	15-Jul	597.860	221.57	38.82	599.700	275.13	52.63
4	31-Jul	601.420	344.11	60.29	603.350	410.24	78.48
5	15-Aug	603.900	436.43	76.46	605.300	489.25	93.59
6	31-Aug	606.150	523.20	91.67	606.080	522.62	99.97
7	15-Sep	606.440	552.77	96.85	606.100	522.76	100
8	30-Sep	606.770	566.13	99.19	606.100	522.76	100
9	15-Oct	607.100	570.76	100	606.100	522.76	100


 Executive Engineer,
 Pune Irrigation Division,
 Pune

No CE/EE.2/DE7/ROS/4379

Chief Engineer (W.R.)
Water Resources Department
Sinchan Bhavan, Pune-11
Date:-29/6/2007

पुस्तक / _____
का. वि. अ. क्र. _____
दिनांक _____

To,
जमियत
वाराणसी पंडत
१९९९ ०९९.
The Superintending Engineer,
Pune Irrigation Circle,
Pune 11

Sub : Approval of Reservoir Operation schedule ROS of Warasgaon Dam

Ref : Your Ltr.No. DB-A/5808 dt. 27/6/07

The updated Reservoir Operation schedule (ROS) of Warasgaon Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7. Following guidelines shall be followed while observing the ROS.

- 1 Upper Guide Curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates . During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer
- 2 Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area . However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.
4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS , the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.:As above


Chief Engineer
Water Resources Department
Pune.11

Copy submitted to the Secretary (CAD) Water Resources Department Mumbai. for favour of information.

D.A.: As above

Copy submitted to the Executive Director, MKVDC Pune-11 for favour of information.
D.A.: As above

Copy forwarded to the Executive Engineer Khadakwasla Irrigation Division Pune for information and necessary action.
D.A.: As above.

A-7

Reservoir Operation Schedule (ROS) for Warasgaon Dam

Controlling Levels in M		Content Mcum
M.W.L.	640.41	
F.R.L.	639.5	375.36
Crest R.L.	634.63	296.43
M.D.D.L.	600.25	12.23

Date	Upper Guide Curve (90% dependable)				Lower Guide Curve (75% dependable)			
	R.L.	Live Storage		% of storage	R.L.	Storage		% of storage
		In Mcum	In TMC			In Mcum	In TMC	
1-Jun	637.10 ✓	323.94	11.44	89.21	631.30	228.75	8.08	62.99
16-Jun	637.10 ✓	323.94	11.44	89.21	631.30	228.75	8.08	62.99
1-Jul	637.10	323.94	11.44	89.21	631.30	228.75	8.08	62.99
16-Jul	637.11	324.11	11.45	89.25	632.45	247.59	8.75	68.18
1-Aug	638.60	348.68	12.32	96.02	636.05	307.15	10.85	84.58
16-Aug	638.70 ✓	350.59	12.38	96.55	637.95	337.66	11.93	92.99
1-Sep	639.50	363.13	12.83	100.00	639.50	363.13	12.83	100.00
16-Sep	639.50	363.13	12.83	100.00	639.50	363.13	12.83	100.00
30-Sep	639.50	363.13	12.83	100.00	639.50	363.13	12.83	100.00
15-Oct	639.50 ✓	363.13	12.83	100.00	639.50	363.13	12.83	100.00

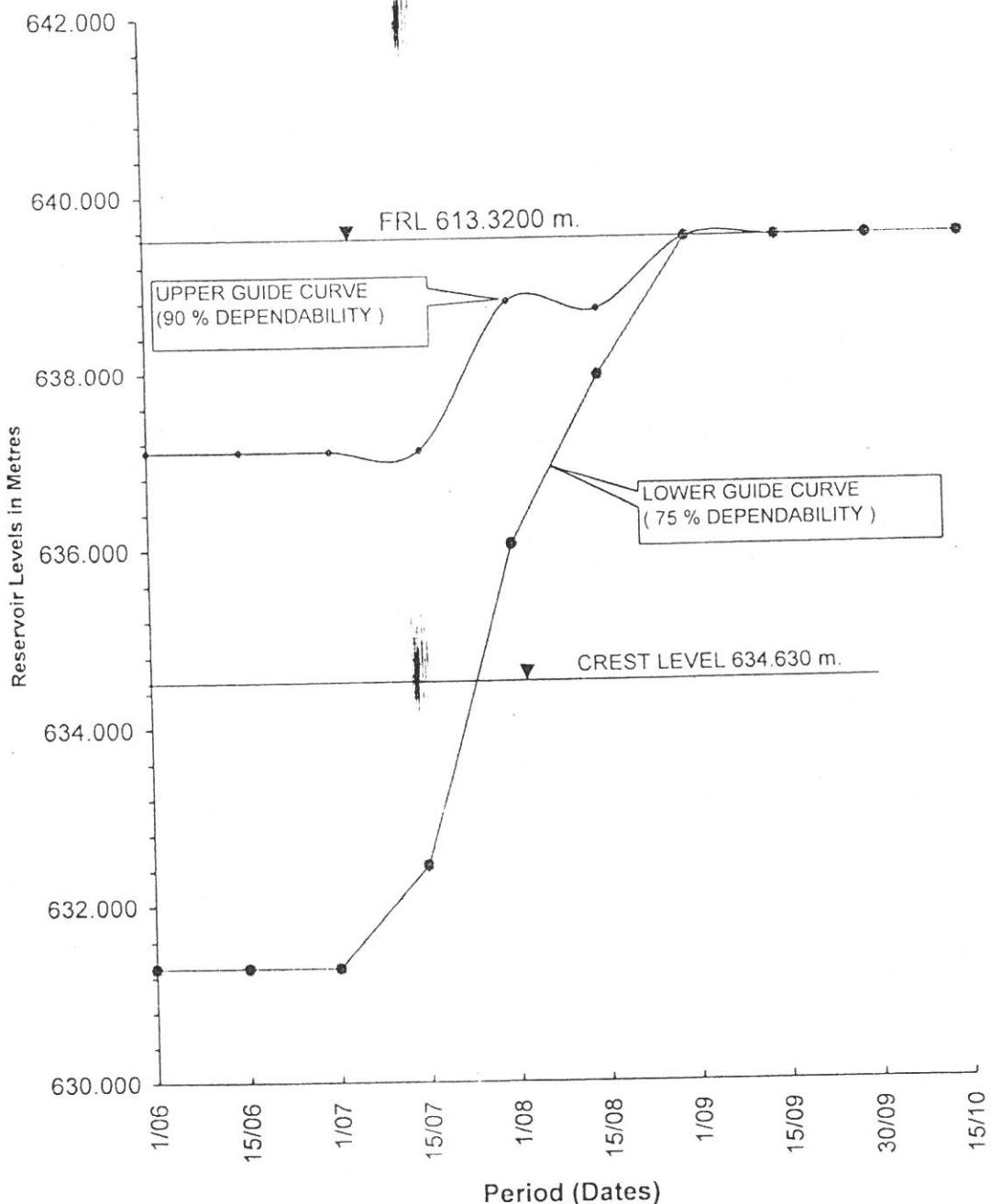
Note

- 1) Upper Guide Curve is the upper limit of level upto which reservoir can be built up or maintain on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below MWL at the discretion of the officer not below the rank of Executive Engineer.
- 2) Lower Guide curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates, During the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
- 3) Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide Curves and effective flood controlling.

Chief Engineer (WR)
 Sinchan Bhawan, Pune-11
 No. CE/ EE-2/ ROS/ 4379
 Date:- 29 / 06/2007

Damay
 (S.L.Patil)
 Chief Engineer
 Water Resources Department
 Pune

WARASGAON DAM - GUIDE CURVES FOR ROS



No.CE/EE-2/DE7/ROS/4379
Chief Engineer (W.R.)
Sinchan Bhavan Pune
Date- 29-6-2007

Chief Engineer
Water Resources Department
Pune

No.CE/EE.2/DE7/ROS/4378

Chief Engineer (W.R.)
Water Resources Department
Sinchan Bhavan, Pune-11
Date:-29/6/2007

To,
पाना विद्युती
पाना बांध
४११००३
The Superintending Engineer,
Pune Irrigation Circle,
Pune 11

Sub : Approval of Reservoir Operation schedule ROS of Pawna Dam

Ref : Your Ltr.No. DB-A/5808 dt. 27/6/07

The updated Reservoir Operation schedule (ROS) of Pawna Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7. Following guide lines shall be followed while observing the ROS.

- 1 Upper Guide Curve is the upper limit of level upto which reservoir can be buildup or maintained on the respective dates . During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer
- 2 Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area . However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
- 3 Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.
- 4 The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS , the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.:As above


(S.P. Patil)
Chief Engineer
Water Resources Department
Pune.11

Copy submitted to the Secretary (CAD) Water Resources Department Mumbai. for favour of information.

D.A.: As above

Copy submitted to the Executive Director, MKVDC Pune-11 for favour of information.

D.A.: As above

Copy forwarded to the Executive Engineer Khadakwasla Irrigation Division Pune for information and necessary action.

D.A.: As above.

93

Reservoir Operation Schedule (ROS) for Pawana Dam

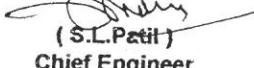
Controlling Levels in M		Gross Storage in Mcur	Live Storage in Mcum
M.W.L.			
F.R.L.	613.32	272.00	240.90
Crest R.L.	610.21	206.95	175.85
		31.10	

Date	Upper Guide Curve (90% dependable)				Lower Guide Curve (75% dependable)			
	R.L.	LiveStorage		% of storage	R.L.	Storage		% of storage
		in Mcum	in TMC			in Mcum	in TMC	
1-Jun	610.25	177.83	9.5	73.82	607.95	135.53	9.5	56.26
15-Jun	610.25	177.83	6.28	73.82	608.10	137.27	4.85	56.98
1-Jul	610.45	181.67	6.42	75.41	608.50	143.19	5.06	59.44
15-Jul	610.90	190.74	6.74	79.18	609.60	163.80	5.79	68.00
1-Aug	611.95	212.75	7.52	88.31	611.10	195.54	6.91	81.17
15-Aug	613.32	240.90	8.51	100.00	613.32	240.90	8.51	100.00
1-Sep	613.32	240.90	8.51	100.00	613.32	240.90	8.51	100.00
15-Sep	613.32	240.90	8.51	100.00	613.32	240.90	8.51	100.00
30-Sep	613.32	240.90	8.51	100.00	613.32	240.90	8.51	100.00
15-Oct	613.32	240.90	8.51	100.00	613.32	240.90	8.51	100.00

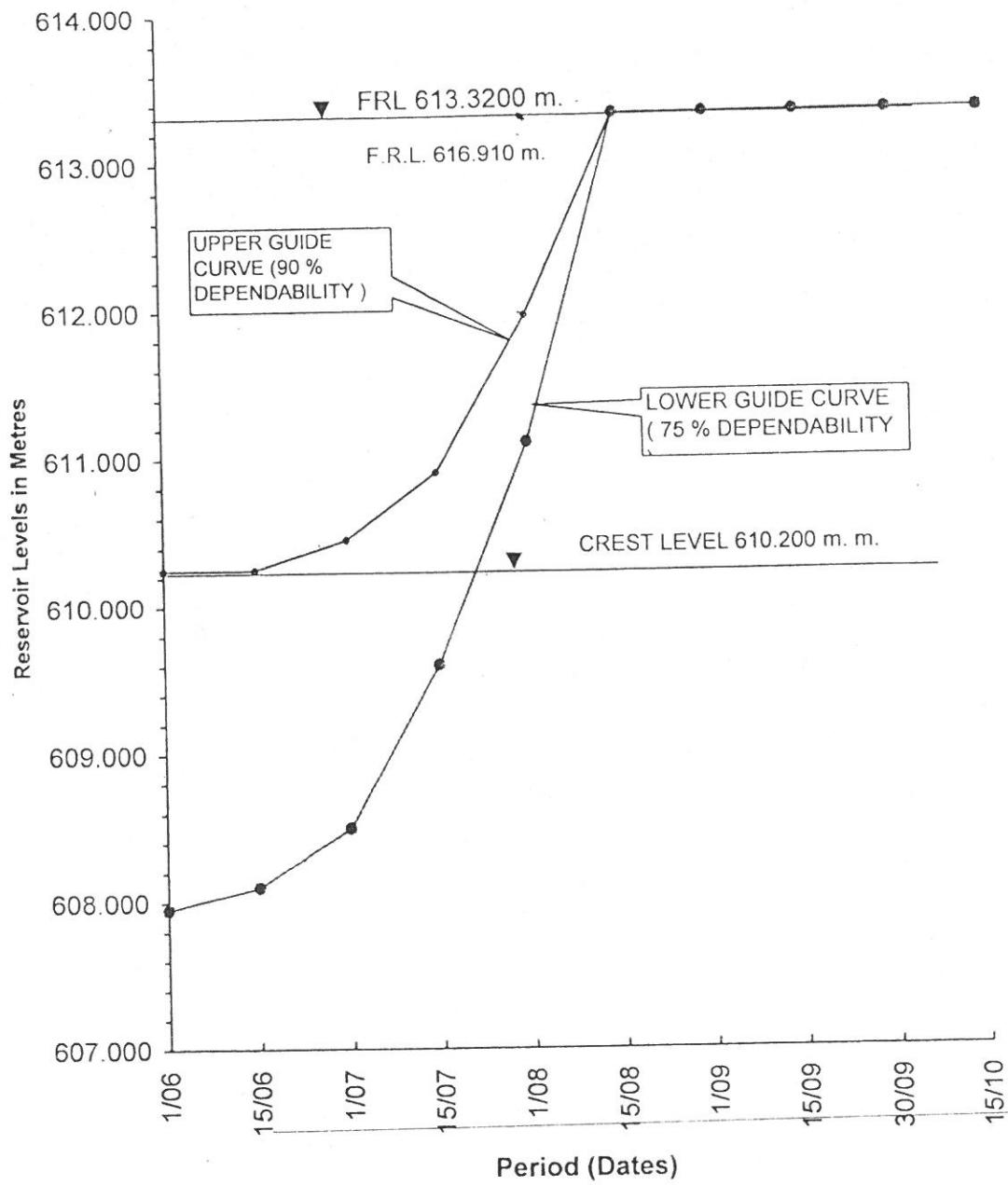
Note

- 1) Upper Guide Curve is the upper limit of level upto which reservoir can be buildup or maintain on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below MWL at the discretion of the officer not below the rank of Executive Engineer.
- 2) Lower Guide curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates, During the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
- 3) Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide Curves and effective flood controlling.

Chief Engineer (WR)
 Sinchan Bhawan, Pune-11
 No. CE/ EE-2/ ROS/ 4378
 Date:- 29 / 06/2007


 (S.L.Patil)
 Chief Engineer
 Water Resources Department
 Pune

PAWNA DAM - GUIDE CURVES FOR ROS



No.CE/EE-2/DE7/ROS/4378
Chief Engineer (W.R.)
Sinchan Bhavan Pune
Date- 29-6-2007


Chief Engineer
Water Resources Department
Pune

No.CE/EE.2/DE7/ROS/

Chief Engineer (W.R.)
Water Resources Department
Sinchan Bhavan, Pune-11
Date:- / 5 / 2008

To,
The Superintending Engineer,
Pune Irrigation Circle,
Pune.

Sub : Approval of Reservoir Operation schedule ROS of Chaskaman Dam
Ref : Your Ltr.NoPIC-DB-6938 dated 25-07-07

The updated Reservoir Operation schedule (ROS) of Chaskaman Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7. Following guide lines shall be followed while observing the ROS.

1. Upper Guide Curve is the upper limit of water level upto which reservoir should be buildup or maintained on the respective dates . During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer
- 2 Lower Guide Curve is lowest limit of water level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area . However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
- 3.Full reservoir storage at the end of monsoon shall be achieved with careful use of ROS Guide curves and effective flood controlling.
- 4.The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS , the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.:As above

(S.L.Patil)
Chief Engineer
Water Resources Department
Pune.11

Copy submitted to the Secretary (CAD) Water Resources Department Mumbai. for favour of information.

D.A.: As above

Copy submitted to the Executive Director, MKVDC Pune-11 for favour of information.

D.A.: As above

Copy forwarded to the Executive Engineer Khadakwasla Irrigation Dn.Pune for information and necessary action.

D.A.: As above.

Operation schedule (ROS) for Chaskaman Dam

F.R.L.	649.530 m.
Crest Level	641.530 m.
Live Storage	214.50 M.cum
Dead Storage	27.19 M.cum

Dates	Upper Guide Curve (90 % Dependability)			Lower Guide Curve (75 % Dependability)		
	R.L.	Live Storage M.cum	% Live Storage	R.L.	Live Storage M.cum	% Live Storage
1 June	648.55	197.41	92.03	639.40	74.66	34.81
15 June.	648.55	197.41	92.03	639.40	74.66	34.81
1 July	648.55	197.41	92.03	639.50	79.33	36.98
15 July	648.60	198.57	92.57	641.53	96.92	45.18
1 Aug	648.60	198.57	92.57	645.4	145.91	68.02
15 Aug	649.53	214.50	100	647.50	182.66	85.19
1 Sept	649.53	214.50	100	649.53	214.50	100
15 Sept	649.53	214.50	100	69.53	214.50	100
30 Sept	649.53	214.50	100	649.53	214.50	100
15 Oct	649.53	214.50	100			

Following guide lines shall be followed while observing the ROS

1 Upper Guide Curve is the upper limit of water level upto which reservoir should be built up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer

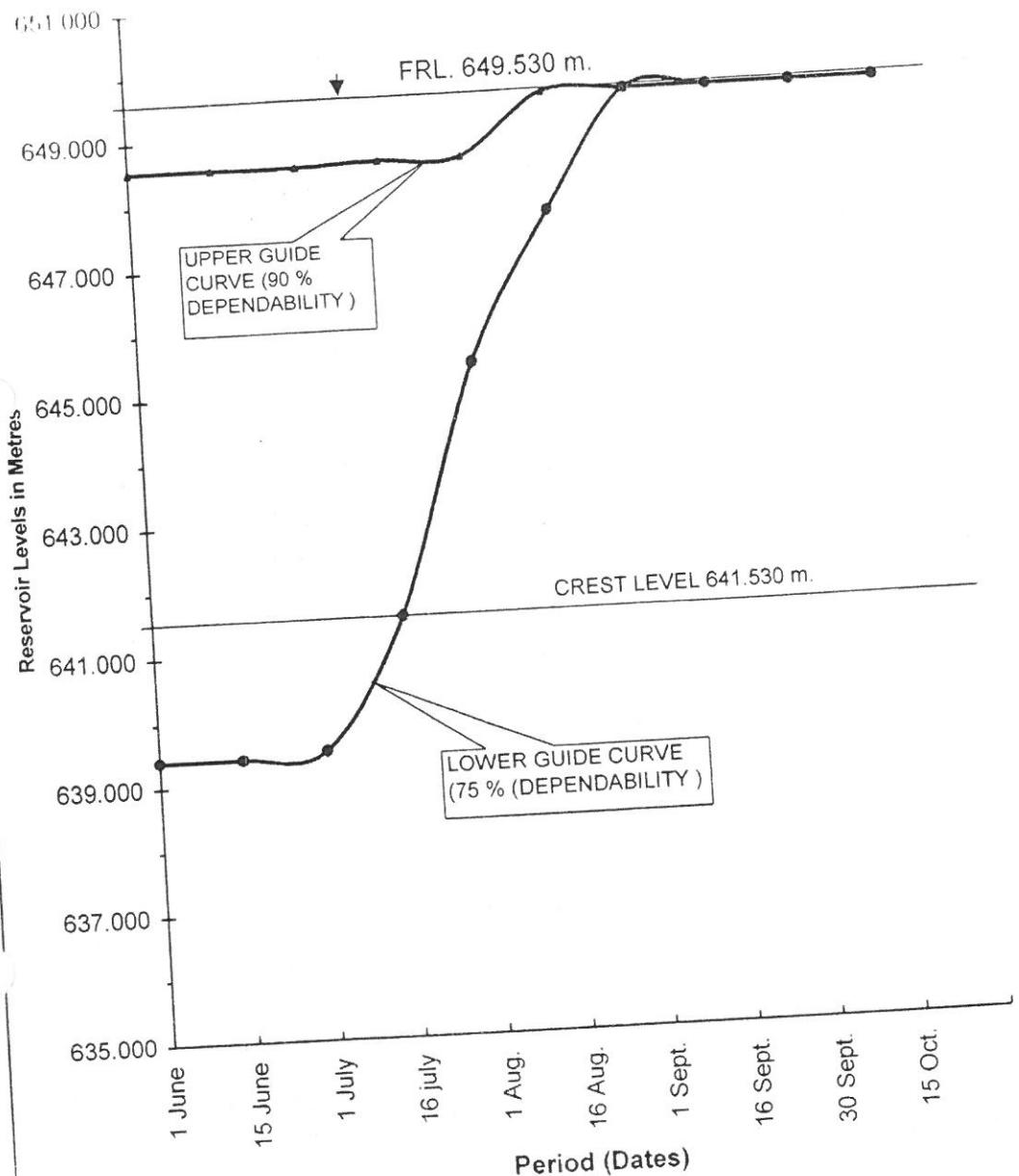
2 Lower Guide Curve is lowest limit of water level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However, the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3 Full reservoir storage at the end of monsoon shall be achieved with careful use of ROS Guide curves and effective flood controlling.

No.CE/EE.2/DE7/ROS/
Chief Engineer (W.R.)
Water Resources Department
Sinchan Bhavan, Pune-11
Date:- /5/08

Chief Engineer
Water Resources Department
Pune

CHASKAMAN DAM- GUIDE CURVES FOR ROS



No.CE/EE-2/DE7/ROS/
Chief Engineer (W.R.)
Sinchan Bhavan Pune
Date- 08-2007

(S.L.Patil)
Chief Engineer
Water Resources Department
Pune

CHIEF ENGINEER,WATER RESOURCES
DEPARTMENT, PUNE-411011.

PUNE IRRIGATION CIRCLE, PUNE

KHADAKWASALA IRRIGATION DIVISION, PUNE.

Wazirgadon DAM

RESERVOIR OPERATION SCHEDULE

ROS OF WARASGOAN DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	TMC	%	R.L.	MM 3	TMC	%
1	2	3	4	5	6	7	8	9	10
1	15-Jun	637.90	336.99	11.904	92.80	632.10	242.50	8.566	66.78
2	30-Jun	637.90	336.99	11.904	92.80	632.34	246.43	8.705	67.86
3	15-Jul	638.36	344.50	12.169	94.87	634.03	274.01	9.679	75.46
4	31-Jul	639.50	363.13	12.827	100.00	638.37	328.58	11.606	90.49
5	15-Aug	639.50	363.13	12.827	100.00	639.07	356.14	12.580	98.08
6	31-Aug	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
7	15 Sept.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
8	30 Sept.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00
9	15 Oct.	639.50	363.13	12.827	100.00	639.50	363.13	12.827	100.00

- Note :-**
- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
 - 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
 - 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.

S. D. S. R.
Cheday S. R.
S.O. N.I.C.

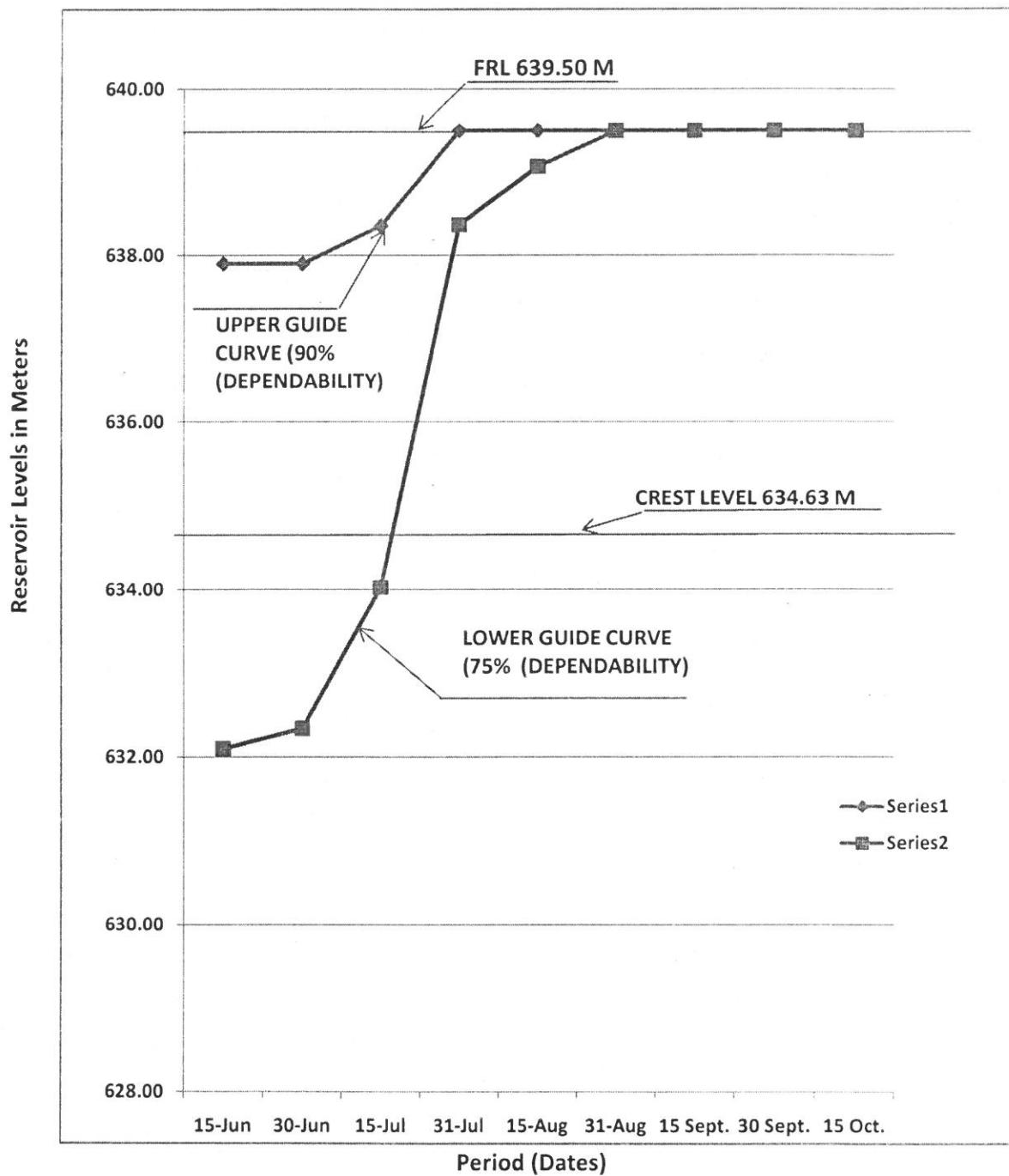
Sub-Divisional Engineer
Mutha Canal Irrigation Sect.-Dn
Page 37... Khadakwasla Irrigation Division, Pune-11.

S. D. S. R.
Sub-Divisional Engineer
Mutha Canal Irrigation Sect.-Dn

Executive Engineer
Khadakwasla Irrigation Division, Pune-11.

S. D. S. R.
Superintending Engineer
Pune Irrigation Circle, Pune-11.

WARASGOAN - GUIDE CURVES FOR ROS



Reddy
Chedur S.R.
S.O. WR 440

Sub-Divisional Engineer
Muttha Canal Irrigation Sub-Div.
Pune-37

Bonita
Executive Engineer
Khadakwasla Irrigation Division, Pune-11.

C. J. Chaitin
Superintending Engineer
Pune Irrigation Circle, Pune 11.

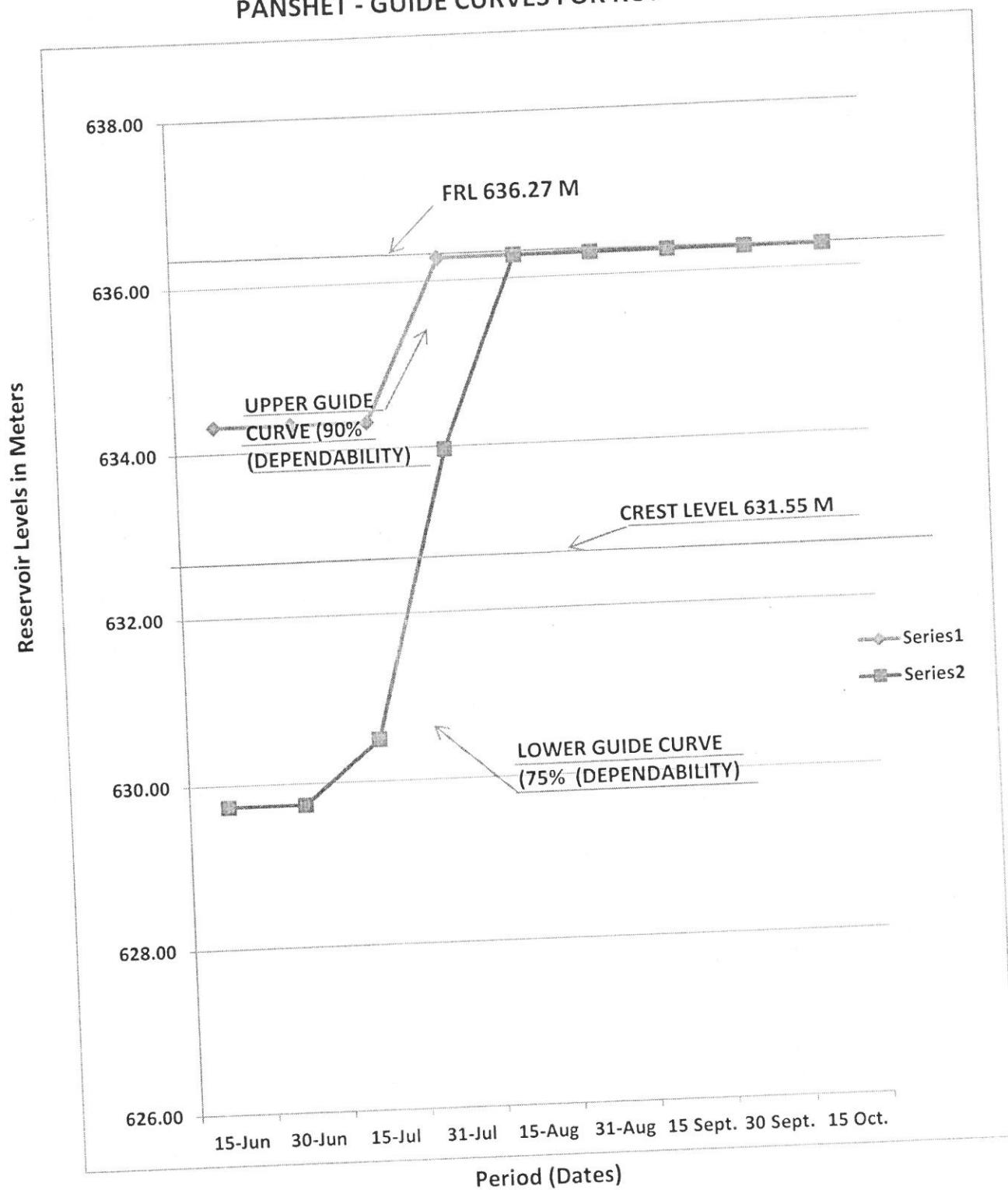
ROS OF PANSHET DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	Live storage	TMC	R.L.	MM 3	Live storage	%
1	2	3	4	5	6	7	8	9	10
1	15-Jun	634.32	273.27	9.653	90.60	629.74	212.68	7.513	70.51
2	30-Jun	634.32	273.27	9.653	90.60	629.74	212.68	7.513	70.51
3	15-Jul	634.32	273.27	9.653	90.60	630.50	222.02	7.842	73.61
4	31-Jul	636.27	288.59	10.194	95.68	633.97	268.17	9.473	88.91
5	15-Aug	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
6	31-Aug	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
7	15 Sept.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
8	30 Sept.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00
9	15 Oct.	636.27	301.61	10.654	100.00	636.27	301.61	10.654	100.00

Note :- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

- 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.

PANSHET - GUIDE CURVES FOR ROS



**CHIEF ENGINEER, WATER RESOURCES
DEPARTMENT, PUNE-411 011.**

PUNE IRRIGATION CIRCLE, PUNE.

KHADAKWASLA IRRIGATION DIVISION, PUNE.

PAWANA DAM

**RESERVOIR OPERATION SCHEDULE -
AND
GATE OPERATION SCHEDULE.**

ROS OF PAWANA DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable			Lower Guide Curve : 75% Dependable		
		R.L.	Live storage	MM 3 TMC	R.L.	Live storage	MM 3 TMC
1	2	3	4	5	6	7	8
1	15-Jun	613.32	240.90	8.51	100.00	609.68	165.00
2	30-Jun	613.32	240.90	8.51	100.00	609.68	165.00
3	15-Jul	613.32	240.90	8.51	100.00	609.69	165.24
4	31-Jul	613.32	240.90	8.51	100.00	610.87	189.72
5	15-Aug	613.32	240.90	8.51	100.00	612.57	225.95
6	31-Aug	612.80	230.91	8.15	95.85	613.32	240.90
7	15 Sept.	612.37	221.78	7.83	92.06	613.32	240.90
8	30 Sept.	612.37	221.78	7.83	92.06	613.32	240.90
9	15 Oct.	612.37	221.78	7.83	92.06	613.32	240.90

Note :-

1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates.

During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

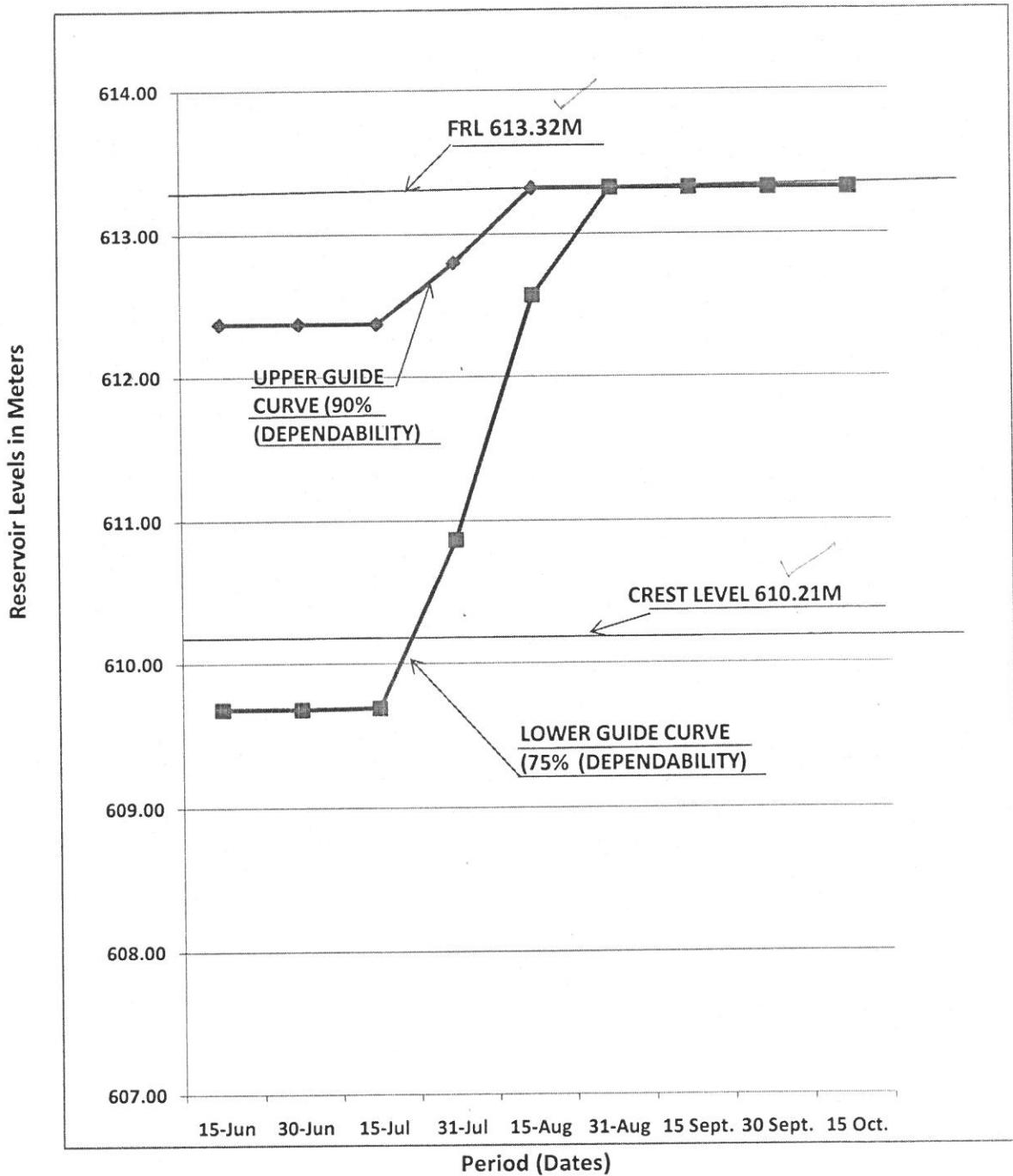
2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.

3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon

M. D. Patel
Executive Engineer
Khadakwasla Irrigation Division, Pune 11.

D. D. Patel
Executive Engineer
Khadakwasla Irrigation Division, Pune 11.

PAWANA DAM - GUIDE CURVES FOR ROS



B. H. J.
Project Engineer
Construction
Pawana Dam.

J. K. Wagle
Sub. Civil Engineer
Construction
Pawana Dam.
Supervision of Construction
and Management of the Project.

S. J.
Supervision of Construction
and Management of the Project.

Preparation of R.O.S. for Pawana Dam.

Assumption:-

- 1) The inflow data of year 1990 to 2014 is considered i.e. (25 year.)
- 2) The release date for the year 1990 to 2014 i.e. for 25 years is considered for inflow date however as the Pawana dam is storage dam is storage dam the releases for the month of June 1st to 31st October are only considered for withdrawal.
- 3) Fortnightly period intervals are considered for preparation of guide curve.
- 4) Upper & lower guide curves based on 90% & 75% dependability's respectively in view of reservoir are assumed.
- 5) Dependable yields for the various fortnightly periods work out by ✓ ✓
- 1) Cumulative yield from 1st June to fortnightly period under consideration.
- 6) Date of attainment of FRL decided by working backwards & arriving at period having surplus inflow @75% dependability.
- 7) Guide curves prepared are based on FRL of 613.32 mt (Recommended by C.D.O.)
- 8) Guide curves are worked out for monsoon period (1st June 31st Oct.) Only.
- 9) Spillway crest RL 610.21 mt. Recommended Guide curve for Pawana Dam during monsoon period.
- 10) Guide curves during monsoon period based on Cumulative period form 1st June under consideration are recommended.

Recommended guide curve for Pawana reservoir during monsoon period.

Sr.N o	Period	Upper curve	guide	Lower curve	guide	Remarks
1	August 1	RL.612.80		RL 610.87		Spillway crest RL 610.21 Mts Storage 206.95 Mcum
2	August 15	RL 613.32		RL 612.57		RL 612.57 mts/Storage 225.95 Mcum
3	August 31	RL .613.32		RL 613.02		RL 613.02 mts/235.66 Mcum
4	September 16	RL .613.32		RL 613.32		FSL 613.32 mts/272.00 Mcum

Conclusion:

- 1) The spillway gates before 1st August are not be lowered down.
- 2) The FRL should be maintained from 1st September & surplus inflow should be released by day to day Observation.
- 3) Guide curve below spillway crest level are redundant so they may start from spillway crest level.
- 4) During the period of server flood, the reservoir level may be allowed to rise temporarily above upper Guide curve but below MWL for making flood absorption capacity to greater possible extend.
- 5) During the period of probable server floods as forecasted, the lake level is required to be depleted temporarily up to tower guide curve in anticipation & then raised temporarily above FRL & below MWL when flood impinges the reservoir.

R.W.
Rakesh Wadhwani
Executive Engineer
Khadakwasla Irrigation Division, Pune-11.

M.G. Joshi
M.G. Joshi
Executive Engineer
Khadakwasla Irrigation Division, Pune-11.

G.P. Deshpande
G.P. Deshpande
Executive Engineer
Khadakwasla Irrigation Division, Pune-11.



महाराष्ट्र शासन,

CHEF ENGINEER, WATER RESOURCES DEPARTMENT,
PUNE-411 011.

SUPERINTENDING ENGINEER, PUNE IRRIGATION
CIRCLE PUNE-411 011.

EXECUTIVE ENGINEER, KHADAKWASLA IRRIGATION
DIVISION, PUNE-411 011.

KHADAKWASLA DAM

RESERVOIR OPERATION SCHEDULE

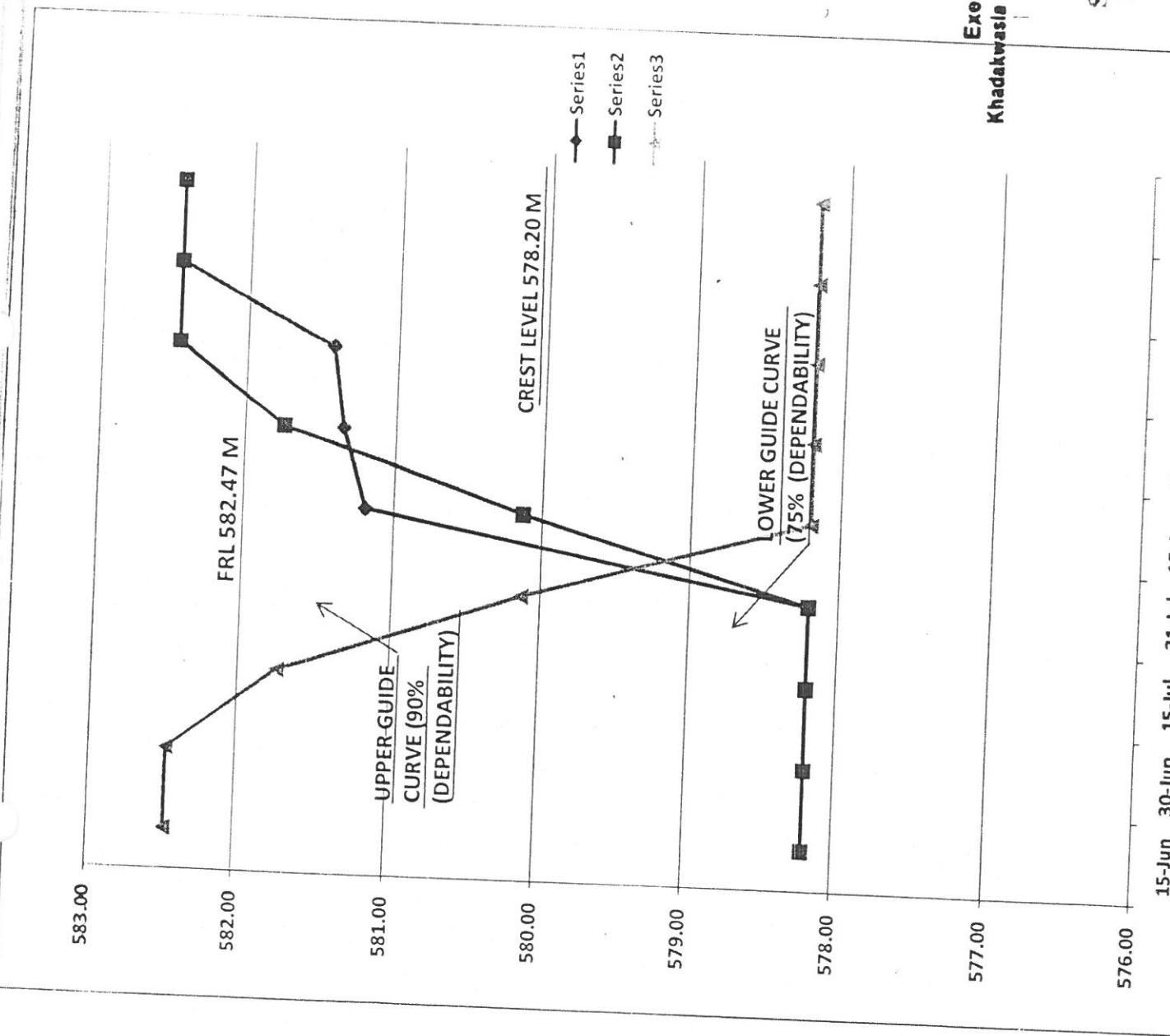
ROS OF KHADAKWASLA DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable				Lower Guide Curve : 75% Dependable			
		R.L.	MM 3	TMC	%	R.L.	MM 3	TMC	%
1	2	3	4	5	6	7	8	9	10
1	15-Jun	578.20	7.80	0.276	13.95	578.20	7.80	0.276	13.95
2	30-Jun	578.20	7.80	0.276	13.95	578.20	7.80	0.276	13.95
3	15-Jul	578.20	7.80	0.276	13.95	578.20	7.80	0.276	13.95
4	31-Jul	578.20	7.80	0.276	13.95	578.20	7.80	0.276	13.95
5	15-Aug	581.19	39.21	1.385	70.13	580.13	26.69	0.943	47.74
6	31-Aug	581.35	41.10	1.452	73.51	581.74	46.31	1.636	82.83
7	15 Sept.	581.43	42.17	1.490	75.42	582.47	55.91	1.975	100.00
8	30 Sept.	582.47	55.91	1.975	100.00	582.47	55.91	1.975	100.00
9	15 Oct.	582.47	55.91	1.975	100.00	582.47	55.91	1.975	100.00

- Note :-**
- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
 - 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
 - 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.


Sub-Divisional Engineer
 Khadakwasla Irrigation Sub Dn, Khadakwasla Irrigation Division, Pune-411 037.

Superintending Engineer
 Executive Engineer, Khadakwasla Irrigation Division, Pune-411 037.



Executive Engineer
 Khadakwasla Irrigation Division, Pune-11.


 Superintendent Engineer
 Pune Irrigation Circle, Project-1

15-Jun 30-Jun 15-Jul 31-Jul 15-Aug 31-Aug 15-Sep 30-Sep 15-Oct.

अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, पुणे-११

सिंचन भवन, मंगळवार पेठ, पुणे-११

दूरध्वनी क्र. ०२०-२६१२ ६९४१, २६१२६२८९ (टेलिफँक्स) Email : sepic_pune@wrd.maharashtra.gov.in, sepicpune@gmail.com

जा.क्र.:पुपामं/रेशा/स.आ/ २०८८

/२०१५

दिनांक : ४/८/२०१५

प्रति,

मा.मुख्य अभियंता,
जलसंपदा विभाग,
पुणे-११.

विषय : मोठ्या, मध्यम, द्वारयुक्त प्रकल्पांचे (ROS) सुधारित करणेबाबत

संदर्भ : १) प्रदेश कार्यालयाचे पत्र क्र.मुआ/का.आ-२/उआ-४/प्रशा-७/५७४१ दि.०१/१०/२०१४

२) कार्यकारी अभियंता, पुणे पाटबंधारे विभाग, पुणे यांचे पत्र क्र.पुपावि/रेशा/ जलाशय

परिचालन/ ११५१ दि.१६/०२/२०१५

उपरोक्त विषयांत नमुद केल्याप्रमाणे मोठ्या प्रकल्पांतर्गत नीरा देवघर धरणाची जलाशय परिचालन सुची आराखडा प्रतिस्वाक्षरी करून मान्यतेसाठी सादर करण्यात येत आहे.

स्थळ प्रत मा.अ.अ.यांना मान्य असे.

सोबत : नीरा देवघर धरण जलाशय

परिचालन सुची - १+१

सहा.अधीक्षक अभियंता,
पुणे पाटबंधारे मंडळ,
पुणे-११.

प्रत : - कार्यकारी अभियंता, पुणे पाटबंधारे विभाग, पुणे यांना माहितीसाठी व उचित कार्यवाहीसाठी.

२/- प्रदेश कार्यालयात उपस्थित राहून सदर परिचालन आराखडयास मंजुरी प्राप्त करून घेण्यास संबंधिताना सुचना दयाव्यात.

प्रत : - बृहतधारिका सन २०१५

MODIFIED RESERVOIR/GATE OPERATION SCHEDULE

NIRA DEOGHAR DAM

TAL :-- BHOR DIST :-- PUNE

Reservoir operation schedule (ROS)For Nira Deoghar Dam

Controlling Levels In M		Content Mcu
M.W.L	667.500	
F.R.L.	667.100	337.41
Crest Level	662.100	268.693
M.D.D.L.	626.000	5.265

Dates	Upper Guide Curve (90% Depandable)				Lower Guide Curve (75% Depandable)			
	R.L	Storage		% of Storage	R.L	Storage in M.Cum	in TMC	% of Storage
		in M.Cum	in TMC					
1-Jun	638.300	46.74	1.65	13.85	629.950	12.88	0.45	3.82
11-Jun	629.500	11.87	0.42	3.52	627.500	2.46	0.09	0.73
21-Jun	637.000	39.96	1.41	11.84	626.300	0.49	0.02	0.15
30-Jun	641.050	63.31	2.24	18.76	631.700	17.89	0.63	5.30
11-Jul	645.050	91.96	3.25	27.25	637.400	41.98	1.48	12.44
21-Jul	655.750	181.23	6.40	53.71	642.100	70.19	2.48	20.80
31-Jul	659.500	235.69	8.32	69.85	649.400	128.33	4.53	38.03
11-Aug	663.700	290.09	10.24	85.98	661.200	257.13	9.08	76.21
21-Aug	666.250	325.27	11.49	96.40	664.500	300.95	10.63	89.19
31-Aug	667.100	337.41	11.91	100.00	666.150	323.84	11.44	95.98
11-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00
21-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00
30-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00

Notes

1 Upper Guide Curve is the upper limit of level upto which reservoir can be builtup or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2 Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflow due to very intensive precipitation in the catchment area. However the decision regarding such lowering of the reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3 Full reservoir storage at the end of monsoon shall be achived with careful use of Reservoir Operation Schedule, Guide curve and effective flood controlling.

AE(OI)

Assistant Engineer(Gr.1)
Nira Irrigation Sub-Div.
Nira

Executive Engineer
Pune Irrigation Division
Pune

closed

SIR

Superintending Engineer
Pune Irrigation Circle, Pune-11

Reservoir operation schedule (ROS)For Nira Deoghar Dam

Controlling Levels In M.	Content Mcu
M.W.L	667.500
F.R.L.	667.100
Crest Level	662.100
M.D.D.L.,	626.000
	5.265

Dates	Upper Guide Curve (90% Depandable)				Lower Guide Curve (75% Depandable)			
	R.L	Storage		% of Storage	R.L	Storage in M.Cum	in TMC	% of Storage
		in M.Cum	in TMC					
1-Jun	638.300	46.74	1.65	13.85	629.950	12.88	0.45	3.82
11-Jun	629.500	11.87	0.42	3.52	627.500	2.46	0.09	0.73
21-Jun	637.000	39.96	1.41	11.84	626.300	0.49	0.02	0.15
30-Jun	641.050	63.31	2.24	18.76	631.700	17.89	0.63	5.30
11-Jul	645.050	91.96	3.25	27.25	637.400	41.98	1.48	12.44
21-Jul	655.750	181.23	6.40	53.71	642.100	70.19	2.48	20.80
31-Jul	659.500	235.69	8.32	69.85	649.400	128.33	4.53	38.03
11-Aug	663.700	290.09	10.24	85.98	661.200	257.13	9.08	76.21
21-Aug	666.250	325.27	11.49	96.40	664.500	300.95	10.63	89.19
31-Aug	667.100	337.41	11.91	100.00	666.150	323.84	11.44	95.98
11-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00
21-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00
30-Sep	667.100	337.41	11.91	100.00	667.100	337.41	11.91	100.00

Notes

1 Upper Guide Curve is the upper limit of level upto which reservoir can be builtp up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2 Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflow due to very intensive precipitation in the catchment area. However the decision regarding such lowering of the reservoir shall be taken by the officer not below the rank of Superintending Engineer.

3 Full reservoir storage at the end of monsoon shall be achived with careful use of Reservoir Operation Schedule, Guide curve and effective flood controlling.

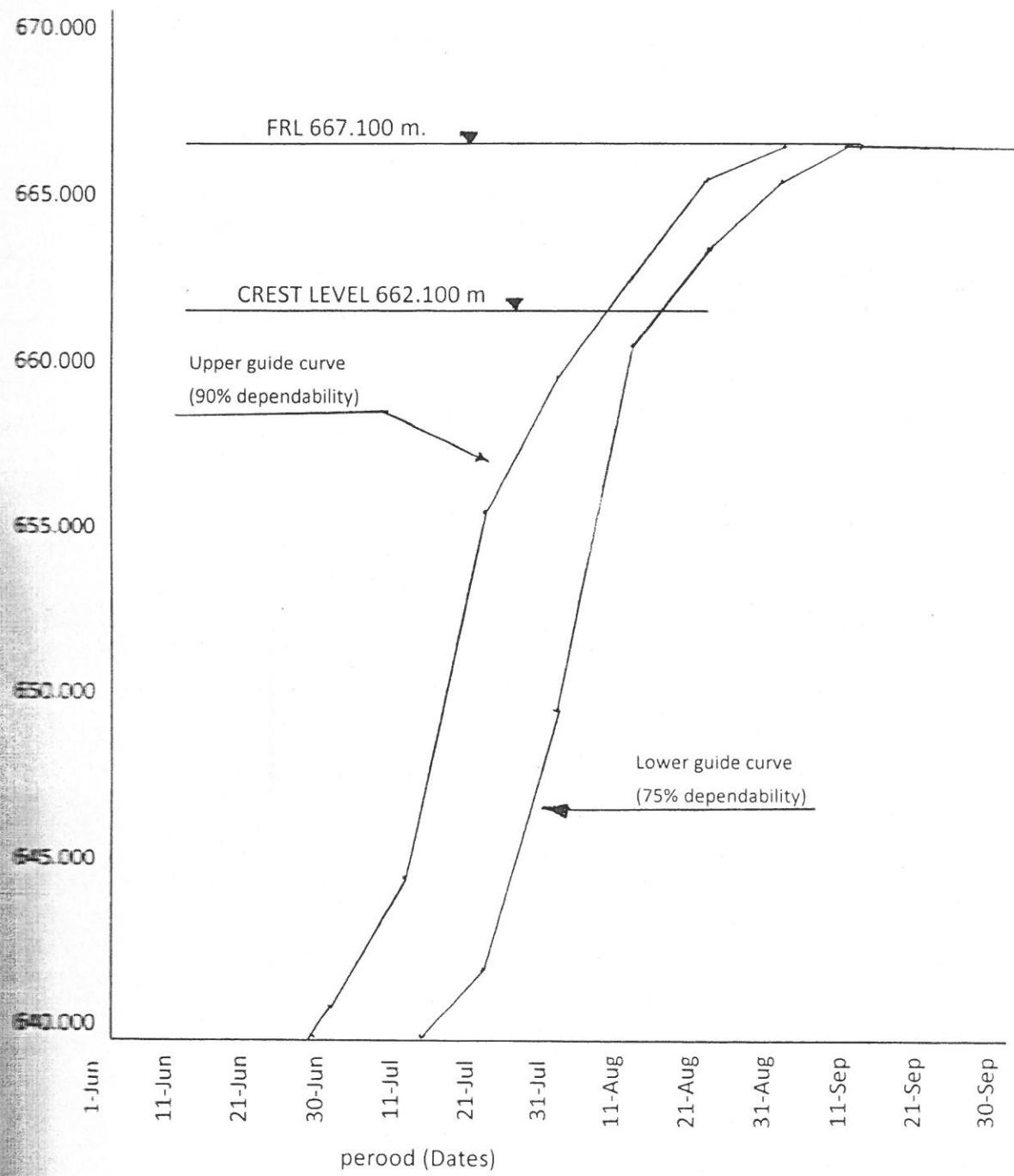
Gopal
AEC(I)

~~Assistant Engineer(Gr.-1)~~
Nira Irrigation Sub-Div.
Nira

anand
sign

Executive Engineer
Pune Irrigation Division
Pune

NIRA-DEOGHAR DAM-GUIDE CURVE FOR ROS



Assistant Engineer Gr.A
Nira Irrigation Sub-Division
Nira

Nira Deoghar Dam

Dates	2007			2008			2009			2010			2011			2012			2013		
	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage	R.L	Storage M cu	% of Storage
1-Jun	623.50	2.75	0.82	623.90	3.02	0.90	628.75	4.95	1.47	625.60	4.83	1.43	638.30	46.74	13.85	627.80	2.95	0.87	629.95	12.88	3.82
11-Jun	624.25	3.30	0.98	625.50	4.72	1.40	624.10	3.20	0.95	625.70	4.94	1.46	631.50	17.31	5.13	627.50	2.46	0.73	629.50	11.87	3.52
21-Jun	624.25	3.36	1.00	633.05	22.60	6.70	623.90	3.02	0.90	628.70	4.84	1.43	637.00	39.96	11.84	626.30	0.49	0.15	640.70	61.04	18.09
30-Jun	541.90	68.82	20.40	639.50	53.64	15.90	624.00	3.09	0.92	629.90	12.76	3.78	641.05	63.31	18.76	631.70	17.89	5.30	644.30	86.14	25.53
11-Jul	658.60	224.70	66.60	647.60	112.60	33.37	631.60	17.60	5.22	633.40	16.89	5.01	645.05	91.96	27.25	637.40	41.98	12.44	651.80	150.77	44.68
21-Jul	662.35	272.02	80.62	649.65	130.54	38.69	650.20	135.55	40.17	635.70	33.58	9.95	655.75	181.23	53.71	642.10	70.19	20.80	660.10	243.07	72.04
31-Jul	662.50	267.56	79.30	654.40	177.27	52.54	657.70	213.97	63.42	650.80	141.24	41.86	659.50	235.69	69.85	649.40	128.33	38.03	664.90	306.48	90.83
11-Aug	663.40	286.02	84.77	662.20	270.01	80.02	659.35	233.86	69.31	656.70	202.48	60.01	663.70	290.09	85.98	661.20	257.13	76.21	666.95	335.27	99.37
21-Aug	665.30	312.02	92.48	665.80	318.92	94.52	660.40	246.90	73.18	658.00	217.38	64.43	666.25	325.27	96.40	664.50	300.95	89.19	667.10	337.41	100.00
31-Aug	666.50	328.84	97.46	666.35	326.70	96.83	661.90	266.08	78.86	660.30	645.62	191.35	667.10	337.41	100.00	666.15	323.84	95.98	667.10	337.41	100.00
11-Sep	666.40	327.41	97.04	667.05	336.68	99.78	663.35	285.35	84.57	665.20	310.64	92.07	667.10	337.41	100.00	667.10	337.41	100.00	667.10	337.41	100.00
21-Sep	666.65	330.98	98.09	667.10	337.41	100.00	663.90	292.70	86.75	665.85	319.62	94.73	667.10	337.41	100.00	667.10	337.41	100.00	667.10	337.41	100.00
30-Sep	667.00	335.98	99.58	667.10	337.41	100.00	664.15	296.10	87.76	666.20	324.55	96.19	667.10	337.41	100.00	667.10	337.41	100.00	667.10	337.41	100.00


 Assistant Engineer
 Nira Irrigation Sub-Division


 A.G.T.I.

ROS OF CHASKAMAN DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable			Lower Guide Curve : 75% Dependable		
		R.L.	Live storage	%	R.L.	Live storage	%
		MM 3	TMC		MM 3	TMC	
1	2	3	4	5	6	7	8
1	15-Jun	647.78	194.59	6.872	90.72	641.59	97.71
2	30-Jun	647.78	194.59	6.872	90.72	641.69	98.84
3	15-Jul	647.85	195.70	6.913	91.24	642.41	107.30
4	31-Jul	649.30	206.61	7.298	96.32	647.43	178.02
5	15-Aug	649.53	214.50	7.577	100.00	649.33	210.85
6	31-Aug	649.53	214.50	7.577	100.00	649.53	214.50
7	15 Sept.	649.53	214.50	7.577	100.00	649.53	214.50
8	30 Sept.	649.53	214.50	7.577	100.00	649.53	214.50
9	15 Oct.	649.53	214.50	7.577	100.00	649.53	214.50

Note :- 1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L at the discretion of the officer not below the rank of Executive Engineer.

- 2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.

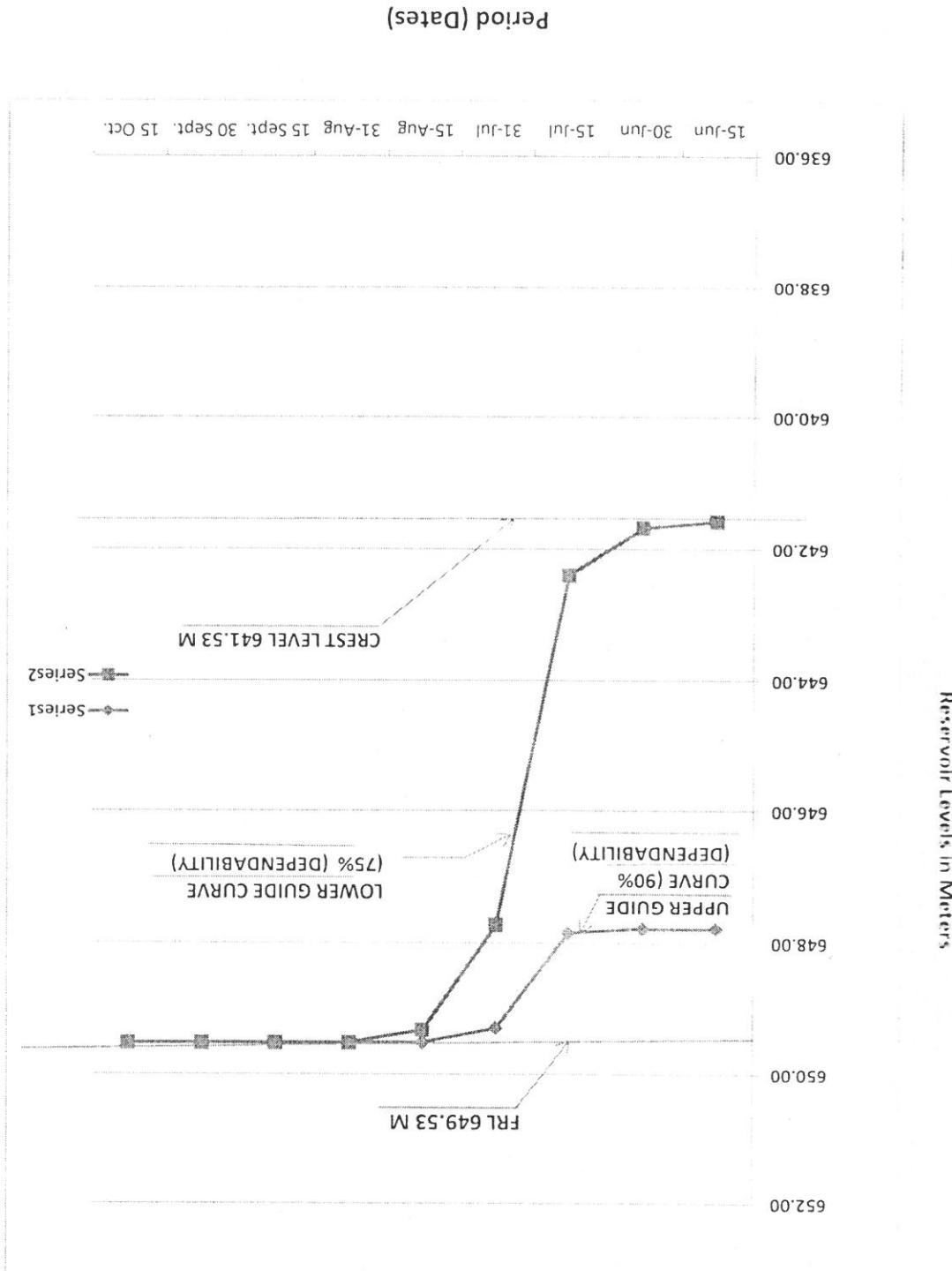

Section Engineer
Chaskaman Dam Section
Kadadhe


Executive Engineer
Khadakwasla Irrigation Division, Pune-11.


Superintendent Engineer
Pune Irrigation Division, Pune

Chasakman Dam Section
 Executive Engineer
 Khadakwasla Irrigation Division, Pune-11.
 Period (Dates)
 15-Jun 30-Jun 15-Jul 31-Jul 15-Aug 31-Aug 15-Sep 30-Sep 15-Oct

Executive Engineer
 Chasakman Dam Section
 Khadakwasla Irrigation Division, Pune-11.





Maharashtra Krishna Valley Development Corporation
Chief Enginer, Water Resources Department,
Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, Office 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrpd@wrd.pune@gmail.com

No.CE/EE-2/DE-4/PB-7/

Mo - 0383 /2015

Date:

28 JAN 2016

To,

The Superintending Engineer,
Pune Irrigation Circle,
Pune

Sub : Approval of Reservoir Operation schedule ROS of Veer Dam

Ref : Your letter No.PIC/PB-3/6455 dated 01/08/2015 & PIC/PBG/E-Jalseva/m-8/10527

Dtd. 22/12/2015

The updated Reservoir Operation Schedule (ROS) of Veer Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer..
2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.
4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department,
Pune-1

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantrala Mumbai for favour of information.

D.A.-As above

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above

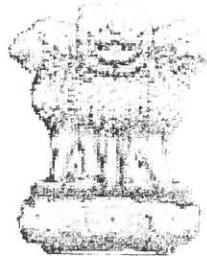
Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above

Copy forwarded to the Executive Engineer, Nira Right Bank Canal Division, Phaltan for information and necessary action.

D.A. Above

E/S Mathew-1/PB-7/ROS of Dams



सर्वामुख लकड़ी

Government of Maharashtra
Water Resources Department

PUNE IRRIGATION CIRCLE, PUNE

NEERA RIGHT BANK CANAL DIVISION, PHALTAN

**RESERVOIR OPERATION SCHEDULE
of**

VEER DAM

Feb-15

ROS OF VEER DAM

Sr. No.	Date	Upper Guide Curve : 90% Dependable			Lower Guide Curve : 75% Dependable		
		R.L.	Live storage	%	R.L.	Live storage	%
		MM 3	TMC		MM 3	TMC	
1	2	3	4	5	6	7	8
1	11-Jun	579.25	247.66	8.75	92.97	575.20	142.28
2	21-Jun	579.25	247.66	8.75	92.97	575.20	142.28
3	01-Jul	579.25	247.66	8.75	92.97	575.20	142.28
4	11-Jul	579.25	247.66	8.75	92.97	575.20	142.28
5	21-Jul	579.25	247.66	8.75	92.97	575.20	142.28
6	01-Aug	579.25	247.66	8.75	92.97	575.20	142.28
7	11-Aug	579.42	252.97	8.93	94.97	576.65	175.40
8	21-Aug	579.85	266.38	9.41	100.00	579.72	262.23
9	01-Sep	579.85	266.38	9.41	100.00	579.72	262.23
10	11-Sep	579.85	266.38	9.41	100.00	579.72	262.23
11	21-Sep	579.85	266.38	9.41	100.00	579.72	262.23
12	01-Oct	579.85	266.38	9.41	100.00	579.85	266.38
13	11-Oct	579.85	266.38	9.41	100.00	579.85	266.38
14	15-Oct	579.85	266.38	9.41	100.00	579.85	266.38

Note :-

1) Upper guide curve is the upper limit of level upto which reservoir can be built up or maintained on the respective dates.

During the period of severe floods the reservoir may be allowed to rise temporally above the upper guide curve, but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.

2) The lower guide curve indicates the minimum level upto which the reservoir filling must be achieved on various dates during the monsoon.

3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon.


P. More
 Sectional Engineer
 Veer Dam Section
 Wathar colony

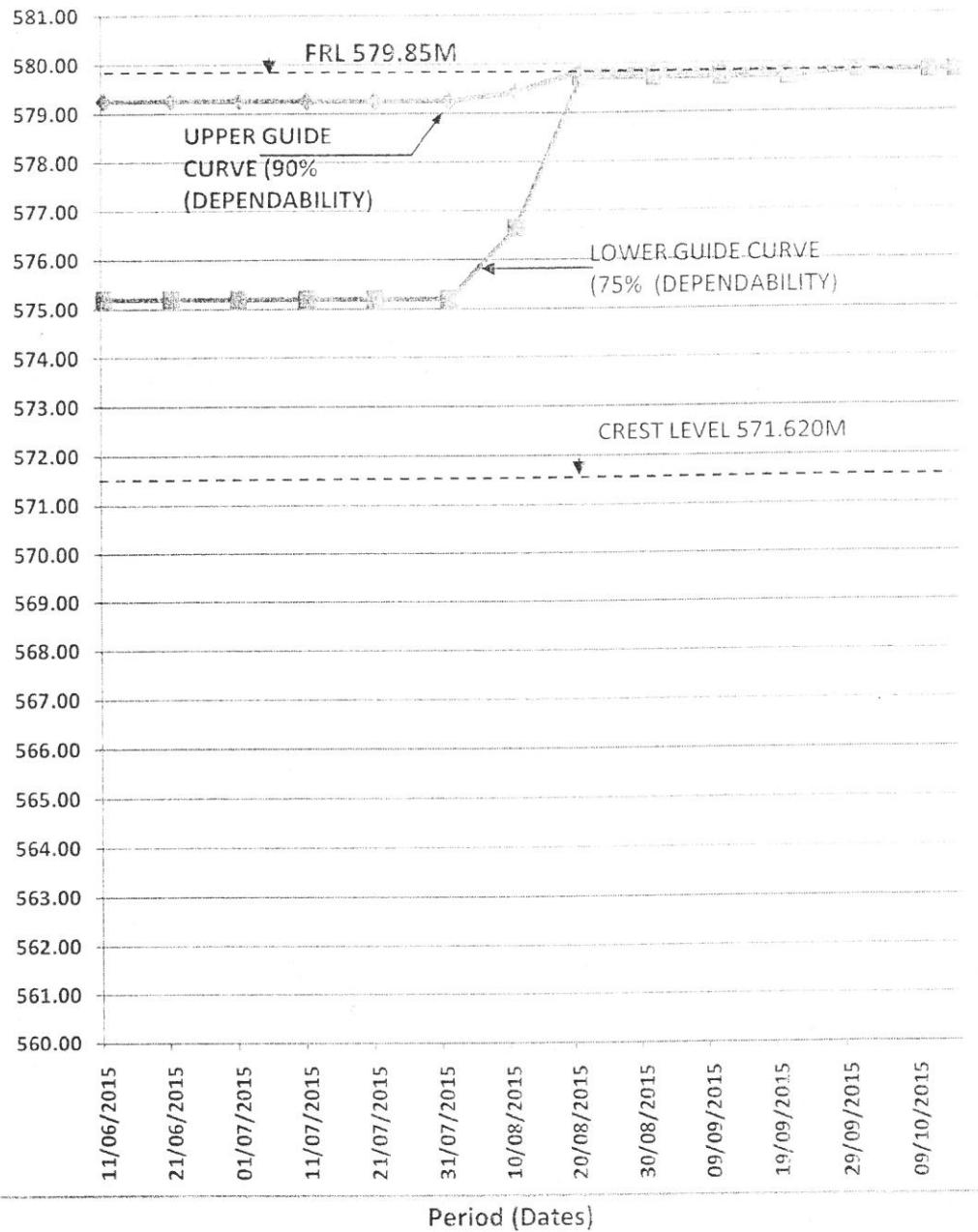

Sub Divisional Officer
 Veer Dam subdivision
 Wathar Colony


Executive Engineer
 Neera Right Bank Canal Division
 Phaltan


Superintendent Engineer
 Type Irrigation Circle, Part - I
 Phaltan

VEER DAM - GUIDE CURVES FOR ROS

Reservoir Levels in Meters



P Mane
S.O.V.R


Executive Engineer
Neera Right Bank Canal Dr
Phaltan


Supervising Engineer
Pune Irrigation Circle, Pune-11

Neera Right Bank Canal Division, Phaltan
 Statement showing Previously sanctioned R.O.S. and Proposed revised R.O.S. of Veer Dam

Existing R.O.S. previously sanctioned by Chief Engineer, Irrigation Department, Pune Dt.26.5.2010

Proposed revised R.O.S. for approval of Chief Engineer, Irrigation Department, Pune

Particular	R.L. in Mtr.	Content in Mcum	Particular	R.L. in Mtr.	Content in Mcum
1) Lower down all gates on 1st June to 31st July and maintain level	569.825	69.412	1) Lower down all gates on 1st June to 31st July and maintain level	575.200	142.280
2) Maintain the level at R.L. 570.320 m. from 1st Aug. to 10th Aug.	570.320	75.176	2) Maintain the level at R.L. 574.05 m. from 1st Aug. to 10th Aug.	576.650	175.400
3) Maintain the level at R.L. 574.280 mt. from 11th Aug. to 20th Aug	574.280	136.018	3) Maintain the level at R.L. 576.85 mt. from 11th Aug. to 20th Aug.	579.720	262.230
4) Maintain the level at R.L. 579.17 mt. from 21th Aug to 10th Sept.	579.170	257.476	4) Maintain the level at R.L. 578.61 mt. from 21th Aug. to 20th Sept.	579.720	262.230
5) Maintain the level at R.L. 579.675 mt. from 11th Sept. to 10th Oct.	579.675	272.941	5) Maintain the level at R.L. 579.85 mt. from 20th Sept. to 30th Oct	579.850	278.490
6) From 10th Oct. onward maintain F.R.L. 579.850 Mtr. up to 15th October	579.850	278.490	6) From 10th Oct. onward maintain F.R.L. 579.850 Mtr. up to 15th October	579.850	278.490

R. Manohar
 Sectional Engineer
 Veer Dam Section
 Wathar Colony

R. Manohar
 Sub Divisional Officer
 Veer Dam subdivision
 Wathar Colony

S. D. Chopde
 Executive Engineer
 Neera Right Bank Canal Division
 Phaltan



Maharashtra Krishna Valley Development Corporation
Chief Engineer, Water Resources Department,
Sinchan Bhavan, Mangalwar Peth Pune
Ph.020- 26120505, Office 26125074, Fax 26126015
cewrd_pune@wrd.maharashtra.gov.in, cewrdpune@gmail.com

No.CE/EE-2/DE-4/PB-7/

1178

Date: 15 MAR 2016

To,

The Superintending Engineer,
Pune Irrigation Circle,
Pune.

Sub : Approval of Reservoir Operation schedule ROS of Nira Deoghar Dam

Ref: Your letter No PIC/DB/ 1812 Dtd. 4/3/2016

The updated Reservoir Operation Schedule (ROS) of Nira Deoghar Dam submitted vide letter under reference is hereby approved as per the guidelines given in the Dam Safety Manual Chapter-7 Following guidelines shall be followed while observing the ROS.

1. Upper Guide Curve is the Upper limit of level upto which reservoir can be built up or maintained on the respective dates. During the period of severe floods, the reservoir may be allowed to rise temporarily above the upper guide curve but below M.W.L. at the discretion of the officer not below the rank of Executive Engineer.
2. Lower Guide Curve is lowest limit of level upto which reservoir may be temporarily lowered on the respective dates during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Superintending Engineer.
3. Full reservoir storage at the end of monsoon shall be achieved with careful use of Reservoir Operation Schedule, Guide curves and effective flood controlling.
4. The ROS shall be reviewed periodically and the report of the same shall be submitted by Superintending Engineer. Considering all latest data of inflows and outflows if it is found necessary to prepare revised ROS, the same shall be prepared and submitted for the approval.

The approved guide curves & ROS is enclosed herewith.

D.A.-As above

Chief Engineer
Water Resources Department,
Pune-41

Copy submitted to the Secretary (IWM& CAD) Water Resources Deptt, Mantralya Mumbai for favour of information. [Kind attention : Shri.S.A.Tatu, Deputy Secretary, (Irrign.)]

D.A.-As above *by E-mail*

Copy submitted to the Executive Director, MKVDC Pune for favour of information.

D.A.-As above *by E-mail*

Copy forwarded to the Superintending Engineer, Dam Safety Organisation, Nasik for favour of information.

D.A.-As above *by E-mail*

Copy forwarded to the Executive Engineer, Pune Irrigation Division,Pune for information and necessary action.

D.A. Above

E/S Mathew-1/PB-7/ROS of Dams

RESERVOIR OPERATION SCHEDULE

NIRA DEOGHAR DAM

TAL :-- BHOR DIST :-- PUNE

PUNE IRRIGATION DIVISION, PUNE- 1.

RESERVOIR OPERATION SCHEDULE (ROS) FOR NIRA DEOGHAR DAM

		Controlling Levels in m		Content in Mcum	
		Gross	Live		
M.W.L.	667.50	343.13	337.87		
F.R.L.	667.10	337.40	332.14		
Crest Level	662.10	268.69	263.43		
M.D.D.L.	626.00	5.26	0.00		

Sr. No.	Date	R.L.	Upper Guide Curve : 90% Dependable			Lower Guide Curve : 50% Dependable		
			In Mcum	TMC	% Storage	R.L.	In Mcum	TMC
1	2	3	4	5	6	7	8	9
1	15-Jun	660.75	246.17	8.69	74.12	630.90	10.24	0.36
2	30-Jun	660.75	246.17	8.69	74.12	638.05	39.81	10
3	15-Jul	660.75	246.17	8.69	74.12	644.10	79.45	3.08
4	31-Jul	663.30	279.07	9.86	84.02	655.35	181.89	11.99
5	15-Aug	666.30	320.58	11.32	96.52	663.20	276.81	23.92
6	31-Aug	666.70	326.16	11.52	98.20	664.40	293.80	6.42
7	15 Sept.	667.10	332.14	11.73	100	667.10	332.14	54.76
8	30 Sept.	667.10	332.14	11.73	100	667.10	332.14	88.46
9	15 Oct.	667.10	332.14	11.73	100	667.10	332.14	100
								100

Note :-

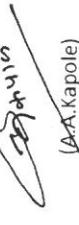
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- 2) The lower guide is lowest limit of level up to which reservoir may be temporarily lowered on the respective dates, during the period of higher inflows due to very intensive precipitation in the catchment area. However the decision regarding such lowering of reservoir shall be taken by the officer not below the rank of Executive Engineer.
- 3) Reservoir storage at the end of monsoon shall be achieved with careful use of Gate Operation schedule, Guide curve and efficient flood forecasting so that, reservoir shall be full at the end of monsoon

APPROVED

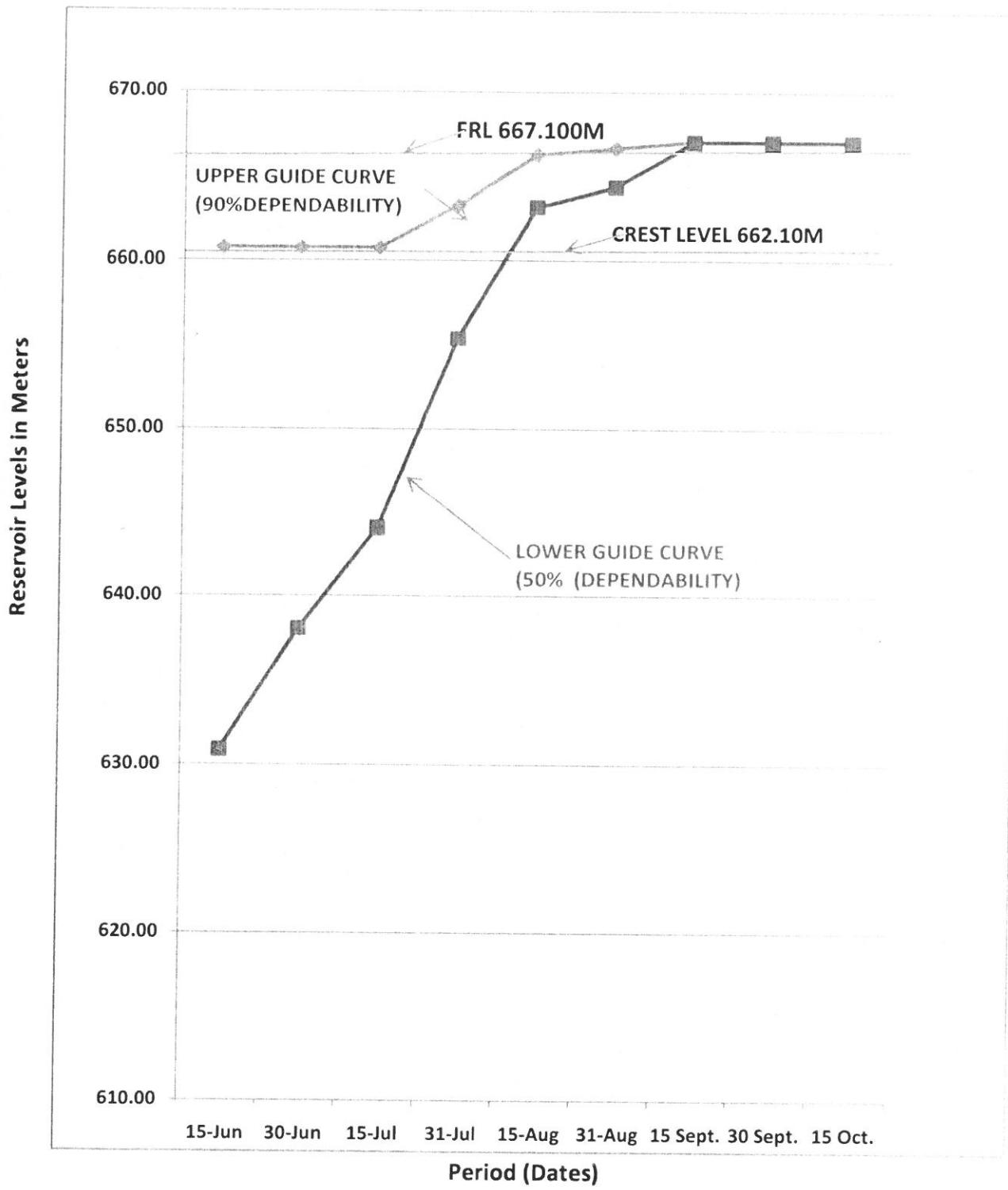

 (V.D. Nalawade)
 Assistant Engineer(Gr-II)
 Nira Deoghbar Dam Section
 Deoghbar


 (V.B. Jadhav)
 Executive Engineer
 Pune Irrigation Division
 Pune


 (A.A. Kapole)
 Superintendent Engineer
 Pune Irrigation Circle,
 Pune


 (T.N. Mundel)
 Chief Engineer,
 Water Resources Department,
 Pune-11

NIRA DEOGHAR DAM - GUIDE CURVES FOR ROS



B. O.
Assitant Engineer (Gr-2)
Nira Deoghar Dam Section
Deoghar

hant
Assitant Engineer (Gr-1)
Nira Irrigation Sub-Div

Chp
Executive Engineer
Pune Irrigation Division

Superintending Engineer
Pune Irrigation Circle,
Pune

APPROVED

Chief Engineer,
Water Resources Department,
Pune